TRAFFIC IMPACT ANALYSIS

for

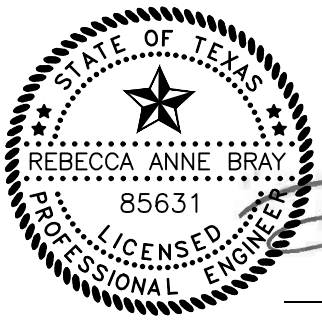
1001 South Freeway Mixed-Use Development
City of Fort Worth, Texas

Prepared For:

City of Fort Worth
200 Texas Street
Fort Worth, Mesquite, TX 76012

Prepared By:

Langan Engineering and Environmental Services, Inc.
8951 Cypress Waters Boulevard, Suite 150
Dallas, TX 75019



Rebecca A. Bray, PE, PTOE, AICP, ENV SP
Professional Engineer License No. 85631

08 July 2022
520049701

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EXECUTIVE SUMMARY

Langan has prepared this traffic impact analysis to assess the traffic impacts associated with the proposed 1001 South Freeway Mixed-Use Development in the city of Fort Worth, Texas. The development will consist of two residential and three retail buildings. One residential building will contain 126 units on four floors and the second will contain 236 units on five floors. The retail buildings will contain 15,129 square feet (SF), 8,000 SF, and 4,400 SF respectively.

The project site is located adjacent to the IH-35 NB Frontage Road (also known as the "South Freeway") and lies between E. Rosedale Street and E. Hattie Street and extends east to Evans Avenue. A portion of Missouri Avenue splits the site into two sections with the one residential building on each lot. A site location map is shown in Figure 1.

The full buildout of the site is anticipated to be completed in one phase during 2024. In order to provide the most efficient on-site traffic circulation and off-site access, access to the development is proposed via 5 driveways. Driveway 1 and 2 provide full access to the main parking garage off of E. Terrell Avenue and Missouri Avenue, respectively. Driveway 3, Driveway 4 and Driveway 5, serve individual parking lots located off of Missouri Avenue. No driveways are located across from existing streets or driveways.

The estimated number of new trips for the proposed development was generated based on trip-generation rates provided by the Institute of Transportation Engineers (ITE) in their publication Trip Generation Manual, 11th Edition. For this analysis, due to the residential and retail uses, the neighborhood location and surrounding street network, projected trips were reduced by 5% to accommodate for pedestrian and bicycle trips. Based upon the trip-generation data with the reduction, it is estimated that the development will generate approximately 202 trips (69 entering, 133 exiting) during the weekday morning peak hour and 306 trips (169 entering, 139 exiting) during the weekday evening peak hour. The estimated daily 24-hour two-way trips for the site is 2,144 (1,072 entering, 1,072 exiting).

The directional distributions of the site-generated trips were determined based on a journey-to-work model, taking into account existing and expected travel patterns in the study area. The study area scope of the Traffic Impact Analysis was discussed and verified with The City of Fort Worth during a pre-scoping meeting and submittal of a Methodology Memo (approved on June 10, 2022).

Based on such discussions, we conducted capacity analyses at the following intersections:

- E. Hattie Street and SB South FWY Frontage Road
- E. Hattie Street and NB South FWY Frontage Road
- E. Rosedale Street and SB South FWY Frontage Road
- E. Rosedale Street and NB South FWY Frontage Road
- E. Dashwood Street and NB South FWY Frontage Road
- E. Terrell Avenue and NB South FWY Frontage Road
- E. Terrell Avenue and New York Avenue
- E. Rosedale Street and Evans Avenue
- E. Rosedale Street and New York Avenue

Langan established existing traffic volumes for the area by arranging for turning movement traffic counts to be conducted during the morning and evening peak periods on a typical weekday at the study intersections.

Typically traffic counts in vicinity of schools are lower in the summer due to the school traffic not being accounted for in the traffic count data. Due to the proximity of the Van Zandt-Guinn Elementary School, trips were added to compensate for the lower traffic volumes collected. Then, future traffic volumes were projected including the adjusted existing traffic, new traffic created by background growth, and new traffic generated by the proposed development.

Intersection Capacity analyses were conducted at the intersections in the study area for the weekday morning and evening peak hours for the 2022 Existing, 2024 No Build, and 2024 Build scenarios. The increase in overall delays at the study area intersections, when comparing the 2024 Build conditions to the 2024 No Build conditions, are minimal. There are no overall intersection LOS degradations when comparing the 2024 Build condition to the 2024 No Build condition. All proposed site driveways should operate efficiently as each driveway exits onto a low volume residential street and delays are insignificant.

Based on the analyses, it was determined that no mitigation measures will be required in order to successfully accommodate traffic generated by the 1001 South Freeway Mixed-Use Development. However, due to existing LOS failures at the intersections of E. Rosedale Street and the IH-35W service roads, signal timing plans were optimized using the Synchro program, which brought the LOS for these intersections into acceptable levels of service.

INTRODUCTION

Langan has prepared this traffic impact analysis to assess the traffic impacts associated with the proposed 1001 South Freeway Mixed-Use Development in the city of Fort Worth, Texas. The development will consist of two residential and three retail buildings. One residential building will contain 126 units on four floors and the second will contain 236 units on five floors. The retail buildings will contain 15,129 square feet (SF), 8,000 SF, and 4,400 SF respectively.

Project Description

The project site is located adjacent to the IH-35 NB Frontage Road (also known as the "South Freeway") and lies between E. Rosedale Street and E. Hattie Street and extends east to Evans Avenue. A portion of Missouri Avenue splits the site into two sections with the one residential building on each lot. A site location map is shown in Figure 1.

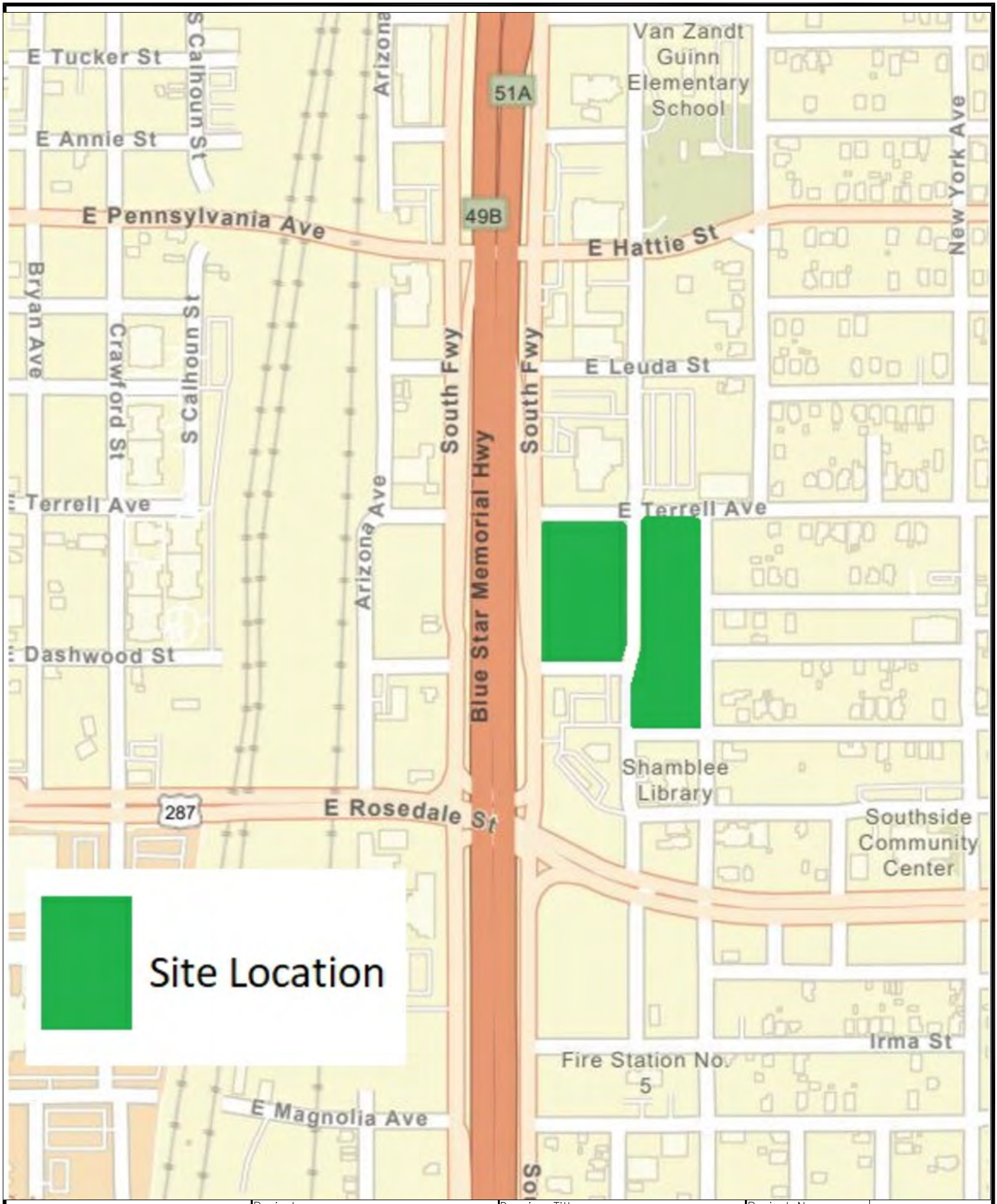
Access to the development is proposed via 5 driveways. Driveway 1 and Driveway 2 provide full access to the main parking garage off of E. Terrell Avenue and Missouri Avenue, respectively. Driveway 3, Driveway 4 and Driveway 5, serve individual parking lots located off of Missouri Avenue. No driveways are located across from existing streets or driveways. An overall site plan is provided in Appendix A.

Study Area

Capacity analyses were conducted at the following intersections:

- E. Hattie Street and SB South FWY Frontage Road
- E. Hattie Street and NB South FWY Frontage Road
- E. Rosedale Street and SB South FWY Frontage Road
- E. Rosedale Street and NB South FWY Frontage Road
- E. Dashwood Street and NB South FWY Frontage Road
- E. Terrell Avenue and NB South FWY Frontage Road
- E. Terrell Avenue and New York Avenue
- E. Rosedale Street and Evans Avenue
- E. Rosedale Street and New York Avenue

Figure 1 illustrates the existing street network within the study area.



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Project No. 520049701

LANGAN Langan Engineering and Environmental Services, Inc. 8951 Cypress Waters Blvd, Suite 150 Dallas, TX 75019 T: 817.328.3200 www.langan.com TBPE FIRM REG. #F-13709	Project SOUTH FWY MIXED-USE	Drawing Title SITE LOCATION MAP	Project No. 520049701 Date 7/6/2022 Drawn By GD Checked By GD FIGURE 1

EXISTING CONDITIONS

This section describes the major roads, intersections, and traffic volumes in the area of the planned development.

Roads

IH-35 (South Freeway) Northbound Frontage Road

The IH-35 Northbound Frontage Road is under TxDOT jurisdiction. The roadway has a general north-south orientation. The frontage road provides 3 lanes in the northbound direction that reduces to 2 lanes as the westernmost lane turns into the on-ramp to the IH-35 freeway. The posted speed limit is 40 mph within the study area.

IH-35 (South Freeway) Southbound Frontage Road

The IH-35 Southbound Frontage Road is under TxDOT jurisdiction. The roadway has a general north-south orientation. The frontage road provides 2 lanes in the southbound direction that expands to 3 lanes as the easternmost lane begins from the off-ramp of the IH-35 freeway. The posted speed limit is 40 mph within the study area.

E. Hattie Street

E. Hattie Street is classified as a neighborhood collector. The roadway has a general east-west orientation and is a two-lane undivided roadway within the development vicinity, providing one lane in each direction. The de facto speed limit is 30 mph.

E. Rosedale Street

E. Rosedale Street is classified as a neighborhood collector. The roadway has a general west-east orientation. E. Rosedale Street provides two-lanes in each direction with a raised median. The posted speed limit is 35 mph.

Local Streets

The following streets are unclassified local streets in the study area with speed limits of 30 mph:

- Evans Avenue
- Missouri Avenue
- E. Dashwood Street
- E. Terrell Avenue
- New York Avenue

Intersections

IH-35 Southbound Frontage Road and E. Hattie Street

The existing intersection of the IH-35 Southbound Frontage Road and E. Hattie Street is a signalized intersection with three approaches. The southbound approach has one shared left-turn lane, one through lane, and one exclusive right-turn lane. The eastbound approach has one through lane and one exclusive right-turn lane. The westbound approach has one shared left-through lane and one through lane.

IH-35 Northbound Frontage Road and E. Hattie Street

The existing intersection of the IH-35 Northbound Frontage Road and E. Hattie Street is a signalized intersection with three approaches. The northbound approach has one exclusive left-turn lane, one left-through lane, and one through-right lane. The westbound approach has one through lane and one through-right lane. The eastbound approach has one shared left-through lane and one through lane.

IH-35 Southbound Frontage Road and E. Rosedale Street

The existing intersection of the IH-35 Southbound Frontage Road and E. Rosedale Street is a signalized intersection with three approaches. The southbound approach has one exclusive left-turn lane, a through-left lane, two through lanes, and one exclusive right-turn lane. A U-turn exit exists from this approaches left-turn lane. The eastbound approach has three through lanes and one exclusive right-turn lane. The westbound approach has one exclusive left-turn lane, one shared left-through lane and one through lane.

IH-35 Northbound Frontage Road and E. Rosedale Street

The existing intersection of the IH-35 Northbound Frontage Road and E. Rosedale Street is a signalized intersection with three approaches. The northbound approach has one exclusive U-turn lane, one exclusive left-turn lane, one left-through lane, two through lanes and one exclusive right-turn lane. The westbound approach has three through lanes and one through-right lane. The eastbound approach has one exclusive left-turn lane, one shared left-through lane and one through lane.

E. Rosedale Street and Evans Avenue

The existing intersection of E. Rosedale Street and Evans Avenue is a signalized intersection with four approaches. The northbound approach has one through-left and one exclusive right-turn lane. The eastbound approach is two through lanes and one exclusive left-turn lane. The westbound approach is two through lanes and one exclusive left-turn lane. The southbound approach has one left-through-right lane.

E. Rosedale Street and New York Avenue

The existing intersection of E. Rosedale Street and New York Avenue is a signalized intersection with four approaches. The northbound and southbound approaches are each one left-through-right lane. The eastbound and westbound approaches are each two through lanes with one exclusive left-turn lane.

IH-35 Northbound Frontage Road and E. Terrell Avenue

The existing intersection is a T-intersection which stop-controlled on E. Terrell Avenue. The westbound approach is right-turn only. The northbound approach is two lanes.

IH-35 Northbound Frontage Road and E. Dashwood Street

The existing intersection is a T-intersection which stop-controlled on E. Dashwood Street. The westbound approach is right-turn only. The northbound approach is two lanes.

E. Terrell Avenue and New York Avenue

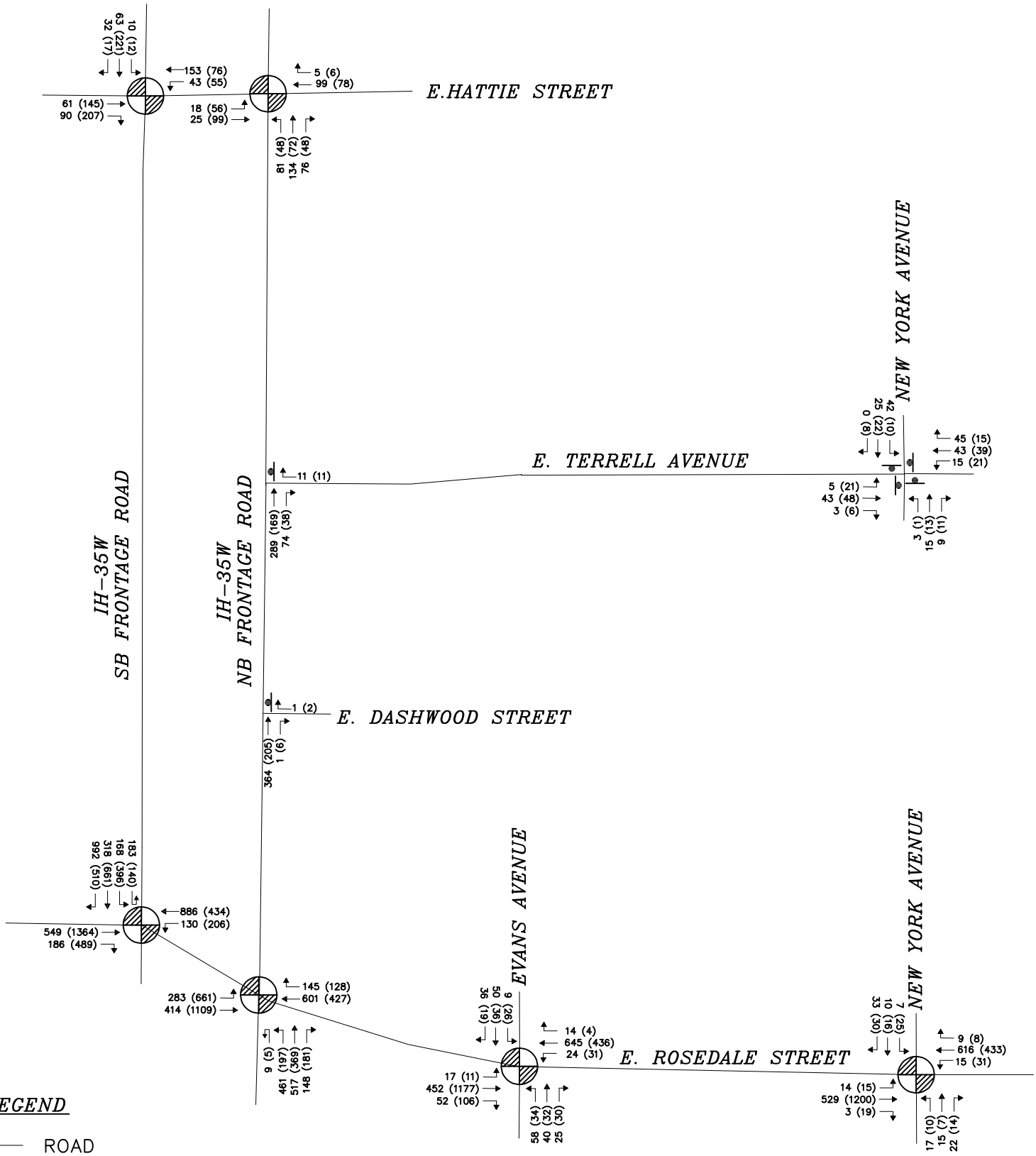
The existing intersection is an all-way stop-controlled intersection with four approaches. All approaches are one lane with no movement restrictions.

Traffic Volumes

To examine traffic conditions near the site, we arranged for turning movement counts (TMC) to be conducted during the morning and evening peak periods on a typical weekday at the study intersections. Specifically, TMCs were conducted Tuesday, June 14, 2022, from 7:00 AM to 9:00 AM and from 4:00 PM to 6:00 PM.

The results of the TMCs indicate the hour during the weekday morning and weekday evening peak periods of study when traffic is at the highest levels. We conservatively used the individual intersection's weekday morning and evening peak hour volumes to represent a worst-case scenario.

Figure 2 illustrates the 2022 existing weekday morning and evening peak hour traffic volumes. The 2022 existing volumes utilize the highest overall intersection volumes during the peak hour in the morning and evening counts. The traffic counts used for this Transportation Impact Analysis are located in Appendix B and are summarized in 15-minute and peak hour intervals



LEGEND

- ROAD
- TRAFFIC SIGNAL
- STOP CONTROLLED
- LANE DIRECTION
- # (#) PEAK HOUR TRAFFIC VOLUME AM (PM)

NOTE: SCHOOL TRAFFIC IS INCLUDED IN THESE VOLUMES

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Langan Engineering and Environmental Services, Inc.
8951 Cypress Waters Blvd, Suite 150
Dallas, TX 75019
T: 817.328.3200 www.langan.com
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Project: SOUTH FWY MIXED-USE

Drawing Title: 2022 EXISTING PEAK HOUR TRAFFIC VOLUMES

Project No.	520049701
Date	7/6/2022
Drawn By	GD
Checked By	GD

FIGURE 2

FUTURE CONDITIONS

This section covers proposed access, background traffic growth, site-generated trips, trip distribution, and future traffic volumes.

Intersections

The site will have five access driveways as shown on the site plan. Each of these driveways will be full access driveways with each one inbound and outbound lane with no turn restrictions. One driveway on E. Terrell Avenue, one on E. Dashwood Street, and three on Missouri Avenue.

Van Zandt-Guinn Elementary School Traffic

Per school staff, the elementary school enrollment is estimated at 350 students. Trip generation was calculated and shown in Table 1 below. Trip distribution for the school is shown in Figure 4. These trips were added to the existing traffic in 2022 and brought forward at a 3% annual growth rate to 2024.

Table 1 – Van Zandt-Guinn School Trip Generation

Land Use Description	ITE Code	Units	Daily Trips	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
School Trips (350 Students)	520	350	795	140	119	259	26	30	56
Total			795	140	119	259	26	30	56

Background Traffic Growth

The development is anticipated to be completed by the year of 2024. Accordingly, the existing weekday morning and evening peak hour volumes were grown to the year 2024 at a growth rate of 3.0% per annum to derive the 2024 No Build traffic volumes. The 2024 No Build traffic volumes are shown in Figure 3.

Site Generated Trips

The estimated number of new trips for the proposed development were generated based on trip generation rates provided by the Institute of Transportation Engineers (ITE) as contained in their publication Trip Generation Manual, 11th Edition. For this analysis, due to the residential and retail uses, the neighborhood location and surrounding street network, projected trips were reduced by 5% to accommodate for pedestrian and bicycle trips. Based upon the trip generation data with the reduction, it is estimated that the development will generate approximately 202 trips (69 entering, 133 exiting) during the weekday morning peak hour and 306 trips (169 entering, 139 exiting) during the weekday evening peak hour. The estimated daily 24-hour two-way trips for the site is 2,144 (1,072 entering, 1,072 exiting).

Trip generation equations and calculations are included in Appendix C. The total vehicle trips generated by the proposed warehouse during the weekday morning and evening peak hours are presented below in Table 1.

Table 2 – Future Trip Generation Estimates

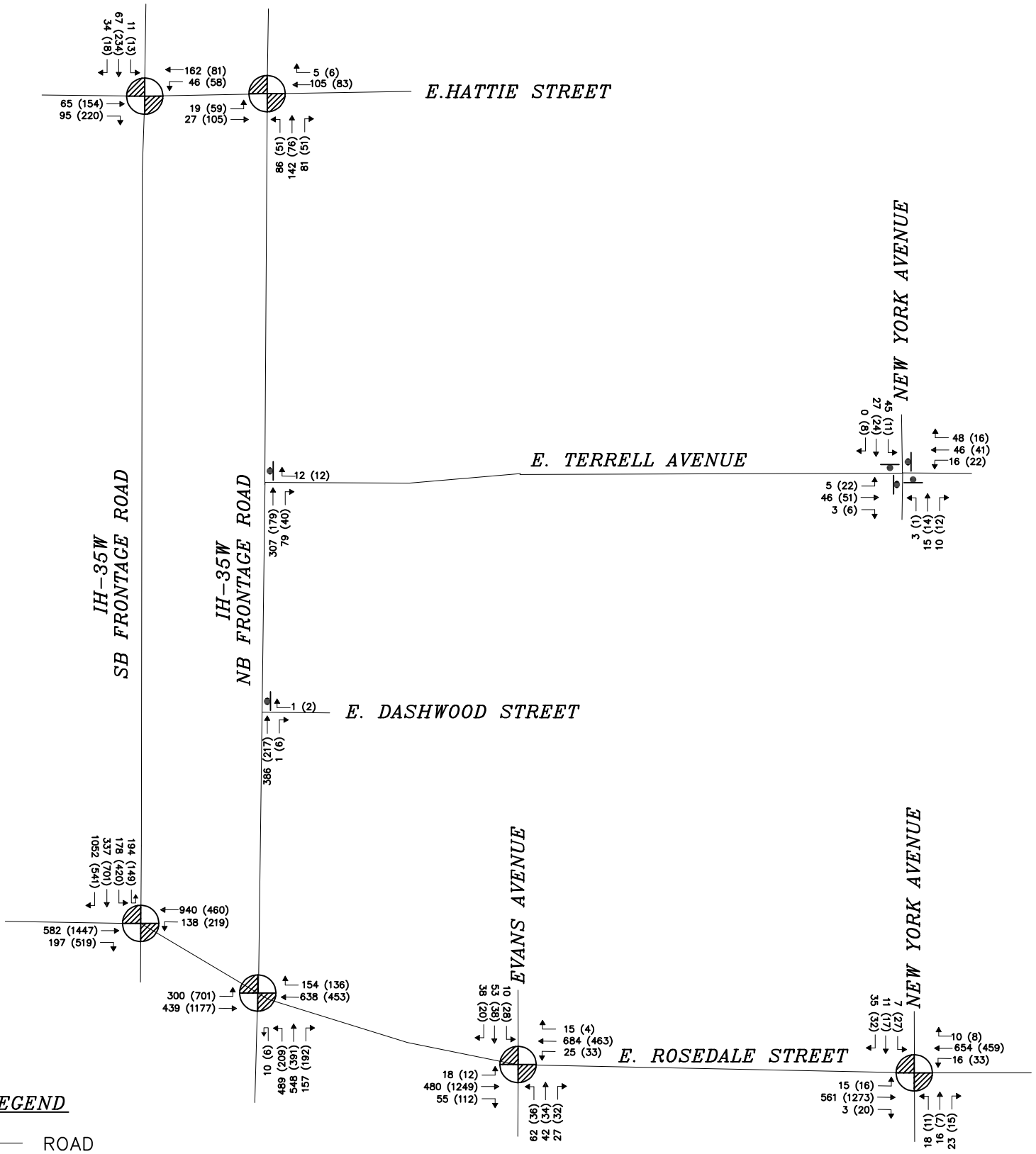
Use	ITE Code	Size/Units	Daily			AM Peak			PM Peak		
			In	Out	Total	In	Out	Total	In	Out	Total
Residential	221	362			1680	34	114	148	86	56	142
Retail	822	27,259 sf			577	39	26	65	90	91	181
Subtotal					2257	73	140	213	176	147	323
Bicycle/Pedestrian Reduction		-5%			-113	-4	-7	-11	-9	-8	-17
Total					**2144**	**69**	**133**	**202**	**167**	**139**	**306**

Trip Distribution

The trips generated by the proposed uses were distributed within the existing street network and access points. Site generated directional distribution for the vehicles was developed based on a journey-to-work model, existing and expected travel patterns in the study area, and the location of area highways and major intersections. Site-generated trip distribution percentages for vehicles are shown in Figure 4. Detailed site and school distribution volumes within the study area intersections are shown in Figure 5 and Figure 6, respectively in Appendix C.

Build Traffic Volumes

The 2024 Build traffic volumes were generated by adding the site generated trips to the 2024 No Build traffic volumes. Figure 7 illustrates the 2024 Build weekday morning and evening traffic volumes.



NOTE: SCHOOL TRAFFIC IS INCLUDED IN THESE VOLUMES

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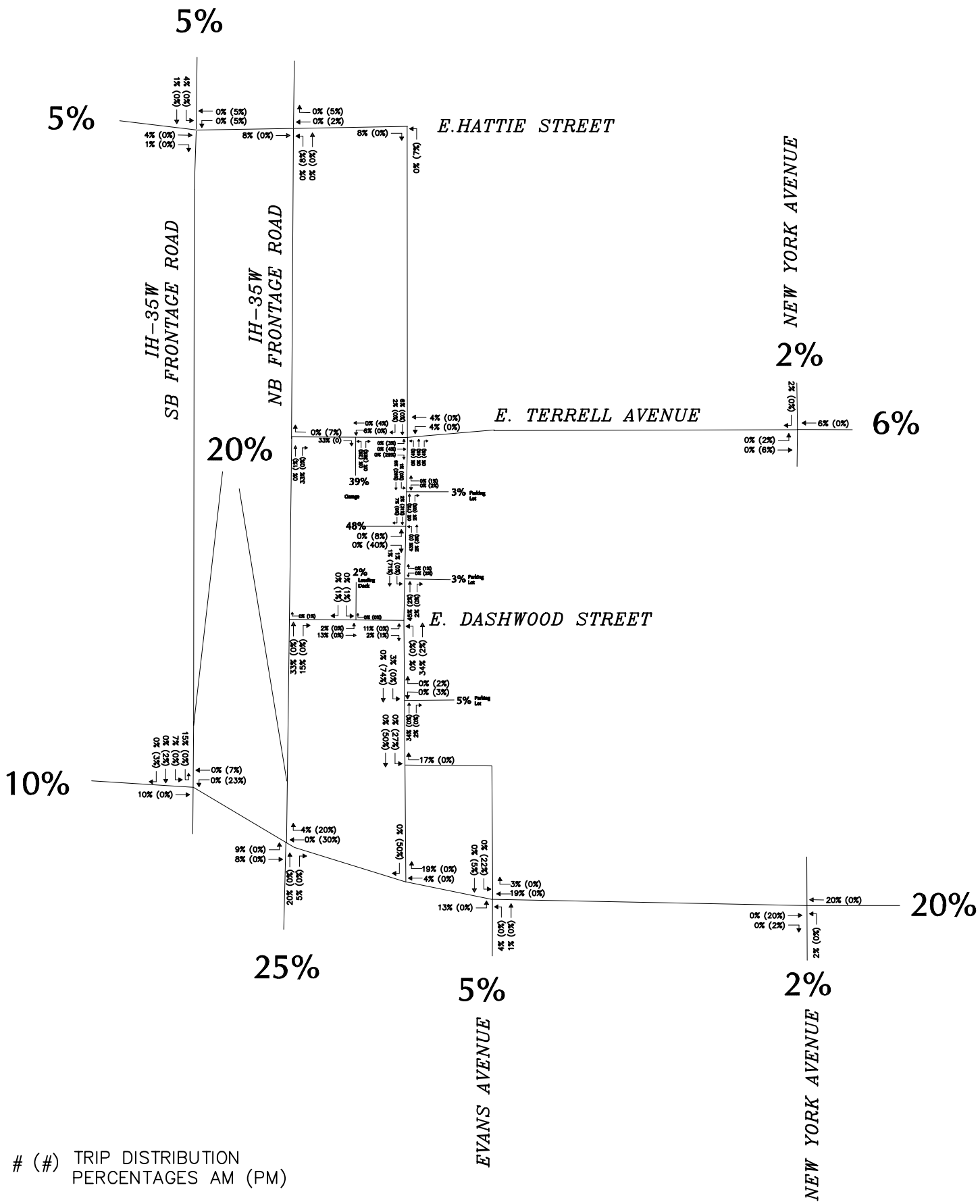
Project	Drawing Title	Project No.	
SOUTH FWY MIXED-USE	2024 NO BUILD PEAK HOUR TRAFFIC VOLUMES	520049701	FIGURE 3
		Date 7/6/2022	
		Drawn By GD	
		Checked By GD	



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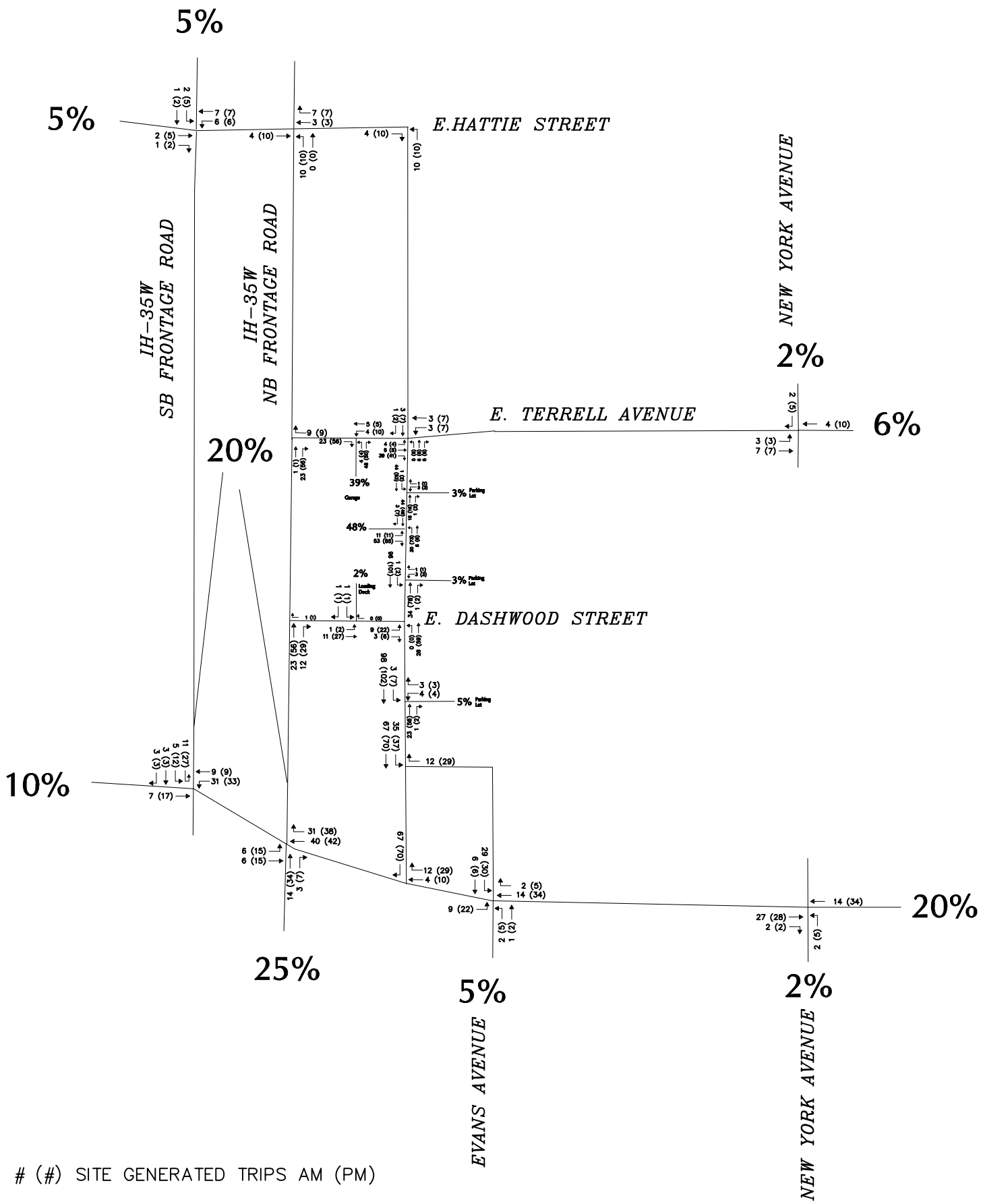

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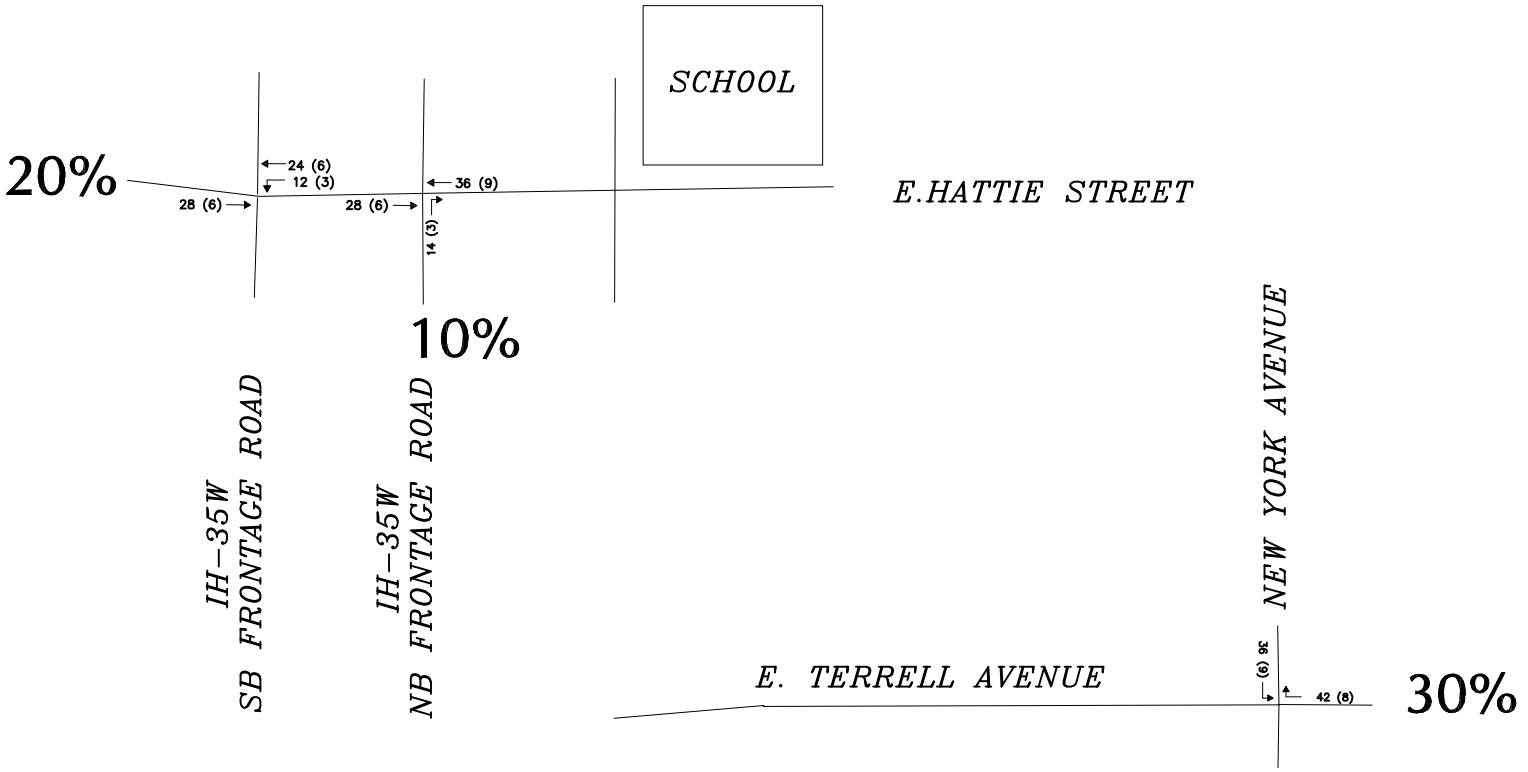
Land Use Description	ITE Code	Units	Daily Trips	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
School Trips (350 Students)	520	350	795	140	119	259	26	30	56
Total			795	140	119	259	26	30	56



NOTE: 40% OF SCHOOL TRAFFIC ASSUMED TO COME FROM MINOR STREETS OUTSIDE OF THE STUDY AREA

(#) SCHOOL GENERATED TRIPS AM (PM)
% GLOBAL DISTRIBUTION

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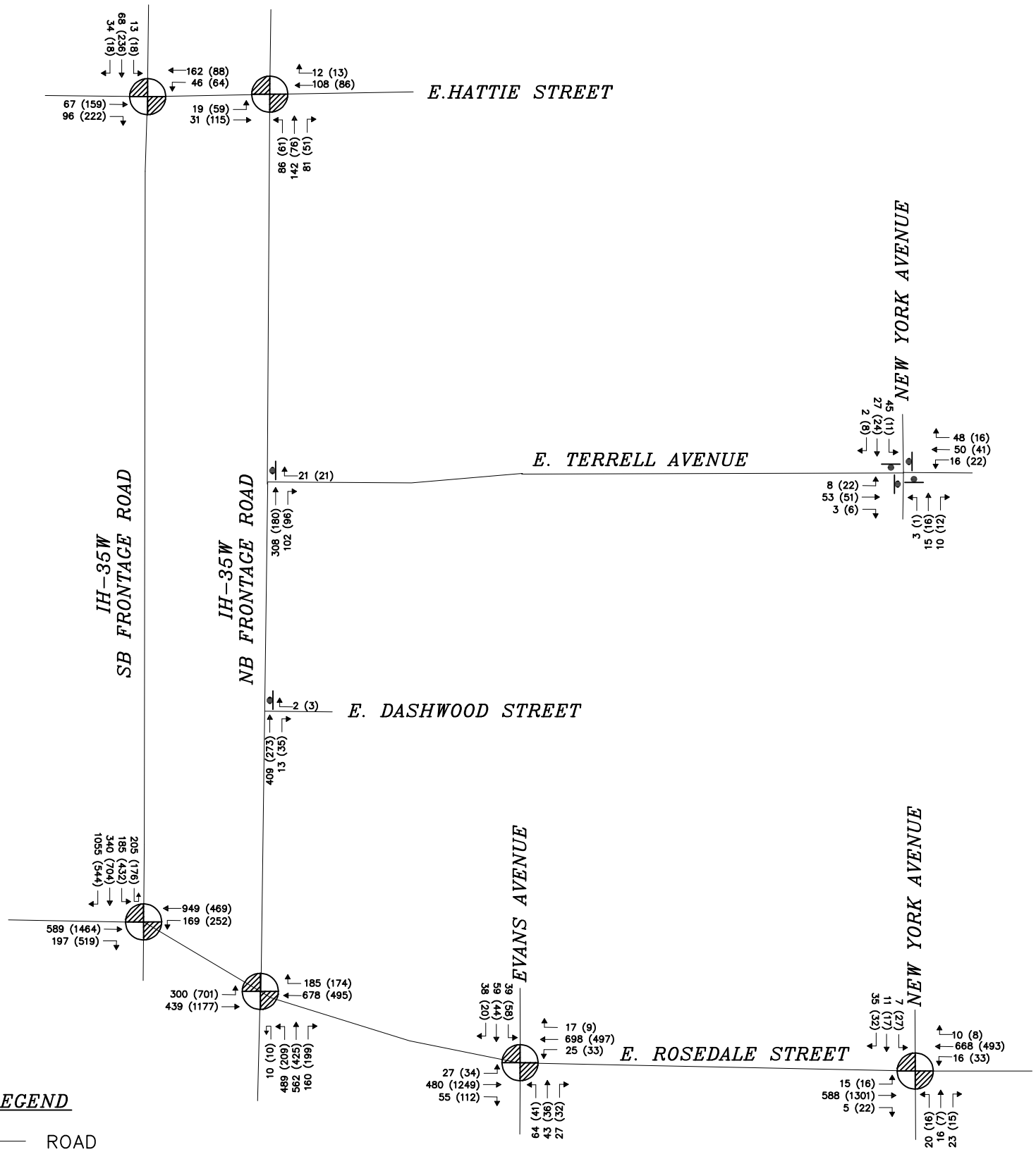
FIGURE 6



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Dallas, TX 75019
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Project	SOUTH FWY MIXED-USE
Drawing Title	2024 BUILD PEAK HOUR TRAFFIC VOLUMES
Project No.	520049701
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FIGURE 7

ANALYSIS OF TRAFFIC OPERATIONS

This section describes the intersection capacity analyses conducted to assess traffic operations for the Existing, No Build, and Build conditions. Capacity analyses provide an indication of the adequacy of road facilities to service traffic demand.

Level of Service Criteria

Level of Service (LOS) is the term used to denote different operating conditions that occur on a given road segment under various traffic volume demands. LOS is a qualitative measure that considers a number of factors including road geometry, speed, travel delay and freedom to maneuver. LOS designations range from A to F and provide an index of operational qualities of a road segment or an intersection. LOS A represents the best operating conditions; LOS F represents the worst.

LOS capacity analyses were conducted for the intersections within the study area using the Synchro software package. This software is based on methodologies described in the Highway Capacity Manual, published by the Transportation Research Board.

For signalized intersections, LOS is based upon the average delay experienced by stopped vehicles and the operation is graded between A (least delay) and F (most delay). The following table describes the LOS gradation criteria for signalized intersections:

Table 3 – Level of Service Criteria for Signalized Intersections

Level of Service (LOS)	Expected Traffic Delay	Average Total Delay (seconds/vehicle)
A	Very low or no delays, very good progression, most vehicles do not stop at all.	$\leq$ 10
B	Short delay, good progression and/or short cycle lengths, more vehicles stop than with LOS A.	> 10 And $\leq$ 20
C	Average delay, fair progression and/or longer cycle lengths, a significant number of vehicles stop at the intersection.	> 20 And $\leq$ 35
D	Longer delays, unfavorable progression, long cycle lengths or high v/c ratios, most vehicles stop at intersection.	> 35 And $\leq$ 55
E	Longer delays (Maximum Capacity), considered to be the limit of acceptable delay, poor progression, long cycle lengths and high v/c ratios	> 55 And $\leq$ 80
F	Worst delays (Over saturated), poor progression, long cycle lengths and high v/c ratios.	> 80

The traffic operation for unsignalized intersections is classified based on the LOS and delay experienced by critical movements that correspond to any minor street movements or left-turns from a major street. The following table describes the LOS gradation criteria for unsignalized intersections:

Table 4 – Level of Service Criteria for Unsignalized Intersections

Level of Service (LOS)	Expected Traffic Delay	Average Total Delay (seconds/vehicle)
A	Very low or no delays	$\leq$ 10
B	Short delays	> 10 And $\leq$ 15
C	Average delays	> 15 And $\leq$ 25
D	Long delays	> 25 And $\leq$ 35
E	Long delays (Maximum Capacity)	> 35 And $\leq$ 50
F	Worst delays (Over saturated)	> 50

Capacity Analyses

We conducted capacity analyses for the intersections in the study area and found that the proposed development will not significantly alter overall intersection operations in the study area. Table 5 summarizes the 2022 Existing, 2024 No Build, and 2024 Build levels of service (LOS) at each relevant study intersection during the weekday morning and evening peak hours. The results in the table are based on Synchro Software, HCM 2000, and HCM 6th [LOS (Average vehicle delay (seconds per vehicle)]. The capacity analysis printouts are contained in Appendix D.

As shown in Table 5, all intersections will operate at overall level of service (LOS) D or better in the 2024 Build condition with optimization. There are no overall intersection LOS degradations when comparing the 2024 No Build condition to the 2024 Build condition. All specific movements will operate at LOS E or better, except for specific movements at the diamond interchange of E. Rosedale Street and IH-35W. It is not possible to improve lane capacity at this diamond interchange, due the intersections already fully buildout. Even with traffic signal optimization, some individual movements continue to fail due to the large volume of vehicles present during the peak hours. Longer cycle times may improve these movements, but will cause other acceptable LOS turning movements at this interchange to then fail.

Based on the review of the analysis, the existing study intersections will operate at overall acceptable LOS at Build conditions with traffic signal optimization. However, some individual movements at the diamond intersection of E. Rosedale Street and IH-35W will still have a failing LOS. Mitigation measures for this intersection are not required by the developer as these turning movement failures are pre-existing and the site's contribution to the increase in traffic at this intersection is minimal.

Table 5 – Intersection Capacity Analysis Summary

Intersection	Movement		2022 EXISTING Delay / LOS / V/C				2024 NO BUILD Delay / LOS / V/C				2024 BUILD Delay / LOS / V/C				2024 BUILD WITH MITIGATIONS Delay / LOS / V/C					
			AM		PM		AM		PM		AM		PM		AM			PM		
IH 35 SB Frontage Road and E. Hattie Street	EB	T	31.1 / C	*0.14*	33.9 / C	*0.34*	30.9 / C	*0.14*	34.4 / C	*0.36*	31.0 / C	*0.15*	35.3 / D	*0.39*	--	--	--	27.8 / C	*0.39*	
		R	30.1 / C	*0.06*	31.1 / C	*0.14*	29.6 / C	*0.07*	31.3 / C	*0.15*	30.0 / C	*0.07*	31.7 / C	*0.15*	--	--	--	24.6 / C	*0.15*	
	WB	L/T	5.4 / A	*0.09*	6.2 / A	*0.06*	3.5 / A	*0.09*	5.9 / A	*0.07*	4.8 / A	*0.09*	5.6 / A	*0.07*	--	--	--	5.4 / A	*0.08*	
	SB	L/T	28.5 / C	*0.09*	28.1 / C	*0.26*	29.2 / C	*0.09*	28.4 / C	*0.27*	29.4 / C	*0.10*	27.8 / C	*0.28*	--	--	--	20.0 / B	*0.26*	
		R	27.9 / C	*0.02*	26.0 / C	*0.01*	28.6 / C	*0.02*	26.1 / C	*0.01*	28.7 / C	*0.02*	25.4 / C	*0.01*	--	--	--	18.3 / B	*0.01*	
	Overall		**19.1 / B**		**26.1 / C**		**19.1 / B**		**26.3 / C**		**19.2 / B**		**26.1 / C**		--	--	--	**20.0 / B**		
IH 35 NB Frontage Road and E. Hattie Street	EB	L	56.2 / E	*0.04*	74.9 / E	*0.14*	35.7 / D	*0.04*	68.3 / E	*0.15*	35.0 / C	*0.04*	49.5 / D	*0.14*	--	--	--	32.8 / C	*0.14*	
		T	16.9 / B	*0.04*	10.5 / B	*0.15*	34.5 / C	*0.06*	10.8 / B	*0.16*	34.9 / C	*0.07*	4.7 / A	*0.15*	--	--	--	3.0 / A	*0.16*	
	WB	R/T	46.1 / D	*0.35*	45.9 / D	*0.34*	46.8 / D	*0.37*	45.9 / D	*0.35*	46.9 / D	*0.38*	45.3 / D	*0.36*	--	--	--	46.3 / D	*0.64*	
	NB	L	15.2 / B	*0.10*	19.9 / B	*0.08*	10.7 / B	*0.09*	20.1 / C	*0.09*	10.8 / B	*0.09*	26.6 / C	*0.14*	--	--	--	22.4 / C	*0.15*	
		L/T/R	15.4 / B	*0.13*	20.0 / B	*0.09*	10.9 / B	*0.12*	20.1 / C	*0.10*	11.0 / B	*0.12*	26.4 / C	*0.13*	--	--	--	22.2 / C	*0.14*	
	Overall		**24.4 / C**		**30.6 / C**		**21.8 / C**		**29.8 / C**		**22.5 / C**		**28.0 / C**		--	--	--	**23.9 / C**		
IH 35 SB Frontage Road and E. Rosedale Street	EB	T	49.3 / D	*0.61*	319.6 / F	*1.58*	50.8 / D	*0.66*	362.3 / F	*1.68*	51.3 / D	*0.67*	370.9 / F	*1.70*	--	--	--	51.3 / D	*0.57*	
		R	42.9 / D	*0.13*	70.8 / E	*0.80*	43.5 / D	*0.14*	85.8 / F	*0.91*	43.7 / D	*0.14*	89.4 / F	*0.93*	--	--	--	28.8 / C	*0.61*	
	WB	L	4.5 / A	*0.16*	31.7 / C	*0.28*	4.6 / A	*0.17*	36.6 / D	*0.31*	6.4 / A	*0.21*	39.1 / D	*0.33*	--	--	--	29.8 / C	*0.64*	
		L/T	7.9 / A	*0.37*	14.9 / B	*0.26*	8.2 / A	*0.39*	16.4 / B	*0.28*	8.7 / A	*0.39*	19.5 / B	*0.31*	--	--	--	14.4 / B	*0.64*	
	SB	L	30.0 / C	*0.25*	29.3 / C	*0.46*	30.0 / C	*0.26*	29.3 / C	*0.48*	30.2 / C	*0.26*	29.4 / C	*0.49*	--	--	--	88.7 / F	*0.55*	
		L/T	29.8 / C	*0.25*	28.9 / C	*0.46*	29.9 / C	*0.26*	28.8 / C	*0.48*	30.0 / C	*0.26*	28.9 / C	*0.49*	--	--	--	64.3 / E	*0.42*	
		R	2.4 / A	*0.68*	0.6 / A	*0.35*	2.9 / A	*0.72*	0.7 / A	*0.37*	2.9 / A	*0.72*	0.7 / A	*0.37*	--	--	--	0.7 / A	*0.42*	
	Overall		**18.5 / B**		**126.5 / F**		**19.0 / B**		**143.0 / F**		**19.2 / B**		**146.0 / F**		--	--	--	**41.8 / D**		
IH 35 NB Frontage Road and E. Rosedale Street	EB	L	87.6 / F	*0.51*	202.2 / F	*1.26*	84.8 / F	*0.55*	238.6 / F	*1.35*	83.5 / F	*0.56*	252.1 / F	*1.38*	--	--	--	114.1 / F	*1.12*	
		L/T	23.4 / C	*0.35*	26.6 / C	*0.81*	22.3 / C	*0.37*	28.9 / C	*0.88*	22.6 / C	*0.38*	31.2 / C	*0.91*	--	--	--	15.2 / B	*0.84*	
	WB	R	50.7 / D	*0.67*	47.3 / D	*0.46*	49.4 / D	*0.66*	47.7 / D	*0.48*	50.9 / D	*0.71*	48.5 / D	*0.53*	--	--	--	101.5 / F	*1.06*	
		T	42.5 / D	*0.10*	42.9 / D	*0.09*	41.4 / D	*0.11*	43.0 / D	*0.09*	41.9 / D	*0.13*	43.4 / D	*0.12*	--	--	--	42.5 / D	*0.12*	
	NB	L	34.9 / C	*0.52*	36.4 / D	*0.34*	35.4 / D	*0.54*	36.4 / D	*0.35*	35.1 / D	*0.54*	35.8 / D	*0.36*	--	--	--	23.3 / C	*0.30*	
		L/T	34.2 / C	*0.51*	36.1 / D	*0.33*	34.4 / C	*0.54*	36.0 / D	*0.35*	34.4 / C	*0.54*	35.5 / D	*0.36*	--	--	--	23.1 / C	*0.30*	
		R	29.2 / C	*0.10*	33.8 / C	*0.12*	29.1 / C	*0.11*	34.0 / C	*0.17*	29.0 / C	*0.11*	33.6 / C	*0.19*	--	--	--	21.9 / C	*0.14*	
	Overall		**39.8 / D**		**59.9 / E**		**39.1 / D**		**66.2 / E**		**39.5 / D**		**67.8 / E**		--	--	--	**45.5 / D**		
E. Rosedale Street and Evans Avenue	EB	L	4.8 / A	*0.04*	4.2 / A	*0.02*	5.0 / A	*0.04*	4.3 / A	*0.02*	4.9 / A	*0.06*	5.0 / A	*0.06*	--	--	--	5.0 / A	*0.06*	
		T	6.7 / A	*0.24*	8.6 / A	*0.58*	7.1 / A	*0.26*	8.0 / A	*0.62*	7.3 / A	*0.26*	12.2 / B	*0.67*	--	--	--	12.2 / B	*0.67*	
	WB	L	4.7 / A	*0.04*	4.8 / A	*0.13*	50.0 / D	*0.05*	5.2 / A	*0.16*	5.5 / A	*0.05*	7.8 / A	*0.17*	--	--	--	7.8 / A	*0.17*	
		T	7.1 / A	*0.31*	4.6 / A	*0.19*	7.6 / A	*0.33*	4.5 / A	*0.20*	8.5 / A	*0.35*	7.5 / A	*0.25*	--	--	--	7.5 / A	*0.25*	
	NB	L/T	39.7 / D	*0.55*	42.2 / D	*0.51*	40.1 / D	*0.57*	39.0 / D	*0.54*	44.4 / D	*0.64*	37.4 / D	*0.43*	--	--	--	37.4 / D	*0.43*	
		R	33.7 / C	*0.02*	37.4 / D	*0.02*	33.4 / C	*0.02*	37.2 / D	*0.02*	33.9 / C	*0.02*	33.9 / C	*0.02*	--	--	--	33.9 / C	*0.02*	
	SB	R	36.3 / D	*0.37*	43.8 / D	*0.55*	36.1 / D	*0.38*	44.6 / D	*0.57*	41.3 / D	*0.60*	42.4 / D	*0.62*	--	--	--	42.4 / D	*0.62*	
	Overall		**11.6 / B**		**10.7 / B**		**11.9 / B**		**11.2 / B**		**13.7 / B**		**13.9 / B**		--	--	--	**13.9 / B**		
E. Rosedale Street and New York Avenue	EB	L	1.8 / A	*0.03*	2.2 / A	*0.58*	1.8 / A	*0.03*	2.2 / A	*0.03*	1.8 / A	*0.03*	2.2 / A	*0.03*	--	--	--	2.2 / A	*0.03*	
		T/R	2.5 / A	*0.21*	4.7 / A	*0.50*	2.4 / A	*0.23*	4.1 / A	*0.54*	2.6 / A	*0.24*	5.0 / A	*0.55*	--	--	--	5.0 / A	*0.55*	
	WB	L	1.8 / A	*0.02*	2.5 / A	*0.46*	1.8 / A	*0.03*	2.5 / A	*0.13*	1.8 / A	*0.03*	2.8 / A	*0.14*	--	--	--	2.8 / A	*0.14*	
		T/R	2.7 / A	*0.25*	2.7 / A	*0.47*	2.5 / A	*0.27*	2.3 / A	*0.19*	2.5 / A	*0.27*	2.8 / A	*0.20*	--	--	--	2.8 / A	*0.20*	
	NB	L/T/R	35.7 / D	*0.41*	33.4 / C	*0.46*	35.9 / D	*0.45*	32.4 / C	*0.21*	32.3 / C	*0.47*	33.9 / C	*0.27*	--	--	--	33.9 / C	*0.27*	
	SB	L/T/R	33.7 / C	*0.25*	36.6 / D	*0.46*	33.6 / C	*0.26*	33.0 / C	*0.50*	32.0 / C	*0.26*	37.1 / D	*0.51*	--	--	--	37.1 / D	*0.51*	
	Overall		**5.2 / A**		**5.9 / A**		**5.2 / A**		**6.1 / A**		**28.2 / C**		**6.2 / A**		--	--	--	**6.2 / A**		
IH 35 NB Frontage Road and E. Dashwood Street	WB	R	9.5 / A	*0.00*	8.9 / A	*0.00*	9.5 / A	*0.00*	9.0 / A	*0.00*	9.7 / A	*0.00*	9.3 / A	*0.00*	--	--	--	--	--	--
	Overall		**9.5 / A**		**8.9 / A**		**9.8 / A**		**9.0 / A**		**9.7 / A**		**9.3 / A**		--	--	--	--	--	--
IH 35 NB Frontage Road and E. Terrell Avenue	WB	R	9.5 / A	*0.02*	9.0 / A	*0.01*	9.6 / A	*0.02*	9.0 / A	*0.01*	9.8 / A	*0.03*	9.2 / A	*0.03*	--	--	--	--	--	--
	Overall		**9.5 / A**		**9.0 / A**		**9.6 / A**		**9.0 / A**		**9.8 / A**		**9.2 / A**		--	--	--	--	--	--
New York Avenue and E. Terrell Avenue	EB	L/T/R	7.5 / A	*0.07*	7.6 / A	*0.10*	7.6 / A	*0.07*	7.7 / A	*0.10*	7.7 / A	*0.08*	7.7 / A	*0.10*	--	--	--	--	--	--
	WB	L/T/R	7.5 / A	*0.12*	7.5 / A	*0.09*	7.6 / A	*0.13*	7.6 / A	*0.10*	7.7 / A	*0.14*	7.6 / A	*0.10*	--	--	--	--	--	--
	NB	L/T/R	7.3 / A	*0.03*	7.2 / A	*0.03*	7.3 / A	*0.03*	7.3 / A	*0.04*	7.4 / A	*0.04*	7.3 / A	*0.04*	--	--	--	--	--	--
	SB	L/T/R	7.9 / A	*0.09*	7.5 / A	*0.06*	7.9 / A	*0.09*	7.6 / A	*0.06*	8.0 / A	*0.10*	7.6 / A	*0.06*	--	--	--	--	--	--
	Overall		**7.6 / A**		**7.5 / A**		**7.6 / A**		**7.6 / A**		**7.7 / A**		**7.6 / A**		--	--	--	--	--	--

Roadway Capacity Analyses

A roadway link is the roadway segment between two intersections. Roadway link capacity analysis is a comparison of actual or forecasted traffic volumes to the theoretically optimum roadway capacity. The capacity of the roadway link is a function of the roadway's cross-section (i.e., number of lanes, lane widths, type of center divider, etc.). However, other more theoretical factors also apply, such as the character of environment and the functional classification of the roadway. Roadway link capacity is less critical than intersection capacity; however, it can provide a gauge of the utilization of given roadway. A specific industry standard for roadway link capacity does not exist, but the typical concept is derived from a base saturation flow rate (i.e., the maximum theoretical rate of continuous flow under ideal, unobstructed conditions. In the traffic engineering industry, this value is generally considered to range between 1,900-2,100 vehicles per-lane per-hour). A series of adjustment factors are then applied to the saturation flow rate to reflect the characteristics of a given location. The North Central Texas Council of Governments (NCTCOG) – the metropolitan planning agency for the Dallas-Fort Worth region – has derived internal "hourly service volume" guidelines used for transportation modelling purposes. Though these per-lane capacities, or "service volumes" (summarized in the table below), are intended for modelling purposes, they do provide a reasonable gauge of theoretical capacity.

Area Type	Hourly Service Volume Capacity per Lane by Area Type and Roadway Function					
	Principal Arterial		Minor Arterial & Frontage Road		Collector & Local Street	
	Median-Divided or One-Way	Undivided Two-Way	Median-Divided or One-Way	Undivided Two-Way	Median-Divided or One-Way	Undivided Two-Way
CBD	725	650	725	650	475	425
Outer Business	775	725	775	725	500	450
Urban Residential	850	775	825	750	525	475
Suburban Residential	900	875	900	825	575	525
Rural	1,025	925	975	875	600	550

To determine the utilization of a roadway, the volume to capacity ratio is calculated — a v/c ratio of less than 1 0 indicates that the roadway is operating under capacity, NCTCOG's level of service denominations are as follows:.

Volume: Capacity Ratio < 45% is LOS A/B
Volume: Capacity Ratio > 45% and < 65% is LOS C
Volume: Capacity Ratio > 65% and < 80% is LOS D
Volume: Capacity Ratio > 80% and < 100% is LOS E
Volume: Capacity Ratio > 100% is LOS F

As part of the traffic study, a roadway capacity analysis was completed for the segment of the IH-35W Northbound Frontage Road adjacent to the site between E. Dashwood Street and E. Terrell Avenue.

Table 6 – Road Capacity Analysis Summary

Roadway		Classification for Analysis	Peak Hourly Volume	# Lanes	Median Divided	Capacity		V/C	LOS
						Per Lane	Roadway		
2022 Existing									
IH-35W NB Frontage Road	NB	Frontage Road/Urban	352	2	No	825	1650	0.21	A
2024 No Build									
IH-35W NB Frontage Road	NB	Frontage Road/Urban	373	2	No	825	1650	0.23	A
2024 Build									
IH-35W NB Frontage Road	NB	Frontage Road/Urban	409	2	No	825	1650	0.25	A

The five site driveways are accessed by local streets that have low traffic volumes and the addition of site traffic on these streets will not cause any significant capacity issues.

CONCLUSIONS

The increase in overall delays at the study area intersections, when comparing the 2024 Build conditions to the 2024 No Build conditions, are minimal. There are no significant overall intersection LOS degradations when comparing the 2024 Build condition to the 2024 No Build condition. All proposed site driveways should operate efficiently with the proposed geometry.

Based on the review of the analysis, the existing study intersections will operate at overall acceptable LOS at Build conditions with traffic signal optimization. However, some individual movements at the diamond intersection of E. Rosedale Street and IH-35W will still have a failing LOS. Mitigation measures for this intersection are not required by the developer as these turning movement failures are pre-existing and the site's contribution to the increase in traffic at this intersection is minimal.

APPENDIX A
OVERALL SITE PLAN

FT. WORTH MASTER PLAN

2021.08.24

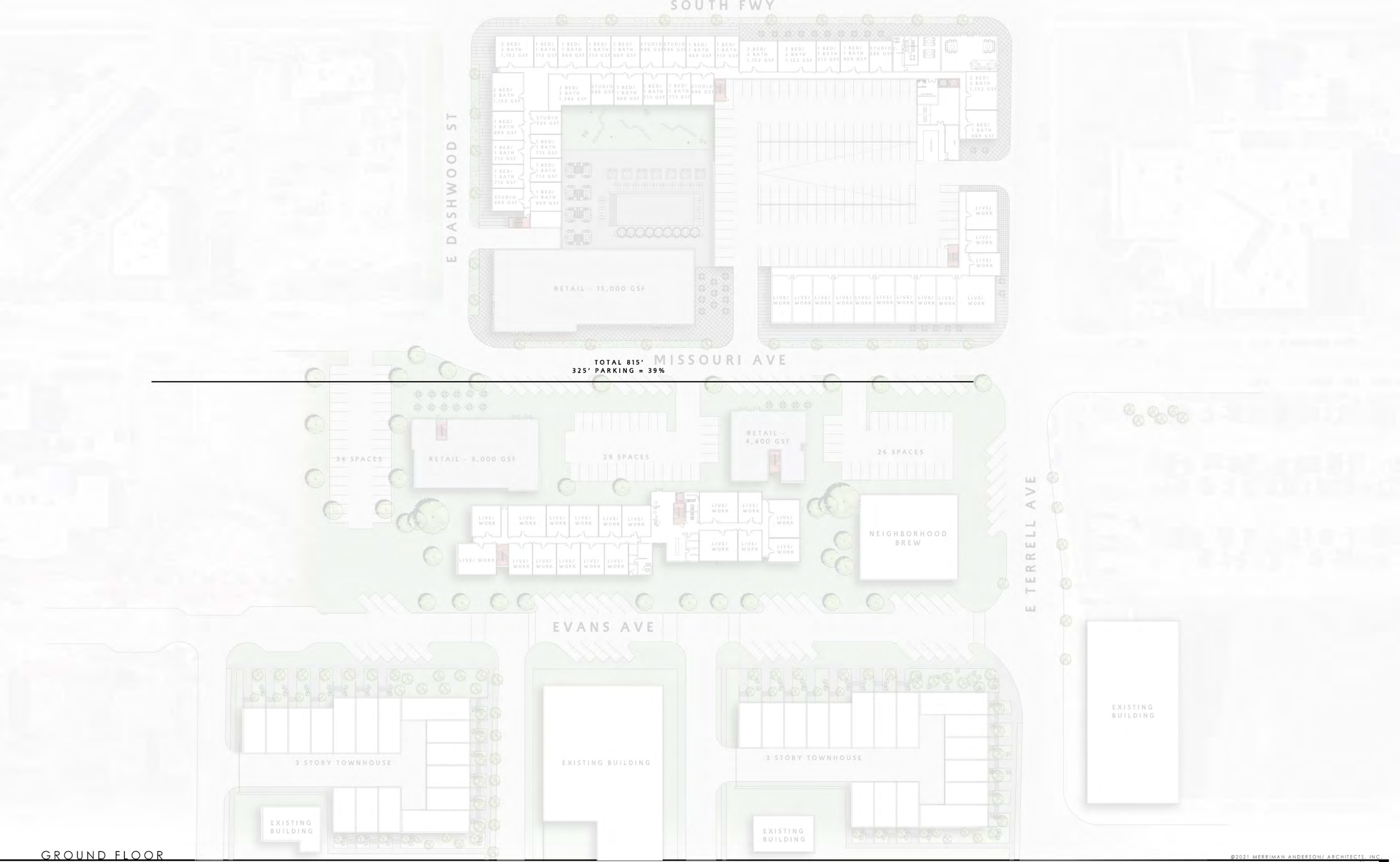
maa architects
merriman anderson

GROUND FLOOR

0 80

* ALL NUMBERS ARE APPROXIMATE

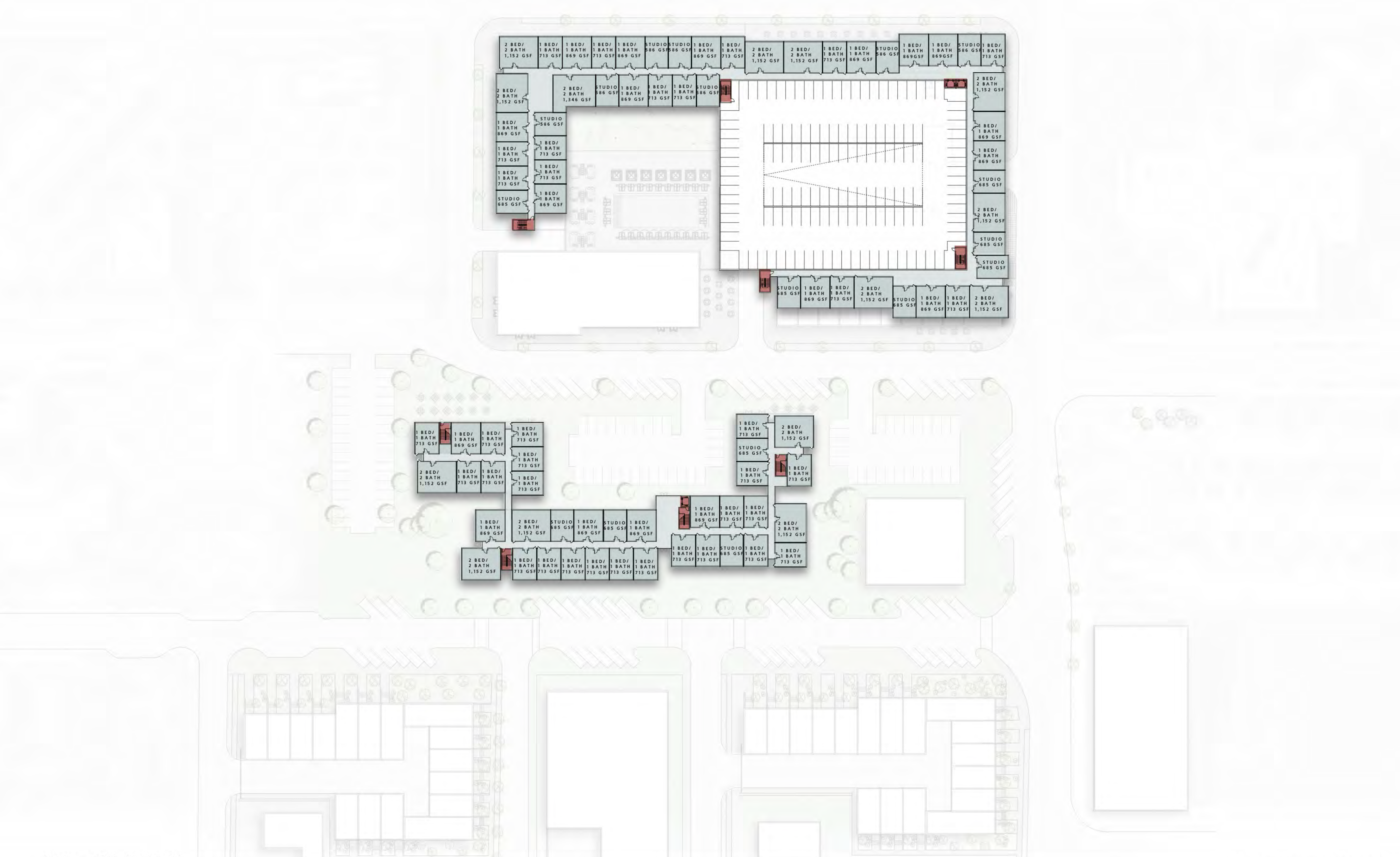
merriman anderson architects



GROUND FLOOR

0 80

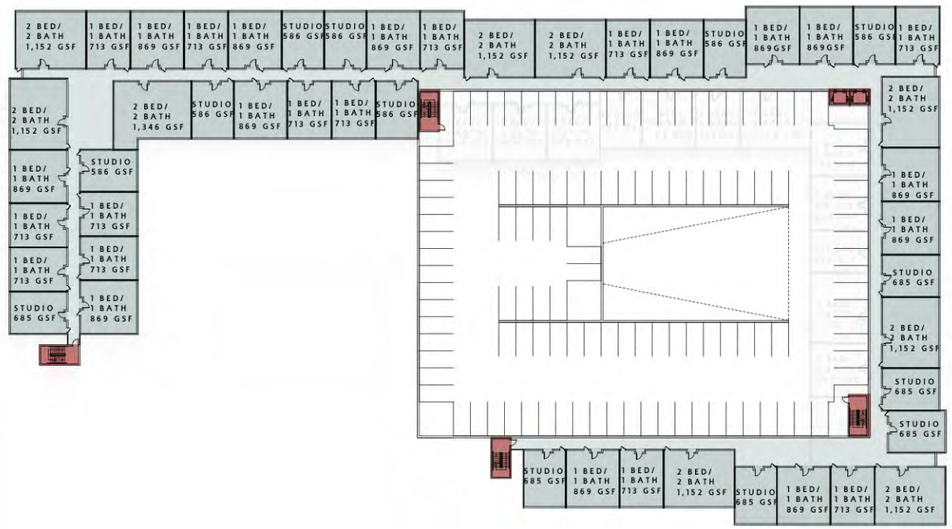
* ALL NUMBERS ARE APPROXIMATE



2ND - 4TH FLOORS

0 80

* ALL NUMBERS ARE APPROXIMATE



5TH FLOOR

0 80

* ALL NUMBERS ARE APPROXIMATE

architects maa merriman anderson

FORT WORTH MASTER PLAN

EAST BLOCK

	Building Gross SF	Residential Rentable SF	UNIT TYPES					Unit Count Total	Public/ Amenity SF	Pad Retail SF	BOH/ Service SF	Surface Parking Count	Street Parking Count
			Studio (685 SF)	1 Bed (713 SF)	1 Bed (869 SQ FT)	2 Bed (1,152 SF)	Live/ Work (Varies SF)						
REV. 07/15/2021	79% EFF		685	713	869	1152	Varies						
Ground Level	21,655	15,441	-	-	-	-	18	18	3,918	12,400	2,296	89	70
Level 2	35,271	28,531	4	22	5	5		36	-	-	934	-	-
Level 3	35,271	28,531	4	22	5	5		36	-	-	934	-	-
Level 4	35,271	28,531	4	22	5	5		36	-	-	934	-	-
Totals:	**127,468**	**101,034**	12	66	15	15	18	126	**3,918**	**12,400**	**5,098**	**89**	**70**
												1.26	SPACES PER UNIT

WEST BLOCK

	Building Gross SF	Residential Rentable SF	UNIT TYPES					Unit Count Total	Public/ Amenity SF	Retail SF	BOH/ Service SF	Garage SF	Parking Count
			Studio (685 SF)	1 Bed (713 SF)	1 Bed (869 SQ FT)	2 Bed (1,152 SF)	Live/ Work (1,152 SF)						
	71% EFF		543	713	869	1152	928						
Ground Level	63,557	36,313	9	10	8	7	10	44	3,605	15,129	8,510	43,579	124
Level 2	50,253	37,993	13	13	13	9	-	48	-	-	726	43,579	142
Level 3	50,253	37,993	13	13	13	9	-	48	-	-	726	43,579	142
Level 4	50,253	37,993	13	13	13	9	-	48	-	-	726	43,579	118
Level 5	50,253	37,993	13	13	13	9	-	48	-	-	726	-	-
Totals:	**264,569**	**188,285**	61	62	60	43	10	236	**3,605**	**15,129**	**11,414**	**174,316**	**526**
										61	SPACES	1.97	SPACES PER UNIT
Totals:	**392,037**	**289,319**	73	128	75	58	28	362	**7,523**	**27,529**	**16,512**		

* ALL NUMBERS ARE APPROXIMATE

APPENDIX B
TRAFFIC COUNTS

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E TERRELL AVE @ S FWY NBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Data

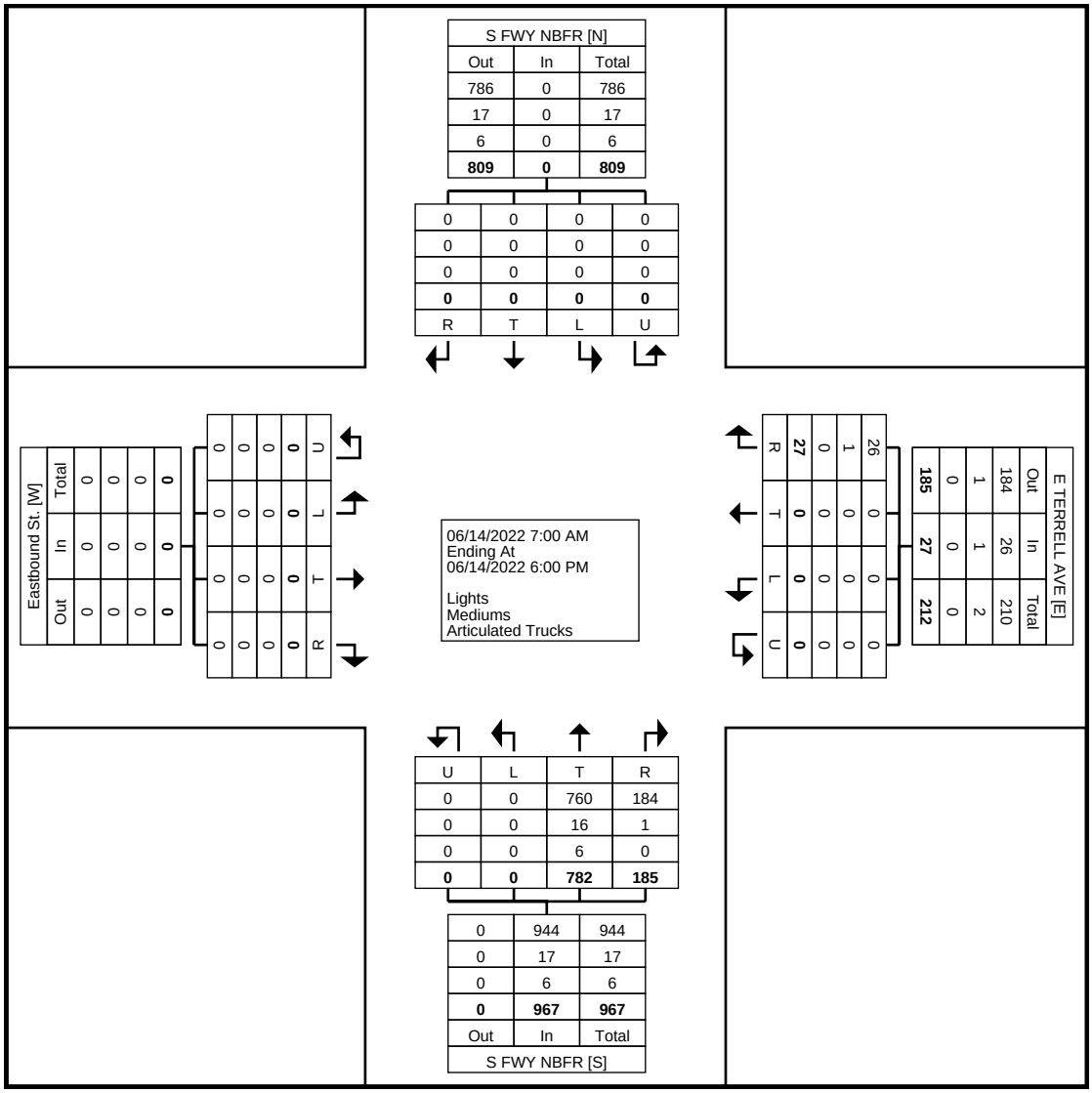
Start Time	S FWY NBFR Southbound					E TERRELL AVE Westbound					S FWY NBFR Northbound					Eastbound St. Eastbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	35	9	0	44	0	0	0	0	0	44
7:15 AM	0	0	0	0	0	0	0	3	0	3	0	79	27	0	106	0	0	0	0	0	109
7:30 AM	0	0	0	0	0	0	0	3	0	3	0	80	21	0	101	0	0	0	0	0	104
7:45 AM	0	0	0	0	0	0	0	4	0	4	0	90	15	0	105	0	0	0	0	0	109
Hourly Total	0	0	0	0	0	0	0	10	0	10	0	284	72	0	356	0	0	0	0	0	366
8:00 AM	0	0	0	0	0	0	0	1	0	1	0	48	12	0	60	0	0	0	0	0	61
8:15 AM	0	0	0	0	0	0	0	1	0	1	0	57	10	0	67	0	0	0	0	0	68
8:30 AM	0	0	0	0	0	0	0	3	0	3	0	37	14	0	51	0	0	0	0	0	54
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	46	7	0	53	0	0	0	0	0	53
Hourly Total	0	0	0	0	0	0	0	5	0	5	0	188	43	0	231	0	0	0	0	0	236
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	0	0	0	0	0	1	0	1	0	42	9	0	51	0	0	0	0	0	52
4:15 PM	0	0	0	0	0	0	0	1	0	1	0	34	10	0	44	0	0	0	0	0	45
4:30 PM	0	0	0	0	0	0	0	2	0	2	0	35	3	0	38	0	0	0	0	0	40
4:45 PM	0	0	0	0	0	0	0	4	0	4	0	44	9	0	53	0	0	0	0	0	57
Hourly Total	0	0	0	0	0	0	0	8	0	8	0	155	31	0	186	0	0	0	0	0	194
5:00 PM	0	0	0	0	0	0	0	1	0	1	0	47	6	0	53	0	0	0	0	0	54
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	40	13	0	53	0	0	0	0	0	53
5:30 PM	0	0	0	0	0	0	0	2	0	2	0	38	10	0	48	0	0	0	0	0	50
5:45 PM	0	0	0	0	0	0	0	1	0	1	0	30	10	0	40	0	0	0	0	0	41
Hourly Total	0	0	0	0	0	0	0	4	0	4	0	155	39	0	194	0	0	0	0	0	198
Grand Total	0	0	0	0	0	0	0	27	0	27	0	782	185	0	967	0	0	0	0	0	994
Approach %	0.0	0.0	0.0	0.0	-	0.0	0.0	100.0	0.0	-	0.0	80.9	19.1	0.0	-	0.0	0.0	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.7	0.0	2.7	0.0	78.7	18.6	0.0	97.3	0.0	0.0	0.0	0.0	0.0	-
Lights	0	0	0	0	0	0	0	26	0	26	0	760	184	0	944	0	0	0	0	0	970
% Lights	-	-	-	-	-	-	-	96.3	-	96.3	-	97.2	99.5	-	97.6	-	-	-	-	-	97.6
Mediums	0	0	0	0	0	0	0	1	0	1	0	16	1	0	17	0	0	0	0	0	18
% Mediums	-	-	-	-	-	-	-	3.7	-	3.7	-	2.0	0.5	-	1.8	-	-	-	-	-	1.8
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
% Articulated Trucks	-	-	-	-	-	-	-	0.0	-	0.0	-	0.8	0.0	-	0.6	-	-	-	-	-	0.6

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E TERRELL AVE
@ S FWY NBFR
Site Code:
Start Date: 06/14/2022
Page No: 2



Turning Movement Data Plot

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E TERRELL AVE @ S FWY NBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (7:15 AM)

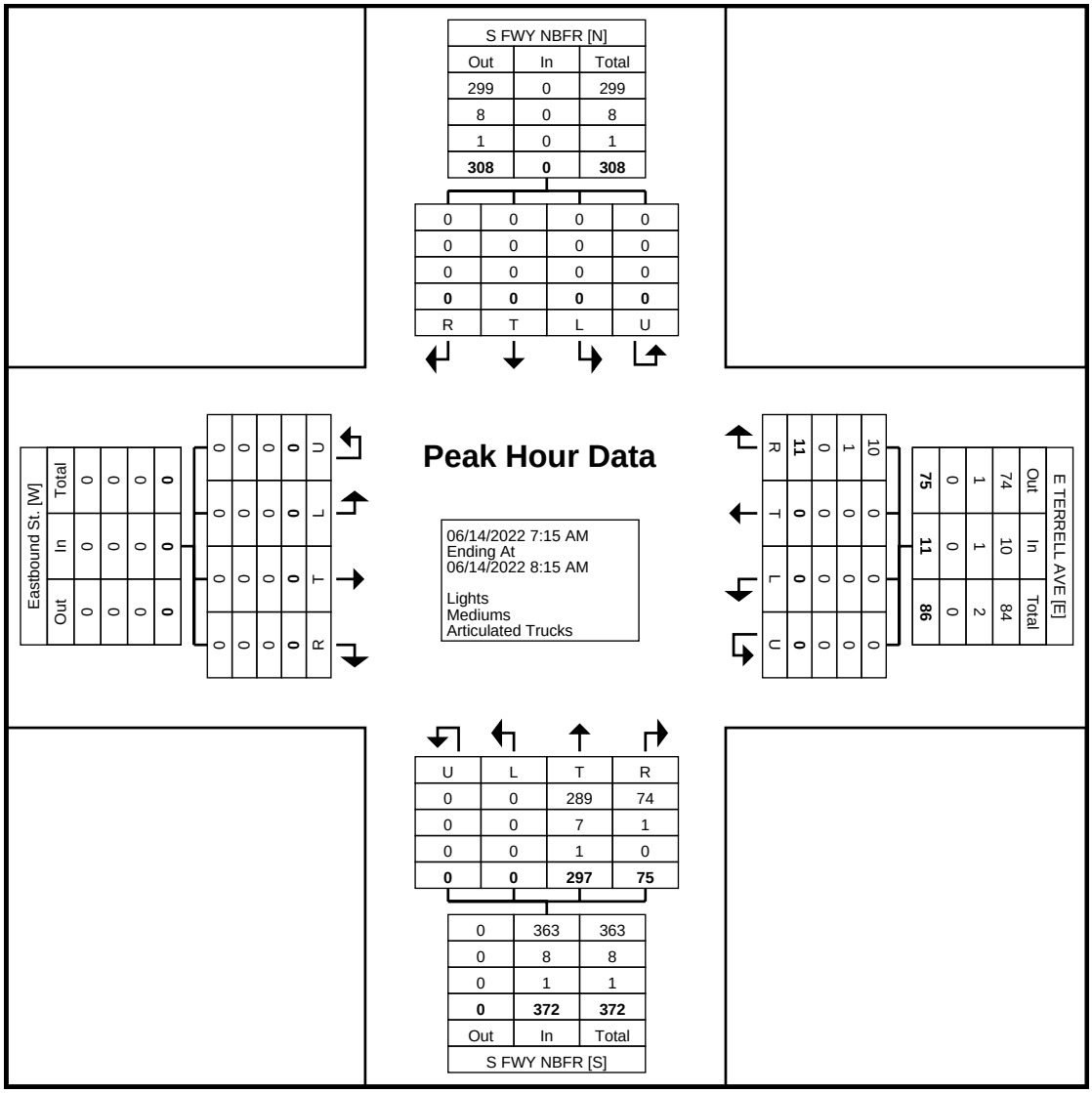
Start Time	S FWY NBFR Southbound					E TERRELL AVE Westbound					S FWY NBFR Northbound					Eastbound St. Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:15 AM	0	0	0	0	0	0	0	3	0	3	0	79	27	0	106	0	0	0	0	0	109
7:30 AM	0	0	0	0	0	0	0	3	0	3	0	80	21	0	101	0	0	0	0	0	104
7:45 AM	0	0	0	0	0	0	0	4	0	4	0	90	15	0	105	0	0	0	0	0	109
8:00 AM	0	0	0	0	0	0	0	1	0	1	0	48	12	0	60	0	0	0	0	0	61
Total	0	0	0	0	0	0	0	11	0	11	0	297	75	0	372	0	0	0	0	0	383
Approach %	0.0	0.0	0.0	0.0	-	0.0	0.0	100.0	0.0	-	0.0	79.8	20.2	0.0	-	0.0	0.0	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.9	0.0	2.9	0.0	77.5	19.6	0.0	97.1	0.0	0.0	0.0	0.0	0.0	-
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.688	0.000	0.688	0.000	0.825	0.694	0.000	0.877	0.000	0.000	0.000	0.000	0.000	0.878
Lights	0	0	0	0	0	0	0	10	0	10	0	289	74	0	363	0	0	0	0	0	373
% Lights	-	-	-	-	-	-	-	90.9	-	90.9	-	97.3	98.7	-	97.6	-	-	-	-	-	97.4
Mediums	0	0	0	0	0	0	0	1	0	1	0	7	1	0	8	0	0	0	0	0	9
% Mediums	-	-	-	-	-	-	-	9.1	-	9.1	-	2.4	1.3	-	2.2	-	-	-	-	-	2.3
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Articulated Trucks	-	-	-	-	-	-	-	0.0	-	0.0	-	0.3	0.0	-	0.3	-	-	-	-	-	0.3

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E TERRELL AVE @ S FWY NBFR
Site Code:
Start Date: 06/14/2022
Page No: 4



Turning Movement Peak Hour Data Plot (7:15 AM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E TERRELL AVE @ S FWY NBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (4:45 PM)

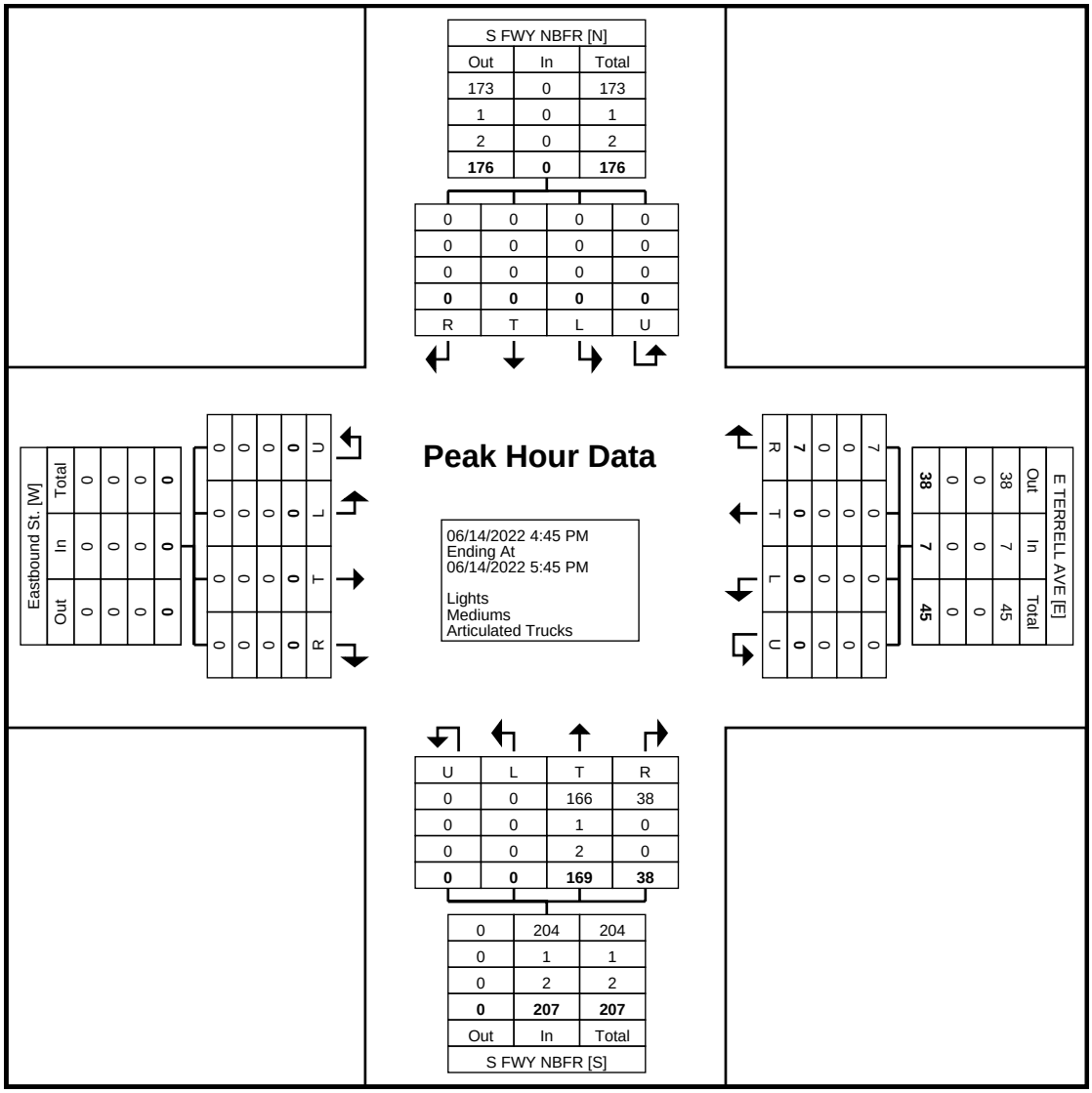
Start Time	S FWY NBFR Southbound					E TERRELL AVE Westbound					S FWY NBFR Northbound					Eastbound St. Eastbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
4:45 PM	0	0	0	0	0	0	0	4	0	4	0	44	9	0	53	0	0	0	0	0	57
5:00 PM	0	0	0	0	0	0	0	1	0	1	0	47	6	0	53	0	0	0	0	0	54
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	40	13	0	53	0	0	0	0	0	53
5:30 PM	0	0	0	0	0	0	0	2	0	2	0	38	10	0	48	0	0	0	0	0	50
Total	0	0	0	0	0	0	0	7	0	7	0	169	38	0	207	0	0	0	0	0	214
Approach %	0.0	0.0	0.0	0.0	-	0.0	0.0	100.0	0.0	-	0.0	81.6	18.4	0.0	-	0.0	0.0	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.3	0.0	3.3	0.0	79.0	17.8	0.0	96.7	0.0	0.0	0.0	0.0	0.0	-
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.438	0.000	0.438	0.000	0.899	0.731	0.000	0.976	0.000	0.000	0.000	0.000	0.000	0.939
Lights	0	0	0	0	0	0	0	7	0	7	0	166	38	0	204	0	0	0	0	0	211
% Lights	-	-	-	-	-	-	-	100.0	-	100.0	-	98.2	100.0	-	98.6	-	-	-	-	-	98.6
Mediums	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1
% Mediums	-	-	-	-	-	-	-	0.0	-	0.0	-	0.6	0.0	-	0.5	-	-	-	-	-	0.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	2
% Articulated Trucks	-	-	-	-	-	-	-	0.0	-	0.0	-	1.2	0.0	-	1.0	-	-	-	-	-	0.9

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E TERRELL AVE
@ S FWY NBFR
Site Code:
Start Date: 06/14/2022
Page No: 6



Turning Movement Peak Hour Data Plot (4:45 PM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E TERRELL AVE @ NEW YORK AVE
Site Code:
Start Date: 06/14/2022

Turning Movement Data

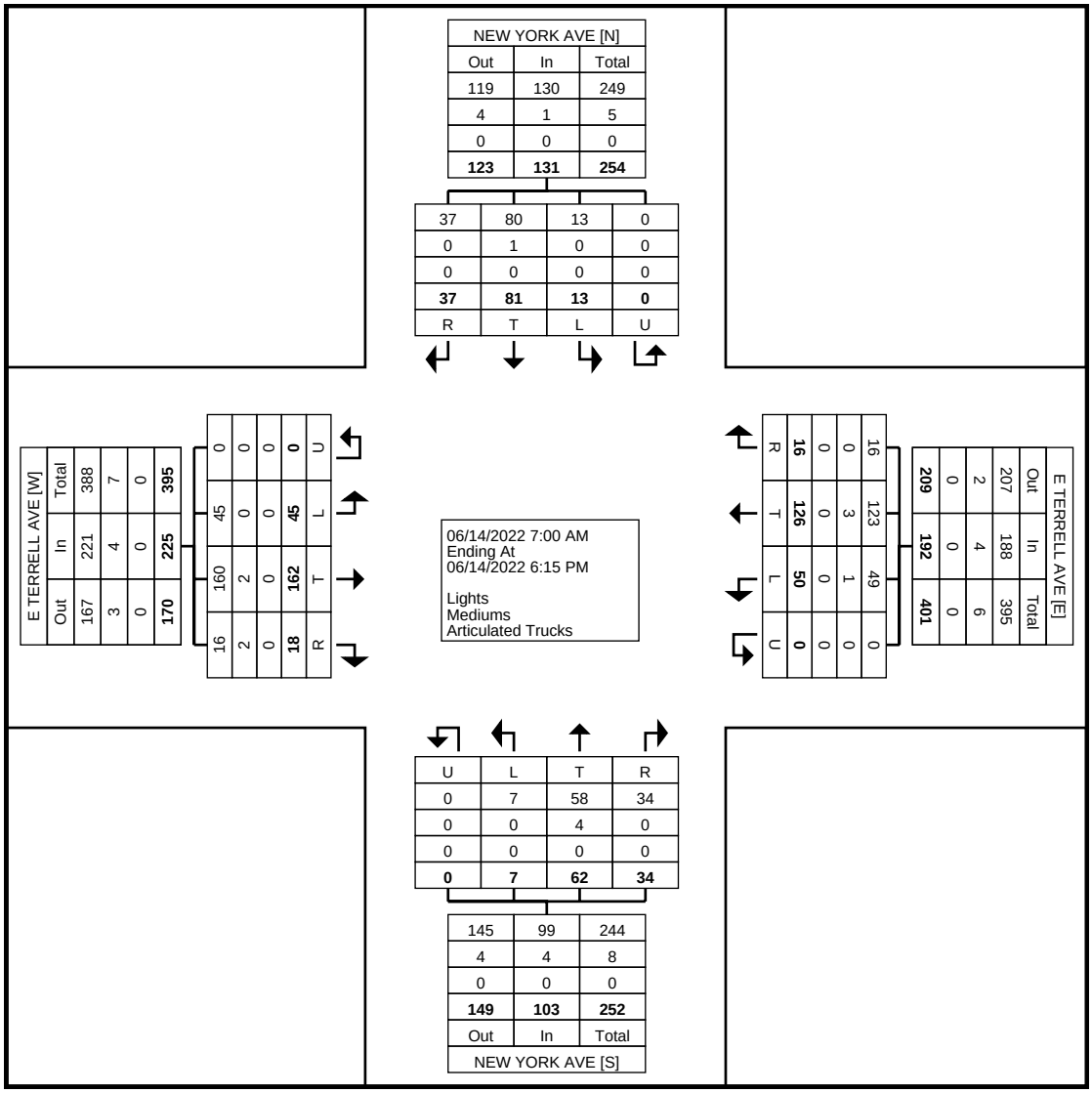
Start Time	NEW YORK AVE Southbound					E TERRELL AVE Westbound					NEW YORK AVE Northbound					E TERRELL AVE Eastbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:00 AM	1	5	0	0	6	1	2	2	0	5	0	2	0	0	2	2	5	0	0	7	20
7:15 AM	0	6	1	0	7	1	5	0	0	6	1	5	1	0	7	1	8	0	0	9	29
7:30 AM	4	7	3	0	14	6	11	0	0	17	0	2	3	0	5	0	12	1	0	13	49
7:45 AM	1	7	4	0	12	2	12	1	0	15	1	5	3	0	9	0	13	1	0	14	50
Hourly Total	6	25	8	0	39	10	30	3	0	43	2	14	7	0	23	3	38	2	0	43	148
8:00 AM	1	4	3	0	8	4	10	2	0	16	2	2	3	0	7	3	10	1	0	14	45
8:15 AM	0	4	1	0	5	3	10	0	0	13	0	7	0	0	7	2	8	0	0	10	35
8:30 AM	1	2	3	0	6	2	11	1	0	14	0	2	1	0	3	1	7	0	0	8	31
8:45 AM	0	4	0	0	4	1	6	1	0	8	0	3	2	0	5	2	10	2	0	14	31
Hourly Total	2	14	7	0	23	10	37	4	0	51	2	14	6	0	22	8	35	3	0	46	142
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	1	1	0	3	3	7	0	0	10	1	1	4	0	6	4	12	2	0	18	37
4:15 PM	2	3	2	0	7	1	4	1	0	6	1	7	3	0	11	2	13	1	0	16	40
4:30 PM	0	9	6	0	15	3	4	1	0	8	0	2	1	0	3	1	7	2	0	10	36
4:45 PM	1	3	2	0	6	6	10	0	0	16	0	4	3	0	7	5	14	2	0	21	50
Hourly Total	4	16	11	0	31	13	25	2	0	40	2	14	11	0	27	12	46	7	0	65	163
5:00 PM	0	7	3	0	10	6	10	3	0	19	0	4	3	0	7	2	8	3	0	13	49
5:15 PM	0	5	2	0	7	6	9	2	0	17	0	6	4	0	10	10	15	0	0	25	59
5:30 PM	0	10	1	0	11	3	10	2	0	15	1	2	1	0	4	4	11	1	0	16	46
5:45 PM	1	4	5	0	10	2	5	0	0	7	0	8	2	0	10	6	9	2	0	17	44
Hourly Total	1	26	11	0	38	17	34	7	0	58	1	20	10	0	31	22	43	6	0	71	198
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	13	81	37	0	131	50	126	16	0	192	7	62	34	0	103	45	162	18	0	225	651
Approach %	9.9	61.8	28.2	0.0	-	26.0	65.6	8.3	0.0	-	6.8	60.2	33.0	0.0	-	20.0	72.0	8.0	0.0	-	-
Total %	2.0	12.4	5.7	0.0	20.1	7.7	19.4	2.5	0.0	29.5	1.1	9.5	5.2	0.0	15.8	6.9	24.9	2.8	0.0	34.6	-
Lights	13	80	37	0	130	49	123	16	0	188	7	58	34	0	99	45	160	16	0	221	638
% Lights	100.0	98.8	100.0	-	99.2	98.0	97.6	100.0	-	97.9	100.0	93.5	100.0	-	96.1	100.0	98.8	88.9	-	98.2	98.0
Mediums	0	1	0	0	1	1	3	0	0	4	0	4	0	0	4	0	2	2	0	4	13
% Mediums	0.0	1.2	0.0	-	0.8	2.0	2.4	0.0	-	2.1	0.0	6.5	0.0	-	3.9	0.0	1.2	11.1	-	1.8	2.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E TERRELL AVE
@ NEW YORK AVE
Site Code:
Start Date: 06/14/2022
Page No: 2



Turning Movement Data Plot

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E TERRELL AVE @ NEW YORK AVE
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (7:30 AM)

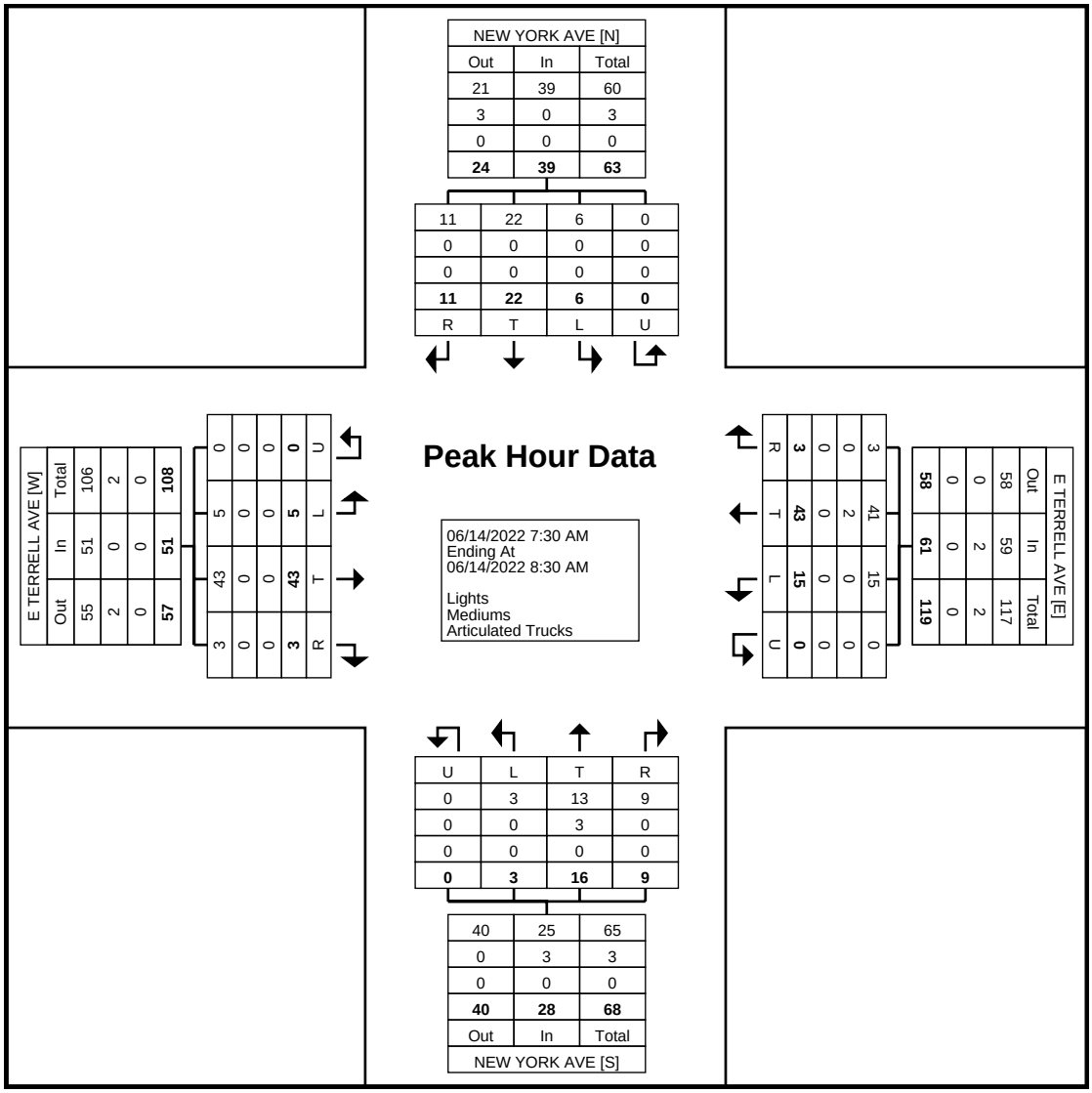
Start Time	NEW YORK AVE Southbound					E TERRELL AVE Westbound					NEW YORK AVE Northbound					E TERRELL AVE Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:30 AM	4	7	3	0	14	6	11	0	0	17	0	2	3	0	5	0	12	1	0	13	49
7:45 AM	1	7	4	0	12	2	12	1	0	15	1	5	3	0	9	0	13	1	0	14	50
8:00 AM	1	4	3	0	8	4	10	2	0	16	2	2	3	0	7	3	10	1	0	14	45
8:15 AM	0	4	1	0	5	3	10	0	0	13	0	7	0	0	7	2	8	0	0	10	35
Total	6	22	11	0	39	15	43	3	0	61	3	16	9	0	28	5	43	3	0	51	179
Approach %	15.4	56.4	28.2	0.0	-	24.6	70.5	4.9	0.0	-	10.7	57.1	32.1	0.0	-	9.8	84.3	5.9	0.0	-	-
Total %	3.4	12.3	6.1	0.0	21.8	8.4	24.0	1.7	0.0	34.1	1.7	8.9	5.0	0.0	15.6	2.8	24.0	1.7	0.0	28.5	-
PHF	0.375	0.786	0.688	0.000	0.696	0.625	0.896	0.375	0.000	0.897	0.375	0.571	0.750	0.000	0.778	0.417	0.827	0.750	0.000	0.911	0.895
Lights	6	22	11	0	39	15	41	3	0	59	3	13	9	0	25	5	43	3	0	51	174
% Lights	100.0	100.0	100.0	-	100.0	100.0	95.3	100.0	-	96.7	100.0	81.3	100.0	-	89.3	100.0	100.0	100.0	-	100.0	97.2
Mediums	0	0	0	0	0	0	2	0	0	2	0	3	0	0	3	0	0	0	0	0	5
% Mediums	0.0	0.0	0.0	-	0.0	0.0	4.7	0.0	-	3.3	0.0	18.8	0.0	-	10.7	0.0	0.0	0.0	-	0.0	2.8
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E TERRELL AVE
@ NEW YORK AVE
Site Code:
Start Date: 06/14/2022



Turning Movement Peak Hour Data Plot (7:30 AM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E TERRELL AVE @ NEW YORK AVE
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (4:45 PM)

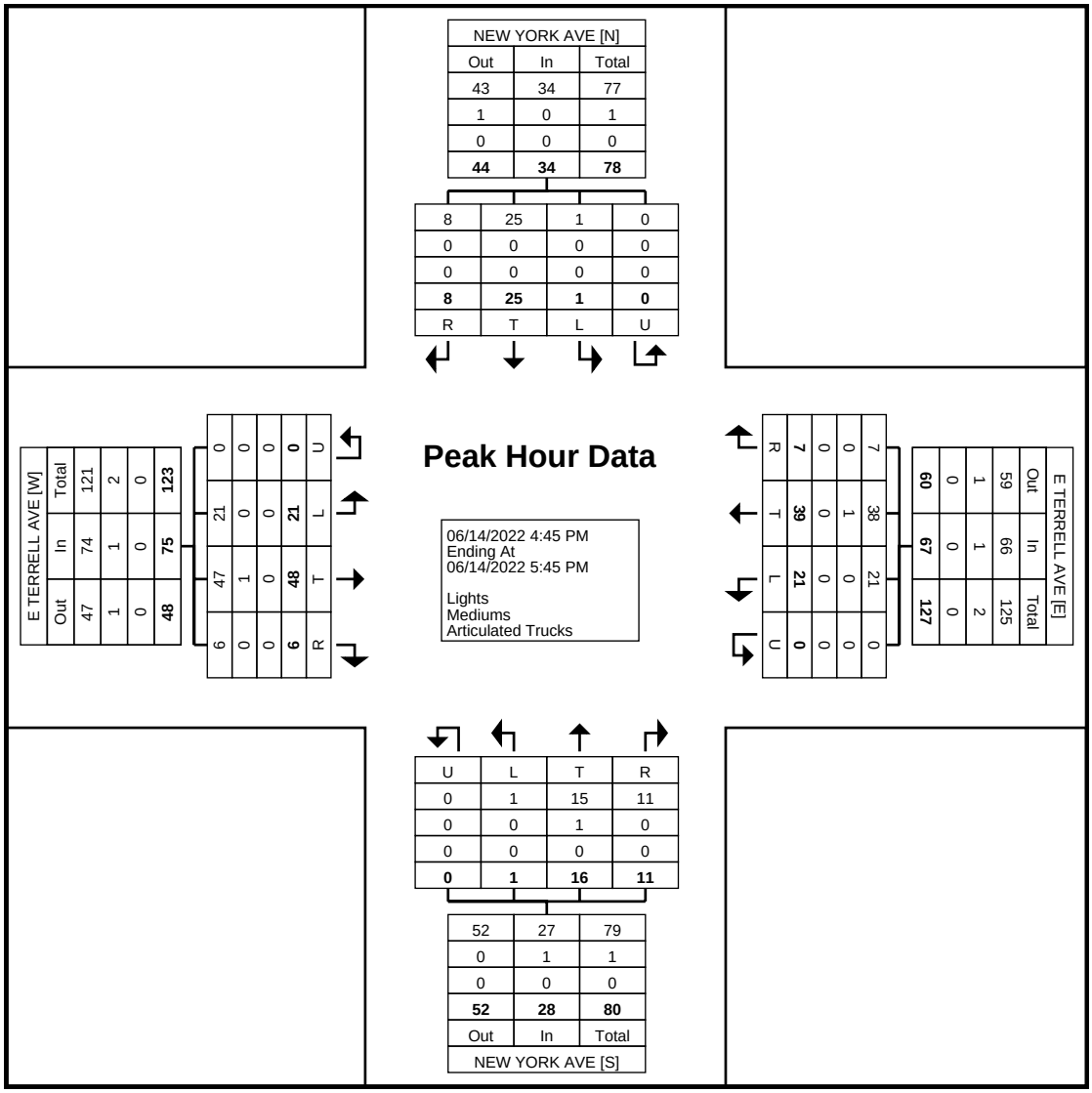
Start Time	NEW YORK AVE Southbound					E TERRELL AVE Westbound					NEW YORK AVE Northbound					E TERRELL AVE Eastbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
4:45 PM	1	3	2	0	6	6	10	0	0	16	0	4	3	0	7	5	14	2	0	21	50
5:00 PM	0	7	3	0	10	6	10	3	0	19	0	4	3	0	7	2	8	3	0	13	49
5:15 PM	0	5	2	0	7	6	9	2	0	17	0	6	4	0	10	10	15	0	0	25	59
5:30 PM	0	10	1	0	11	3	10	2	0	15	1	2	1	0	4	4	11	1	0	16	46
Total	1	25	8	0	34	21	39	7	0	67	1	16	11	0	28	21	48	6	0	75	204
Approach %	2.9	73.5	23.5	0.0	-	31.3	58.2	10.4	0.0	-	3.6	57.1	39.3	0.0	-	28.0	64.0	8.0	0.0	-	-
Total %	0.5	12.3	3.9	0.0	16.7	10.3	19.1	3.4	0.0	32.8	0.5	7.8	5.4	0.0	13.7	10.3	23.5	2.9	0.0	36.8	-
PHF	0.250	0.625	0.667	0.000	0.773	0.875	0.975	0.583	0.000	0.882	0.250	0.667	0.688	0.000	0.700	0.525	0.800	0.500	0.000	0.750	0.864
Lights	1	25	8	0	34	21	38	7	0	66	1	15	11	0	27	21	47	6	0	74	201
% Lights	100.0	100.0	100.0	-	100.0	100.0	97.4	100.0	-	98.5	100.0	93.8	100.0	-	96.4	100.0	97.9	100.0	-	98.7	98.5
Mediums	0	0	0	0	0	0	1	0	0	1	0	1	0	0	1	0	1	0	0	1	3
% Mediums	0.0	0.0	0.0	-	0.0	0.0	2.6	0.0	-	1.5	0.0	6.3	0.0	-	3.6	0.0	2.1	0.0	-	1.3	1.5
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	0.0

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E TERRELL AVE
@ NEW YORK AVE
Site Code:
Start Date: 06/14/2022
Page No: 6



Turning Movement Peak Hour Data Plot (4:45 PM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ S FWY SBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Data

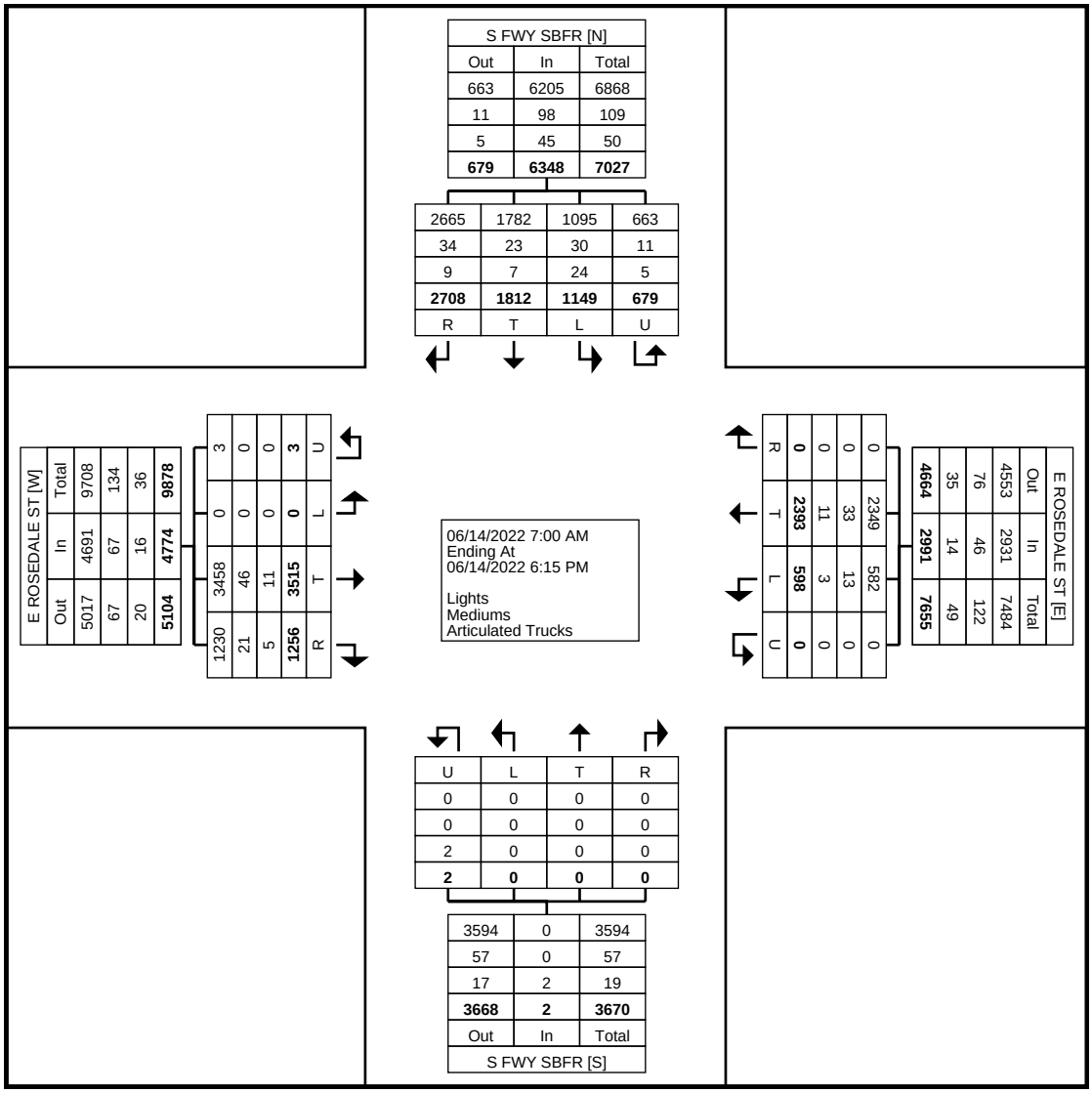
Start Time	S FWY SBFR Southbound					E ROSEDALE ST Westbound					S FWY SBFR Northbound					E ROSEDALE ST Eastbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:00 AM	48	67	182	28	325	20	177	0	0	197	0	0	0	0	0	0	113	56	0	169	691
7:15 AM	43	68	224	53	388	26	176	0	0	202	0	0	0	0	0	0	173	66	0	239	829
7:30 AM	47	87	232	50	416	27	246	0	0	273	0	0	0	0	0	0	138	43	1	182	871
7:45 AM	38	87	270	50	445	44	240	0	0	284	0	0	0	0	0	0	116	39	0	155	884
Hourly Total	176	309	908	181	1574	117	839	0	0	956	0	0	0	0	0	0	540	204	1	745	3275
8:00 AM	40	76	266	30	412	33	224	0	0	257	0	0	0	0	0	0	122	38	0	160	829
8:15 AM	50	59	217	43	369	38	221	0	0	259	0	0	0	1	1	0	104	40	0	144	773
8:30 AM	43	75	223	49	390	38	184	0	0	222	0	0	0	1	1	0	124	47	0	171	784
8:45 AM	52	69	89	42	252	29	64	0	0	93	0	0	0	0	0	0	118	40	0	158	503
Hourly Total	185	279	795	164	1423	138	693	0	0	831	0	0	0	2	2	0	468	165	0	633	2889
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	84	128	120	54	386	39	88	0	0	127	0	0	0	0	0	0	333	121	0	454	967
4:15 PM	94	153	97	41	385	34	108	0	0	142	0	0	0	0	0	0	290	116	0	406	933
4:30 PM	90	163	122	33	408	59	129	0	0	188	0	0	0	0	0	0	308	119	1	428	1024
4:45 PM	107	181	109	43	440	51	102	0	0	153	0	0	0	0	0	0	335	130	0	465	1058
Hourly Total	375	625	448	171	1619	183	427	0	0	610	0	0	0	0	0	0	1266	486	1	1753	3982
5:00 PM	95	165	138	31	429	59	113	0	0	172	0	0	0	0	0	0	345	127	1	473	1074
5:15 PM	104	152	141	33	430	37	90	0	0	127	0	0	0	0	0	0	376	113	0	489	1046
5:30 PM	112	157	134	58	461	32	113	0	0	145	0	0	0	0	0	0	274	89	0	363	969
5:45 PM	102	125	144	41	412	32	118	0	0	150	0	0	0	0	0	0	246	72	0	318	880
Hourly Total	413	599	557	163	1732	160	434	0	0	594	0	0	0	0	0	0	1241	401	1	1643	3969
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1149	1812	2708	679	6348	598	2393	0	0	2991	0	0	0	2	2	0	3515	1256	3	4774	14115
Approach %	18.1	28.5	42.7	10.7	-	20.0	80.0	0.0	0.0	-	0.0	0.0	0.0	100.0	-	0.0	73.6	26.3	0.1	-	-
Total %	8.1	12.8	19.2	4.8	45.0	4.2	17.0	0.0	0.0	21.2	0.0	0.0	0.0	0.0	0.0	0.0	24.9	8.9	0.0	33.8	-
Lights	1095	1782	2665	663	6205	582	2349	0	0	2931	0	0	0	0	0	0	3458	1230	3	4691	13827
% Lights	95.3	98.3	98.4	97.6	97.7	97.3	98.2	-	-	98.0	-	-	-	0.0	0.0	-	98.4	97.9	100.0	98.3	98.0
Mediums	30	23	34	11	98	13	33	0	0	46	0	0	0	0	0	0	46	21	0	67	211
% Mediums	2.6	1.3	1.3	1.6	1.5	2.2	1.4	-	-	1.5	-	-	-	0.0	0.0	-	1.3	1.7	0.0	1.4	1.5
Articulated Trucks	24	7	9	5	45	3	11	0	0	14	0	0	0	2	2	0	11	5	0	16	77
% Articulated Trucks	2.1	0.4	0.3	0.7	0.7	0.5	0.5	-	-	0.5	-	-	-	100.0	100.0	-	0.3	0.4	0.0	0.3	0.5

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ S FWY SBFR
Site Code:
Start Date: 06/14/2022
Page No: 2



Turning Movement Data Plot

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ S FWY SBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (7:15 AM)

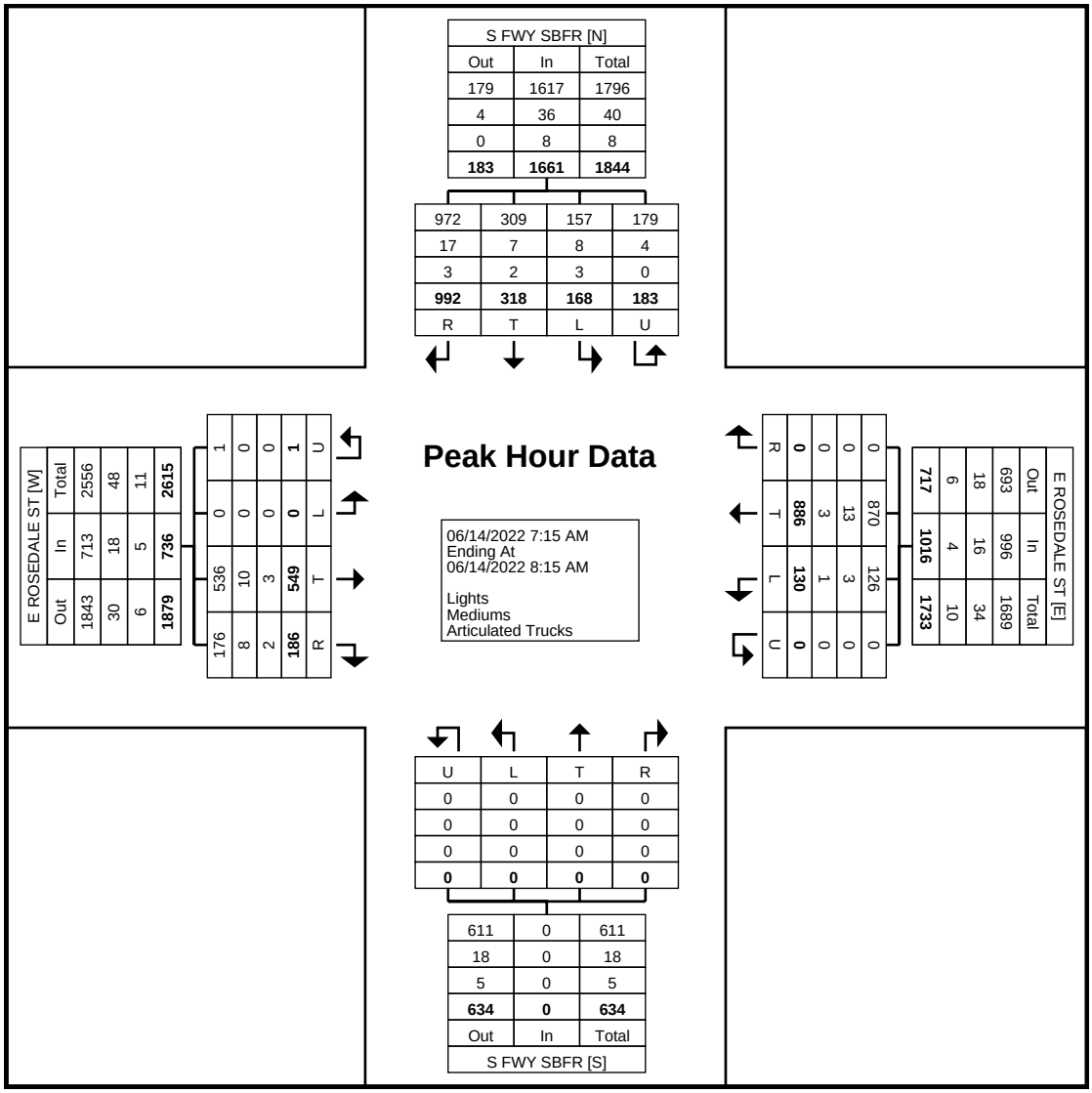
Start Time	S FWY SBFR Southbound					E ROSEDALE ST Westbound					S FWY SBFR Northbound					E ROSEDALE ST Eastbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:15 AM	43	68	224	53	388	26	176	0	0	202	0	0	0	0	0	0	173	66	0	239	829
7:30 AM	47	87	232	50	416	27	246	0	0	273	0	0	0	0	0	0	138	43	1	182	871
7:45 AM	38	87	270	50	445	44	240	0	0	284	0	0	0	0	0	0	116	39	0	155	884
8:00 AM	40	76	266	30	412	33	224	0	0	257	0	0	0	0	0	0	122	38	0	160	829
Total	168	318	992	183	1661	130	886	0	0	1016	0	0	0	0	0	0	549	186	1	736	3413
Approach %	10.1	19.1	59.7	11.0	-	12.8	87.2	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	74.6	25.3	0.1	-	-
Total %	4.9	9.3	29.1	5.4	48.7	3.8	26.0	0.0	0.0	29.8	0.0	0.0	0.0	0.0	0.0	0.0	16.1	5.4	0.0	21.6	-
PHF	0.894	0.914	0.919	0.863	0.933	0.739	0.900	0.000	0.000	0.894	0.000	0.000	0.000	0.000	0.000	0.000	0.793	0.705	0.250	0.770	0.965
Lights	157	309	972	179	1617	126	870	0	0	996	0	0	0	0	0	0	536	176	1	713	3326
% Lights	93.5	97.2	98.0	97.8	97.4	96.9	98.2	-	-	98.0	-	-	-	-	-	-	97.6	94.6	100.0	96.9	97.5
Mediums	8	7	17	4	36	3	13	0	0	16	0	0	0	0	0	0	10	8	0	18	70
% Mediums	4.8	2.2	1.7	2.2	2.2	2.3	1.5	-	-	1.6	-	-	-	-	-	-	1.8	4.3	0.0	2.4	2.1
Articulated Trucks	3	2	3	0	8	1	3	0	0	4	0	0	0	0	0	0	3	2	0	5	17
% Articulated Trucks	1.8	0.6	0.3	0.0	0.5	0.8	0.3	-	-	0.4	-	-	-	-	-	-	0.5	1.1	0.0	0.7	0.5

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ S FWY SBFR
Site Code:
Start Date: 06/14/2022
Page No: 4



Turning Movement Peak Hour Data Plot (7:15 AM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ S FWY SBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (4:30 PM)

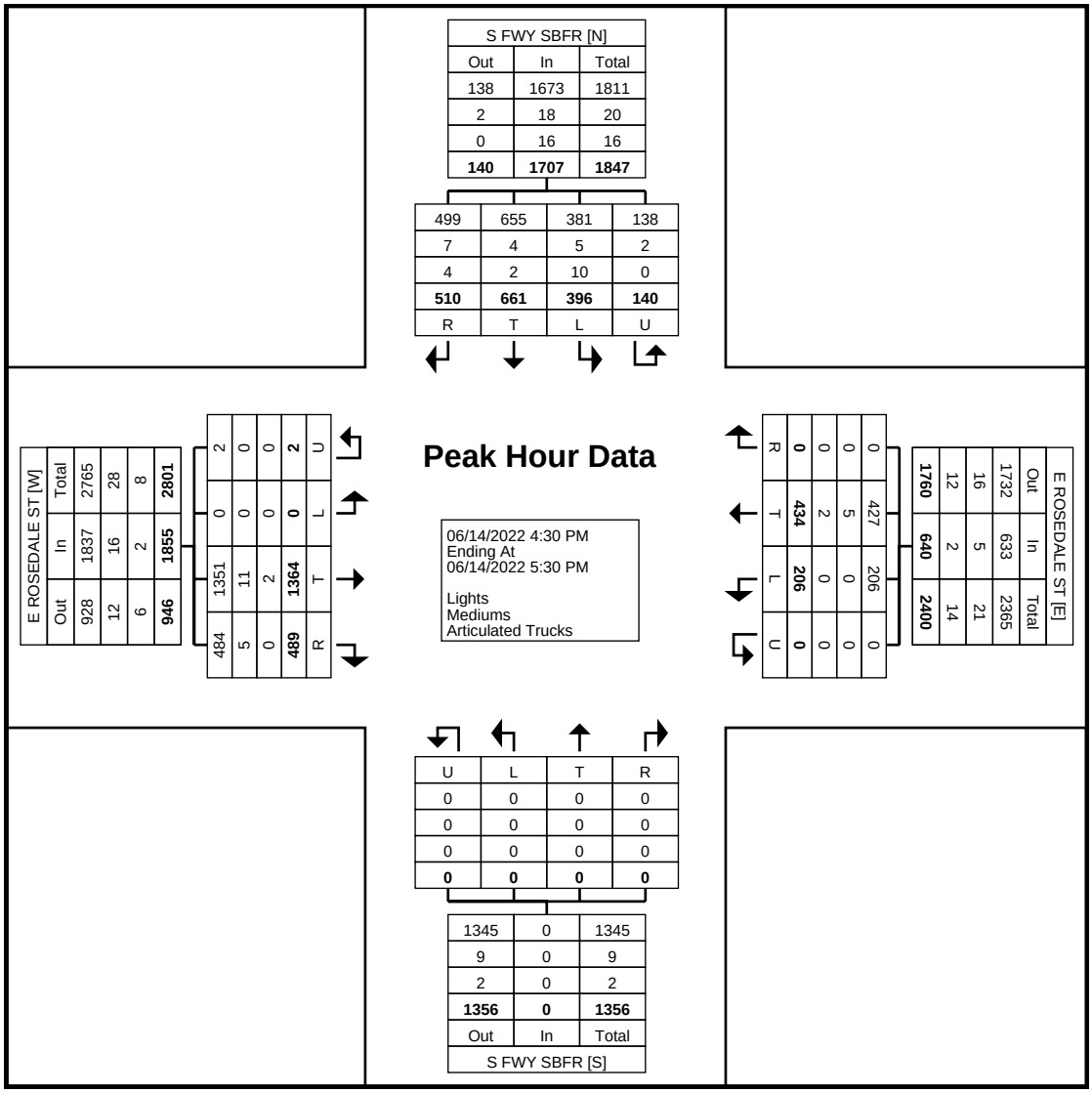
Start Time	S FWY SBFR Southbound					E ROSEDALE ST Westbound					S FWY SBFR Northbound					E ROSEDALE ST Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
4:30 PM	90	163	122	33	408	59	129	0	0	188	0	0	0	0	0	0	308	119	1	428	1024
4:45 PM	107	181	109	43	440	51	102	0	0	153	0	0	0	0	0	0	335	130	0	465	1058
5:00 PM	95	165	138	31	429	59	113	0	0	172	0	0	0	0	0	0	345	127	1	473	1074
5:15 PM	104	152	141	33	430	37	90	0	0	127	0	0	0	0	0	0	376	113	0	489	1046
Total	396	661	510	140	1707	206	434	0	0	640	0	0	0	0	0	0	1364	489	2	1855	4202
Approach %	23.2	38.7	29.9	8.2	-	32.2	67.8	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	73.5	26.4	0.1	-	-
Total %	9.4	15.7	12.1	3.3	40.6	4.9	10.3	0.0	0.0	15.2	0.0	0.0	0.0	0.0	0.0	0.0	32.5	11.6	0.0	44.1	-
PHF	0.925	0.913	0.904	0.814	0.970	0.873	0.841	0.000	0.000	0.851	0.000	0.000	0.000	0.000	0.000	0.000	0.907	0.940	0.500	0.948	0.978
Lights	381	655	499	138	1673	206	427	0	0	633	0	0	0	0	0	0	1351	484	2	1837	4143
% Lights	96.2	99.1	97.8	98.6	98.0	100.0	98.4	-	-	98.9	-	-	-	-	-	-	99.0	99.0	100.0	99.0	98.6
Mediums	5	4	7	2	18	0	5	0	0	5	0	0	0	0	0	0	11	5	0	16	39
% Mediums	1.3	0.6	1.4	1.4	1.1	0.0	1.2	-	-	0.8	-	-	-	-	-	-	0.8	1.0	0.0	0.9	0.9
Articulated Trucks	10	2	4	0	16	0	2	0	0	2	0	0	0	0	0	0	2	0	0	2	20
% Articulated Trucks	2.5	0.3	0.8	0.0	0.9	0.0	0.5	-	-	0.3	-	-	-	-	-	-	0.1	0.0	0.0	0.1	0.5

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ S FWY SBFR
Site Code:
Start Date: 06/14/2022



Turning Movement Peak Hour Data Plot (4:30 PM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Data

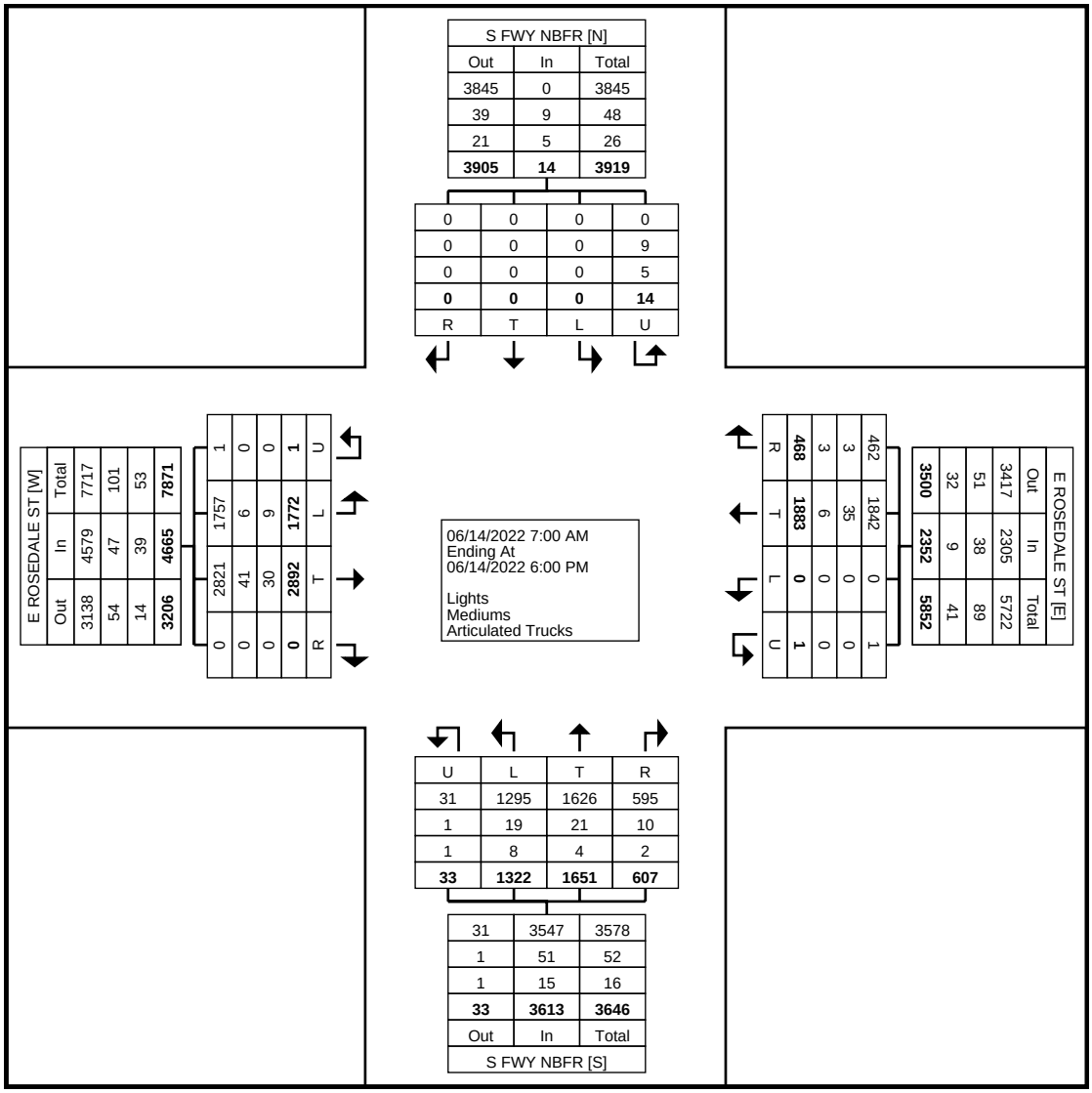
Start Time	S FWY NBFR Southbound					E ROSEDALE ST Westbound					S FWY NBFR Northbound					E ROSEDALE ST Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	103	30	0	133	98	99	28	4	229	54	106	0	0	160	522
7:15 AM	0	0	0	1	1	0	101	32	1	134	107	140	34	3	284	88	120	0	0	208	627
7:30 AM	0	0	0	0	0	0	156	42	0	198	129	124	48	3	304	73	108	0	0	181	683
7:45 AM	0	0	0	1	1	0	185	47	0	232	119	124	42	3	288	54	87	0	0	141	662
Hourly Total	0	0	0	2	2	0	545	151	1	697	453	487	152	13	1105	269	421	0	0	690	2494
8:00 AM	0	0	0	0	0	0	159	24	0	183	115	136	30	0	281	68	99	0	0	167	631
8:15 AM	0	0	0	2	2	0	137	32	0	169	130	99	30	2	261	70	82	0	0	152	584
8:30 AM	0	0	0	2	2	0	138	25	0	163	99	101	19	4	223	64	98	0	0	162	550
8:45 AM	0	0	0	2	2	0	125	23	0	148	110	103	29	3	245	72	112	0	0	184	579
Hourly Total	0	0	0	6	6	0	559	104	0	663	454	439	108	9	1010	274	391	0	0	665	2344
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	0	1	1	0	72	27	0	99	53	111	39	0	203	162	245	0	0	407	710
4:15 PM	0	0	0	3	3	0	102	26	0	128	43	74	25	0	142	153	257	0	0	410	683
4:30 PM	0	0	0	1	1	0	115	28	0	143	58	94	29	0	181	134	275	0	1	410	735
4:45 PM	0	0	0	0	0	0	106	43	0	149	42	79	42	0	163	185	290	0	0	475	787
Hourly Total	0	0	0	5	5	0	395	124	0	519	196	358	135	0	689	634	1067	0	1	1702	2915
5:00 PM	0	0	0	1	1	0	125	28	0	153	44	106	50	4	204	176	253	0	0	429	787
5:15 PM	0	0	0	0	0	0	81	29	0	110	53	90	60	1	204	166	291	0	0	457	771
5:30 PM	0	0	0	0	0	0	88	17	0	105	51	93	43	5	192	135	257	0	0	392	689
5:45 PM	0	0	0	0	0	0	90	15	0	105	71	78	59	1	209	118	212	0	0	330	644
Hourly Total	0	0	0	1	1	0	384	89	0	473	219	367	212	11	809	595	1013	0	0	1608	2891
Grand Total	0	0	0	14	14	0	1883	468	1	2352	1322	1651	607	33	3613	1772	2892	0	1	4665	10644
Approach %	0.0	0.0	0.0	100.0	-	0.0	80.1	19.9	0.0	-	36.6	45.7	16.8	0.9	-	38.0	62.0	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.1	0.1	0.0	17.7	4.4	0.0	22.1	12.4	15.5	5.7	0.3	33.9	16.6	27.2	0.0	0.0	43.8	-
Lights	0	0	0	0	0	0	1842	462	1	2305	1295	1626	595	31	3547	1757	2821	0	1	4579	10431
% Lights	-	-	-	0.0	0.0	-	97.8	98.7	100.0	98.0	98.0	98.5	98.0	93.9	98.2	99.2	97.5	-	100.0	98.2	98.0
Mediums	0	0	0	9	9	0	35	3	0	38	19	21	10	1	51	6	41	0	0	47	145
% Mediums	-	-	-	64.3	64.3	-	1.9	0.6	0.0	1.6	1.4	1.3	1.6	3.0	1.4	0.3	1.4	-	0.0	1.0	1.4
Articulated Trucks	0	0	0	5	5	0	6	3	0	9	8	4	2	1	15	9	30	0	0	39	68
% Articulated Trucks	-	-	-	35.7	35.7	-	0.3	0.6	0.0	0.4	0.6	0.2	0.3	3.0	0.4	0.5	1.0	-	0.0	0.8	0.6

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022
Page No: 2



Turning Movement Data Plot

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (7:15 AM)

Start Time	S FWY NBFR Southbound					E ROSEDALE ST Westbound					S FWY NBFR Northbound					E ROSEDALE ST Eastbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:15 AM	0	0	0	1	1	0	101	32	1	134	107	140	34	3	284	88	120	0	0	208	627
7:30 AM	0	0	0	0	0	0	156	42	0	198	129	124	48	3	304	73	108	0	0	181	683
7:45 AM	0	0	0	1	1	0	185	47	0	232	119	124	42	3	288	54	87	0	0	141	662
8:00 AM	0	0	0	0	0	0	159	24	0	183	115	136	30	0	281	68	99	0	0	167	631
Total	0	0	0	2	2	0	601	145	1	747	470	524	154	9	1157	283	414	0	0	697	2603
Approach %	0.0	0.0	0.0	100.0	-	0.0	80.5	19.4	0.1	-	40.6	45.3	13.3	0.8	-	40.6	59.4	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.1	0.1	0.0	23.1	5.6	0.0	28.7	18.1	20.1	5.9	0.3	44.4	10.9	15.9	0.0	0.0	26.8	-
PHF	0.000	0.000	0.000	0.500	0.500	0.000	0.812	0.771	0.250	0.805	0.911	0.936	0.802	0.750	0.951	0.804	0.863	0.000	0.000	0.838	0.953
Lights	0	0	0	0	0	0	589	144	1	734	461	517	148	9	1135	278	403	0	0	681	2550
% Lights	-	-	-	0.0	0.0	-	98.0	99.3	100.0	98.3	98.1	98.7	96.1	100.0	98.1	98.2	97.3	-	-	97.7	98.0
Mediums	0	0	0	2	2	0	10	0	0	10	7	5	6	0	18	1	7	0	0	8	38
% Mediums	-	-	-	100.0	100.0	-	1.7	0.0	0.0	1.3	1.5	1.0	3.9	0.0	1.6	0.4	1.7	-	-	1.1	1.5
Articulated Trucks	0	0	0	0	0	0	2	1	0	3	2	2	0	0	4	4	4	0	0	8	15
% Articulated Trucks	-	-	-	0.0	0.0	-	0.3	0.7	0.0	0.4	0.4	0.4	0.0	0.0	0.3	1.4	1.0	-	-	1.1	0.6

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

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Count Name: E ROSEDALE ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022
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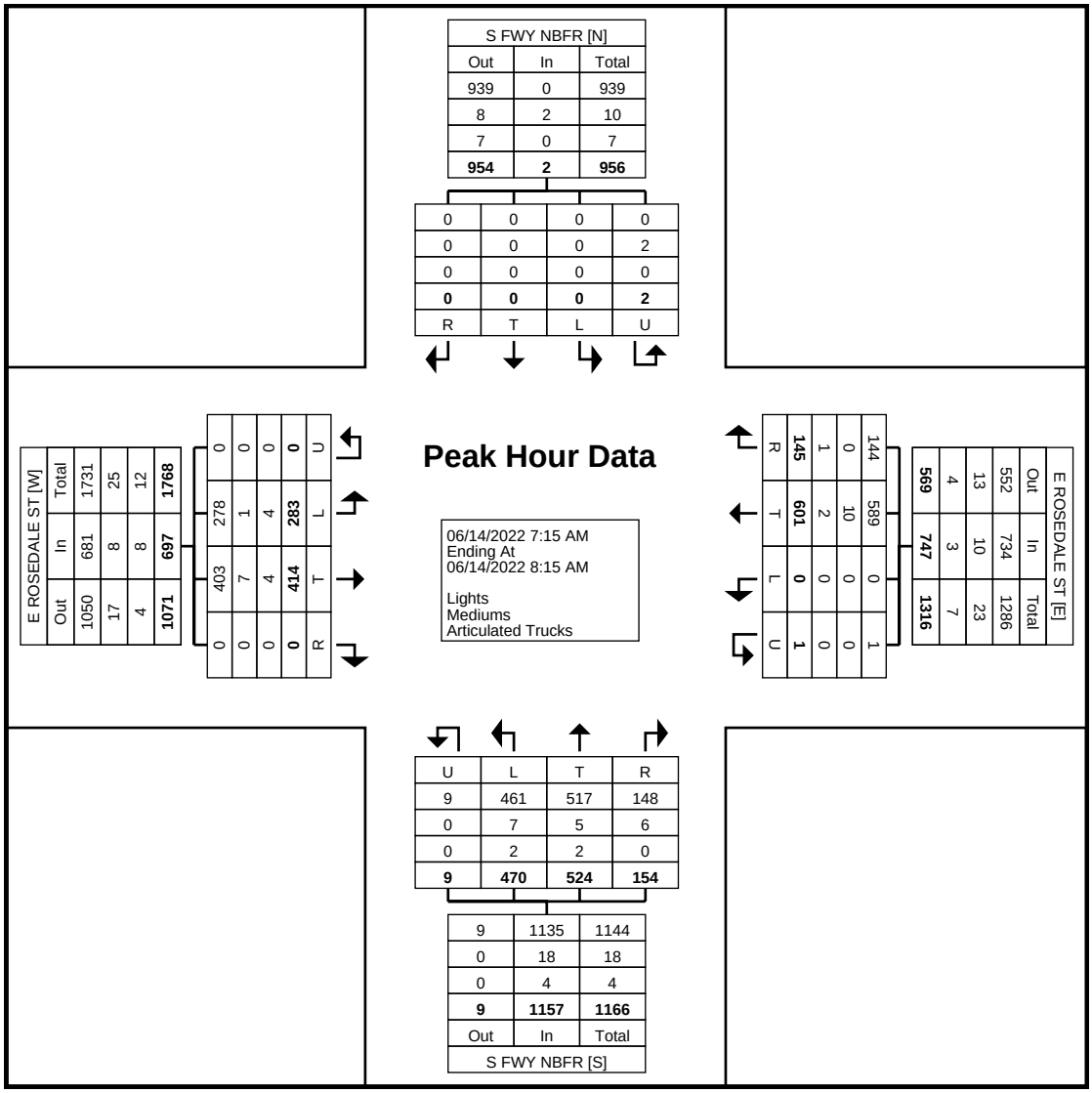


Turning Movement Peak Hour Data Plot (7:15 AM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (4:30 PM)

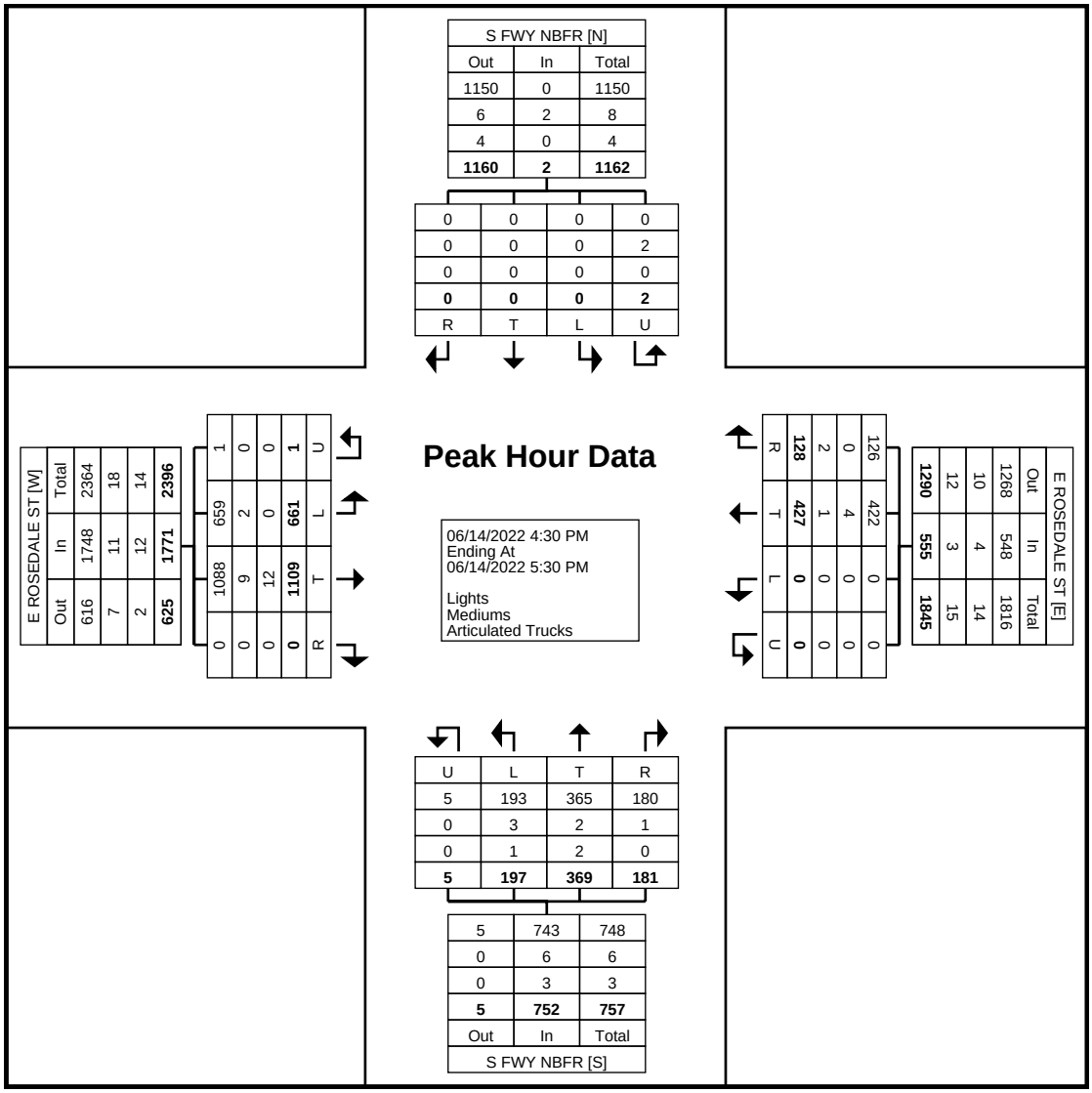
Start Time	S FWY NBFR Southbound					E ROSEDALE ST Westbound					S FWY NBFR Northbound					E ROSEDALE ST Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
4:30 PM	0	0	0	1	1	0	115	28	0	143	58	94	29	0	181	134	275	0	1	410	735
4:45 PM	0	0	0	0	0	0	106	43	0	149	42	79	42	0	163	185	290	0	0	475	787
5:00 PM	0	0	0	1	1	0	125	28	0	153	44	106	50	4	204	176	253	0	0	429	787
5:15 PM	0	0	0	0	0	0	81	29	0	110	53	90	60	1	204	166	291	0	0	457	771
Total	0	0	0	2	2	0	427	128	0	555	197	369	181	5	752	661	1109	0	1	1771	3080
Approach %	0.0	0.0	0.0	100.0	-	0.0	76.9	23.1	0.0	-	26.2	49.1	24.1	0.7	-	37.3	62.6	0.0	0.1	-	-
Total %	0.0	0.0	0.0	0.1	0.1	0.0	13.9	4.2	0.0	18.0	6.4	12.0	5.9	0.2	24.4	21.5	36.0	0.0	0.0	57.5	-
PHF	0.000	0.000	0.000	0.500	0.500	0.000	0.854	0.744	0.000	0.907	0.849	0.870	0.754	0.313	0.922	0.893	0.953	0.000	0.250	0.932	0.978
Lights	0	0	0	0	0	0	422	126	0	548	193	365	180	5	743	659	1088	0	1	1748	3039
% Lights	-	-	-	0.0	0.0	-	98.8	98.4	-	98.7	98.0	98.9	99.4	100.0	98.8	99.7	98.1	-	100.0	98.7	98.7
Mediums	0	0	0	2	2	0	4	0	0	4	3	2	1	0	6	2	9	0	0	11	23
% Mediums	-	-	-	100.0	100.0	-	0.9	0.0	-	0.7	1.5	0.5	0.6	0.0	0.8	0.3	0.8	-	0.0	0.6	0.7
Articulated Trucks	0	0	0	0	0	0	1	2	0	3	1	2	0	0	3	0	12	0	0	12	18
% Articulated Trucks	-	-	-	0.0	0.0	-	0.2	1.6	-	0.5	0.5	0.5	0.0	0.0	0.4	0.0	1.1	-	0.0	0.7	0.6

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022
Page No: 6



Turning Movement Peak Hour Data Plot (4:30 PM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ NEW YORK AVE
Site Code:
Start Date: 06/14/2022

Turning Movement Data

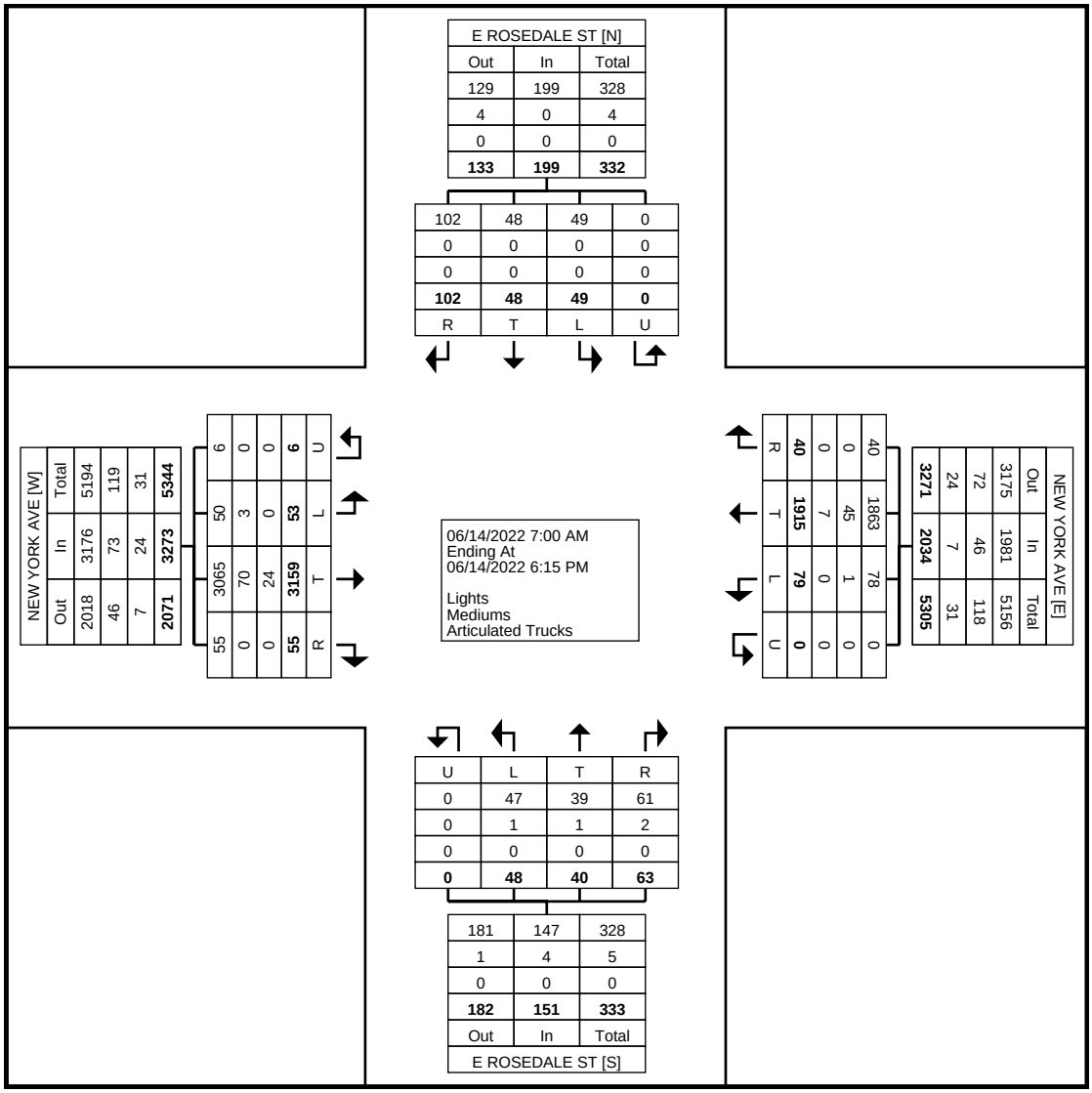
Start Time	E ROSEDALE ST Southbound					NEW YORK AVE Westbound					E ROSEDALE ST Northbound					NEW YORK AVE Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:00 AM	2	3	3	0	8	2	124	1	0	127	1	2	3	0	6	1	109	2	0	112	253
7:15 AM	3	3	4	0	10	5	114	2	0	121	4	5	7	0	16	4	141	0	0	145	292
7:30 AM	2	3	14	0	19	4	162	3	0	169	6	2	6	0	14	2	155	1	1	159	361
7:45 AM	1	2	7	0	10	4	184	2	0	190	4	3	6	0	13	4	119	1	0	124	337
Hourly Total	8	11	28	0	47	15	584	8	0	607	15	12	22	0	49	11	524	4	1	540	1243
8:00 AM	1	2	8	0	11	2	156	2	0	160	3	5	5	0	13	2	114	1	1	118	302
8:15 AM	1	5	7	0	13	3	139	3	0	145	0	5	6	0	11	3	98	5	0	106	275
8:30 AM	0	5	3	0	8	3	122	2	0	127	6	3	1	0	10	0	99	6	0	105	250
8:45 AM	2	0	5	0	7	1	113	3	0	117	5	4	3	0	12	2	129	4	0	135	271
Hourly Total	4	12	23	0	39	9	530	10	0	549	14	17	15	0	46	7	440	16	1	464	1098
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	2	8	0	10	8	83	1	0	92	4	2	5	0	11	3	256	5	1	265	378
4:15 PM	2	0	2	0	4	4	107	3	0	114	0	0	0	0	0	5	225	2	0	232	350
4:30 PM	6	4	4	0	14	6	116	1	0	123	3	3	3	0	9	3	283	5	1	292	438
4:45 PM	7	6	10	0	23	8	119	4	0	131	1	1	5	0	7	3	303	1	0	307	468
Hourly Total	15	12	24	0	51	26	425	9	0	460	8	6	13	0	27	14	1067	13	2	1096	1634
5:00 PM	6	4	9	0	19	11	114	0	0	125	2	1	3	0	6	4	280	3	0	287	437
5:15 PM	6	2	7	0	15	6	84	3	0	93	4	2	3	0	9	5	334	10	2	351	468
5:30 PM	7	5	2	0	14	7	82	2	0	91	4	1	5	0	10	3	266	5	0	274	389
5:45 PM	3	2	9	0	14	5	96	8	0	109	1	1	2	0	4	9	248	4	0	261	388
Hourly Total	22	13	27	0	62	29	376	13	0	418	11	5	13	0	29	21	1128	22	2	1173	1682
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	49	48	102	0	199	79	1915	40	0	2034	48	40	63	0	151	53	3159	55	6	3273	5657
Approach %	24.6	24.1	51.3	0.0	-	3.9	94.1	2.0	0.0	-	31.8	26.5	41.7	0.0	-	1.6	96.5	1.7	0.2	-	-
Total %	0.9	0.8	1.8	0.0	3.5	1.4	33.9	0.7	0.0	36.0	0.8	0.7	1.1	0.0	2.7	0.9	55.8	1.0	0.1	57.9	-
Lights	49	48	102	0	199	78	1863	40	0	1981	47	39	61	0	147	50	3065	55	6	3176	5503
% Lights	100.0	100.0	100.0	-	100.0	98.7	97.3	100.0	-	97.4	97.9	97.5	96.8	-	97.4	94.3	97.0	100.0	100.0	97.0	97.3
Mediums	0	0	0	0	0	1	45	0	0	46	1	1	2	0	4	3	70	0	0	73	123
% Mediums	0.0	0.0	0.0	-	0.0	1.3	2.3	0.0	-	2.3	2.1	2.5	3.2	-	2.6	5.7	2.2	0.0	0.0	2.2	2.2
Articulated Trucks	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	24	0	0	24	31
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	0.4	0.0	-	0.3	0.0	0.0	0.0	-	0.0	0.0	0.8	0.0	0.0	0.7	0.5

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ NEW YORK AVE
Site Code:
Start Date: 06/14/2022
Page No: 2



Turning Movement Data Plot

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ NEW YORK AVE
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (7:15 AM)

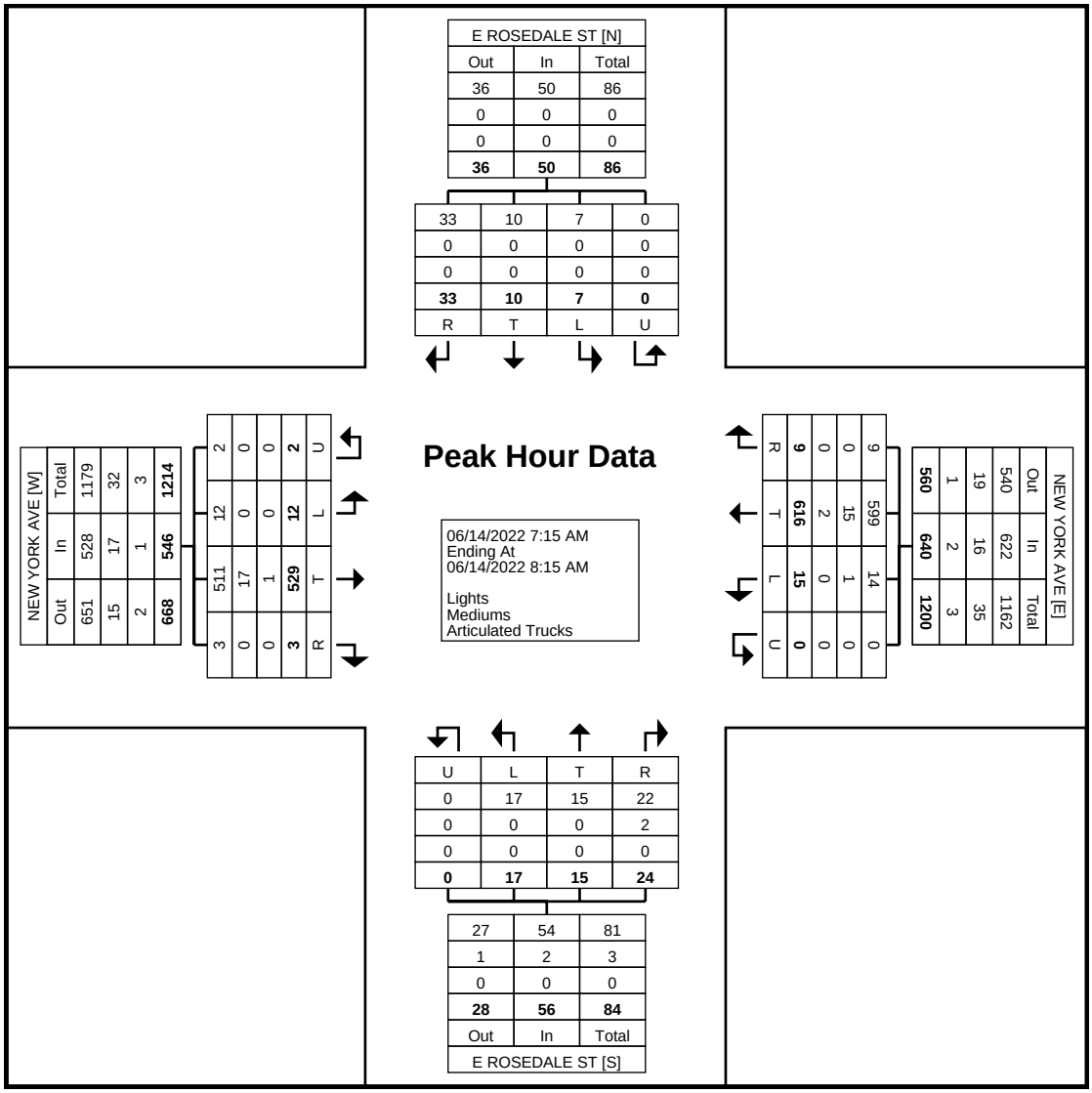
Start Time	E ROSEDALE ST Southbound					NEW YORK AVE Westbound					E ROSEDALE ST Northbound					NEW YORK AVE Eastbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:15 AM	3	3	4	0	10	5	114	2	0	121	4	5	7	0	16	4	141	0	0	145	292
7:30 AM	2	3	14	0	19	4	162	3	0	169	6	2	6	0	14	2	155	1	1	159	361
7:45 AM	1	2	7	0	10	4	184	2	0	190	4	3	6	0	13	4	119	1	0	124	337
8:00 AM	1	2	8	0	11	2	156	2	0	160	3	5	5	0	13	2	114	1	1	118	302
Total	7	10	33	0	50	15	616	9	0	640	17	15	24	0	56	12	529	3	2	546	1292
Approach %	14.0	20.0	66.0	0.0	-	2.3	96.3	1.4	0.0	-	30.4	26.8	42.9	0.0	-	2.2	96.9	0.5	0.4	-	-
Total %	0.5	0.8	2.6	0.0	3.9	1.2	47.7	0.7	0.0	49.5	1.3	1.2	1.9	0.0	4.3	0.9	40.9	0.2	0.2	42.3	-
PHF	0.583	0.833	0.589	0.000	0.658	0.750	0.837	0.750	0.000	0.842	0.708	0.750	0.857	0.000	0.875	0.750	0.853	0.750	0.500	0.858	0.895
Lights	7	10	33	0	50	14	599	9	0	622	17	15	22	0	54	12	511	3	2	528	1254
% Lights	100.0	100.0	100.0	-	100.0	93.3	97.2	100.0	-	97.2	100.0	100.0	91.7	-	96.4	100.0	96.6	100.0	100.0	96.7	97.1
Mediums	0	0	0	0	0	1	15	0	0	16	0	0	2	0	2	0	17	0	0	17	35
% Mediums	0.0	0.0	0.0	-	0.0	6.7	2.4	0.0	-	2.5	0.0	0.0	8.3	-	3.6	0.0	3.2	0.0	0.0	3.1	2.7
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	0.3	0.0	-	0.3	0.0	0.0	0.0	-	0.0	0.0	0.2	0.0	0.0	0.2	0.2

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ NEW YORK AVE
Site Code:
Start Date: 06/14/2022



Turning Movement Peak Hour Data Plot (7:15 AM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ NEW YORK AVE
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (4:30 PM)

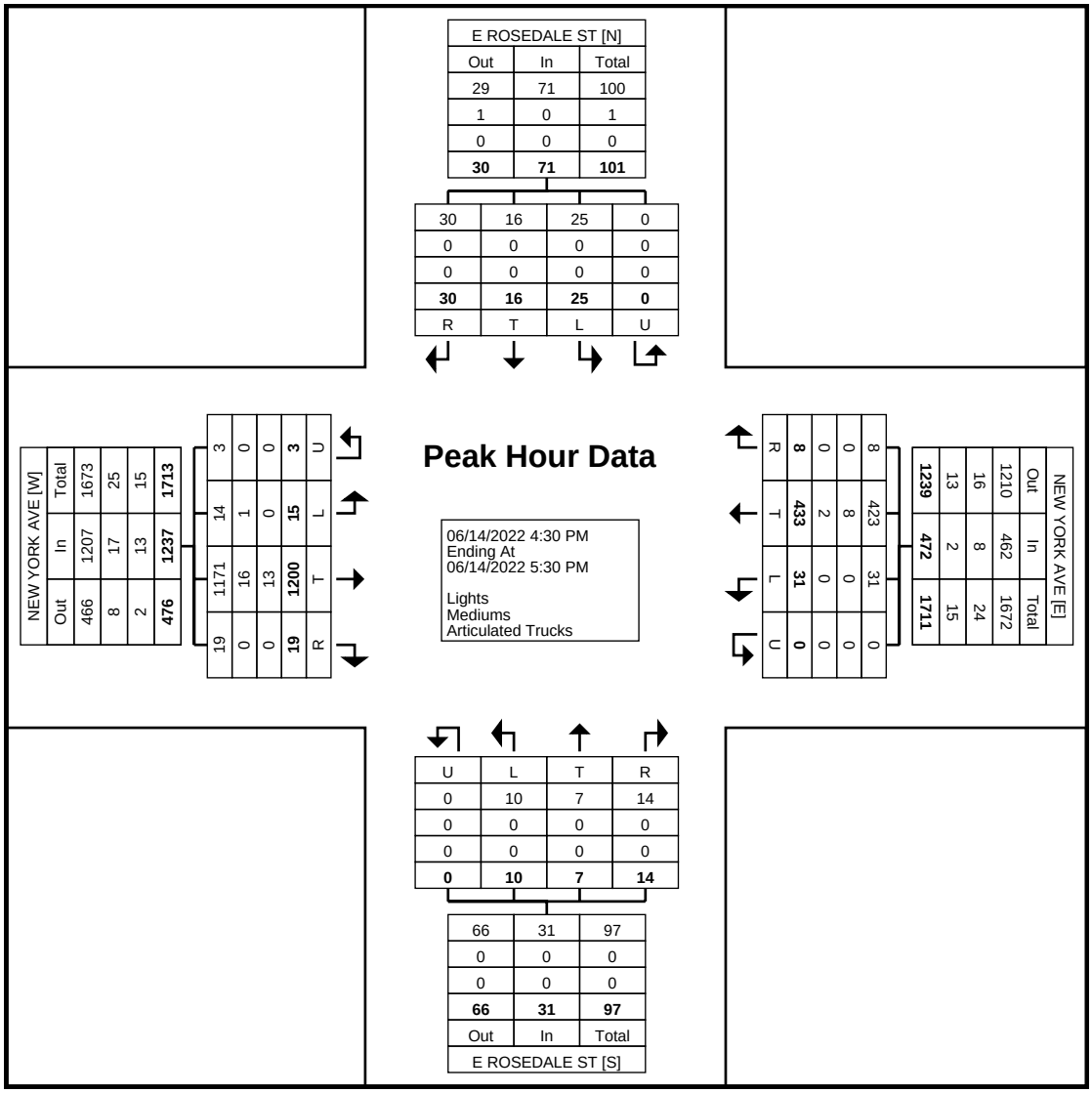
Start Time	E ROSEDALE ST Southbound					NEW YORK AVE Westbound					E ROSEDALE ST Northbound					NEW YORK AVE Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
4:30 PM	6	4	4	0	14	6	116	1	0	123	3	3	3	0	9	3	283	5	1	292	438
4:45 PM	7	6	10	0	23	8	119	4	0	131	1	1	5	0	7	3	303	1	0	307	468
5:00 PM	6	4	9	0	19	11	114	0	0	125	2	1	3	0	6	4	280	3	0	287	437
5:15 PM	6	2	7	0	15	6	84	3	0	93	4	2	3	0	9	5	334	10	2	351	468
Total	25	16	30	0	71	31	433	8	0	472	10	7	14	0	31	15	1200	19	3	1237	1811
Approach %	35.2	22.5	42.3	0.0	-	6.6	91.7	1.7	0.0	-	32.3	22.6	45.2	0.0	-	1.2	97.0	1.5	0.2	-	-
Total %	1.4	0.9	1.7	0.0	3.9	1.7	23.9	0.4	0.0	26.1	0.6	0.4	0.8	0.0	1.7	0.8	66.3	1.0	0.2	68.3	-
PHF	0.893	0.667	0.750	0.000	0.772	0.705	0.910	0.500	0.000	0.901	0.625	0.583	0.700	0.000	0.861	0.750	0.898	0.475	0.375	0.881	0.967
Lights	25	16	30	0	71	31	423	8	0	462	10	7	14	0	31	14	1171	19	3	1207	1771
% Lights	100.0	100.0	100.0	-	100.0	100.0	97.7	100.0	-	97.9	100.0	100.0	100.0	-	100.0	93.3	97.6	100.0	100.0	97.6	97.8
Mediums	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	1	16	0	0	17	25
% Mediums	0.0	0.0	0.0	-	0.0	0.0	1.8	0.0	-	1.7	0.0	0.0	0.0	-	0.0	6.7	1.3	0.0	0.0	1.4	1.4
Articulated Trucks	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	13	0	0	13	15
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	0.5	0.0	-	0.4	0.0	0.0	0.0	-	0.0	0.0	1.1	0.0	0.0	1.1	0.8

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ NEW YORK AVE
Site Code:
Start Date: 06/14/2022
Page No: 6



Turning Movement Peak Hour Data Plot (4:30 PM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ EVANS AVE
Site Code:
Start Date: 06/14/2022

Turning Movement Data

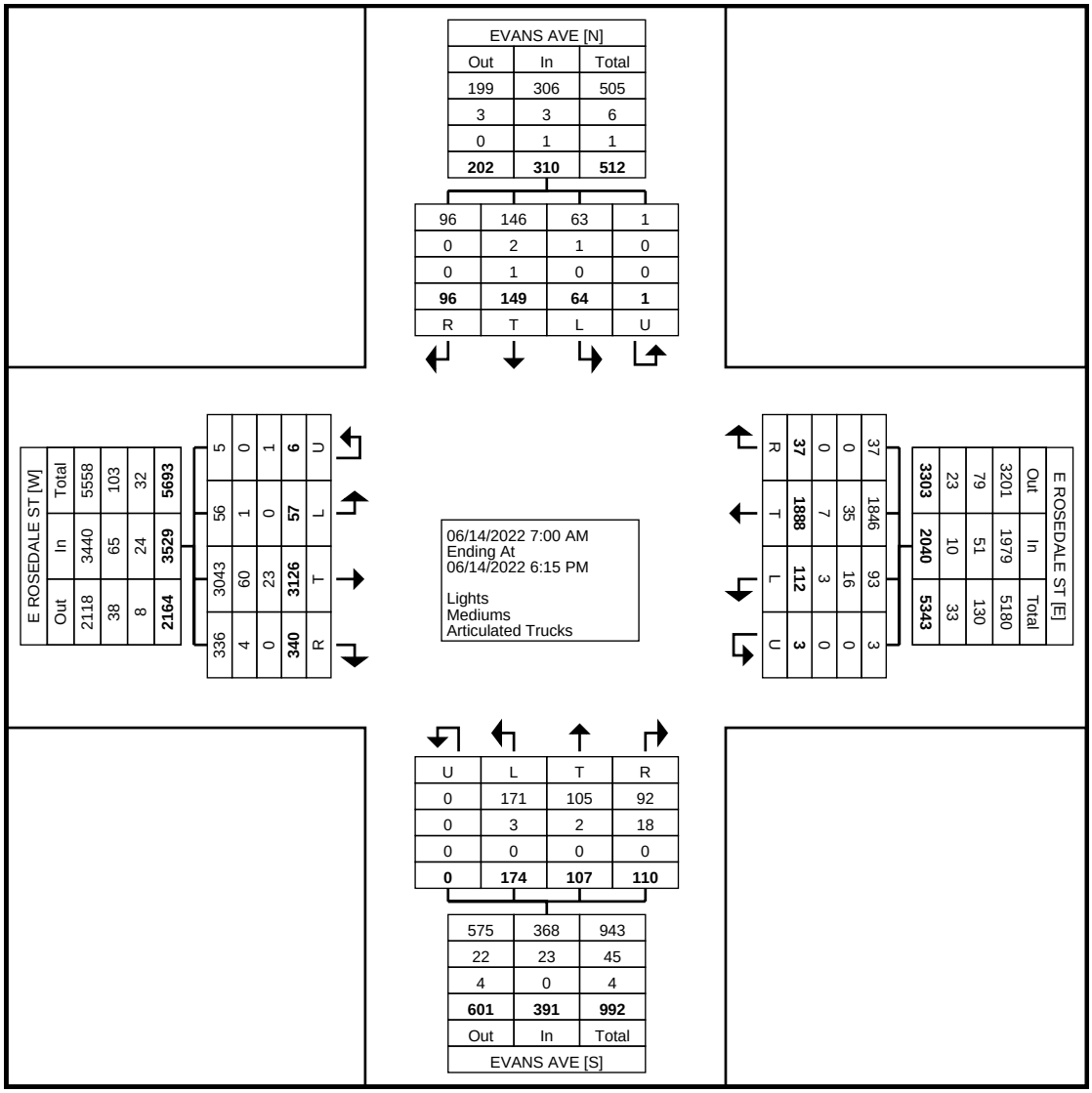
Start Time	EVANS AVE Southbound					E ROSEDALE ST Westbound					EVANS AVE Northbound					E ROSEDALE ST Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:00 AM	2	4	3	0	9	5	122	2	0	129	11	3	4	0	18	3	121	9	0	133	289
7:15 AM	2	3	5	0	10	3	112	4	0	119	12	2	7	0	21	2	147	9	1	159	309
7:30 AM	2	7	4	0	13	7	177	3	0	187	16	10	10	0	36	1	140	12	0	153	389
7:45 AM	4	14	9	1	28	5	173	4	1	183	21	14	6	0	41	6	107	12	0	125	377
Hourly Total	10	28	21	1	60	20	584	13	1	618	60	29	27	0	116	12	515	42	1	570	1364
8:00 AM	2	21	10	0	33	6	154	6	0	166	8	9	9	0	26	5	104	19	0	128	353
8:15 AM	0	8	13	0	21	6	141	1	0	148	13	8	5	0	26	5	101	9	0	115	310
8:30 AM	5	7	5	0	17	7	118	3	0	128	8	6	5	0	19	4	101	14	1	120	284
8:45 AM	4	4	6	0	14	8	114	0	0	122	13	6	7	0	26	3	123	10	1	137	299
Hourly Total	11	40	34	0	85	27	527	10	0	564	42	29	26	0	97	17	429	52	2	500	1246
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	5	11	5	0	21	9	82	2	0	93	13	5	3	0	21	3	268	31	0	302	437
4:15 PM	4	8	5	0	17	10	90	2	0	102	12	5	8	0	25	5	231	36	2	274	418
4:30 PM	8	8	2	0	18	7	116	2	0	125	7	9	6	0	22	3	264	26	0	293	458
4:45 PM	8	10	9	0	27	8	113	1	1	123	8	8	8	0	24	1	294	24	0	319	493
Hourly Total	25	37	21	0	83	34	401	7	1	443	40	27	25	0	92	12	1057	117	2	1188	1806
5:00 PM	6	9	5	0	20	6	114	0	1	121	9	7	6	0	22	2	279	35	0	316	479
5:15 PM	4	9	3	0	16	8	93	1	0	102	10	8	10	0	28	5	340	21	0	366	512
5:30 PM	5	11	7	0	23	3	78	3	0	84	9	3	5	0	17	6	260	42	0	308	432
5:45 PM	3	15	5	0	23	14	91	3	0	108	4	4	11	0	19	3	246	31	1	281	431
Hourly Total	18	44	20	0	82	31	376	7	1	415	32	22	32	0	86	16	1125	129	1	1271	1854
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	64	149	96	1	310	112	1888	37	3	2040	174	107	110	0	391	57	3126	340	6	3529	6270
Approach %	20.6	48.1	31.0	0.3	-	5.5	92.5	1.8	0.1	-	44.5	27.4	28.1	0.0	-	1.6	88.6	9.6	0.2	-	-
Total %	1.0	2.4	1.5	0.0	4.9	1.8	30.1	0.6	0.0	32.5	2.8	1.7	1.8	0.0	6.2	0.9	49.9	5.4	0.1	56.3	-
Lights	63	146	96	1	306	93	1846	37	3	1979	171	105	92	0	368	56	3043	336	5	3440	6093
% Lights	98.4	98.0	100.0	100.0	98.7	83.0	97.8	100.0	100.0	97.0	98.3	98.1	83.6	-	94.1	98.2	97.3	98.8	83.3	97.5	97.2
Mediums	1	2	0	0	3	16	35	0	0	51	3	2	18	0	23	1	60	4	0	65	142
% Mediums	1.6	1.3	0.0	0.0	1.0	14.3	1.9	0.0	0.0	2.5	1.7	1.9	16.4	-	5.9	1.8	1.9	1.2	0.0	1.8	2.3
Articulated Trucks	0	1	0	0	1	3	7	0	0	10	0	0	0	0	0	0	23	0	1	24	35
% Articulated Trucks	0.0	0.7	0.0	0.0	0.3	2.7	0.4	0.0	0.0	0.5	0.0	0.0	0.0	-	0.0	0.0	0.7	0.0	16.7	0.7	0.6

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ EVANS AVE
Site Code:
Start Date: 06/14/2022
Page No: 2



Turning Movement Data Plot

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ EVANS AVE
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (7:30 AM)

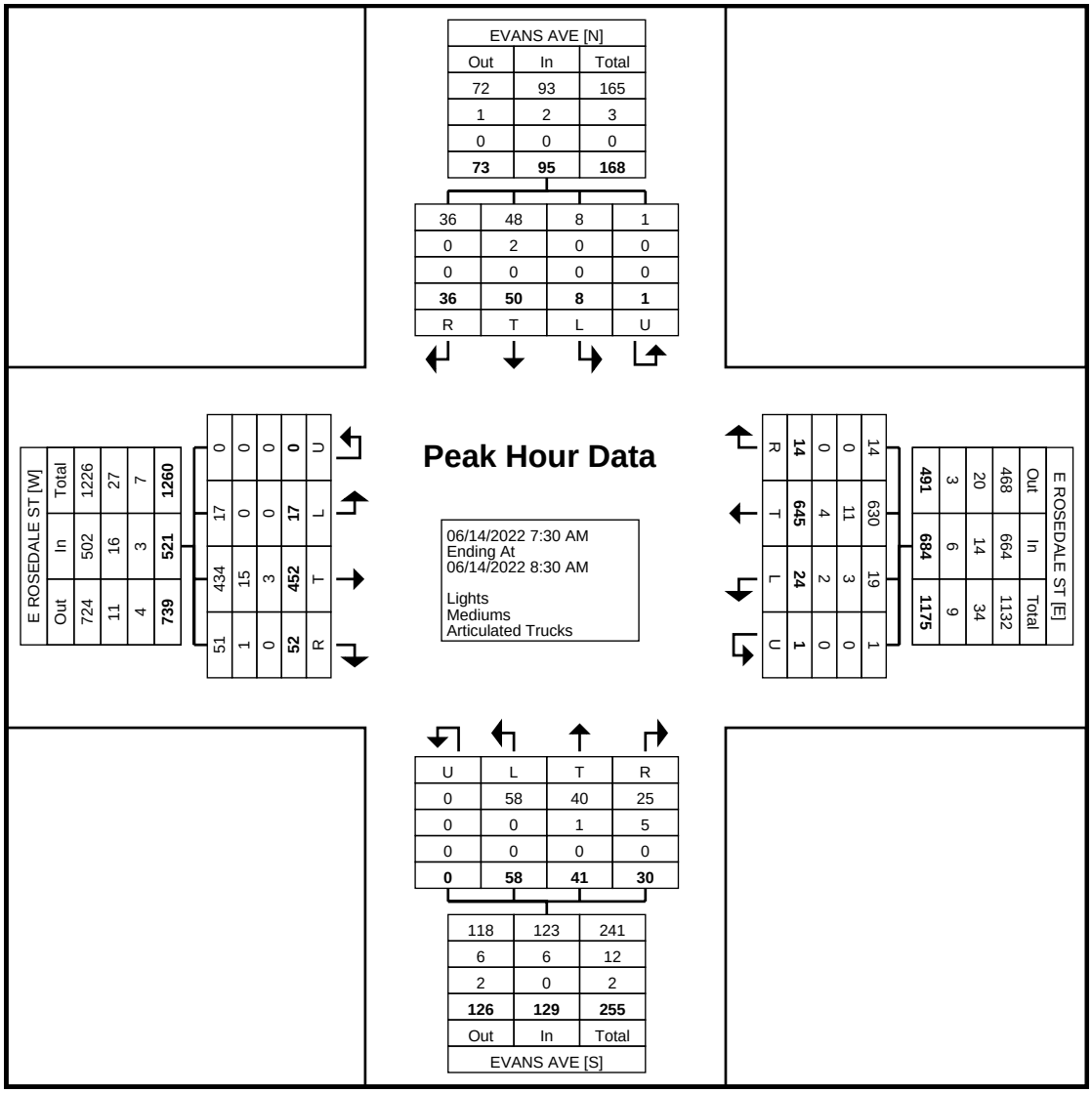
Start Time	EVANS AVE Southbound					E ROSEDALE ST Westbound					EVANS AVE Northbound					E ROSEDALE ST Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:30 AM	2	7	4	0	13	7	177	3	0	187	16	10	10	0	36	1	140	12	0	153	389
7:45 AM	4	14	9	1	28	5	173	4	1	183	21	14	6	0	41	6	107	12	0	125	377
8:00 AM	2	21	10	0	33	6	154	6	0	166	8	9	9	0	26	5	104	19	0	128	353
8:15 AM	0	8	13	0	21	6	141	1	0	148	13	8	5	0	26	5	101	9	0	115	310
Total	8	50	36	1	95	24	645	14	1	684	58	41	30	0	129	17	452	52	0	521	1429
Approach %	8.4	52.6	37.9	1.1	-	3.5	94.3	2.0	0.1	-	45.0	31.8	23.3	0.0	-	3.3	86.8	10.0	0.0	-	-
Total %	0.6	3.5	2.5	0.1	6.6	1.7	45.1	1.0	0.1	47.9	4.1	2.9	2.1	0.0	9.0	1.2	31.6	3.6	0.0	36.5	-
PHF	0.500	0.595	0.692	0.250	0.720	0.857	0.911	0.583	0.250	0.914	0.690	0.732	0.750	0.000	0.787	0.708	0.807	0.684	0.000	0.851	0.918
Lights	8	48	36	1	93	19	630	14	1	664	58	40	25	0	123	17	434	51	0	502	1382
% Lights	100.0	96.0	100.0	100.0	97.9	79.2	97.7	100.0	100.0	97.1	100.0	97.6	83.3	-	95.3	100.0	96.0	98.1	-	96.4	96.7
Mediums	0	2	0	0	2	3	11	0	0	14	0	1	5	0	6	0	15	1	0	16	38
% Mediums	0.0	4.0	0.0	0.0	2.1	12.5	1.7	0.0	0.0	2.0	0.0	2.4	16.7	-	4.7	0.0	3.3	1.9	-	3.1	2.7
Articulated Trucks	0	0	0	0	0	2	4	0	0	6	0	0	0	0	0	0	3	0	0	3	9
% Articulated Trucks	0.0	0.0	0.0	0.0	0.0	8.3	0.6	0.0	0.0	0.9	0.0	0.0	0.0	-	0.0	0.0	0.7	0.0	-	0.6	0.6

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ EVANS AVE
Site Code:
Start Date: 06/14/2022
Page No: 4



Turning Movement Peak Hour Data Plot (7:30 AM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ EVANS AVE
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (4:30 PM)

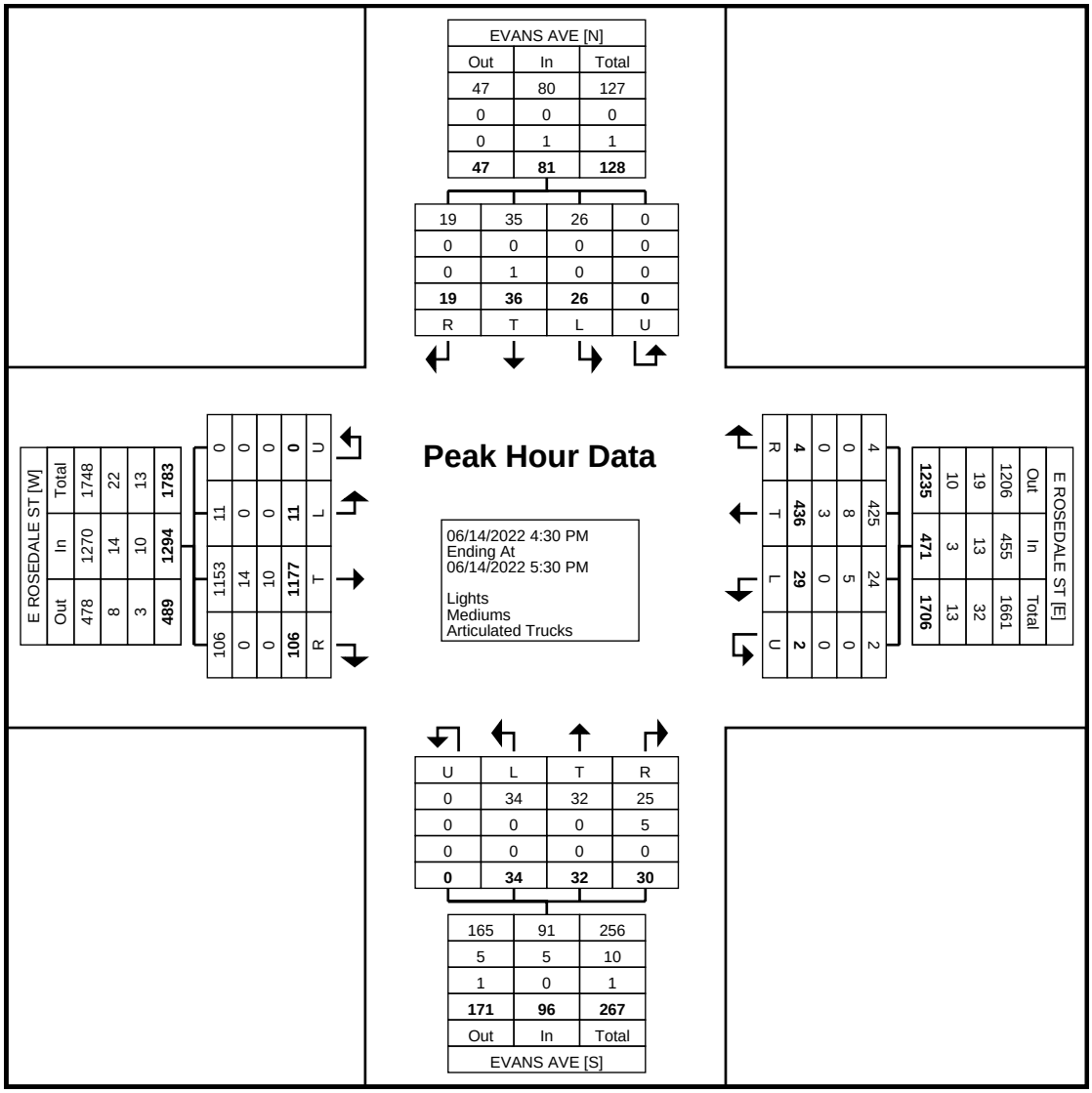
Start Time	EVANS AVE Southbound					E ROSEDALE ST Westbound					EVANS AVE Northbound					E ROSEDALE ST Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
4:30 PM	8	8	2	0	18	7	116	2	0	125	7	9	6	0	22	3	264	26	0	293	458
4:45 PM	8	10	9	0	27	8	113	1	1	123	8	8	8	0	24	1	294	24	0	319	493
5:00 PM	6	9	5	0	20	6	114	0	1	121	9	7	6	0	22	2	279	35	0	316	479
5:15 PM	4	9	3	0	16	8	93	1	0	102	10	8	10	0	28	5	340	21	0	366	512
Total	26	36	19	0	81	29	436	4	2	471	34	32	30	0	96	11	1177	106	0	1294	1942
Approach %	32.1	44.4	23.5	0.0	-	6.2	92.6	0.8	0.4	-	35.4	33.3	31.3	0.0	-	0.9	91.0	8.2	0.0	-	-
Total %	1.3	1.9	1.0	0.0	4.2	1.5	22.5	0.2	0.1	24.3	1.8	1.6	1.5	0.0	4.9	0.6	60.6	5.5	0.0	66.6	-
PHF	0.813	0.900	0.528	0.000	0.750	0.906	0.940	0.500	0.500	0.942	0.850	0.889	0.750	0.000	0.857	0.550	0.865	0.757	0.000	0.884	0.948
Lights	26	35	19	0	80	24	425	4	2	455	34	32	25	0	91	11	1153	106	0	1270	1896
% Lights	100.0	97.2	100.0	-	98.8	82.8	97.5	100.0	100.0	96.6	100.0	100.0	83.3	-	94.8	100.0	98.0	100.0	-	98.1	97.6
Mediums	0	0	0	0	0	5	8	0	0	13	0	0	5	0	5	0	14	0	0	14	32
% Mediums	0.0	0.0	0.0	-	0.0	17.2	1.8	0.0	0.0	2.8	0.0	0.0	16.7	-	5.2	0.0	1.2	0.0	-	1.1	1.6
Articulated Trucks	0	1	0	0	1	0	3	0	0	3	0	0	0	0	0	0	10	0	0	10	14
% Articulated Trucks	0.0	2.8	0.0	-	1.2	0.0	0.7	0.0	0.0	0.6	0.0	0.0	0.0	-	0.0	0.0	0.8	0.0	-	0.8	0.7

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E ROSEDALE ST @ EVANS AVE
Site Code:
Start Date: 06/14/2022
Page No: 6



Turning Movement Peak Hour Data Plot (4:30 PM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E HATTIE ST @ S FWY SBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Data

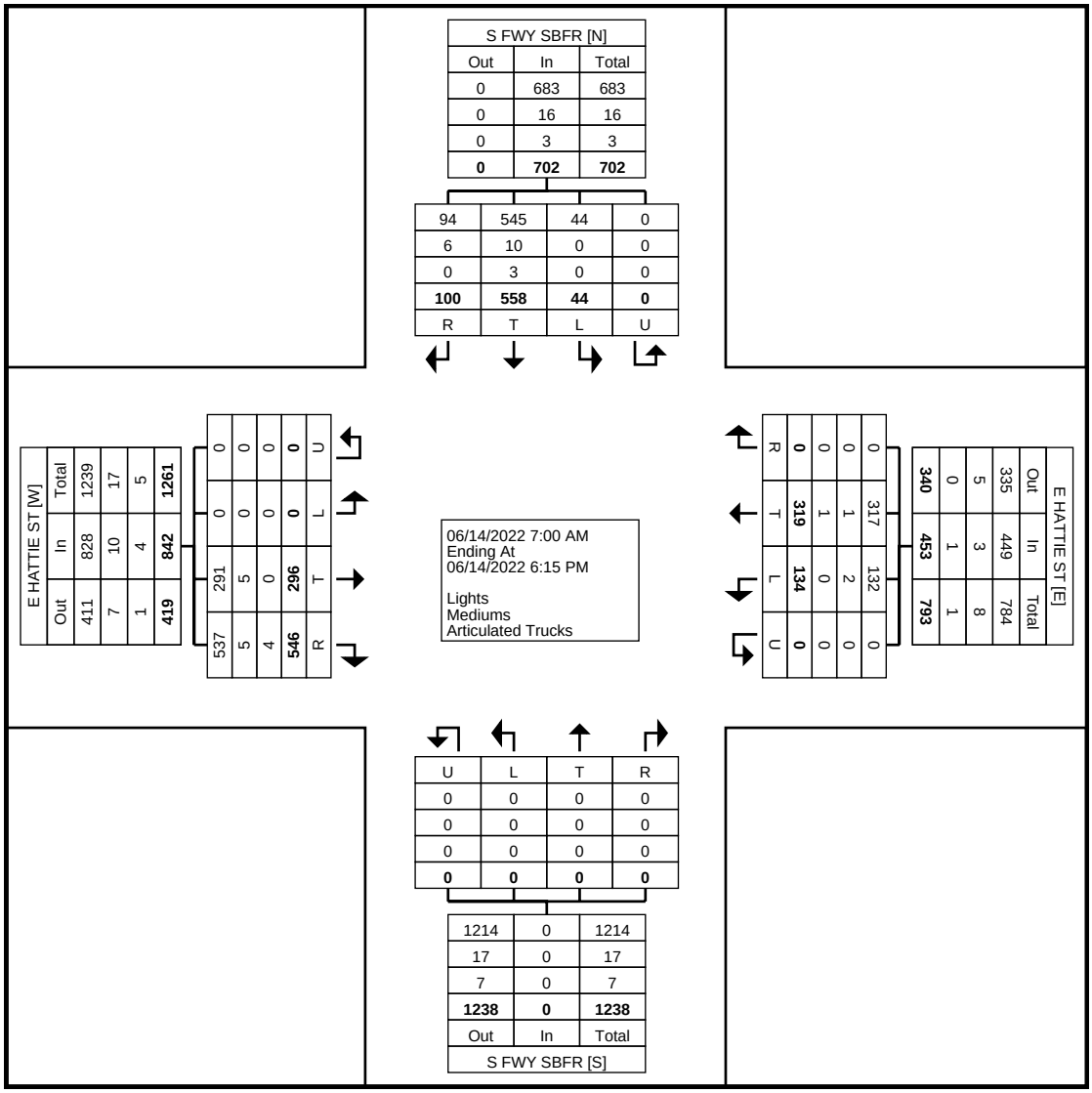
Start Time	S FWY SBFR Southbound					E HATTIE ST Westbound					S FWY SBFR Northbound					E HATTIE ST Eastbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:00 AM	0	5	5	0	10	7	13	0	0	20	0	0	0	0	0	0	6	22	0	28	58
7:15 AM	1	11	6	0	18	8	20	0	0	28	0	0	0	0	0	0	9	23	0	32	78
7:30 AM	2	16	7	0	25	9	22	0	0	31	0	0	0	0	0	0	10	21	0	31	87
7:45 AM	4	19	13	0	36	8	42	0	0	50	0	0	0	0	0	0	13	25	0	38	124
Hourly Total	7	51	31	0	89	32	97	0	0	129	0	0	0	0	0	0	38	91	0	129	347
8:00 AM	2	19	6	0	27	9	34	0	0	43	0	0	0	0	0	0	2	21	0	23	93
8:15 AM	2	9	6	0	17	5	31	0	0	36	0	0	0	0	0	0	8	23	0	31	84
8:30 AM	1	11	6	0	18	7	17	0	0	24	0	0	0	0	0	0	11	23	0	34	76
8:45 AM	3	12	6	0	21	5	22	0	0	27	0	0	0	0	0	0	11	31	0	42	90
Hourly Total	8	51	24	0	83	26	104	0	0	130	0	0	0	0	0	0	32	98	0	130	343
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	2	44	5	0	51	6	17	0	0	23	0	0	0	0	0	0	34	51	0	85	159
4:15 PM	4	54	4	0	62	6	8	0	0	14	0	0	0	0	0	0	18	41	0	59	135
4:30 PM	4	63	4	0	71	20	16	0	0	36	0	0	0	0	0	0	27	51	0	78	185
4:45 PM	4	38	7	0	49	15	14	0	0	29	0	0	0	0	0	0	37	61	0	98	176
Hourly Total	14	199	20	0	233	47	55	0	0	102	0	0	0	0	0	0	116	204	0	320	655
5:00 PM	2	55	5	0	62	11	23	0	0	34	0	0	0	0	0	0	41	51	0	92	188
5:15 PM	2	65	2	0	69	6	17	0	0	23	0	0	0	0	0	0	35	44	0	79	171
5:30 PM	4	72	10	0	86	4	10	0	0	14	0	0	0	0	0	0	20	36	0	56	156
5:45 PM	7	65	8	0	80	8	13	0	0	21	0	0	0	0	0	0	14	22	0	36	137
Hourly Total	15	257	25	0	297	29	63	0	0	92	0	0	0	0	0	0	110	153	0	263	652
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	44	558	100	0	702	134	319	0	0	453	0	0	0	0	0	0	296	546	0	842	1997
Approach %	6.3	79.5	14.2	0.0	-	29.6	70.4	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	35.2	64.8	0.0	-	-
Total %	2.2	27.9	5.0	0.0	35.2	6.7	16.0	0.0	0.0	22.7	0.0	0.0	0.0	0.0	0.0	0.0	14.8	27.3	0.0	42.2	-
Lights	44	545	94	0	683	132	317	0	0	449	0	0	0	0	0	0	291	537	0	828	1960
% Lights	100.0	97.7	94.0	-	97.3	98.5	99.4	-	-	99.1	-	-	-	-	-	-	98.3	98.4	-	98.3	98.1
Mediums	0	10	6	0	16	2	1	0	0	3	0	0	0	0	0	0	5	5	0	10	29
% Mediums	0.0	1.8	6.0	-	2.3	1.5	0.3	-	-	0.7	-	-	-	-	-	-	1.7	0.9	-	1.2	1.5
Articulated Trucks	0	3	0	0	3	0	1	0	0	1	0	0	0	0	0	0	0	4	0	4	8
% Articulated Trucks	0.0	0.5	0.0	-	0.4	0.0	0.3	-	-	0.2	-	-	-	-	-	-	0.0	0.7	-	0.5	0.4

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E HATTIE ST @ S FWY SBFR
Site Code:
Start Date: 06/14/2022
Page No: 2



Turning Movement Data Plot

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E HATTIE ST @ S FWY SBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (7:30 AM)

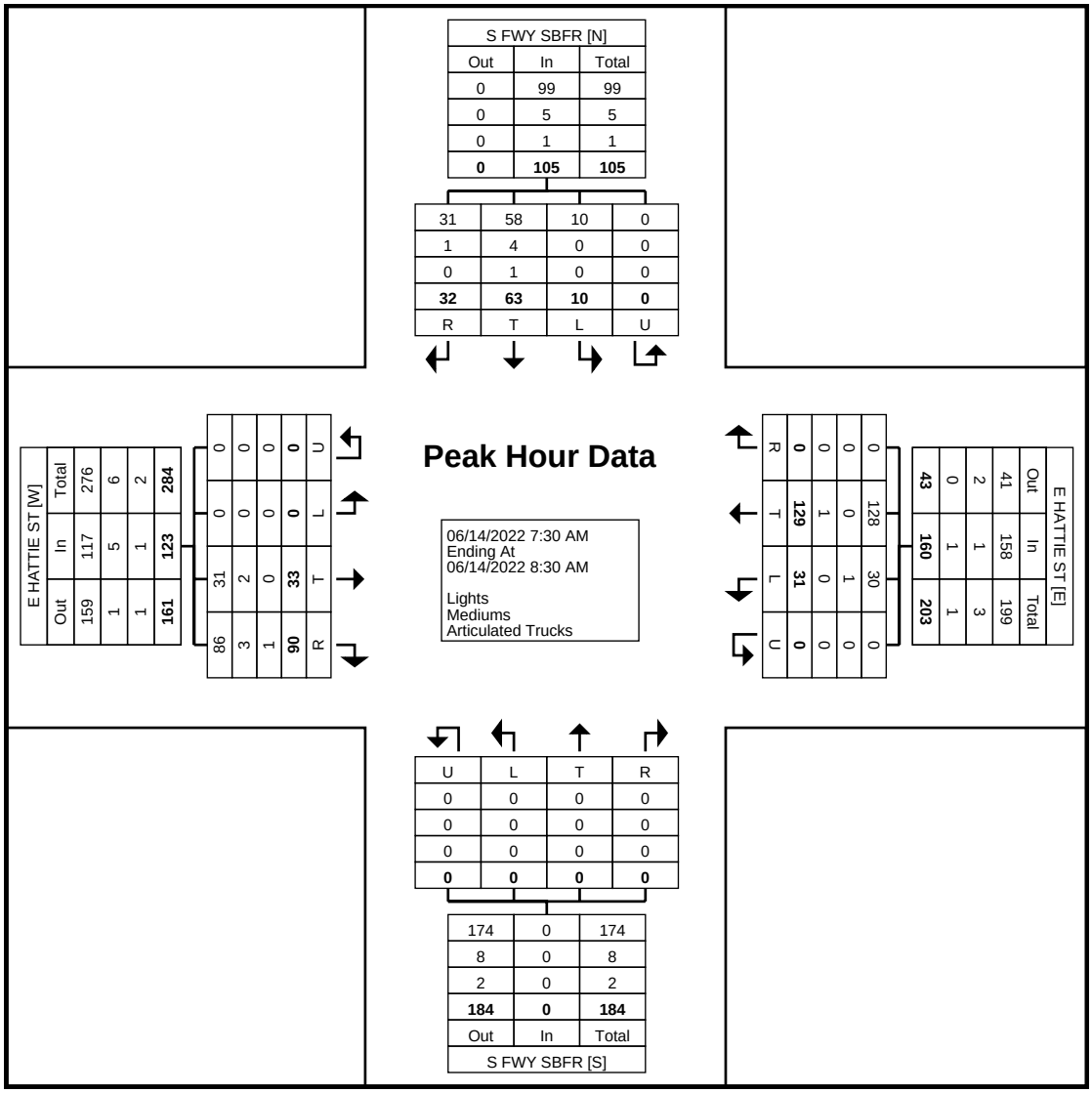
Start Time	S FWY SBFR Southbound					E HATTIE ST Westbound					S FWY SBFR Northbound					E HATTIE ST Eastbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:30 AM	2	16	7	0	25	9	22	0	0	31	0	0	0	0	0	0	10	21	0	31	87
7:45 AM	4	19	13	0	36	8	42	0	0	50	0	0	0	0	0	0	13	25	0	38	124
8:00 AM	2	19	6	0	27	9	34	0	0	43	0	0	0	0	0	0	2	21	0	23	93
8:15 AM	2	9	6	0	17	5	31	0	0	36	0	0	0	0	0	0	8	23	0	31	84
Total	10	63	32	0	105	31	129	0	0	160	0	0	0	0	0	0	33	90	0	123	388
Approach %	9.5	60.0	30.5	0.0	-	19.4	80.6	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	26.8	73.2	0.0	-	-
Total %	2.6	16.2	8.2	0.0	27.1	8.0	33.2	0.0	0.0	41.2	0.0	0.0	0.0	0.0	0.0	0.0	8.5	23.2	0.0	31.7	-
PHF	0.625	0.829	0.615	0.000	0.729	0.861	0.768	0.000	0.000	0.800	0.000	0.000	0.000	0.000	0.000	0.000	0.635	0.900	0.000	0.809	0.782
Lights	10	58	31	0	99	30	128	0	0	158	0	0	0	0	0	0	31	86	0	117	374
% Lights	100.0	92.1	96.9	-	94.3	96.8	99.2	-	-	98.8	-	-	-	-	-	-	93.9	95.6	-	95.1	96.4
Mediums	0	4	1	0	5	1	0	0	0	1	0	0	0	0	0	0	2	3	0	5	11
% Mediums	0.0	6.3	3.1	-	4.8	3.2	0.0	-	-	0.6	-	-	-	-	-	-	6.1	3.3	-	4.1	2.8
Articulated Trucks	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	3
% Articulated Trucks	0.0	1.6	0.0	-	1.0	0.0	0.8	-	-	0.6	-	-	-	-	-	-	0.0	1.1	-	0.8	0.8

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E HATTIE ST @ S FWY SBFR
Site Code:
Start Date: 06/14/2022
Page No: 4



Turning Movement Peak Hour Data Plot (7:30 AM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E HATTIE ST @ S FWY SBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (4:30 PM)

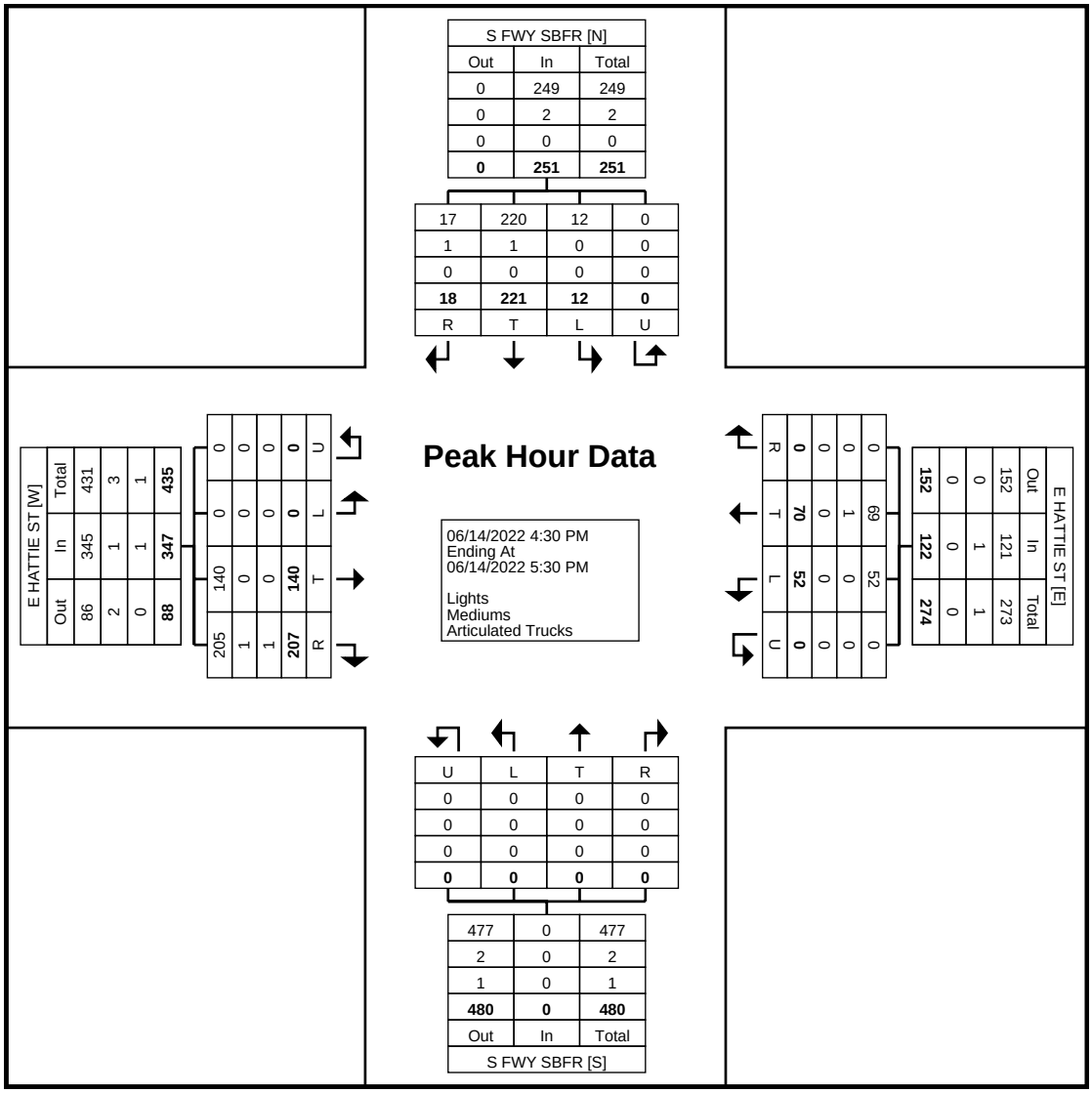
Start Time	S FWY SBFR Southbound					E HATTIE ST Westbound					S FWY SBFR Northbound					E HATTIE ST Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
4:30 PM	4	63	4	0	71	20	16	0	0	36	0	0	0	0	0	0	27	51	0	78	185
4:45 PM	4	38	7	0	49	15	14	0	0	29	0	0	0	0	0	0	37	61	0	98	176
5:00 PM	2	55	5	0	62	11	23	0	0	34	0	0	0	0	0	0	41	51	0	92	188
5:15 PM	2	65	2	0	69	6	17	0	0	23	0	0	0	0	0	0	35	44	0	79	171
Total	12	221	18	0	251	52	70	0	0	122	0	0	0	0	0	0	140	207	0	347	720
Approach %	4.8	88.0	7.2	0.0	-	42.6	57.4	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	40.3	59.7	0.0	-	-
Total %	1.7	30.7	2.5	0.0	34.9	7.2	9.7	0.0	0.0	16.9	0.0	0.0	0.0	0.0	0.0	0.0	19.4	28.8	0.0	48.2	-
PHF	0.750	0.850	0.643	0.000	0.884	0.650	0.761	0.000	0.000	0.847	0.000	0.000	0.000	0.000	0.000	0.000	0.854	0.848	0.000	0.885	0.957
Lights	12	220	17	0	249	52	69	0	0	121	0	0	0	0	0	0	140	205	0	345	715
% Lights	100.0	99.5	94.4	-	99.2	100.0	98.6	-	-	99.2	-	-	-	-	-	-	100.0	99.0	-	99.4	99.3
Mediums	0	1	1	0	2	0	1	0	0	1	0	0	0	0	0	0	0	1	0	1	4
% Mediums	0.0	0.5	5.6	-	0.8	0.0	1.4	-	-	0.8	-	-	-	-	-	-	0.0	0.5	-	0.3	0.6
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% Articulated Trucks	0.0	0.0	0.0	-	0.0	0.0	0.0	-	-	0.0	-	-	-	-	-	-	0.0	0.5	-	0.3	0.1

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E HATTIE ST @ S FWY SBFR
Site Code:
Start Date: 06/14/2022
Page No: 6



Turning Movement Peak Hour Data Plot (4:30 PM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E HATTIE ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Data

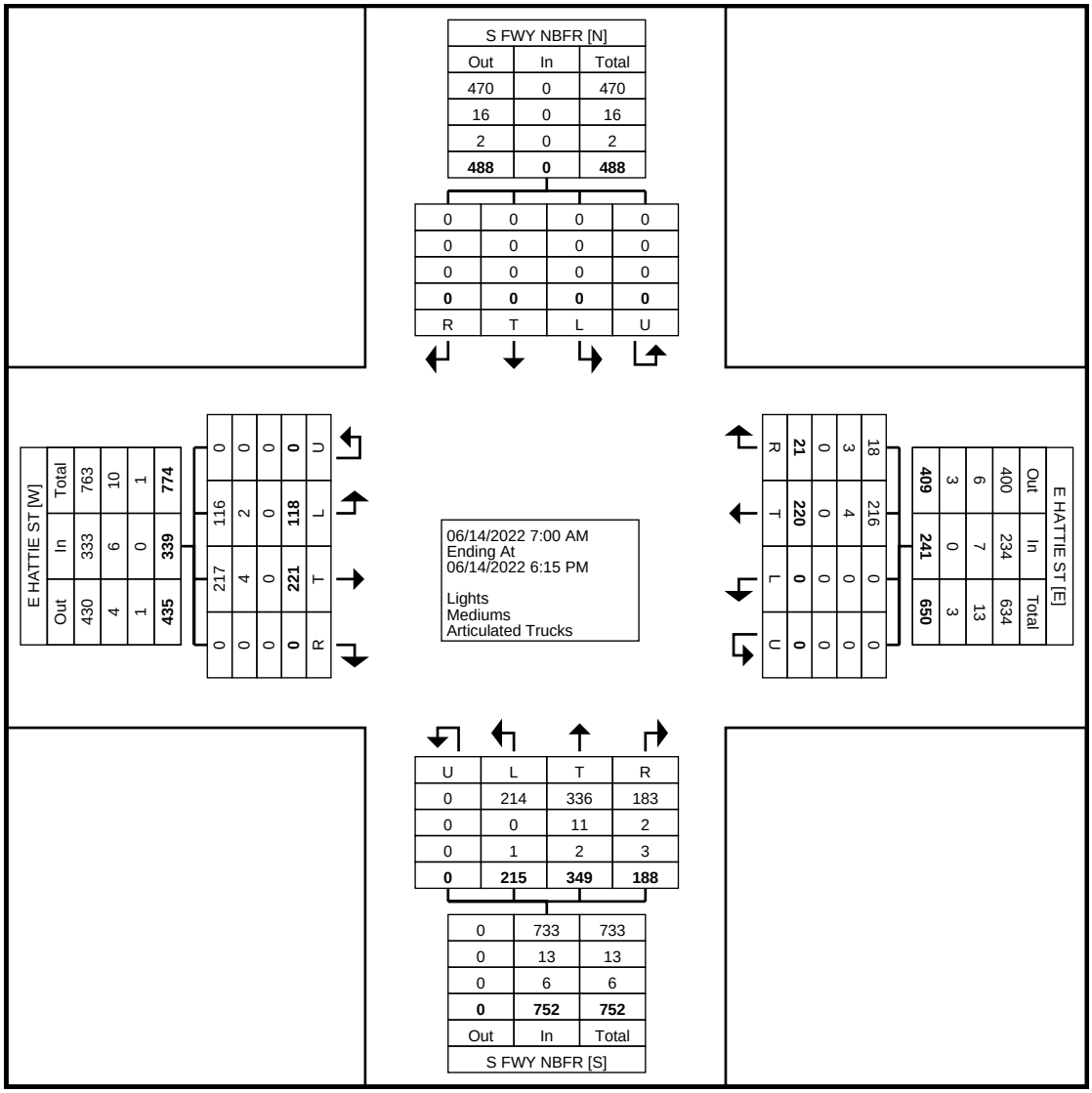
Start Time	S FWY NBFR Southbound					E HATTIE ST Westbound					S FWY NBFR Northbound					E HATTIE ST Eastbound					Int. Total
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	
7:00 AM	0	0	0	0	0	0	10	0	0	10	8	19	3	0	30	1	5	0	0	6	46
7:15 AM	0	0	0	0	0	0	12	1	0	13	15	39	11	0	65	4	5	0	0	9	87
7:30 AM	0	0	0	0	0	0	13	1	0	14	14	48	20	0	82	8	4	0	0	12	108
7:45 AM	0	0	0	0	0	0	19	0	0	19	29	36	22	0	87	5	11	0	0	16	122
Hourly Total	0	0	0	0	0	0	54	2	0	56	66	142	56	0	264	18	25	0	0	43	363
8:00 AM	0	0	0	0	0	0	19	3	0	22	23	15	12	0	50	1	5	0	0	6	78
8:15 AM	0	0	0	0	0	0	14	2	0	16	15	26	8	0	49	3	7	0	0	10	75
8:30 AM	0	0	0	0	0	0	12	0	0	12	14	17	6	0	37	3	8	0	0	11	60
8:45 AM	0	0	0	0	0	0	9	1	0	10	18	15	8	0	41	5	8	0	0	13	64
Hourly Total	0	0	0	0	0	0	54	6	0	60	70	73	34	0	177	12	28	0	0	40	277
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4:00 PM	0	0	0	0	0	0	10	4	0	14	12	18	12	0	42	11	25	0	0	36	92
4:15 PM	0	0	0	0	0	0	10	2	0	12	5	13	14	0	32	9	14	0	0	23	67
4:30 PM	0	0	0	0	0	0	27	4	0	31	9	23	6	0	38	13	17	0	0	30	99
4:45 PM	0	0	0	0	0	0	18	1	0	19	11	18	22	0	51	12	30	0	0	42	112
Hourly Total	0	0	0	0	0	0	65	11	0	76	37	72	54	0	163	45	86	0	0	131	370
5:00 PM	0	0	0	0	0	0	17	1	0	18	15	14	9	0	38	14	26	0	0	40	96
5:15 PM	0	0	0	0	0	0	10	0	0	10	13	17	9	0	39	17	23	0	0	40	89
5:30 PM	0	0	0	0	0	0	6	1	0	7	7	21	12	0	40	7	17	0	0	24	71
5:45 PM	0	0	0	0	0	0	14	0	0	14	7	10	14	0	31	5	16	0	0	21	66
Hourly Total	0	0	0	0	0	0	47	2	0	49	42	62	44	0	148	43	82	0	0	125	322
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	220	21	0	241	215	349	188	0	752	118	221	0	0	339	1332
Approach %	0.0	0.0	0.0	0.0	-	0.0	91.3	8.7	0.0	-	28.6	46.4	25.0	0.0	-	34.8	65.2	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	16.5	1.6	0.0	18.1	16.1	26.2	14.1	0.0	56.5	8.9	16.6	0.0	0.0	25.5	-
Lights	0	0	0	0	0	0	216	18	0	234	214	336	183	0	733	116	217	0	0	333	1300
% Lights	-	-	-	-	-	-	98.2	85.7	-	97.1	99.5	96.3	97.3	-	97.5	98.3	98.2	-	-	98.2	97.6
Mediums	0	0	0	0	0	0	4	3	0	7	0	11	2	0	13	2	4	0	0	6	26
% Mediums	-	-	-	-	-	-	1.8	14.3	-	2.9	0.0	3.2	1.1	-	1.7	1.7	1.8	-	-	1.8	2.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	1	2	3	0	6	0	0	0	0	0	6
% Articulated Trucks	-	-	-	-	-	-	0.0	0.0	-	0.0	0.5	0.6	1.6	-	0.8	0.0	0.0	-	-	0.0	0.5

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E HATTIE ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022
Page No: 2



Turning Movement Data Plot

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E HATTIE ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (7:15 AM)

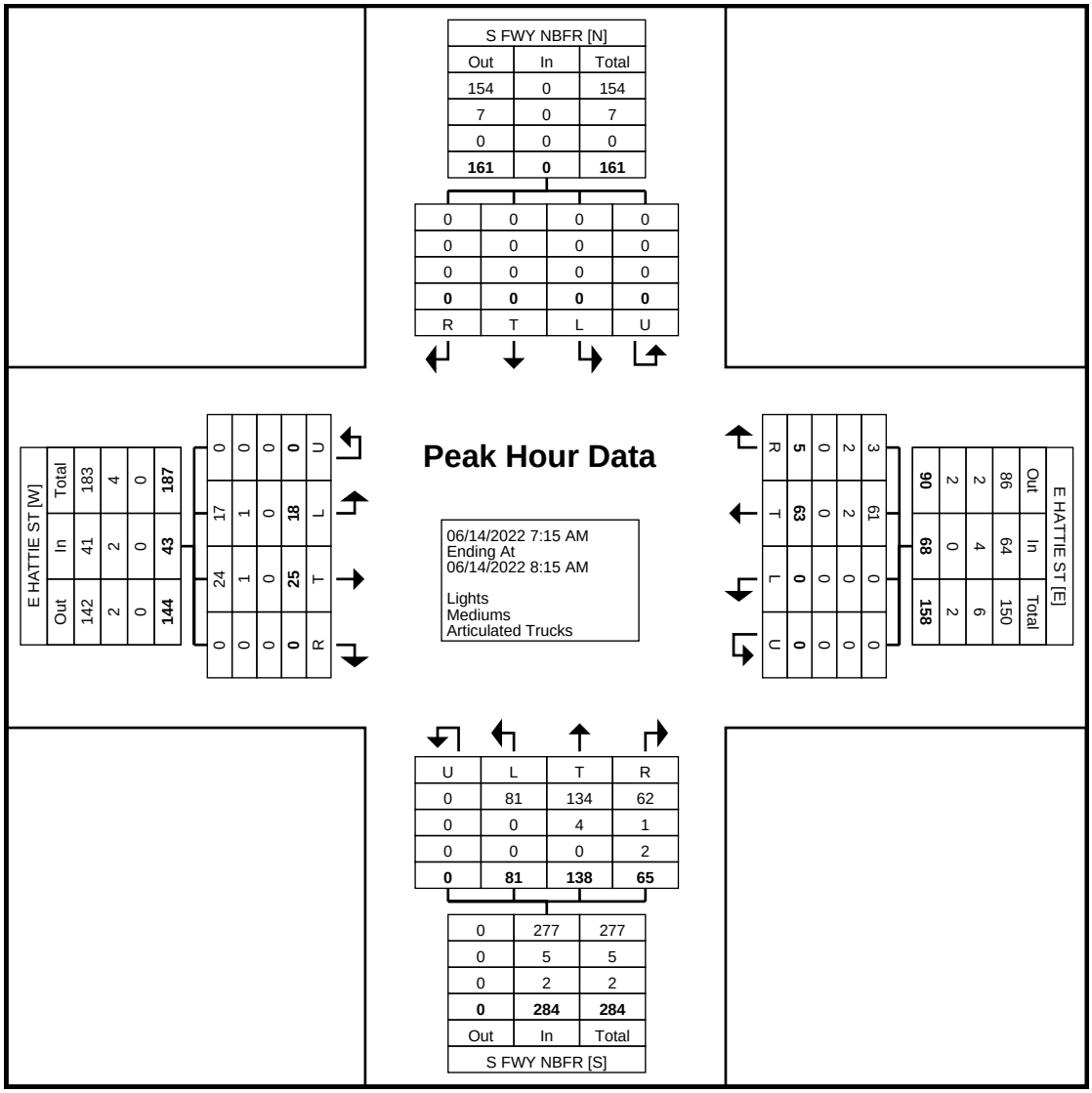
Start Time	S FWY NBFR Southbound					E HATTIE ST Westbound					S FWY NBFR Northbound					E HATTIE ST Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:15 AM	0	0	0	0	0	0	12	1	0	13	15	39	11	0	65	4	5	0	0	9	87
7:30 AM	0	0	0	0	0	0	13	1	0	14	14	48	20	0	82	8	4	0	0	12	108
7:45 AM	0	0	0	0	0	0	19	0	0	19	29	36	22	0	87	5	11	0	0	16	122
8:00 AM	0	0	0	0	0	0	19	3	0	22	23	15	12	0	50	1	5	0	0	6	78
Total	0	0	0	0	0	0	63	5	0	68	81	138	65	0	284	18	25	0	0	43	395
Approach %	0.0	0.0	0.0	0.0	-	0.0	92.6	7.4	0.0	-	28.5	48.6	22.9	0.0	-	41.9	58.1	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	15.9	1.3	0.0	17.2	20.5	34.9	16.5	0.0	71.9	4.6	6.3	0.0	0.0	10.9	-
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.829	0.417	0.000	0.773	0.698	0.719	0.739	0.000	0.816	0.563	0.568	0.000	0.000	0.672	0.809
Lights	0	0	0	0	0	0	61	3	0	64	81	134	62	0	277	17	24	0	0	41	382
% Lights	-	-	-	-	-	-	96.8	60.0	-	94.1	100.0	97.1	95.4	-	97.5	94.4	96.0	-	-	95.3	96.7
Mediums	0	0	0	0	0	0	2	2	0	4	0	4	1	0	5	1	1	0	0	2	11
% Mediums	-	-	-	-	-	-	3.2	40.0	-	5.9	0.0	2.9	1.5	-	1.8	5.6	4.0	-	-	4.7	2.8
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	0	0	0	2
% Articulated Trucks	-	-	-	-	-	-	0.0	0.0	-	0.0	0.0	0.0	3.1	-	0.7	0.0	0.0	-	-	0.0	0.5

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E HATTIE ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022
Page No: 4



Turning Movement Peak Hour Data Plot (7:15 AM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E HATTIE ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (4:30 PM)

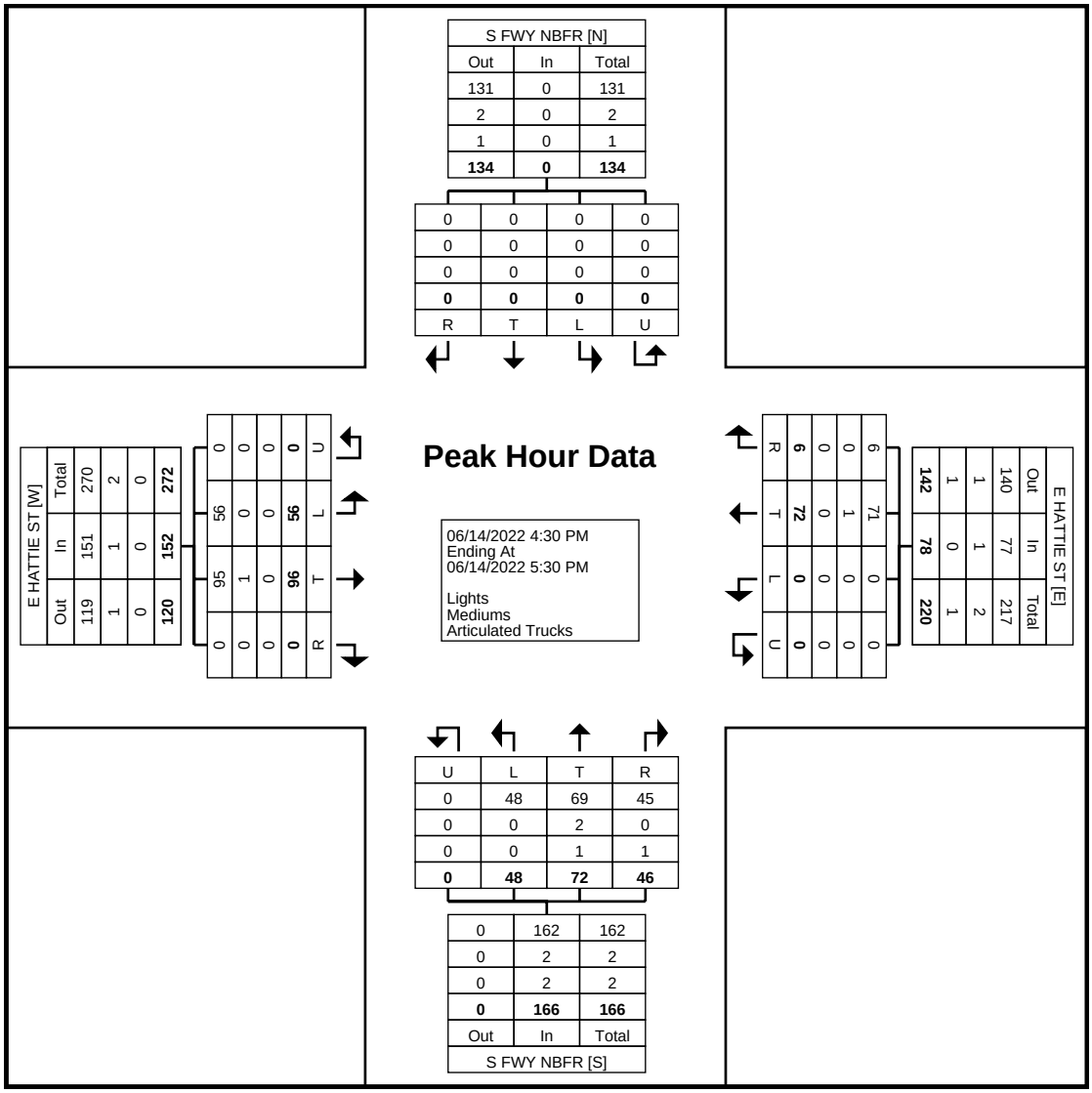
Start Time	S FWY NBFR Southbound					E HATTIE ST Westbound					S FWY NBFR Northbound					E HATTIE ST Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
4:30 PM	0	0	0	0	0	0	27	4	0	31	9	23	6	0	38	13	17	0	0	30	99
4:45 PM	0	0	0	0	0	0	18	1	0	19	11	18	22	0	51	12	30	0	0	42	112
5:00 PM	0	0	0	0	0	0	17	1	0	18	15	14	9	0	38	14	26	0	0	40	96
5:15 PM	0	0	0	0	0	0	10	0	0	10	13	17	9	0	39	17	23	0	0	40	89
Total	0	0	0	0	0	0	72	6	0	78	48	72	46	0	166	56	96	0	0	152	396
Approach %	0.0	0.0	0.0	0.0	-	0.0	92.3	7.7	0.0	-	28.9	43.4	27.7	0.0	-	36.8	63.2	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	18.2	1.5	0.0	19.7	12.1	18.2	11.6	0.0	41.9	14.1	24.2	0.0	0.0	38.4	-
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.667	0.375	0.000	0.629	0.800	0.783	0.523	0.000	0.814	0.824	0.800	0.000	0.000	0.905	0.884
Lights	0	0	0	0	0	0	71	6	0	77	48	69	45	0	162	56	95	0	0	151	390
% Lights	-	-	-	-	-	-	98.6	100.0	-	98.7	100.0	95.8	97.8	-	97.6	100.0	99.0	-	-	99.3	98.5
Mediums	0	0	0	0	0	0	1	0	0	1	0	2	0	0	2	0	1	0	0	1	4
% Mediums	-	-	-	-	-	-	1.4	0.0	-	1.3	0.0	2.8	0.0	-	1.2	0.0	1.0	-	-	0.7	1.0
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	0	0	0	0	2
% Articulated Trucks	-	-	-	-	-	-	0.0	0.0	-	0.0	0.0	1.4	2.2	-	1.2	0.0	0.0	-	-	0.0	0.5

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E HATTIE ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022
Page No: 6



Turning Movement Peak Hour Data Plot (4:30 PM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E DASHWOOD ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Data

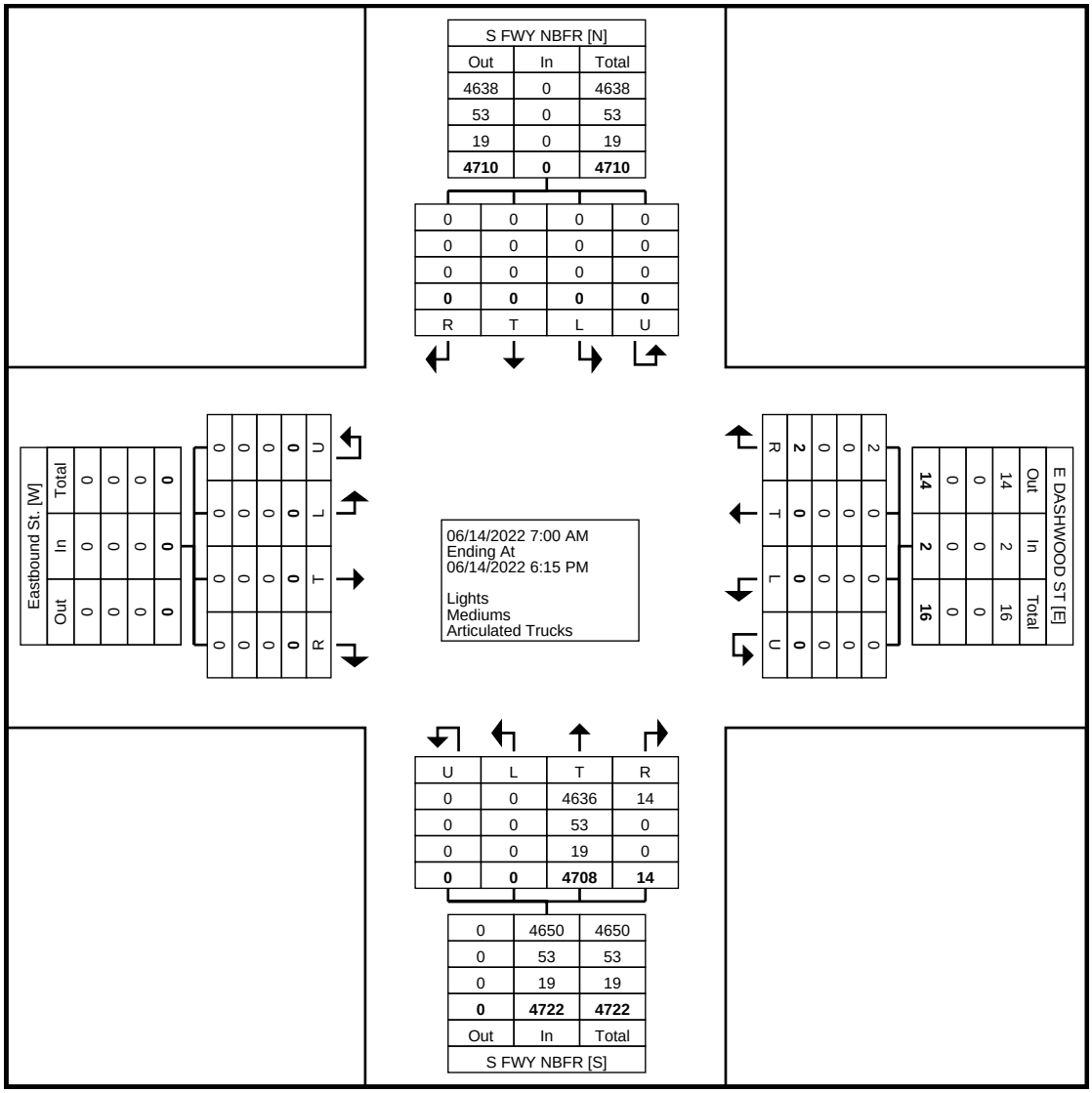
Start Time	S FWY NBFR Southbound					E DASHWOOD ST Westbound					S FWY NBFR Northbound					Eastbound St. Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	202	0	0	202	0	0	0	0	0	202
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	345	0	0	345	0	0	0	0	0	345
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	316	0	0	316	0	0	0	0	0	316
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	303	0	0	303	0	0	0	0	0	303
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	1166	0	0	1166	0	0	0	0	0	1166
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	259	1	0	260	0	0	0	0	0	260
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	251	1	0	252	0	0	0	0	0	252
8:30 AM	0	0	0	0	0	0	0	0	0	0	0	245	0	0	245	0	0	0	0	0	245
8:45 AM	0	0	0	0	0	0	0	0	0	0	0	249	0	0	249	0	0	0	0	0	249
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	1004	2	0	1006	0	0	0	0	0	1006
9:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	352	0	0	352	0	0	0	0	0	352
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	282	4	0	286	0	0	0	0	0	286
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	304	1	0	305	0	0	0	0	0	305
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	344	1	0	345	0	0	0	0	0	345
Hourly Total	0	0	0	0	0	0	0	0	0	0	0	1282	6	0	1288	0	0	0	0	0	1288
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	350	1	0	351	0	0	0	0	0	351
5:15 PM	0	0	0	0	0	0	0	1	0	1	0	347	3	0	350	0	0	0	0	0	351
5:30 PM	0	0	0	0	0	0	0	1	0	1	0	307	1	0	308	0	0	0	0	0	309
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	252	1	0	253	0	0	0	0	0	253
Hourly Total	0	0	0	0	0	0	0	2	0	2	0	1256	6	0	1262	0	0	0	0	0	1264
6:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	2	0	2	0	4708	14	0	4722	0	0	0	0	0	4724
Approach %	0.0	0.0	0.0	0.0	-	0.0	0.0	100.0	0.0	-	0.0	99.7	0.3	0.0	-	0.0	0.0	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.7	0.3	0.0	100.0	0.0	0.0	0.0	0.0	0.0	-
Lights	0	0	0	0	0	0	0	2	0	2	0	4636	14	0	4650	0	0	0	0	0	4652
% Lights	-	-	-	-	-	-	-	100.0	-	100.0	-	98.5	100.0	-	98.5	-	-	-	-	-	98.5
Mediums	0	0	0	0	0	0	0	0	0	0	0	53	0	0	53	0	0	0	0	0	53
% Mediums	-	-	-	-	-	-	-	0.0	-	0.0	-	1.1	0.0	-	1.1	-	-	-	-	-	1.1
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	19
% Articulated Trucks	-	-	-	-	-	-	-	0.0	-	0.0	-	0.4	0.0	-	0.4	-	-	-	-	-	0.4

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E DASHWOOD ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022
Page No: 2



Turning Movement Data Plot

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E DASHWOOD ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (7:15 AM)

Start Time	S FWY NBFR Southbound					E DASHWOOD ST Westbound					S FWY NBFR Northbound					Eastbound St. Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	345	0	0	345	0	0	0	0	0	345
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	316	0	0	316	0	0	0	0	0	316
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	303	0	0	303	0	0	0	0	0	303
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	259	1	0	260	0	0	0	0	0	260
Total	0	0	0	0	0	0	0	0	0	0	0	1223	1	0	1224	0	0	0	0	0	1224
Approach %	0.0	0.0	0.0	0.0	-	0.0	0.0	0.0	0.0	-	0.0	99.9	0.1	0.0	-	0.0	0.0	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	99.9	0.1	0.0	100.0	0.0	0.0	0.0	0.0	0.0	-
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.886	0.250	0.000	0.887	0.000	0.000	0.000	0.000	0.000	0.887
Lights	0	0	0	0	0	0	0	0	0	0	0	1204	1	0	1205	0	0	0	0	0	1205
% Lights	-	-	-	-	-	-	-	-	-	-	-	98.4	100.0	-	98.4	-	-	-	-	-	98.4
Mediums	0	0	0	0	0	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	15
% Mediums	-	-	-	-	-	-	-	-	-	-	-	1.2	0.0	-	1.2	-	-	-	-	-	1.2
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	4
% Articulated Trucks	-	-	-	-	-	-	-	-	-	-	-	0.3	0.0	-	0.3	-	-	-	-	-	0.3

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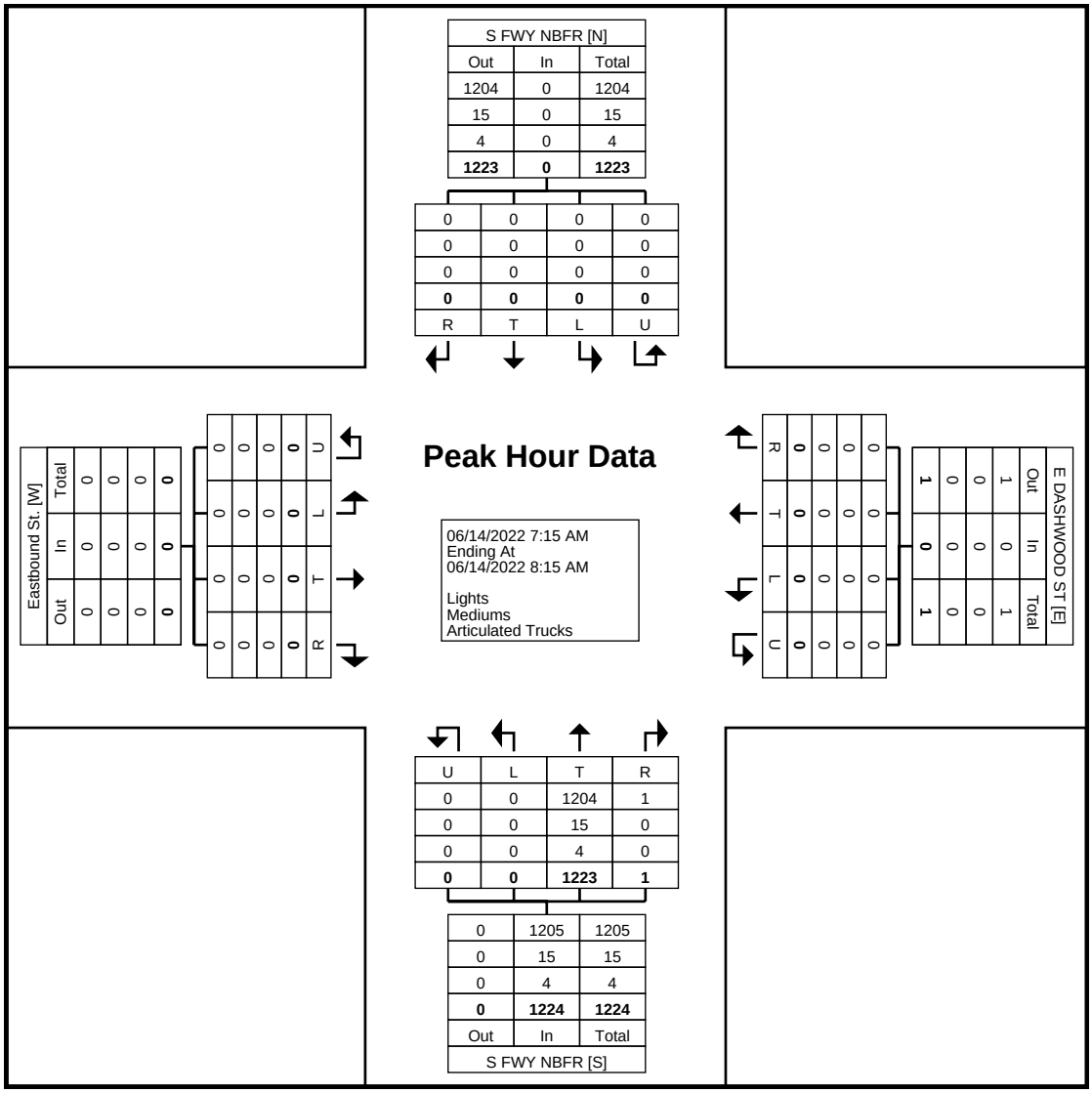
Start Date: 06/14/2022



Turning Movement Peak Hour Data Plot (7:15 AM)

GRAM Traffic NTX Inc.

1120 W. Lovers Lane

Arlington, Texas, United States 76013
817.265.8968

Count Name: E DASHWOOD ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022

Turning Movement Peak Hour Data (4:45 PM)

Start Time	S FWY NBFR Southbound					E DASHWOOD ST Westbound					S FWY NBFR Northbound					Eastbound St. Eastbound					
	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Left	Thru	Right	U-Turn	App. Total	Int. Total
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	344	1	0	345	0	0	0	0	0	345
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	350	1	0	351	0	0	0	0	0	351
5:15 PM	0	0	0	0	0	0	0	1	0	1	0	347	3	0	350	0	0	0	0	0	351
5:30 PM	0	0	0	0	0	0	0	1	0	1	0	307	1	0	308	0	0	0	0	0	309
Total	0	0	0	0	0	0	0	2	0	2	0	1348	6	0	1354	0	0	0	0	0	1356
Approach %	0.0	0.0	0.0	0.0	-	0.0	0.0	100.0	0.0	-	0.0	99.6	0.4	0.0	-	0.0	0.0	0.0	0.0	-	-
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.1	0.0	99.4	0.4	0.0	99.9	0.0	0.0	0.0	0.0	0.0	-
PHF	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.500	0.000	0.500	0.000	0.963	0.500	0.000	0.964	0.000	0.000	0.000	0.000	0.000	0.966
Lights	0	0	0	0	0	0	0	2	0	2	0	1334	6	0	1340	0	0	0	0	0	1342
% Lights	-	-	-	-	-	-	-	100.0	-	100.0	-	99.0	100.0	-	99.0	-	-	-	-	-	99.0
Mediums	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	8
% Mediums	-	-	-	-	-	-	-	0.0	-	0.0	-	0.6	0.0	-	0.6	-	-	-	-	-	0.6
Articulated Trucks	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	6
% Articulated Trucks	-	-	-	-	-	-	-	0.0	-	0.0	-	0.4	0.0	-	0.4	-	-	-	-	-	0.4

GRAM Traffic NTX Inc.

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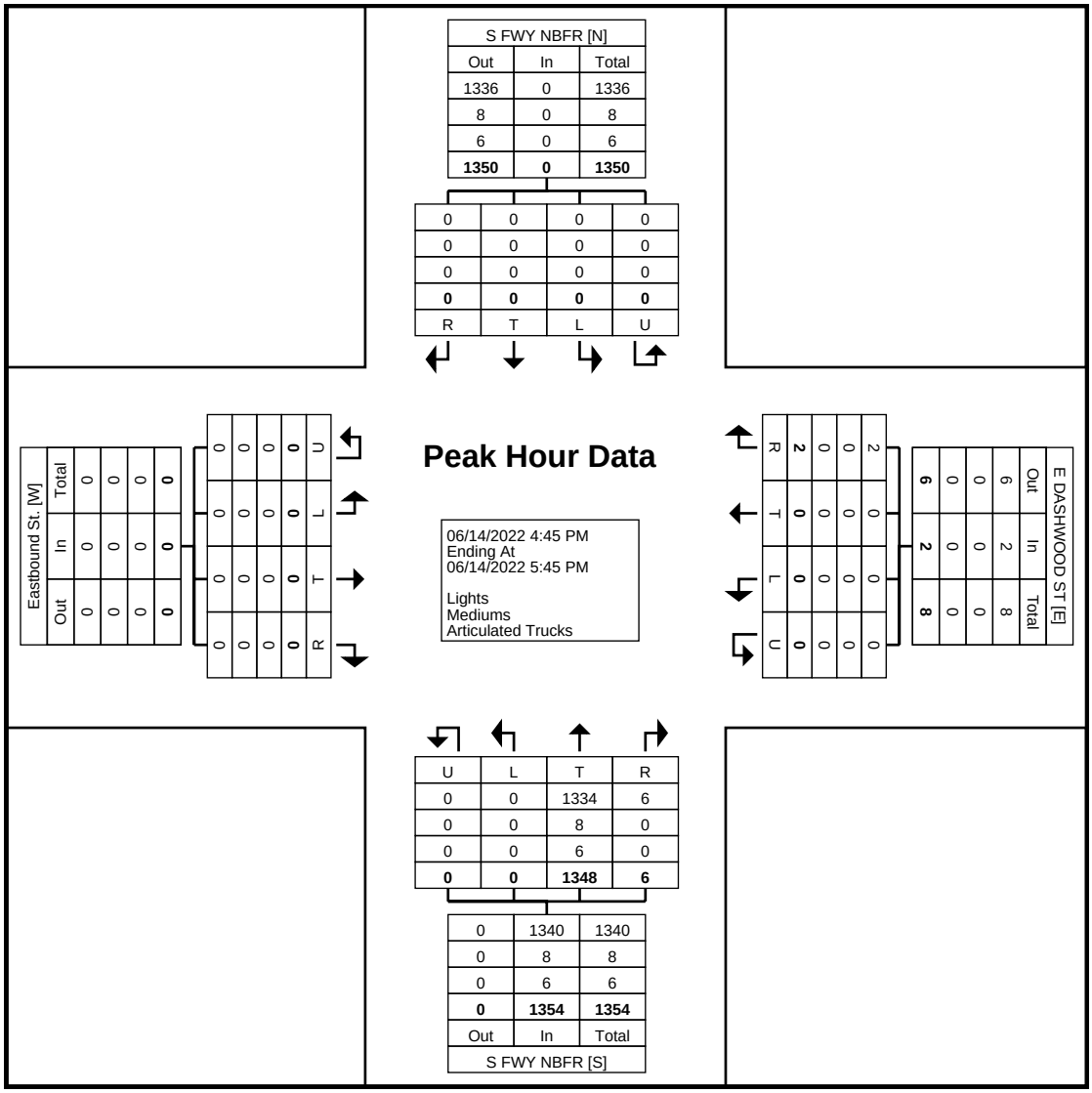
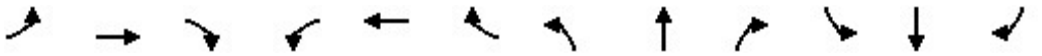
Count Name: E DASHWOOD ST @ S FWY NBFR
Site Code:
Start Date: 06/14/2022
Page No: 6



Turning Movement Peak Hour Data Plot (4:45 PM)

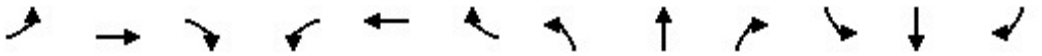
APPENDIX C
CAPACITY ANALYSIS PRINTOUTS



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	61	90	43	153	0	0	0	0	10	63	32
Future Volume (vph)	0	61	90	43	153	0	0	0	0	10	63	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		5.5						5.5	5.5
Lane Util. Factor		1.00	1.00		0.95						0.91	0.91
Frt		1.00	0.85		1.00						0.99	0.85
Flt Protected		1.00	1.00		0.99						0.99	1.00
Satd. Flow (prot)		1863	1583		3501						3344	1441
Flt Permitted		1.00	1.00		0.90						0.99	1.00
Satd. Flow (perm)		1863	1583		3177						3344	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	66	98	47	166	0	0	0	0	11	68	35
RTOR Reduction (vph)	0	0	73	0	0	0	0	0	0	0	3	22
Lane Group Flow (vph)	0	66	25	0	213	0	0	0	0	0	80	9
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		1 3
Actuated Green, G (s)		27.1	27.1		79.7						29.3	29.3
Effective Green, g (s)		27.1	27.1		79.7						29.3	29.3
Actuated g/C Ratio		0.26	0.26		0.75						0.28	0.28
Clearance Time (s)		5.5	5.5									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		476	404		2463						924	398
v/s Ratio Prot		c0.04			0.02							
v/s Ratio Perm			0.02		c0.05						0.02	0.01
v/c Ratio		0.14	0.06		0.09						0.09	0.02
Uniform Delay, d1		30.4	29.8		3.5						28.4	27.9
Progression Factor		1.00	1.00		1.56						1.00	1.00
Incremental Delay, d2		0.6	0.3		0.0						0.0	0.0
Delay (s)		31.1	30.1		5.4						28.5	27.9
Level of Service		C	C		A						C	C
Approach Delay (s)		30.5			5.4			0.0			28.3	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	28.1%	ICU Level of Service	A
Analysis Period (min)	15		

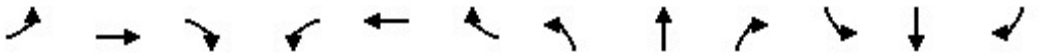
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	25	0	0	99	5	81	134	76	0	0	0
Future Volume (vph)	18	25	0	0	99	5	81	134	76	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.5			4.0		5.5	5.5				
Lane Util. Factor	1.00	1.00			0.95		0.91	0.91				
Frt	1.00	1.00			0.99		1.00	0.95				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	1863			3516		1610	3207				
Flt Permitted	0.11	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	212	1863			3516		1610	3207				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	27	0	0	108	5	88	146	83	0	0	0
RTOR Reduction (vph)	0	0	0	0	4	0	0	35	0	0	0	0
Lane Group Flow (vph)	20	27	0	0	109	0	79	203	0	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7						8 5!					
Actuated Green, G (s)	59.7	35.2			9.4		50.8	50.8				
Effective Green, g (s)	59.7	35.2			9.4		50.8	50.8				
Actuated g/C Ratio	0.56	0.33			0.09		0.48	0.48				
Clearance Time (s)	5.5				4.0							
Vehicle Extension (s)	3.0				3.0							
Lane Grp Cap (vph)	479	618			311		771	1536				
v/s Ratio Prot	0.01	c0.01			c0.03							
v/s Ratio Perm	0.01						0.05	0.06				
v/c Ratio	0.04	0.04			0.35		0.10	0.13				
Uniform Delay, d1	28.6	24.0			45.4		15.1	15.3				
Progression Factor	1.96	0.70			1.00		1.00	1.00				
Incremental Delay, d2	0.0	0.0			0.7		0.1	0.0				
Delay (s)	56.2	16.9			46.1		15.2	15.4				
Level of Service	E	B			D		B	B				
Approach Delay (s)		33.6			46.1			15.3			0.0	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.13		
Actuated Cycle Length (s)	106.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	23.3%	ICU Level of Service	A
Analysis Period (min)	15		

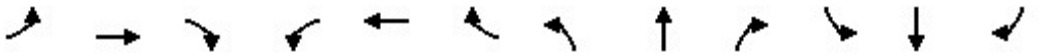
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	549	186	130	886	0	0	0	0	168	318	992
Future Volume (vph)	0	549	186	130	886	0	0	0	0	168	318	992
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	4.0
Lane Util. Factor		0.91	1.00	0.91	0.91					0.86	0.86	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		5085	1583	1610	3388					1522	4773	1583
Flt Permitted		1.00	1.00	0.42	0.95					0.95	0.99	1.00
Satd. Flow (perm)		5085	1583	704	3217					1522	4773	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	597	202	141	963	0	0	0	0	183	346	1078
RTOR Reduction (vph)	0	0	163	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	597	39	127	977	0	0	0	0	128	401	1078
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Free
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		Free
Actuated Green, G (s)		24.0	24.0	102.6	102.6					42.8	42.8	125.4
Effective Green, g (s)		24.0	24.0	102.6	102.6					42.8	42.8	125.4
Actuated g/C Ratio		0.19	0.19	0.82	0.82					0.34	0.34	1.00
Clearance Time (s)		6.0	6.0	6.0								
Vehicle Extension (s)		3.0	3.0	3.0								
Lane Grp Cap (vph)		973	302	792	2673					519	1629	1583
v/s Ratio Prot		0.12		0.04	0.09							
v/s Ratio Perm			0.02	0.09	0.21					0.08	0.08	c0.68
v/c Ratio		0.61	0.13	0.16	0.37					0.25	0.25	0.68
Uniform Delay, d1		46.5	42.0	2.5	3.0					29.7	29.7	0.0
Progression Factor		1.00	1.00	1.75	2.66					1.00	1.00	1.00
Incremental Delay, d2		2.9	0.9	0.1	0.1					0.2	0.1	2.4
Delay (s)		49.3	42.9	4.5	7.9					30.0	29.8	2.4
Level of Service		D	D	A	A					C	C	A
Approach Delay (s)		47.7			7.5			0.0			11.4	
Approach LOS		D			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	125.4	Sum of lost time (s)	24.0
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

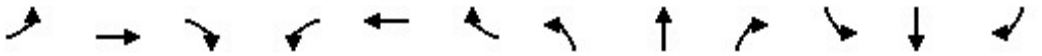
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	283	414	0	0	601	145	461	517	148	0	0	0
Future Volume (vph)	283	414	0	0	601	145	461	517	148	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			6.0	6.0	6.0	6.0	6.0			
Lane Util. Factor	0.91	0.91			0.91	1.00	0.86	0.86	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	0.99			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)	1610	3356			5085	1583	1522	4735	1583			
Flt Permitted	0.08	0.50			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)	130	1706			5085	1583	1522	4735	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	308	450	0	0	653	158	501	562	161	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	128	0	0	108	0	0	0
Lane Group Flow (vph)	194	564	0	0	653	30	261	802	53	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7					7	8 5!		8 5			
Actuated Green, G (s)	97.4	97.4			24.0	24.0	41.4	41.4	41.4			
Effective Green, g (s)	97.4	97.4			24.0	24.0	41.4	41.4	41.4			
Actuated g/C Ratio	0.78	0.78			0.19	0.19	0.33	0.33	0.33			
Clearance Time (s)	6.0				6.0	6.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	377	1632			973	302	502	1563	522			
v/s Ratio Prot	0.10	0.06			c0.13							
v/s Ratio Perm	c0.30	0.20				0.02	c0.17	0.17	0.03			
v/c Ratio	0.51	0.35			0.67	0.10	0.52	0.51	0.10			
Uniform Delay, d1	37.2	4.3			47.0	41.8	34.0	33.9	29.1			
Progression Factor	2.33	5.45			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.0	0.1			3.7	0.7	0.9	0.3	0.1			
Delay (s)	87.6	23.4			50.7	42.5	34.9	34.2	29.2			
Level of Service	F	C			D	D	C	C	C			
Approach Delay (s)		39.8			49.1			33.7			0.0	
Approach LOS		D			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	39.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	125.4	Sum of lost time (s)	24.0
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		

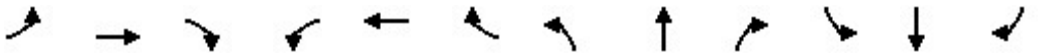
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	17	452	52	24	645	14	58	40	25	9	50	36
Future Volume (vph)	17	452	52	24	645	14	58	40	25	9	50	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		1.00	
Satd. Flow (prot)	1770	3484		1770	3528			1809	1583		1759	
Flt Permitted	0.36	1.00		0.44	1.00			0.78	1.00		0.96	
Satd. Flow (perm)	675	3484		825	3528			1448	1583		1697	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	18	491	57	26	701	15	63	43	27	10	54	39
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	23	0	21	0
Lane Group Flow (vph)	18	543	0	26	715	0	0	106	4	0	82	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	60.4	58.2		60.6	58.3			11.9	11.9		11.9	
Effective Green, g (s)	60.4	58.2		60.6	58.3			11.9	11.9		11.9	
Actuated g/C Ratio	0.68	0.65		0.68	0.65			0.13	0.13		0.13	
Clearance Time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	482	2268		583	2300			192	210		225	
v/s Ratio Prot	0.00	0.16		c0.00	c0.20							
v/s Ratio Perm	0.02			0.03				c0.07	0.00		0.05	
v/c Ratio	0.04	0.24		0.04	0.31			0.55	0.02		0.37	
Uniform Delay, d1	4.8	6.4		4.7	6.8			36.3	33.7		35.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.2		0.0	0.4			3.4	0.0		1.0	
Delay (s)	4.8	6.7		4.7	7.1			39.7	33.7		36.3	
Level of Service	A	A		A	A			D	C		D	
Approach Delay (s)		6.6			7.1			38.5			36.3	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.34		
Actuated Cycle Length (s)	89.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	41.5%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	529	3	15	616	9	17	15	22	7	10	33
Future Volume (vph)	14	529	3	15	616	9	17	15	22	7	10	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.94			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3536		1770	3531			1732			1686	
Flt Permitted	0.39	1.00		0.43	1.00			0.96			0.98	
Satd. Flow (perm)	730	3536		809	3531			1684			1657	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	15	575	3	16	670	10	18	16	24	8	11	36
RTOR Reduction (vph)	0	0	0	0	1	0	0	23	0	0	34	0
Lane Group Flow (vph)	15	578	0	16	679	0	0	35	0	0	21	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	54.9	53.8		54.9	53.8			3.6			3.6	
Effective Green, g (s)	54.9	53.8		54.9	53.8			3.6			3.6	
Actuated g/C Ratio	0.78	0.76		0.78	0.76			0.05			0.05	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	584	2698		644	2694			85			84	
v/s Ratio Prot	c0.00	0.16		0.00	c0.19							
v/s Ratio Perm	0.02			0.02				c0.02			0.01	
v/c Ratio	0.03	0.21		0.02	0.25			0.41			0.25	
Uniform Delay, d1	1.7	2.4		1.7	2.4			32.4			32.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.2		0.0	0.2			3.3			1.5	
Delay (s)	1.8	2.5		1.8	2.7			35.7			33.7	
Level of Service	A	A		A	A			D			C	
Approach Delay (s)		2.5			2.7			35.7			33.7	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	5.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	70.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	29.9%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	289	74	0	0
Future Vol, veh/h	0	11	289	74	0	0
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	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	314	80	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	197	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	811	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	811	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.5	0
HCM LOS	A	

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	811
HCM Lane V/C Ratio	-	-	0.015
HCM Control Delay (s)	-	-	9.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	43	3	15	43	45	3	13	9	42	22	0
Future Vol, veh/h	5	43	3	15	43	45	3	13	9	42	22	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	47	3	16	47	49	3	14	10	46	24	0
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	7.5	7.5	7.3	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	12%	10%	15%	66%
Vol Thru, %	52%	84%	42%	34%
Vol Right, %	36%	6%	44%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	25	51	103	64
LT Vol	3	5	15	42
Through Vol	13	43	43	22
RT Vol	9	3	45	0
Lane Flow Rate	27	55	112	70
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.064	0.122	0.085
Departure Headway (Hd)	4.086	4.173	3.911	4.376
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	862	848	906	809
Service Time	2.179	2.252	1.983	2.454
HCM Lane V/C Ratio	0.031	0.065	0.124	0.087
HCM Control Delay	7.3	7.5	7.5	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.4	0.3

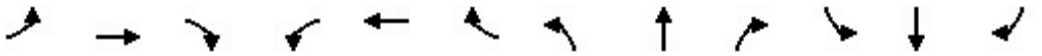
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	364	1	0	0
Future Vol, veh/h	0	1	364	1	0	0
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	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	396	1	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	199	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	809	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	809	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.5	0
HCM LOS	A	

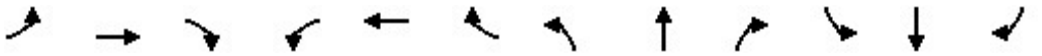
Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	809
HCM Lane V/C Ratio	-	-	0.001
HCM Control Delay (s)	-	-	9.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	145	207	55	76	0	0	0	0	12	221	17
Future Volume (vph)	0	145	207	55	76	0	0	0	0	12	221	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		5.5						5.5	5.5
Lane Util. Factor		1.00	1.00		0.95						0.91	0.91
Frt		1.00	0.85		1.00						1.00	0.85
Flt Protected		1.00	1.00		0.98						1.00	1.00
Satd. Flow (prot)		1863	1583		3466						3378	1441
Flt Permitted		1.00	1.00		0.82						1.00	1.00
Satd. Flow (perm)		1863	1583		2917						3378	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	158	225	60	83	0	0	0	0	13	240	18
RTOR Reduction (vph)	0	0	169	0	0	0	0	0	0	0	1	11
Lane Group Flow (vph)	0	158	56	0	143	0	0	0	0	0	254	5
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		1 3
Actuated Green, G (s)		25.9	25.9		76.3						30.5	30.5
Effective Green, g (s)		25.9	25.9		76.3						30.5	30.5
Actuated g/C Ratio		0.25	0.25		0.74						0.29	0.29
Clearance Time (s)		5.5	5.5									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		464	394		2273						992	423
v/s Ratio Prot		c0.08			0.01							
v/s Ratio Perm			0.04		c0.03						0.08	0.00
v/c Ratio		0.34	0.14		0.06						0.26	0.01
Uniform Delay, d1		31.9	30.3		3.8						28.0	26.0
Progression Factor		1.00	1.00		1.61						1.00	1.00
Incremental Delay, d2		2.0	0.8		0.0						0.1	0.0
Delay (s)		33.9	31.1		6.2						28.1	26.0
Level of Service		C	C		A						C	C
Approach Delay (s)		32.2			6.2			0.0			28.0	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.22		
Actuated Cycle Length (s)	103.8	Sum of lost time (s)	21.5
Intersection Capacity Utilization	36.9%	ICU Level of Service	A
Analysis Period (min)	15		

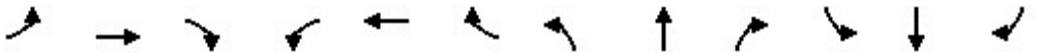
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	99	0	0	78	6	48	72	48	0	0	0
Future Volume (vph)	56	99	0	0	78	6	48	72	48	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.5			4.0		5.5	5.5				
Lane Util. Factor	1.00	1.00			0.95		0.91	0.91				
Frt	1.00	1.00			0.99		1.00	0.94				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1593	1676			3149		1449	2870				
Flt Permitted	0.09	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	155	1676			3149		1449	2870				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	61	108	0	0	85	7	52	78	52	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	32	0	0	0	0
Lane Group Flow (vph)	61	108	0	0	86	0	47	103	0	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7						8 5!					
Actuated Green, G (s)	67.7	43.2			8.4		40.6	40.6				
Effective Green, g (s)	67.7	43.2			8.4		40.6	40.6				
Actuated g/C Ratio	0.65	0.42			0.08		0.39	0.39				
Clearance Time (s)	5.5				4.0							
Vehicle Extension (s)	3.0				3.0							
Lane Grp Cap (vph)	440	697			254		566	1122				
v/s Ratio Prot	c0.03	c0.06			c0.03							
v/s Ratio Perm	0.06						0.03	0.04				
v/c Ratio	0.14	0.15			0.34		0.08	0.09				
Uniform Delay, d1	28.3	18.9			45.1		19.9	20.0				
Progression Factor	2.64	0.55			1.00		1.00	1.00				
Incremental Delay, d2	0.1	0.1			0.8		0.1	0.0				
Delay (s)	74.9	10.5			45.9		19.9	20.0				
Level of Service	E	B			D		B	B				
Approach Delay (s)		33.7			45.9			20.0			0.0	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	30.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.16		
Actuated Cycle Length (s)	103.8	Sum of lost time (s)	21.5
Intersection Capacity Utilization	22.9%	ICU Level of Service	A
Analysis Period (min)	15		

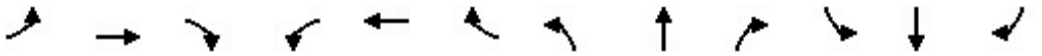
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1364	489	206	434	0	0	0	0	396	661	510
Future Volume (vph)	0	1364	489	206	434	0	0	0	0	396	661	510
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	4.0
Lane Util. Factor		0.91	1.00	0.91	0.91					0.86	0.86	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	0.99					0.95	0.99	1.00
Satd. Flow (prot)		5085	1583	1610	3370					1522	4764	1583
Flt Permitted		1.00	1.00	0.17	0.68					0.95	0.99	1.00
Satd. Flow (perm)		5085	1583	280	2301					1522	4764	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1483	532	224	472	0	0	0	0	430	718	554
RTOR Reduction (vph)	0	0	298	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1483	234	161	535	0	0	0	0	279	869	554
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Free
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		Free
Actuated Green, G (s)		24.0	24.0	102.1	102.1					51.9	51.9	130.0
Effective Green, g (s)		24.0	24.0	102.1	102.1					51.9	51.9	130.0
Actuated g/C Ratio		0.18	0.18	0.79	0.79					0.40	0.40	1.00
Clearance Time (s)		6.0	6.0	6.0								
Vehicle Extension (s)		3.0	3.0	3.0								
Lane Grp Cap (vph)		938	292	567	2086					607	1901	1583
v/s Ratio Prot		c0.29		0.07	0.07							
v/s Ratio Perm			0.15	0.15	0.13					c0.18	0.18	c0.35
v/c Ratio		1.58	0.80	0.28	0.26					0.46	0.46	0.35
Uniform Delay, d1		53.0	50.7	7.0	3.7					28.7	28.7	0.0
Progression Factor		1.00	1.00	4.46	3.95					1.00	1.00	1.00
Incremental Delay, d2		266.6	20.1	0.3	0.1					0.6	0.2	0.6
Delay (s)		319.6	70.8	31.7	14.9					29.3	28.9	0.6
Level of Service		F	E	C	B					C	C	A
Approach Delay (s)		253.9			18.8			0.0			19.7	
Approach LOS		F			B			A			B	

Intersection Summary			
HCM 2000 Control Delay	126.5	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

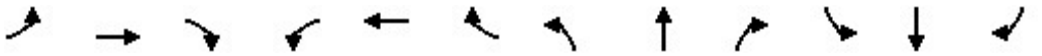
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	661	1109	0	0	427	128	197	369	181	0	0	0
Future Volume (vph)	661	1109	0	0	427	128	197	369	181	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			4.0	4.0	6.0	6.0	6.0			
Lane Util. Factor	0.91	0.91			0.91	1.00	0.86	0.86	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	0.99			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)	1610	3367			5085	1583	1522	4773	1583			
Flt Permitted	0.11	0.50			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)	184	1703			5085	1583	1522	4773	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	718	1205	0	0	464	139	214	401	197	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	111	0	0	139	0	0	0
Lane Group Flow (vph)	524	1399	0	0	464	28	150	465	58	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7					7	8 5!		8 5			
Actuated Green, G (s)	107.8	107.8			26.0	26.0	38.2	38.2	38.2			
Effective Green, g (s)	107.8	107.8			26.0	26.0	38.2	38.2	38.2			
Actuated g/C Ratio	0.83	0.83			0.20	0.20	0.29	0.29	0.29			
Clearance Time (s)	6.0				4.0	4.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	415	1719			1017	316	447	1402	465			
v/s Ratio Prot	c0.23	0.15			0.09							
v/s Ratio Perm	c0.81	0.52				0.02	c0.10	0.10	0.04			
v/c Ratio	1.26	0.81			0.46	0.09	0.34	0.33	0.12			
Uniform Delay, d1	41.8	5.8			45.8	42.3	36.0	35.9	33.6			
Progression Factor	1.97	4.51			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	120.0	0.3			1.5	0.5	0.4	0.1	0.1			
Delay (s)	202.2	26.6			47.3	42.9	36.4	36.1	33.8			
Level of Service	F	C			D	D	D	D	C			
Approach Delay (s)		74.4			46.2			35.6			0.0	
Approach LOS		E			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	59.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

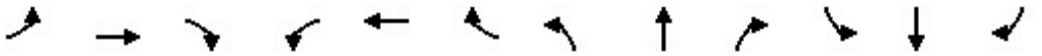
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	11	1177	106	31	436	4	34	32	30	26	36	19
Future Volume (vph)	11	1177	106	31	436	4	34	32	30	26	36	19
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.98	
Satd. Flow (prot)	1770	3495		1770	3535			1816	1583		1775	
Flt Permitted	0.48	1.00		0.14	1.00			0.84	1.00		0.87	
Satd. Flow (perm)	892	3495		266	3535			1563	1583		1562	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	12	1279	115	34	474	4	37	35	33	28	39	21
RTOR Reduction (vph)	0	3	0	0	0	0	0	0	30	0	11	0
Lane Group Flow (vph)	12	1391	0	34	478	0	0	72	3	0	77	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	62.5	61.4		67.3	63.8			8.1	8.1		8.1	
Effective Green, g (s)	62.5	61.4		67.3	63.8			8.1	8.1		8.1	
Actuated g/C Ratio	0.69	0.68		0.75	0.71			0.09	0.09		0.09	
Clearance Time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	630	2384		257	2505			140	142		140	
v/s Ratio Prot	0.00	c0.40		c0.01	0.14							
v/s Ratio Perm	0.01			0.09				0.05	0.00		c0.05	
v/c Ratio	0.02	0.58		0.13	0.19			0.51	0.02		0.55	
Uniform Delay, d1	4.2	7.5		4.6	4.4			39.1	37.3		39.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.1		0.2	0.2			3.2	0.1		4.6	
Delay (s)	4.2	8.6		4.8	4.6			42.2	37.4		43.8	
Level of Service	A	A		A	A			D	D		D	
Approach Delay (s)		8.6			4.6			40.7			43.8	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	10.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	1200	19	31	433	8	10	7	14	25	16	30
Future Volume (vph)	15	1200	19	31	433	8	10	7	14	25	16	30
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.94			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3531		1770	3529			1724			1725	
Flt Permitted	0.48	1.00		0.17	1.00			0.91			0.87	
Satd. Flow (perm)	890	3531		321	3529			1586			1527	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	1304	21	34	471	9	11	8	15	27	17	33
RTOR Reduction (vph)	0	1	0	0	1	0	0	14	0	0	31	0
Lane Group Flow (vph)	16	1324	0	34	479	0	0	20	0	0	46	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	55.3	54.1		57.7	55.3			4.7			4.7	
Effective Green, g (s)	55.3	54.1		57.7	55.3			4.7			4.7	
Actuated g/C Ratio	0.76	0.74		0.79	0.76			0.06			0.06	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	686	2609		300	2666			101			98	
v/s Ratio Prot	0.00	c0.37		c0.00	0.14							
v/s Ratio Perm	0.02			0.09				0.01			c0.03	
v/c Ratio	0.02	0.51		0.11	0.18			0.20			0.47	
Uniform Delay, d1	2.2	4.0		2.3	2.5			32.5			33.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.7		0.2	0.1			1.0			3.5	
Delay (s)	2.2	4.7		2.5	2.7			33.4			36.6	
Level of Service	A	A		A	A			C			D	
Approach Delay (s)		4.7			2.7			33.4			36.6	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	5.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	73.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	46.0%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	11	169	38	0	0
Future Vol, veh/h	0	11	169	38	0	0
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	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	12	184	41	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	113	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	918	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	918	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	918
HCM Lane V/C Ratio	-	-	0.013
HCM Control Delay (s)	-	-	9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	21	48	6	21	39	15	1	15	11	10	25	8
Future Vol, veh/h	21	48	6	21	39	15	1	15	11	10	25	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	23	52	7	23	42	16	1	16	12	11	27	9
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	7.6	7.5	7.2	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	4%	28%	28%	23%
Vol Thru, %	56%	64%	52%	58%
Vol Right, %	41%	8%	20%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	75	75	43
LT Vol	1	21	21	10
Through Vol	15	48	39	25
RT Vol	11	6	15	8
Lane Flow Rate	29	82	82	47
Geometry Grp	1	1	1	1
Degree of Util (X)	0.033	0.094	0.092	0.054
Departure Headway (Hd)	4.013	4.137	4.065	4.171
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	878	860	875	846
Service Time	2.105	2.192	2.121	2.258
HCM Lane V/C Ratio	0.033	0.095	0.094	0.056
HCM Control Delay	7.2	7.6	7.5	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.3	0.2

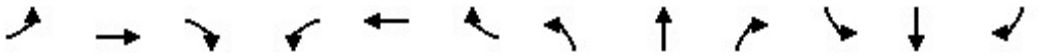
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	205	6	0	0
Future Vol, veh/h	0	2	205	6	0	0
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	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	223	7	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	115	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	916	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	916	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	8.9	0
HCM LOS	A	

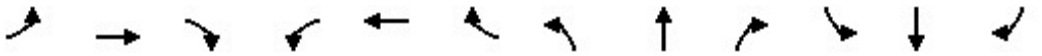
Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	916
HCM Lane V/C Ratio	-	-	0.002
HCM Control Delay (s)	-	-	8.9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	65	95	46	162	0	0	0	0	11	67	34
Future Volume (vph)	0	65	95	46	162	0	0	0	0	11	67	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		5.5						5.5	5.5
Lane Util. Factor		1.00	1.00		0.95						0.91	0.91
Frt		1.00	0.85		1.00						0.99	0.85
Flt Protected		1.00	1.00		0.99						0.99	1.00
Satd. Flow (prot)		1863	1583		3500						3345	1441
Flt Permitted		1.00	1.00		0.89						0.99	1.00
Satd. Flow (perm)		1863	1583		3162						3345	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	71	103	50	176	0	0	0	0	12	73	37
RTOR Reduction (vph)	0	0	76	0	0	0	0	0	0	0	3	24
Lane Group Flow (vph)	0	71	27	0	226	0	0	0	0	0	86	9
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		1 3
Actuated Green, G (s)		28.4	28.4		81.2						29.3	29.3
Effective Green, g (s)		28.4	28.4		81.2						29.3	29.3
Actuated g/C Ratio		0.26	0.26		0.76						0.27	0.27
Clearance Time (s)		5.5	5.5									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		492	418		2465						911	392
v/s Ratio Prot		c0.04			0.02							
v/s Ratio Perm			0.02		c0.05						0.03	0.01
v/c Ratio		0.14	0.07		0.09						0.09	0.02
Uniform Delay, d1		30.3	29.6		3.5						29.2	28.6
Progression Factor		1.00	1.00		1.49						1.00	1.00
Incremental Delay, d2		0.6	0.3		0.0						0.0	0.0
Delay (s)		30.9	29.9		5.2						29.2	28.6
Level of Service		C	C		A						C	C
Approach Delay (s)		30.3			5.2			0.0			29.1	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.11		
Actuated Cycle Length (s)	107.5	Sum of lost time (s)	21.5
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		

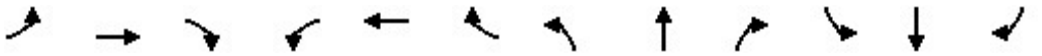
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	27	0	0	105	5	86	142	81	0	0	0
Future Volume (vph)	19	27	0	0	105	5	86	142	81	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.5			4.0		5.5	5.5				
Lane Util. Factor	1.00	1.00			0.95		0.91	0.91				
Frt	1.00	1.00			0.99		1.00	0.95				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	1863			3517		1610	3206				
Flt Permitted	0.15	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	279	1863			3517		1610	3206				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	29	0	0	114	5	93	154	88	0	0	0
RTOR Reduction (vph)	0	0	0	0	3	0	0	30	0	0	0	0
Lane Group Flow (vph)	21	29	0	0	116	0	84	221	0	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7						8 5!					
Actuated Green, G (s)	51.2	26.7			9.6		60.8	60.8				
Effective Green, g (s)	51.2	26.7			9.6		60.8	60.8				
Actuated g/C Ratio	0.48	0.25			0.09		0.57	0.57				
Clearance Time (s)	5.5				4.0							
Vehicle Extension (s)	3.0				3.0							
Lane Grp Cap (vph)	472	462			314		910	1813				
v/s Ratio Prot	0.01	c0.02			c0.03							
v/s Ratio Perm	0.01						0.05	0.07				
v/c Ratio	0.04	0.06			0.37		0.09	0.12				
Uniform Delay, d1	29.4	30.8			46.1		10.7	10.9				
Progression Factor	1.22	1.12			1.00		1.00	1.00				
Incremental Delay, d2	0.0	0.1			0.7		0.0	0.0				
Delay (s)	35.7	34.5			46.8		10.7	10.9				
Level of Service	D	C			D		B	B				
Approach Delay (s)		35.0			46.8			10.9			0.0	
Approach LOS		D			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	107.5	Sum of lost time (s)	21.5
Intersection Capacity Utilization	23.7%	ICU Level of Service	A
Analysis Period (min)	15		

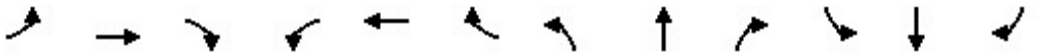
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	582	197	138	940	0	0	0	0	178	337	1052
Future Volume (vph)	0	582	197	138	940	0	0	0	0	178	337	1052
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	4.0
Lane Util. Factor		0.91	1.00	0.91	0.91					0.86	0.86	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		5085	1583	1610	3388					1522	4773	1583
Flt Permitted		1.00	1.00	0.40	0.95					0.95	0.99	1.00
Satd. Flow (perm)		5085	1583	679	3214					1522	4773	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	633	214	150	1022	0	0	0	0	193	366	1143
RTOR Reduction (vph)	0	0	173	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	633	41	135	1037	0	0	0	0	135	424	1143
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Free
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		Free
Actuated Green, G (s)		24.0	24.0	103.5	103.5					43.5	43.5	126.3
Effective Green, g (s)		24.0	24.0	103.5	103.5					43.5	43.5	126.3
Actuated g/C Ratio		0.19	0.19	0.82	0.82					0.34	0.34	1.00
Clearance Time (s)		6.0	6.0	6.0								
Vehicle Extension (s)		3.0	3.0	3.0								
Lane Grp Cap (vph)		966	300	782	2676					524	1643	1583
v/s Ratio Prot		0.12		0.04	0.09							
v/s Ratio Perm			0.03	0.10	0.22					0.09	0.09	c0.72
v/c Ratio		0.66	0.14	0.17	0.39					0.26	0.26	0.72
Uniform Delay, d1		47.3	42.5	2.6	3.0					29.8	29.8	0.0
Progression Factor		1.00	1.00	1.78	2.71					1.00	1.00	1.00
Incremental Delay, d2		3.5	0.9	0.1	0.1					0.3	0.1	2.9
Delay (s)		50.8	43.5	4.6	8.2					30.0	29.9	2.9
Level of Service		D	D	A	A					C	C	A
Approach Delay (s)		48.9			7.8			0.0			11.8	
Approach LOS		D			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	126.3	Sum of lost time (s)	22.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

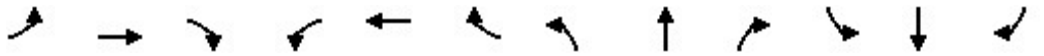


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	300	439	0	0	638	154	489	548	157	0	0	0
Future Volume (vph)	300	439	0	0	638	154	489	548	157	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			4.0	4.0	6.0	6.0	6.0			
Lane Util. Factor	0.91	0.91			0.91	1.00	0.86	0.86	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	0.99			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)	1610	3356			5085	1583	1522	4735	1583			
Flt Permitted	0.07	0.49			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)	114	1662			5085	1583	1522	4735	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	326	477	0	0	693	167	532	596	171	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	133	0	0	114	0	0	0
Lane Group Flow (vph)	202	601	0	0	693	34	277	851	57	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7					7	8 5!		8 5			
Actuated Green, G (s)	99.6	99.6			26.0	26.0	42.3	42.3	42.3			
Effective Green, g (s)	99.6	99.6			26.0	26.0	42.3	42.3	42.3			
Actuated g/C Ratio	0.79	0.79			0.21	0.21	0.33	0.33	0.33			
Clearance Time (s)	6.0				4.0	4.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	369	1627			1046	325	509	1585	530			
v/s Ratio Prot	0.10	0.07			c0.14							
v/s Ratio Perm	c0.33	0.22				0.02	c0.18	0.18	0.04			
v/c Ratio	0.55	0.37			0.66	0.11	0.54	0.54	0.11			
Uniform Delay, d1	38.3	4.0			46.1	40.7	34.2	34.1	29.0			
Progression Factor	2.18	5.57			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.4	0.1			3.3	0.7	1.2	0.4	0.1			
Delay (s)	84.8	22.3			49.4	41.4	35.4	34.4	29.1			
Level of Service	F	C			D	D	D	C	C			
Approach Delay (s)		38.0			47.9			33.9			0.0	
Approach LOS		D			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	126.3	Sum of lost time (s)	22.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	18	480	55	25	684	15	62	42	27	10	53	38
Future Volume (vph)	18	480	55	25	684	15	62	42	27	10	53	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.95	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		1.00	
Satd. Flow (prot)	1770	3484		1770	3528			1809	1583		1760	
Flt Permitted	0.34	1.00		0.42	1.00			0.76	1.00		0.96	
Satd. Flow (perm)	636	3484		791	3528			1414	1583		1696	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	20	522	60	27	743	16	67	46	29	11	58	41
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	25	0	21	0
Lane Group Flow (vph)	20	577	0	27	758	0	0	113	4	0	89	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	60.3	58.0		60.3	58.0			12.6	12.6		12.6	
Effective Green, g (s)	60.3	58.0		60.3	58.0			12.6	12.6		12.6	
Actuated g/C Ratio	0.67	0.65		0.67	0.65			0.14	0.14		0.14	
Clearance Time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	455	2247		555	2276			198	221		237	
v/s Ratio Prot	0.00	0.17		c0.00	c0.21							
v/s Ratio Perm	0.03			0.03				c0.08	0.00		0.05	
v/c Ratio	0.04	0.26		0.05	0.33			0.57	0.02		0.38	
Uniform Delay, d1	5.0	6.8		5.0	7.2			36.1	33.3		35.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.3		0.0	0.4			3.9	0.0		1.0	
Delay (s)	5.0	7.1		5.0	7.6			40.1	33.4		36.1	
Level of Service	A	A		A	A			D	C		D	
Approach Delay (s)		7.0			7.5			38.7			36.1	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	17.0
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	561	3	16	654	10	18	16	23	7	11	35
Future Volume (vph)	15	561	3	16	654	10	18	16	23	7	11	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.95			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3537		1763	3531			1733			1686	
Flt Permitted	0.37	1.00		0.42	1.00			0.96			0.98	
Satd. Flow (perm)	697	3537		779	3531			1690			1659	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	610	3	17	711	11	20	17	25	8	12	38
RTOR Reduction (vph)	0	0	0	0	1	0	0	24	0	0	36	0
Lane Group Flow (vph)	16	613	0	17	721	0	0	38	0	0	22	0
Confl. Peds. (#/hr)				10								
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	54.5	53.4		54.5	53.4			3.6			3.6	
Effective Green, g (s)	54.5	53.4		54.5	53.4			3.6			3.6	
Actuated g/C Ratio	0.78	0.76		0.78	0.76			0.05			0.05	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	558	2694		621	2689			86			85	
v/s Ratio Prot	c0.00	0.17		0.00	c0.20							
v/s Ratio Perm	0.02			0.02				c0.02			0.01	
v/c Ratio	0.03	0.23		0.03	0.27			0.45			0.26	
Uniform Delay, d1	1.8	2.4		1.8	2.5			32.3			32.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.2		0.0	0.2			3.6			1.6	
Delay (s)	1.8	2.6		1.8	2.7			35.9			33.6	
Level of Service	A	A		A	A			D			C	
Approach Delay (s)		2.6			2.7			35.9			33.6	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	5.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.27		
Actuated Cycle Length (s)	70.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	31.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	12	307	79	0	0
Future Vol, veh/h	0	12	307	79	0	0
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	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	334	86	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	210	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	796	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	796	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	796
HCM Lane V/C Ratio	-	-	0.016
HCM Control Delay (s)	-	-	9.6
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	5	46	3	16	46	48	3	14	10	45	23	0
Future Vol, veh/h	5	46	3	16	46	48	3	14	10	45	23	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	50	3	17	50	52	3	15	11	49	25	0
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	7.6	7.6	7.3	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	9%	15%	66%
Vol Thru, %	52%	85%	42%	34%
Vol Right, %	37%	6%	44%	0%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	54	110	68
LT Vol	3	5	16	45
Through Vol	14	46	46	23
RT Vol	10	3	48	0
Lane Flow Rate	29	59	120	74
Geometry Grp	1	1	1	1
Degree of Util (X)	0.033	0.068	0.13	0.09
Departure Headway (Hd)	4.099	4.191	3.925	4.396
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	858	843	902	805
Service Time	2.199	2.274	2	2.48
HCM Lane V/C Ratio	0.034	0.07	0.133	0.092
HCM Control Delay	7.3	7.6	7.6	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.2	0.4	0.3

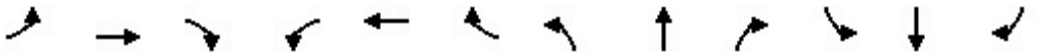
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	1	386	1	0	0
Future Vol, veh/h	0	1	386	1	0	0
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	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	420	1	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	211	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	794	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	794	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.5	0
HCM LOS	A	

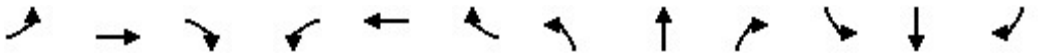
Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	794
HCM Lane V/C Ratio	-	-	0.001
HCM Control Delay (s)	-	-	9.5
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	154	220	58	81	0	0	0	0	13	234	18
Future Volume (vph)	0	154	220	58	81	0	0	0	0	13	234	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		5.5						5.5	5.5
Lane Util. Factor		1.00	1.00		0.95						0.91	0.91
Frt		1.00	0.85		1.00						1.00	0.85
Flt Protected		1.00	1.00		0.98						1.00	1.00
Satd. Flow (prot)		1863	1583		3467						3378	1441
Flt Permitted		1.00	1.00		0.82						1.00	1.00
Satd. Flow (perm)		1863	1583		2897						3378	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	167	239	63	88	0	0	0	0	14	254	20
RTOR Reduction (vph)	0	0	179	0	0	0	0	0	0	0	1	13
Lane Group Flow (vph)	0	167	60	0	151	0	0	0	0	0	269	5
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		1 3
Actuated Green, G (s)		25.9	25.9		76.5						30.5	30.5
Effective Green, g (s)		25.9	25.9		76.5						30.5	30.5
Actuated g/C Ratio		0.25	0.25		0.74						0.29	0.29
Clearance Time (s)		5.5	5.5									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		463	394		2265						990	422
v/s Ratio Prot		c0.09			0.02							
v/s Ratio Perm			0.04		c0.03						0.08	0.00
v/c Ratio		0.36	0.15		0.07						0.27	0.01
Uniform Delay, d1		32.2	30.5		3.8						28.2	26.1
Progression Factor		1.00	1.00		1.54						1.00	1.00
Incremental Delay, d2		2.2	0.8		0.0						0.1	0.0
Delay (s)		34.4	31.3		5.9						28.4	26.1
Level of Service		C	C		A						C	C
Approach Delay (s)		32.6			5.9			0.0			28.2	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.23		
Actuated Cycle Length (s)	104.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

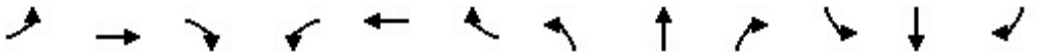
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	105	0	0	83	6	51	76	51	0	0	0
Future Volume (vph)	59	105	0	0	83	6	51	76	51	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.5			4.0		5.5	5.5				
Lane Util. Factor	1.00	1.00			0.95		0.91	0.91				
Frt	1.00	1.00			0.99		1.00	0.94				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1593	1676			3151		1449	2870				
Flt Permitted	0.09	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	155	1676			3151		1449	2870				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	114	0	0	90	7	55	83	55	0	0	0
RTOR Reduction (vph)	0	0	0	0	6	0	0	34	0	0	0	0
Lane Group Flow (vph)	64	114	0	0	91	0	49	110	0	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7						8 5!					
Actuated Green, G (s)	67.9	43.4			8.6		40.6	40.6				
Effective Green, g (s)	67.9	43.4			8.6		40.6	40.6				
Actuated g/C Ratio	0.65	0.42			0.08		0.39	0.39				
Clearance Time (s)	5.5				4.0							
Vehicle Extension (s)	3.0				3.0							
Lane Grp Cap (vph)	439	699			260		565	1120				
v/s Ratio Prot	c0.03	c0.07			c0.03							
v/s Ratio Perm	0.06						0.03	0.04				
v/c Ratio	0.15	0.16			0.35		0.09	0.10				
Uniform Delay, d1	28.5	18.9			45.1		20.0	20.1				
Progression Factor	2.39	0.56			1.00		1.00	1.00				
Incremental Delay, d2	0.1	0.1			0.8		0.1	0.0				
Delay (s)	68.3	10.8			45.9		20.1	20.1				
Level of Service	E	B			D		C	C				
Approach Delay (s)		31.5			45.9			20.1			0.0	
Approach LOS		C			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	29.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	104.0	Sum of lost time (s)	21.5
Intersection Capacity Utilization	23.3%	ICU Level of Service	A
Analysis Period (min)	15		

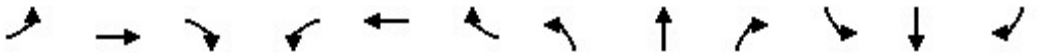
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1447	519	219	460	0	0	0	0	420	701	541
Future Volume (vph)	0	1447	519	219	460	0	0	0	0	420	701	541
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	4.0
Lane Util. Factor		0.91	1.00	0.91	0.91					0.86	0.86	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	0.99					0.95	0.99	1.00
Satd. Flow (prot)		5085	1583	1610	3370					1522	4765	1583
Flt Permitted		1.00	1.00	0.15	0.66					0.95	0.99	1.00
Satd. Flow (perm)		5085	1583	254	2231					1522	4765	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1573	564	238	500	0	0	0	0	457	762	588
RTOR Reduction (vph)	0	0	298	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1573	266	171	567	0	0	0	0	297	922	588
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Free
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		Free
Actuated Green, G (s)		24.0	24.0	101.5	101.5					52.5	52.5	130.0
Effective Green, g (s)		24.0	24.0	101.5	101.5					52.5	52.5	130.0
Actuated g/C Ratio		0.18	0.18	0.78	0.78					0.40	0.40	1.00
Clearance Time (s)		6.0	6.0	6.0								
Vehicle Extension (s)		3.0	3.0	3.0								
Lane Grp Cap (vph)		938	292	552	2039					614	1924	1583
v/s Ratio Prot		c0.31		0.08	0.07							
v/s Ratio Perm			0.17	0.16	0.14					c0.20	0.19	c0.37
v/c Ratio		1.68	0.91	0.31	0.28					0.48	0.48	0.37
Uniform Delay, d1		53.0	51.9	9.5	4.0					28.7	28.6	0.0
Progression Factor		1.00	1.00	3.80	4.10					1.00	1.00	1.00
Incremental Delay, d2		309.3	33.8	0.3	0.1					0.6	0.2	0.7
Delay (s)		362.3	85.8	36.6	16.4					29.3	28.8	0.7
Level of Service		F	F	D	B					C	C	A
Approach Delay (s)		289.3			21.1			0.0			19.7	
Approach LOS		F			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	143.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

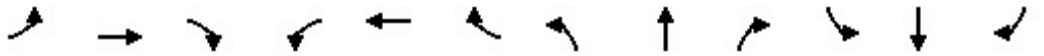
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	701	1177	0	0	453	136	209	391	192	0	0	0
Future Volume (vph)	701	1177	0	0	453	136	209	391	192	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			4.0	4.0	6.0	6.0	6.0			
Lane Util. Factor	0.91	0.91			0.91	1.00	0.86	0.86	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	0.99			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)	1610	3366			5085	1583	1522	4773	1583			
Flt Permitted	0.10	0.50			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)	173	1687			5085	1583	1522	4773	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	762	1279	0	0	492	148	227	425	209	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	118	0	0	128	0	0	0
Lane Group Flow (vph)	549	1492	0	0	492	30	159	493	81	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7					7	8 5!		8 5			
Actuated Green, G (s)	107.4	107.4			26.0	26.0	38.6	38.6	38.6			
Effective Green, g (s)	107.4	107.4			26.0	26.0	38.6	38.6	38.6			
Actuated g/C Ratio	0.83	0.83			0.20	0.20	0.30	0.30	0.30			
Clearance Time (s)	6.0				4.0	4.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	408	1703			1017	316	451	1417	470			
v/s Ratio Prot	c0.25	0.16			0.10							
v/s Ratio Perm	c0.86	0.56				0.02	c0.10	0.10	0.05			
v/c Ratio	1.35	0.88			0.48	0.09	0.35	0.35	0.17			
Uniform Delay, d1	42.3	7.1			46.1	42.4	35.9	35.8	33.9			
Progression Factor	1.93	3.99			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	157.0	0.5			1.6	0.6	0.5	0.1	0.2			
Delay (s)	238.6	28.9			47.7	43.0	36.4	36.0	34.0			
Level of Service	F	C			D	D	D	D	C			
Approach Delay (s)		85.3			46.6			35.6			0.0	
Approach LOS		F			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	66.2	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.37		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	79.5%	ICU Level of Service	D
Analysis Period (min)	15		

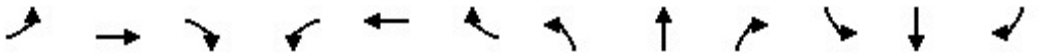
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	12	1249	112	33	463	4	36	34	32	28	38	20
Future Volume (vph)	12	1249	112	33	463	4	36	34	32	28	38	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.98	
Satd. Flow (prot)	1770	3495		1770	3535			1816	1583		1775	
Flt Permitted	0.47	1.00		0.12	1.00			0.83	1.00		0.86	
Satd. Flow (perm)	867	3495		232	3535			1539	1583		1556	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	1358	122	36	503	4	39	37	35	30	41	22
RTOR Reduction (vph)	0	4	0	0	0	0	0	0	32	0	11	0
Lane Group Flow (vph)	13	1476	0	36	507	0	0	76	3	0	82	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	62.3	61.2		67.1	63.6			8.3	8.3		8.3	
Effective Green, g (s)	62.3	61.2		67.1	63.6			8.3	8.3		8.3	
Actuated g/C Ratio	0.69	0.68		0.75	0.71			0.09	0.09		0.09	
Clearance Time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	611	2376		232	2498			141	145		143	
v/s Ratio Prot	0.00	c0.42		c0.01	0.14							
v/s Ratio Perm	0.01			0.11				0.05	0.00		c0.05	
v/c Ratio	0.02	0.62		0.16	0.20			0.54	0.02		0.57	
Uniform Delay, d1	4.3	8.0		5.2	4.5			39.0	37.2		39.2	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.2		0.3	0.2			3.9	0.1		5.5	
Delay (s)	4.3	9.2		5.5	4.7			42.9	37.2		44.6	
Level of Service	A	A		A	A			D	D		D	
Approach Delay (s)		9.2			4.8			41.1			44.6	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	11.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	60.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	1273	20	33	459	8	11	7	15	27	17	32
Future Volume (vph)	16	1273	20	33	459	8	11	7	15	27	17	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.94			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3531		1770	3530			1722			1725	
Flt Permitted	0.47	1.00		0.15	1.00			0.89			0.87	
Satd. Flow (perm)	866	3531		288	3530			1558			1524	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	1384	22	36	499	9	12	8	16	29	18	35
RTOR Reduction (vph)	0	1	0	0	1	0	0	15	0	0	33	0
Lane Group Flow (vph)	17	1405	0	36	507	0	0	21	0	0	49	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	55.2	54.0		57.4	55.1			4.7			4.7	
Effective Green, g (s)	55.2	54.0		57.4	55.1			4.7			4.7	
Actuated g/C Ratio	0.76	0.74		0.79	0.75			0.06			0.06	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	669	2611		273	2664			100			98	
v/s Ratio Prot	0.00	c0.40		c0.00	0.14							
v/s Ratio Perm	0.02			0.10				0.01			c0.03	
v/c Ratio	0.03	0.54		0.13	0.19			0.21			0.50	
Uniform Delay, d1	2.2	4.1		2.5	2.6			32.4			33.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.8		0.2	0.2			1.1			4.0	
Delay (s)	2.2	4.9		2.7	2.7			33.4			37.0	
Level of Service	A	A		A	A			C			D	
Approach Delay (s)		4.9			2.7			33.4			37.0	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	6.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	73.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	12	179	40	0	0
Future Vol, veh/h	0	12	179	40	0	0
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	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	13	195	43	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	119	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	910	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	910	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	910
HCM Lane V/C Ratio	-	-	0.014
HCM Control Delay (s)	-	-	9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	51	6	22	41	16	1	16	12	11	27	8
Future Vol, veh/h	22	51	6	22	41	16	1	16	12	11	27	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	55	7	24	45	17	1	17	13	12	29	9
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	7.7	7.6	7.3	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	28%	28%	24%
Vol Thru, %	55%	65%	52%	59%
Vol Right, %	41%	8%	20%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	79	79	46
LT Vol	1	22	22	11
Through Vol	16	51	41	27
RT Vol	12	6	16	8
Lane Flow Rate	32	86	86	50
Geometry Grp	1	1	1	1
Degree of Util (X)	0.035	0.099	0.097	0.058
Departure Headway (Hd)	4.026	4.15	4.074	4.197
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	873	856	872	841
Service Time	2.123	2.21	2.136	2.287
HCM Lane V/C Ratio	0.037	0.1	0.099	0.059
HCM Control Delay	7.3	7.7	7.6	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.3	0.2

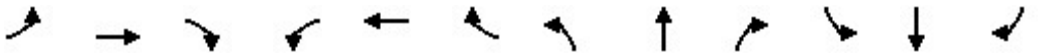
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	217	6	0	0
Future Vol, veh/h	0	2	217	6	0	0
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	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	236	7	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	122	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	906	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	906	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

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

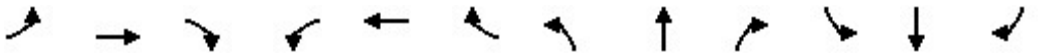
Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	906
HCM Lane V/C Ratio	-	-	0.002
HCM Control Delay (s)	-	-	9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	67	96	46	162	0	0	0	0	13	68	34
Future Volume (vph)	0	67	96	46	162	0	0	0	0	13	68	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		5.5						5.5	5.5
Lane Util. Factor		1.00	1.00		0.95						0.91	0.91
Frt		1.00	0.85		1.00						0.99	0.85
Flt Protected		1.00	1.00		0.99						0.99	1.00
Satd. Flow (prot)		1863	1583		3500						3343	1441
Flt Permitted		1.00	1.00		0.89						0.99	1.00
Satd. Flow (perm)		1863	1583		3161						3343	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	73	104	50	176	0	0	0	0	14	74	37
RTOR Reduction (vph)	0	0	77	0	0	0	0	0	0	0	2	24
Lane Group Flow (vph)	0	73	27	0	226	0	0	0	0	0	90	9
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		1 3
Actuated Green, G (s)		28.4	28.4		81.4						29.3	29.3
Effective Green, g (s)		28.4	28.4		81.4						29.3	29.3
Actuated g/C Ratio		0.26	0.26		0.76						0.27	0.27
Clearance Time (s)		5.5	5.5									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		491	417		2466						909	392
v/s Ratio Prot		c0.04			0.02							
v/s Ratio Perm			0.02		c0.05						0.03	0.01
v/c Ratio		0.15	0.07		0.09						0.10	0.02
Uniform Delay, d1		30.4	29.7		3.5						29.3	28.7
Progression Factor		1.00	1.00		1.38						1.00	1.00
Incremental Delay, d2		0.6	0.3		0.0						0.0	0.0
Delay (s)		31.0	30.0		4.8						29.4	28.7
Level of Service		C	C		A						C	C
Approach Delay (s)		30.4			4.8			0.0			29.2	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.11		
Actuated Cycle Length (s)	107.7	Sum of lost time (s)	21.5
Intersection Capacity Utilization	28.8%	ICU Level of Service	A
Analysis Period (min)	15		

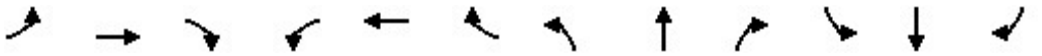
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	19	31	0	0	108	12	86	142	81	0	0	0
Future Volume (vph)	19	31	0	0	108	12	86	142	81	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.5			4.0		5.5	5.5				
Lane Util. Factor	1.00	1.00			0.95		0.91	0.91				
Frt	1.00	1.00			0.98		1.00	0.95				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1770	1863			3486		1610	3206				
Flt Permitted	0.15	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	277	1863			3486		1610	3206				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	21	34	0	0	117	13	93	154	88	0	0	0
RTOR Reduction (vph)	0	0	0	0	8	0	0	30	0	0	0	0
Lane Group Flow (vph)	21	34	0	0	122	0	84	221	0	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7						8 5!					
Actuated Green, G (s)	51.4	26.9			9.8		60.8	60.8				
Effective Green, g (s)	51.4	26.9			9.8		60.8	60.8				
Actuated g/C Ratio	0.48	0.25			0.09		0.56	0.56				
Clearance Time (s)	5.5				4.0							
Vehicle Extension (s)	3.0				3.0							
Lane Grp Cap (vph)	471	465			317		908	1809				
v/s Ratio Prot	0.01	c0.02			c0.03							
v/s Ratio Perm	0.01						0.05	0.07				
v/c Ratio	0.04	0.07			0.38		0.09	0.12				
Uniform Delay, d1	29.5	30.9			46.1		10.8	11.0				
Progression Factor	1.19	1.13			1.00		1.00	1.00				
Incremental Delay, d2	0.0	0.1			0.8		0.0	0.0				
Delay (s)	35.0	34.9			46.9		10.8	11.0				
Level of Service	D	C			D		B	B				
Approach Delay (s)		35.0			46.9			11.0			0.0	
Approach LOS		C			D			B			A	

Intersection Summary			
HCM 2000 Control Delay	22.5	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.14		
Actuated Cycle Length (s)	107.7	Sum of lost time (s)	21.5
Intersection Capacity Utilization	23.7%	ICU Level of Service	A
Analysis Period (min)	15		

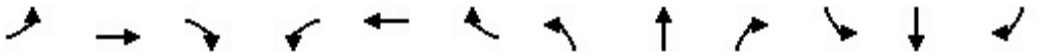
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	589	197	169	949	0	0	0	0	185	340	1055
Future Volume (vph)	0	589	197	169	949	0	0	0	0	185	340	1055
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	4.0
Lane Util. Factor		0.91	1.00	0.91	0.91					0.86	0.86	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	1.00					0.95	0.99	1.00
Satd. Flow (prot)		5085	1583	1610	3387					1522	4772	1583
Flt Permitted		1.00	1.00	0.40	0.94					0.95	0.99	1.00
Satd. Flow (perm)		5085	1583	674	3202					1522	4772	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	640	214	184	1032	0	0	0	0	201	370	1147
RTOR Reduction (vph)	0	0	173	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	640	41	166	1050	0	0	0	0	139	432	1147
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Free
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		Free
Actuated Green, G (s)		24.0	24.0	103.9	103.9					43.8	43.8	126.8
Effective Green, g (s)		24.0	24.0	103.9	103.9					43.8	43.8	126.8
Actuated g/C Ratio		0.19	0.19	0.82	0.82					0.35	0.35	1.00
Clearance Time (s)		6.0	6.0	6.0								
Vehicle Extension (s)		3.0	3.0	3.0								
Lane Grp Cap (vph)		962	299	780	2668					525	1648	1583
v/s Ratio Prot		0.13		0.05	0.10							
v/s Ratio Perm			0.03	0.12	0.23					0.09	0.09	c0.72
v/c Ratio		0.67	0.14	0.21	0.39					0.26	0.26	0.72
Uniform Delay, d1		47.7	42.8	2.7	3.1					29.9	29.9	0.0
Progression Factor		1.00	1.00	2.29	2.82					1.00	1.00	1.00
Incremental Delay, d2		3.6	0.9	0.1	0.1					0.3	0.1	2.9
Delay (s)		51.3	43.7	6.4	8.7					30.2	30.0	2.9
Level of Service		D	D	A	A					C	C	A
Approach Delay (s)		49.4			8.4			0.0			11.9	
Approach LOS		D			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	126.8	Sum of lost time (s)	22.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	306	445	0	0	678	185	489	562	160	0	0	0
Future Volume (vph)	306	445	0	0	678	185	489	562	160	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			4.0	4.0	6.0	6.0	6.0			
Lane Util. Factor	0.91	0.91			0.91	1.00	0.86	0.86	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	0.99			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)	1610	3355			5085	1583	1522	4736	1583			
Flt Permitted	0.06	0.49			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)	98	1673			5085	1583	1522	4736	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	333	484	0	0	737	201	532	611	174	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	160	0	0	115	0	0	0
Lane Group Flow (vph)	203	614	0	0	737	41	277	866	59	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7					7	8 5!		8 5			
Actuated Green, G (s)	99.9	99.9			26.0	26.0	42.8	42.8	42.8			
Effective Green, g (s)	99.9	99.9			26.0	26.0	42.8	42.8	42.8			
Actuated g/C Ratio	0.79	0.79			0.21	0.21	0.34	0.34	0.34			
Clearance Time (s)	6.0				4.0	4.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	362	1635			1042	324	513	1598	534			
v/s Ratio Prot	0.11	0.07			c0.14							
v/s Ratio Perm	c0.34	0.23				0.03	0.18	0.18	0.04			
v/c Ratio	0.56	0.38			0.71	0.13	0.54	0.54	0.11			
Uniform Delay, d1	39.3	4.1			46.9	41.1	34.0	34.1	28.9			
Progression Factor	2.08	5.54			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	1.7	0.1			4.0	0.8	1.1	0.4	0.1			
Delay (s)	83.5	22.6			50.9	41.9	35.1	34.4	29.0			
Level of Service	F	C			D	D	D	C	C			
Approach Delay (s)		37.7			49.0			33.9			0.0	
Approach LOS		D			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	39.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	126.8	Sum of lost time (s)	22.0
Intersection Capacity Utilization	58.8%	ICU Level of Service	B
Analysis Period (min)	15		

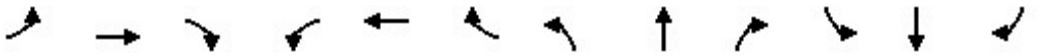
! Phase conflict between lane groups.

c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	480	55	25	698	17	64	43	27	39	59	38
Future Volume (vph)	27	480	55	25	698	17	64	43	27	39	59	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.98		1.00	1.00			1.00	0.85		0.96	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.99	
Satd. Flow (prot)	1770	3484		1770	3527			1809	1583		1767	
Flt Permitted	0.32	1.00		0.43	1.00			0.68	1.00		0.86	
Satd. Flow (perm)	602	3484		806	3527			1264	1583		1546	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	29	522	60	27	759	18	70	47	29	42	64	41
RTOR Reduction (vph)	0	5	0	0	1	0	0	0	25	0	13	0
Lane Group Flow (vph)	29	577	0	27	776	0	0	117	4	0	134	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	63.2	59.6		60.8	58.4			13.4	13.4		13.4	
Effective Green, g (s)	63.2	59.6		60.8	58.4			13.4	13.4		13.4	
Actuated g/C Ratio	0.68	0.65		0.66	0.63			0.15	0.15		0.15	
Clearance Time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	457	2247		555	2229			183	229		224	
v/s Ratio Prot	c0.00	0.17		0.00	c0.22							
v/s Ratio Perm	0.04			0.03				c0.09	0.00		0.09	
v/c Ratio	0.06	0.26		0.05	0.35			0.64	0.02		0.60	
Uniform Delay, d1	4.9	7.0		5.5	8.0			37.2	33.9		37.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.1	0.3		0.0	0.4			7.1	0.0		4.3	
Delay (s)	4.9	7.3		5.5	8.5			44.4	33.9		41.3	
Level of Service	A	A		A	A			D	C		D	
Approach Delay (s)		7.1			8.4			42.3			41.3	
Approach LOS		A			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	92.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	46.3%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	588	5	16	668	10	20	16	23	7	11	35
Future Volume (vph)	15	588	5	16	668	10	20	16	23	7	11	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Flpb, ped/bikes	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.95			0.91	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.99	
Satd. Flow (prot)	1770	3535		1764	3531			1735			1686	
Flt Permitted	0.37	1.00		0.41	1.00			0.96			0.98	
Satd. Flow (perm)	685	3535		756	3531			1691			1659	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	16	639	5	17	726	11	22	17	25	8	12	38
RTOR Reduction (vph)	0	0	0	0	1	0	0	24	0	0	36	0
Lane Group Flow (vph)	16	644	0	17	736	0	0	40	0	0	22	0
Confl. Peds. (#/hr)				10								
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	54.5	53.4		54.5	53.4			3.6			3.6	
Effective Green, g (s)	54.5	53.4		54.5	53.4			3.6			3.6	
Actuated g/C Ratio	0.78	0.76		0.78	0.76			0.05			0.05	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	549	2692		603	2689			86			85	
v/s Ratio Prot	c0.00	0.18		0.00	c0.21							
v/s Ratio Perm	0.02			0.02				c0.02			0.01	
v/c Ratio	0.03	0.24		0.03	0.27			0.47			0.26	
Uniform Delay, d1	1.8	2.4		1.8	2.5			32.3			32.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.2		0.0	0.3			4.0			1.6	
Delay (s)	1.8	2.6		1.8	2.8			36.3			33.6	
Level of Service	A	A		A	A			D			C	
Approach Delay (s)		2.6			2.7			36.3			33.6	
Approach LOS		A			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	5.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.28		
Actuated Cycle Length (s)	70.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	32.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	21	308	102	0	0
Future Vol, veh/h	0	21	308	102	0	0
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	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	335	111	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	223	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	780	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	780	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	780
HCM Lane V/C Ratio	-	-	0.029
HCM Control Delay (s)	-	-	9.8
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Intersection Delay, s/veh	7.7
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	53	3	16	50	48	3	14	10	45	23	2
Future Vol, veh/h	8	53	3	16	50	48	3	14	10	45	23	2
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	9	58	3	17	54	52	3	15	11	49	25	2
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	7.7	7.7	7.4	8
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	11%	12%	14%	64%
Vol Thru, %	52%	83%	44%	33%
Vol Right, %	37%	5%	42%	3%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	27	64	114	70
LT Vol	3	8	16	45
Through Vol	14	53	50	23
RT Vol	10	3	48	2
Lane Flow Rate	29	70	124	76
Geometry Grp	1	1	1	1
Degree of Util (X)	0.035	0.081	0.136	0.093
Departure Headway (Hd)	4.238	4.21	3.946	4.402
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	850	838	895	802
Service Time	2.238	2.301	2.03	2.497
HCM Lane V/C Ratio	0.034	0.084	0.139	0.095
HCM Control Delay	7.4	7.7	7.7	8
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.5	0.3

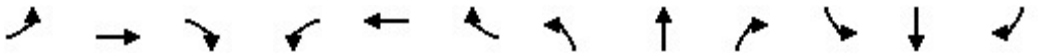
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	2	409	13	0	0
Future Vol, veh/h	0	2	409	13	0	0
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	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	2	445	14	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	230	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	772	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	772	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

Approach	WB	NB
HCM Control Delay, s	9.7	0
HCM LOS	A	

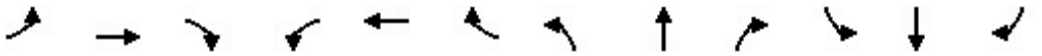
Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	772
HCM Lane V/C Ratio	-	-	0.003
HCM Control Delay (s)	-	-	9.7
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	159	222	64	88	0	0	0	0	18	236	18
Future Volume (vph)	0	159	222	64	88	0	0	0	0	18	236	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		5.5						5.5	5.5
Lane Util. Factor		1.00	1.00		0.95						0.91	0.91
Frt		1.00	0.85		1.00						1.00	0.85
Flt Protected		1.00	1.00		0.98						1.00	1.00
Satd. Flow (prot)		1863	1583		3466						3374	1441
Flt Permitted		1.00	1.00		0.81						1.00	1.00
Satd. Flow (perm)		1863	1583		2863						3374	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	173	241	70	96	0	0	0	0	20	257	20
RTOR Reduction (vph)	0	0	183	0	0	0	0	0	0	0	1	13
Lane Group Flow (vph)	0	173	58	0	166	0	0	0	0	0	278	5
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		1 3
Actuated Green, G (s)		24.5	24.5		75.1						30.5	30.5
Effective Green, g (s)		24.5	24.5		75.1						30.5	30.5
Actuated g/C Ratio		0.24	0.24		0.73						0.30	0.30
Clearance Time (s)		5.5	5.5									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		444	378		2239						1002	428
v/s Ratio Prot		c0.09			0.02							
v/s Ratio Perm			0.04		c0.04						0.08	0.00
v/c Ratio		0.39	0.15		0.07						0.28	0.01
Uniform Delay, d1		32.8	30.8		3.9						27.6	25.4
Progression Factor		1.00	1.00		1.45						1.00	1.00
Incremental Delay, d2		2.6	0.9		0.0						0.2	0.0
Delay (s)		35.3	31.7		5.6						27.8	25.4
Level of Service		D	C		A						C	C
Approach Delay (s)		33.2			5.6			0.0			27.6	
Approach LOS		C			A			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.25		
Actuated Cycle Length (s)	102.6	Sum of lost time (s)	21.5
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

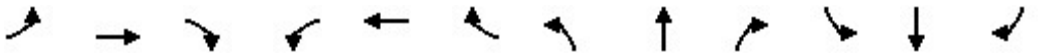
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	115	0	0	86	13	61	76	51	0	0	0
Future Volume (vph)	59	115	0	0	86	13	61	76	51	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.5			4.0		5.5	5.5				
Lane Util. Factor	1.00	1.00			0.95		0.91	0.91				
Frt	1.00	1.00			0.98		1.00	0.94				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1593	1676			3123		1449	2871				
Flt Permitted	0.08	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	128	1676			3123		1449	2871				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	125	0	0	93	14	66	83	55	0	0	0
RTOR Reduction (vph)	0	0	0	0	12	0	0	39	0	0	0	0
Lane Group Flow (vph)	64	125	0	0	95	0	59	106	0	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7						8 5!					
Actuated Green, G (s)	76.7	52.2			8.6		30.4	30.4				
Effective Green, g (s)	76.7	52.2			8.6		30.4	30.4				
Actuated g/C Ratio	0.75	0.51			0.08		0.30	0.30				
Clearance Time (s)	5.5				4.0							
Vehicle Extension (s)	3.0				3.0							
Lane Grp Cap (vph)	445	852			261		429	850				
v/s Ratio Prot	c0.03	c0.07			c0.03							
v/s Ratio Perm	0.07						c0.04	0.04				
v/c Ratio	0.14	0.15			0.36		0.14	0.13				
Uniform Delay, d1	27.8	13.4			44.4		26.5	26.4				
Progression Factor	1.77	0.35			1.00		1.00	1.00				
Incremental Delay, d2	0.1	0.1			0.9		0.1	0.1				
Delay (s)	49.5	4.7			45.3		26.6	26.4				
Level of Service	D	A			D		C	C				
Approach Delay (s)		19.9			45.3			26.5			0.0	
Approach LOS		B			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.17		
Actuated Cycle Length (s)	102.6	Sum of lost time (s)	21.5
Intersection Capacity Utilization	23.5%	ICU Level of Service	A
Analysis Period (min)	15		

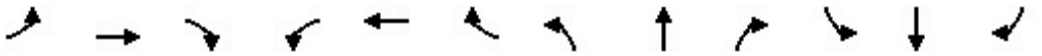
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1464	519	252	469	0	0	0	0	432	704	544
Future Volume (vph)	0	1464	519	252	469	0	0	0	0	432	704	544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	4.0
Lane Util. Factor		0.91	1.00	0.91	0.91					0.86	0.86	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	0.99					0.95	0.99	1.00
Satd. Flow (prot)		5085	1583	1610	3365					1522	4763	1583
Flt Permitted		1.00	1.00	0.15	0.59					0.95	0.99	1.00
Satd. Flow (perm)		5085	1583	249	1998					1522	4763	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1591	564	274	510	0	0	0	0	470	765	591
RTOR Reduction (vph)	0	0	293	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1591	271	184	600	0	0	0	0	301	934	591
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Free
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		Free
Actuated Green, G (s)		24.0	24.0	101.5	101.5					52.5	52.5	130.0
Effective Green, g (s)		24.0	24.0	101.5	101.5					52.5	52.5	130.0
Actuated g/C Ratio		0.18	0.18	0.78	0.78					0.40	0.40	1.00
Clearance Time (s)		6.0	6.0	6.0								
Vehicle Extension (s)		3.0	3.0	3.0								
Lane Grp Cap (vph)		938	292	550	1917					614	1923	1583
v/s Ratio Prot		c0.31		0.09	0.08							
v/s Ratio Perm			0.17	0.17	0.16					c0.20	0.20	c0.37
v/c Ratio		1.70	0.93	0.33	0.31					0.49	0.49	0.37
Uniform Delay, d1		53.0	52.2	10.8	4.1					28.8	28.7	0.0
Progression Factor		1.00	1.00	3.59	4.69					1.00	1.00	1.00
Incremental Delay, d2		317.9	37.2	0.3	0.1					0.6	0.2	0.7
Delay (s)		370.9	89.4	39.1	19.5					29.4	28.9	0.7
Level of Service		F	F	D	B					C	C	A
Approach Delay (s)		297.2			24.1			0.0			19.9	
Approach LOS		F			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	146.0	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

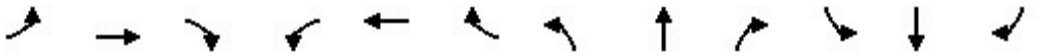
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	716	1192	0	0	495	174	209	425	199	0	0	0
Future Volume (vph)	716	1192	0	0	495	174	209	425	199	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			4.0	4.0	6.0	6.0	6.0			
Lane Util. Factor	0.91	0.91			0.91	1.00	0.86	0.86	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	0.99			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)	1610	3365			5085	1583	1522	4778	1583			
Flt Permitted	0.09	0.49			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)	156	1662			5085	1583	1522	4778	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	778	1296	0	0	538	189	227	462	216	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	151	0	0	125	0	0	0
Lane Group Flow (vph)	545	1529	0	0	538	38	166	523	91	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7					7	8 5!		8 5			
Actuated Green, G (s)	106.5	106.5			26.0	26.0	39.5	39.5	39.5			
Effective Green, g (s)	106.5	106.5			26.0	26.0	39.5	39.5	39.5			
Actuated g/C Ratio	0.82	0.82			0.20	0.20	0.30	0.30	0.30			
Clearance Time (s)	6.0				4.0	4.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	396	1675			1017	316	462	1451	480			
v/s Ratio Prot	c0.25	0.17			0.11							
v/s Ratio Perm	c0.87	0.58				0.02	0.11	0.11	0.06			
v/c Ratio	1.38	0.91			0.53	0.12	0.36	0.36	0.19			
Uniform Delay, d1	43.0	8.4			46.5	42.6	35.4	35.4	33.4			
Progression Factor	1.89	3.61			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	170.8	0.8			2.0	0.8	0.5	0.2	0.2			
Delay (s)	252.1	31.2			48.5	43.4	35.8	35.5	33.6			
Level of Service	F	C			D	D	D	D	C			
Approach Delay (s)		89.3			47.2			35.1			0.0	
Approach LOS		F			D			D			A	

Intersection Summary			
HCM 2000 Control Delay	67.8	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.40		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

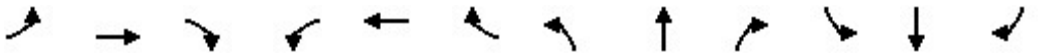
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	1249	112	33	497	9	41	36	32	58	44	20
Future Volume (vph)	34	1249	112	33	497	9	41	36	32	58	44	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.98	
Satd. Flow (prot)	1770	3495		1770	3530			1814	1583		1779	
Flt Permitted	0.44	1.00		0.12	1.00			0.76	1.00		0.81	
Satd. Flow (perm)	818	3495		215	3530			1408	1583		1470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	1358	122	36	540	10	45	39	35	63	48	22
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	30	0	7	0
Lane Group Flow (vph)	37	1476	0	36	549	0	0	84	5	0	126	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	61.6	57.9		61.6	57.9			12.8	12.8		12.8	
Effective Green, g (s)	61.6	57.9		61.6	57.9			12.8	12.8		12.8	
Actuated g/C Ratio	0.67	0.63		0.67	0.63			0.14	0.14		0.14	
Clearance Time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	589	2214		207	2236			197	221		205	
v/s Ratio Prot	0.00	c0.42		c0.01	0.16							
v/s Ratio Perm	0.04			0.11				0.06	0.00		c0.09	
v/c Ratio	0.06	0.67		0.17	0.25			0.43	0.02		0.62	
Uniform Delay, d1	5.0	10.6		7.4	7.3			35.9	33.9		37.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.6		0.4	0.3			1.5	0.0		5.4	
Delay (s)	5.0	12.2		7.8	7.5			37.4	33.9		42.4	
Level of Service	A	B		A	A			D	C		D	
Approach Delay (s)		12.1			7.6			36.4			42.4	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	91.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	1301	22	33	493	8	16	7	15	27	17	32
Future Volume (vph)	16	1301	22	33	493	8	16	7	15	27	17	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.95			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3530		1770	3530			1729			1725	
Flt Permitted	0.45	1.00		0.15	1.00			0.87			0.87	
Satd. Flow (perm)	836	3530		276	3530			1530			1520	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	1414	24	36	536	9	17	8	16	29	18	35
RTOR Reduction (vph)	0	1	0	0	1	0	0	15	0	0	33	0
Lane Group Flow (vph)	17	1437	0	36	544	0	0	26	0	0	49	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	55.1	53.9		57.3	55.0			4.7			4.7	
Effective Green, g (s)	55.1	53.9		57.3	55.0			4.7			4.7	
Actuated g/C Ratio	0.76	0.74		0.79	0.75			0.06			0.06	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	647	2609		264	2663			98			97	
v/s Ratio Prot	0.00	c0.41		c0.00	0.15							
v/s Ratio Perm	0.02			0.10				0.02			c0.03	
v/c Ratio	0.03	0.55		0.14	0.20			0.27			0.51	
Uniform Delay, d1	2.2	4.2		2.6	2.6			32.5			33.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.8		0.2	0.2			1.5			4.1	
Delay (s)	2.2	5.0		2.8	2.8			33.9			37.1	
Level of Service	A	A		A	A			C			D	
Approach Delay (s)		5.0			2.8			33.9			37.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	72.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	21	180	96	0	0
Future Vol, veh/h	0	21	180	96	0	0
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	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	23	196	104	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	150	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	870	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	870	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

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

Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	870
HCM Lane V/C Ratio	-	-	0.026
HCM Control Delay (s)	-	-	9.2
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	22	51	6	22	41	16	1	16	12	11	27	8
Future Vol, veh/h	22	51	6	22	41	16	1	16	12	11	27	8
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	55	7	24	45	17	1	17	13	12	29	9
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	7.7	7.6	7.3	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	3%	28%	28%	24%
Vol Thru, %	55%	65%	52%	59%
Vol Right, %	41%	8%	20%	17%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	79	79	46
LT Vol	1	22	22	11
Through Vol	16	51	41	27
RT Vol	12	6	16	8
Lane Flow Rate	32	86	86	50
Geometry Grp	1	1	1	1
Degree of Util (X)	0.035	0.099	0.097	0.058
Departure Headway (Hd)	4.026	4.15	4.074	4.197
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	873	856	872	841
Service Time	2.123	2.21	2.136	2.287
HCM Lane V/C Ratio	0.037	0.1	0.099	0.059
HCM Control Delay	7.3	7.7	7.6	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.1	0.3	0.3	0.2

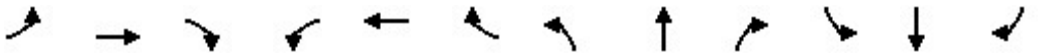
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	3	273	35	0	0
Future Vol, veh/h	0	3	273	35	0	0
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	-	-	16979
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	3	297	38	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	-	168	0	0
Stage 1	-	-	-	-
Stage 2	-	-	-	-
Critical Hdwy	-	6.94	-	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	-	3.32	-	-
Pot Cap-1 Maneuver	0	847	-	-
Stage 1	0	-	-	-
Stage 2	0	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	-	847	-	-
Mov Cap-2 Maneuver	-	-	-	-
Stage 1	-	-	-	-
Stage 2	-	-	-	-

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

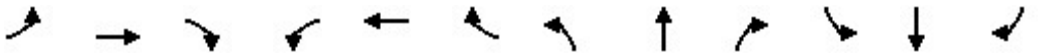
Minor Lane/Major Mvmt	NBT	NBR	WBLn1
Capacity (veh/h)	-	-	847
HCM Lane V/C Ratio	-	-	0.004
HCM Control Delay (s)	-	-	9.3
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	159	222	64	88	0	0	0	0	18	236	18
Future Volume (vph)	0	159	222	64	88	0	0	0	0	18	236	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.5	5.5		5.5						5.5	5.5
Lane Util. Factor		1.00	1.00		0.95						0.91	0.91
Frt		1.00	0.85		1.00						1.00	0.85
Flt Protected		1.00	1.00		0.98						1.00	1.00
Satd. Flow (prot)		1863	1583		3466						3374	1441
Flt Permitted		1.00	1.00		0.82						1.00	1.00
Satd. Flow (perm)		1863	1583		2916						3374	1441
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	173	241	70	96	0	0	0	0	20	257	20
RTOR Reduction (vph)	0	0	183	0	0	0	0	0	0	0	1	12
Lane Group Flow (vph)	0	173	58	0	166	0	0	0	0	0	278	6
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Perm
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		1 3
Actuated Green, G (s)		18.9	18.9		50.2						25.4	25.4
Effective Green, g (s)		18.9	18.9		50.2						25.4	25.4
Actuated g/C Ratio		0.24	0.24		0.63						0.32	0.32
Clearance Time (s)		5.5	5.5									
Vehicle Extension (s)		3.0	3.0									
Lane Grp Cap (vph)		445	378		1975						1083	462
v/s Ratio Prot		c0.09			0.02							
v/s Ratio Perm			0.04		c0.03						0.08	0.00
v/c Ratio		0.39	0.15		0.08						0.26	0.01
Uniform Delay, d1		25.3	23.8		5.6						19.9	18.3
Progression Factor		1.00	1.00		0.97						1.00	1.00
Incremental Delay, d2		2.5	0.9		0.0						0.1	0.0
Delay (s)		27.8	24.6		5.4						20.0	18.3
Level of Service		C	C		A						B	B
Approach Delay (s)		26.0			5.4			0.0			19.9	
Approach LOS		C			A			A			B	

Intersection Summary			
HCM 2000 Control Delay	20.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	21.5
Intersection Capacity Utilization	39.0%	ICU Level of Service	A
Analysis Period (min)	15		

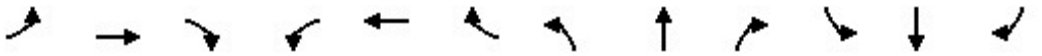
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	115	0	0	86	13	61	76	51	0	0	0
Future Volume (vph)	59	115	0	0	86	13	61	76	51	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	6.5			4.0		5.5	5.5				
Lane Util. Factor	1.00	1.00			0.95		0.91	0.91				
Frt	1.00	1.00			0.98		1.00	0.94				
Flt Protected	0.95	1.00			1.00		0.95	1.00				
Satd. Flow (prot)	1593	1676			3123		1449	2871				
Flt Permitted	0.11	1.00			1.00		0.95	1.00				
Satd. Flow (perm)	176	1676			3123		1449	2871				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	64	125	0	0	93	14	66	83	55	0	0	0
RTOR Reduction (vph)	0	0	0	0	13	0	0	40	0	0	0	0
Lane Group Flow (vph)	64	125	0	0	94	0	59	105	0	0	0	0
Turn Type	pm+pt	NA			NA		Perm	NA				
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7						8 5!					
Actuated Green, G (s)	56.0	38.0			3.7		21.1	21.1				
Effective Green, g (s)	56.0	38.0			3.7		21.1	21.1				
Actuated g/C Ratio	0.71	0.48			0.05		0.27	0.27				
Clearance Time (s)	5.5				4.0							
Vehicle Extension (s)	3.0				3.0							
Lane Grp Cap (vph)	447	805			146		386	765				
v/s Ratio Prot	0.03	c0.07			c0.03							
v/s Ratio Perm	0.07						c0.04	0.04				
v/c Ratio	0.14	0.16			0.64		0.15	0.14				
Uniform Delay, d1	21.4	11.5			37.0		22.2	22.1				
Progression Factor	1.53	0.25			1.00		1.00	1.00				
Incremental Delay, d2	0.1	0.1			9.3		0.2	0.1				
Delay (s)	32.8	3.0			46.3		22.4	22.2				
Level of Service	C	A			D		C	C				
Approach Delay (s)		13.1			46.3			22.2			0.0	
Approach LOS		B			D			C			A	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.19		
Actuated Cycle Length (s)	79.1	Sum of lost time (s)	21.5
Intersection Capacity Utilization	23.5%	ICU Level of Service	A
Analysis Period (min)	15		

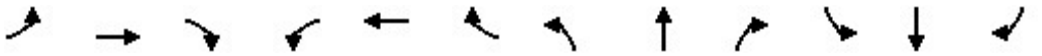
! Phase conflict between lane groups.
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	1464	519	252	469	0	0	0	0	432	704	544
Future Volume (vph)	0	1464	519	252	469	0	0	0	0	432	704	544
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		6.0	6.0	6.0	6.0					6.0	6.0	4.0
Lane Util. Factor		0.91	1.00	0.91	0.91					0.86	0.86	1.00
Frt		1.00	0.85	1.00	1.00					1.00	1.00	0.85
Flt Protected		1.00	1.00	0.95	0.99					0.95	0.99	1.00
Satd. Flow (prot)		5085	1583	1610	3365					1522	4763	1583
Flt Permitted		1.00	1.00	0.15	0.60					0.95	0.99	1.00
Satd. Flow (perm)		5085	1583	249	2032					1522	4763	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1591	564	274	510	0	0	0	0	470	765	591
RTOR Reduction (vph)	0	0	364	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	1591	200	184	600	0	0	0	0	301	934	591
Turn Type		NA	Perm	pm+pt	NA					Perm	NA	Free
Protected Phases		2		1!	2 4						1 3!	
Permitted Phases			2	2 4						1 3!		Free
Actuated Green, G (s)		32.0	32.0	80.0	80.0					20.0	20.0	100.0
Effective Green, g (s)		32.0	32.0	80.0	80.0					20.0	20.0	100.0
Actuated g/C Ratio		0.32	0.32	0.80	0.80					0.20	0.20	1.00
Clearance Time (s)		6.0	6.0	6.0								
Vehicle Extension (s)		3.0	3.0	3.0								
Lane Grp Cap (vph)		1627	506	335	1758					304	952	1583
v/s Ratio Prot		c0.31		0.05	0.03							
v/s Ratio Perm			0.13	c0.38	0.24					c0.20	0.20	c0.37
v/c Ratio		0.98	0.39	0.55	0.34					0.99	0.98	0.37
Uniform Delay, d1		33.6	26.5	7.6	2.8					39.9	39.8	0.0
Progression Factor		1.00	1.00	3.77	5.20					1.00	1.00	1.00
Incremental Delay, d2		17.6	2.3	1.0	0.1					48.8	24.5	0.7
Delay (s)		51.3	28.8	29.8	14.4					88.7	64.3	0.7
Level of Service		D	C	C	B					F	E	A
Approach Delay (s)		45.4			18.0			0.0			47.7	
Approach LOS		D			B			A			D	

Intersection Summary			
HCM 2000 Control Delay	41.8	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

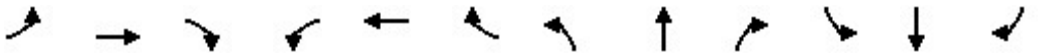


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	716	1192	0	0	495	174	209	425	199	0	0	0
Future Volume (vph)	716	1192	0	0	495	174	209	425	199	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0	6.0			4.0	4.0	6.0	6.0	6.0			
Lane Util. Factor	0.91	0.91			0.91	1.00	0.86	0.86	1.00			
Frt	1.00	1.00			1.00	0.85	1.00	1.00	0.85			
Flt Protected	0.95	0.99			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (prot)	1610	3365			5085	1583	1522	4778	1583			
Flt Permitted	0.07	0.50			1.00	1.00	0.95	0.99	1.00			
Satd. Flow (perm)	121	1708			5085	1583	1522	4778	1583			
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	778	1296	0	0	538	189	227	462	216	0	0	0
RTOR Reduction (vph)	0	0	0	0	0	170	0	0	138	0	0	0
Lane Group Flow (vph)	545	1529	0	0	538	19	166	523	78	0	0	0
Turn Type	pm+pt	NA			NA	Perm	Perm	NA	Perm			
Protected Phases	8!	6 7			7			8 5!				
Permitted Phases	6 7					7	8 5!		8 5			
Actuated Green, G (s)	82.0	82.0			10.0	10.0	36.0	36.0	36.0			
Effective Green, g (s)	82.0	82.0			10.0	10.0	36.0	36.0	36.0			
Actuated g/C Ratio	0.82	0.82			0.10	0.10	0.36	0.36	0.36			
Clearance Time (s)	6.0				4.0	4.0						
Vehicle Extension (s)	3.0				3.0	3.0						
Lane Grp Cap (vph)	486	1831			508	158	547	1720	569			
v/s Ratio Prot	c0.29	0.22			0.11							
v/s Ratio Perm	c0.63	0.47				0.01	0.11	0.11	0.05			
v/c Ratio	1.12	0.84			1.06	0.12	0.30	0.30	0.14			
Uniform Delay, d1	33.7	5.1			45.0	41.0	23.0	23.0	21.5			
Progression Factor	1.56	2.80			1.00	1.00	1.00	1.00	1.00			
Incremental Delay, d2	61.5	0.8			56.5	1.5	0.3	0.1	0.1			
Delay (s)	114.1	15.2			101.5	42.5	23.3	23.1	21.6			
Level of Service	F	B			F	D	C	C	C			
Approach Delay (s)		41.2			86.2			22.8			0.0	
Approach LOS		D			F			C			A	

Intersection Summary			
HCM 2000 Control Delay	45.5	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	22.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

! Phase conflict between lane groups.

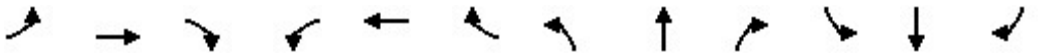
c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	34	1249	112	33	497	9	41	36	32	58	44	20
Future Volume (vph)	34	1249	112	33	497	9	41	36	32	58	44	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00	1.00		1.00	
Frt	1.00	0.99		1.00	1.00			1.00	0.85		0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.97	1.00		0.98	
Satd. Flow (prot)	1770	3495		1770	3530			1814	1583		1779	
Flt Permitted	0.44	1.00		0.12	1.00			0.76	1.00		0.81	
Satd. Flow (perm)	818	3495		215	3530			1408	1583		1470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	37	1358	122	36	540	10	45	39	35	63	48	22
RTOR Reduction (vph)	0	4	0	0	1	0	0	0	30	0	7	0
Lane Group Flow (vph)	37	1476	0	36	549	0	0	84	5	0	126	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA	Perm	Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8		8	4		
Actuated Green, G (s)	61.6	57.9		61.6	57.9			12.8	12.8		12.8	
Effective Green, g (s)	61.6	57.9		61.6	57.9			12.8	12.8		12.8	
Actuated g/C Ratio	0.67	0.63		0.67	0.63			0.14	0.14		0.14	
Clearance Time (s)	5.5	5.5		5.5	5.5			6.0	6.0		6.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	589	2214		207	2236			197	221		205	
v/s Ratio Prot	0.00	c0.42		c0.01	0.16							
v/s Ratio Perm	0.04			0.11				0.06	0.00		c0.09	
v/c Ratio	0.06	0.67		0.17	0.25			0.43	0.02		0.62	
Uniform Delay, d1	5.0	10.6		7.4	7.3			35.9	33.9		37.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	1.6		0.4	0.3			1.5	0.0		5.4	
Delay (s)	5.0	12.2		7.8	7.5			37.4	33.9		42.4	
Level of Service	A	B		A	A			D	C		D	
Approach Delay (s)		12.1			7.6			36.4			42.4	
Approach LOS		B			A			D			D	

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	91.4	Sum of lost time (s)	17.0
Intersection Capacity Utilization	62.8%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	16	1301	22	33	493	8	16	7	15	27	17	32
Future Volume (vph)	16	1301	22	33	493	8	16	7	15	27	17	32
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			1.00			1.00	
Frt	1.00	1.00		1.00	1.00			0.95			0.94	
Flt Protected	0.95	1.00		0.95	1.00			0.98			0.98	
Satd. Flow (prot)	1770	3530		1770	3530			1729			1725	
Flt Permitted	0.45	1.00		0.15	1.00			0.87			0.87	
Satd. Flow (perm)	836	3530		276	3530			1530			1520	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	17	1414	24	36	536	9	17	8	16	29	18	35
RTOR Reduction (vph)	0	1	0	0	1	0	0	15	0	0	33	0
Lane Group Flow (vph)	17	1437	0	36	544	0	0	26	0	0	49	0
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	55.1	53.9		57.3	55.0			4.7			4.7	
Effective Green, g (s)	55.1	53.9		57.3	55.0			4.7			4.7	
Actuated g/C Ratio	0.76	0.74		0.79	0.75			0.06			0.06	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	647	2609		264	2663			98			97	
v/s Ratio Prot	0.00	c0.41		c0.00	0.15							
v/s Ratio Perm	0.02			0.10				0.02			c0.03	
v/c Ratio	0.03	0.55		0.14	0.20			0.27			0.51	
Uniform Delay, d1	2.2	4.2		2.6	2.6			32.5			33.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	0.8		0.2	0.2			1.5			4.1	
Delay (s)	2.2	5.0		2.8	2.8			33.9			37.1	
Level of Service	A	A		A	A			C			D	
Approach Delay (s)		5.0			2.8			33.9			37.1	
Approach LOS		A			A			C			D	

Intersection Summary			
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	72.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	48.6%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group