

**UNIVERSITY PLACE
REDEVELOPMENT
TRAFFIC IMPACT STUDY - *DRAFT***



Prepared for:

The Town of Chapel Hill
Public Works Department - Engineering

Prepared by:

VHB Engineering NC, P.C.

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NCBELS License #: C-3750

February 2021



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1

Introduction

Ram Realty Advisors plans to redevelop the current University Place site, west of Fordham Boulevard (US 15-501) in Chapel Hill, NC. The site is bordered by S Estes Drive (SR 1750) to the south, Willow Drive to the west and north, and Fordham Boulevard (US 15-501) to the east (Figure 1). The current site consists of a 55,929 square foot multiplex movie theater, a service station with 8 fueling positions, a 53,371 square foot grocery store, a 4,578 square foot drive-in bank, and 302,237 square feet of retail. The proposed redevelopment (Figure 2) will consist of a 55,929 square foot multiplex movie theater, a service station with 8 fueling positions, a 53,371 square foot grocery store, 300 multifamily housing dwelling units, 325,000 square feet of retail, a 7,950 square foot drive-in bank, 7,000 square feet of fast-food restaurant, 150,000 square feet of office, and a 150-room hotel.

Based on the conceptual site plan (Figure 2), access to the development is proposed via ten (10) connections along Fordham Blvd (US 15-501), Willow Drive, and S Estes Drive (SR 1750). All of the existing site access points will be maintained and one (1) new one will be constructed as part of the redevelopment (Future Site Access) along Willow Drive. As a result, traffic may access the site from multiple directions as follows:

- › Fordham Boulevard (US 15-501) at Site Access #1 (unsignalized, RIRO)
- › S Estes Drive (SR 1750) at Site Access #2 (unsignalized, full access)
- › S Estes Drive (SR 1750) at Site Access #3 (unsignalized, full access)
- › S Estes Drive (SR 1750) at Site Access #4/ Brookwood Condos (unsignalized, full access)
- › S Estes Drive (SR 1750) at Site Access #5 (unsignalized, full access)
- › Willow Drive at Site Access #6 (unsignalized, full access)
- › Willow Drive at Site Access #7 (unsignalized, full access)
- › Willow Drive at Site Access #8 (unsignalized, full access)
- › Willow Drive at Site Access #9 (unsignalized, full access)
- › Willow Drive at Future Site Access/ Conner Drive (unsignalized, full access)

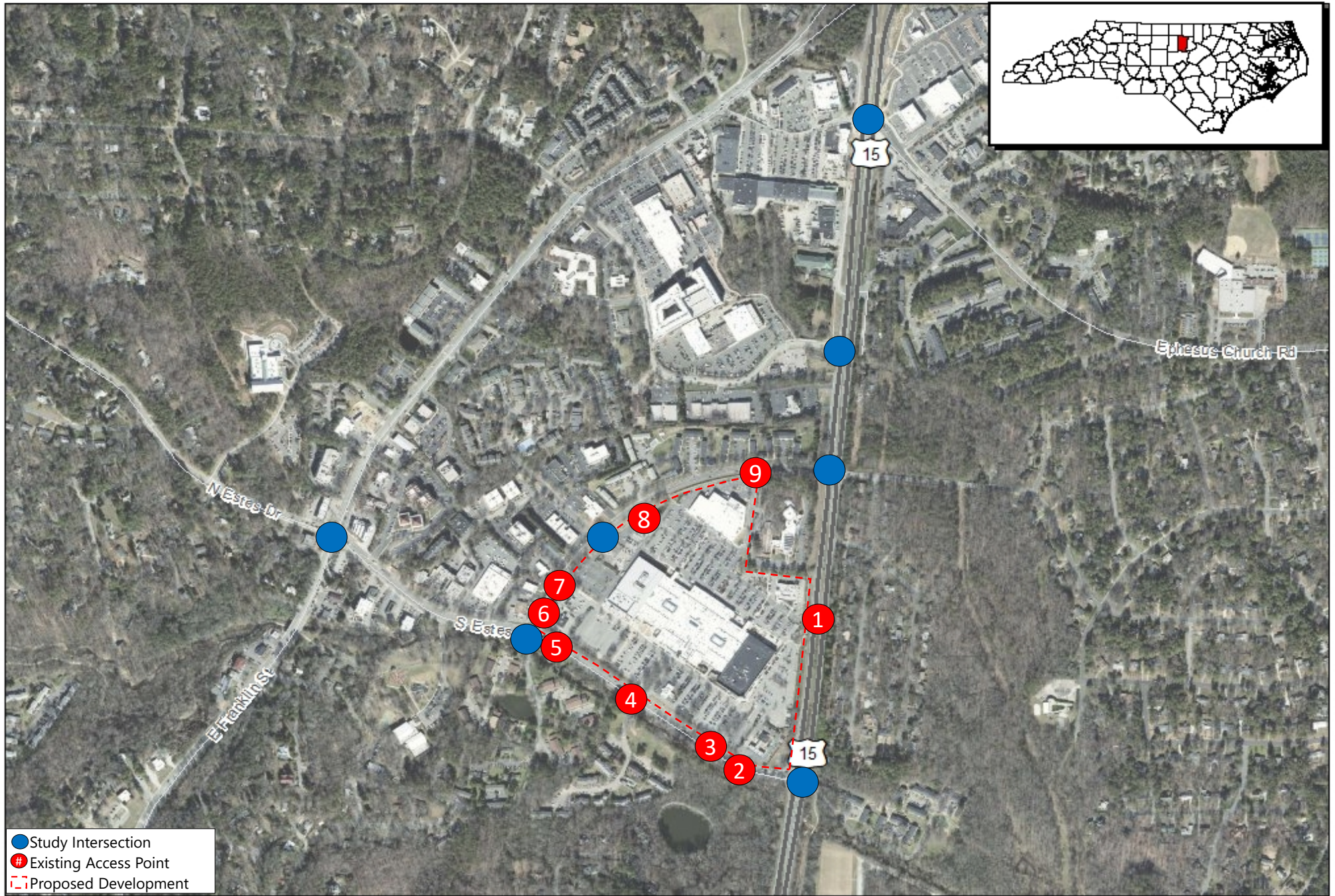
Based on discussions with Town of Chapel Hill staff, the following intersections were included in the study area and analyzed for existing and future conditions, where appropriate:

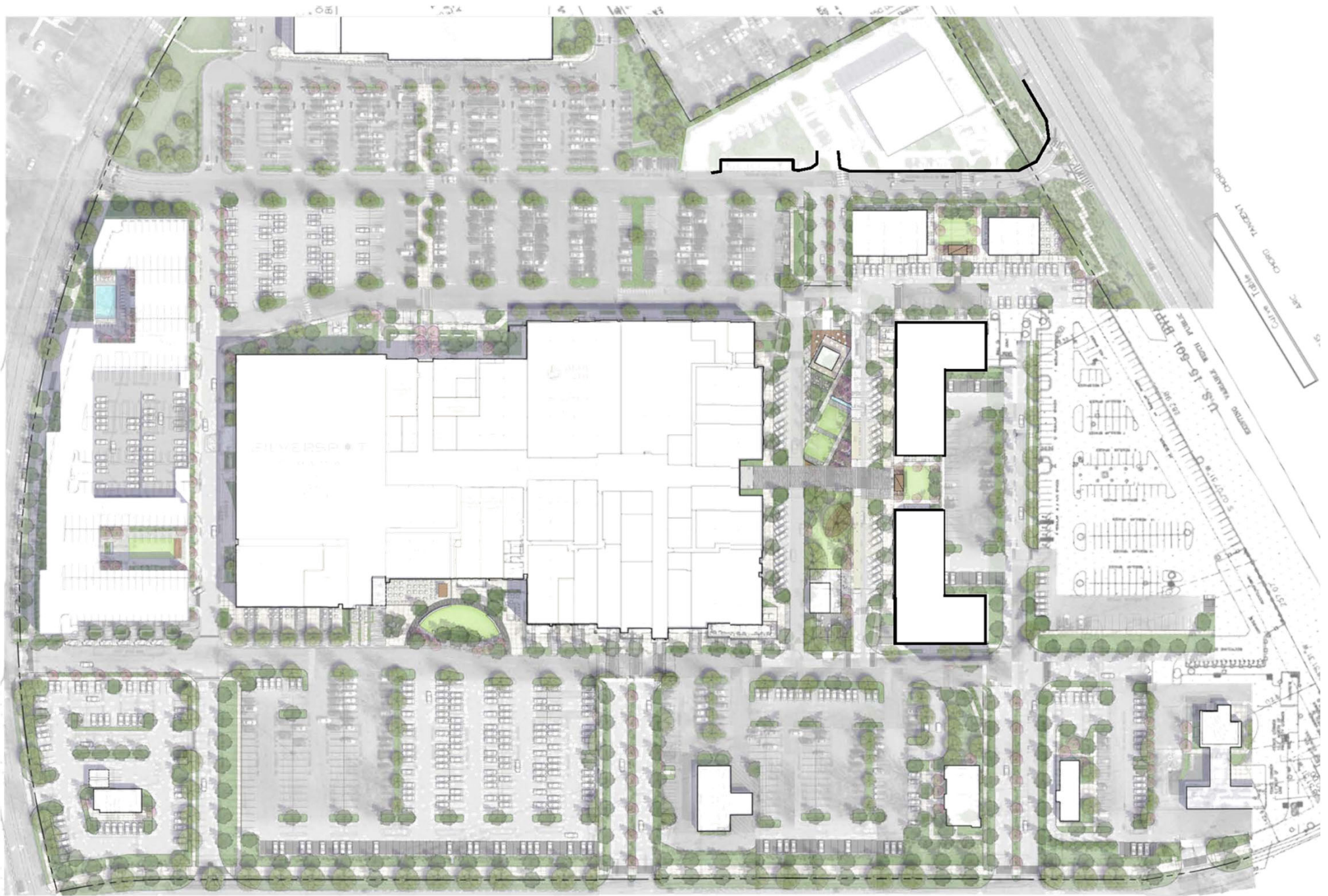
- › Fordham Boulevard (US 15-501) at Ephesus Church Road (SR 1742) (signalized)
- › Fordham Boulevard (US 15-501) at S Elliott Road (signalized)
- › Fordham Boulevard (US 15-501) at Willow Drive (signalized)
- › Fordham Boulevard (US 15-501) at S Estes Drive (SR 1750) (signalized)
- › Willow Drive at Future Site Access/ Conner Drive (unsignalized)
- › S Estes Drive (SR 1750) at Willow Drive/ Shepherd Lane (signalized)
- › E Franklin Street (SR 1010) at Estes Drive (SR 1750) (signalized)
- › Fordham Boulevard (US 15-501) at Site Access #1 (unsignalized, RIRO)
- › S Estes Drive (SR 1750) at Site Access #2 (unsignalized, full access)
- › S Estes Drive (SR 1750) at Site Access #3 (unsignalized, full access)
- › S Estes Drive (SR 1750) at Site Access #4/ Brookwood Condos (unsignalized, full access)
- › S Estes Drive (SR 1750) at Site Access #5 (unsignalized, full access)
- › Willow Drive at Site Access #6 (unsignalized, full access)
- › Willow Drive at Site Access #7 (unsignalized, full access)
- › Willow Drive at Site Access #8 (unsignalized, full access)
- › Willow Drive at Site Access #9 (unsignalized, full access)

The Town of Chapel Hill requires that future year analysis of the traffic conditions be conducted for the projected build year plus one (+1). Therefore, the AM and PM peak hour analyses were performed under the following ten (10) scenarios:

- › Existing (2019)
- › No-Build (2024)
- › Build (2024) Phase 1
- › Build (2024) Phase 1 with Improvements
- › No-Build (2026)
- › Build (2026) Phase 2
- › Build (2026) Phase 2 with Improvements
- › No-Build (2028)
- › Build (2028) Phase 3
- › Build (2028) Phase 3 with Improvements

VHB Engineering NC, P.C. was retained by the Town of Chapel Hill to analyze the potential traffic impacts of the proposed redevelopment and to identify any necessary roadway improvements. This Traffic Impact Analysis (TIA) summarizes trip generation, distribution, traffic assignment, and traffic analyses for the proposed redevelopment. The assumptions agreed upon by the North Carolina Department of Transportation (NCDOT) and the Town of Chapel Hill in order to complete this TIA are outlined in Appendix A.







2

Existing (2019) Conditions

This section describes the existing roadways in the vicinity of the proposed development. Average annual daily traffic (AADT) data for the surrounding roadway network were obtained from NCDOT. The most recent AADT counts from the NCDOT are for 2017 and 2019 on the study area roadways. Table 1 summarizes the functional classification, cross-section, AADT, speeds, presence of sidewalks, and on-street parking status of the primary roads within the study area.

Fordham Boulevard (US 15-501)

- › Within the study area limits, Fordham Boulevard (US 15-501) is a four-lane divided roadway with a posted speed limit of 45 miles per hour (mph). It should be noted that the NCDOT functional classification map identifies this roadway as "Other Freeway", but within the study area limits it operates more as a Principal Arterial.
- › The land uses along Fordham Boulevard (US 15-501) are primarily commercial and residential within the study area limits.
- › According to the NCDOT, the 2019 AADT along Fordham Boulevard (US 15-501) was 49,500 vehicles per day (vpd) north Ephesus Church Road (SR 1742), 31,000 north of S Estes Drive (SR 1750), and 37,500 south of S Estes Drive (SR 1750).

Estes Drive (SR 1750)

- › Within the study area limits, Estes Drive (SR 1750) is a four-lane undivided roadway with a two-way left-turn lane and a posted speed limit of 35 mph. The facility is named S Estes Drive east of E Franklin Street and W Estes Drive west of E Franklin Street.
- › The land uses along Estes Drive (SR 1750) are primarily residential and commercial within the study area.
- › According to the NCDOT, the 2019 AADT along Estes Drive (SR 1750) was 15,000 vpd west of Franklin Street, 15,000 east of Franklin Street, and 9,100 west of Fordham Boulevard (US 15-501).

Franklin Street (SR 1010)

- › Within the study area limits, Franklin Street (SR 1010) is a four-lane undivided roadway with a two-way left-turn lane and a posted speed limit of 35 mph.
- › The land uses along Franklin Street (SR 1010) are primarily commercial within the study area.
- › According to the NCDOT, the 2019 AADT along Franklin Street (SR 1010) was 20,500 north of S Elliott Road, 22,500 north of Estes Drive (SR 1750), and 16,500 south of Estes Drive (SR 1750).

Ephesus Church Road (SR 1742)

- › Within the study area limits, Ephesus Church Road (SR 1742) is a two-lane undivided roadway with a posted speed limit of 35 mph and a posted school zone speed limit of 25 mph.
- › The land uses along Ephesus Church Road (SR 1742) are primarily residential and institutional within the study area limits.
- › According to the NCDOT, the 2019 AADT along Ephesus Church Road (SR 1742) was 10,500 east of Fordham Boulevard (US 15-501).

S Elliott Road

- › Within the study area limits, S Elliott Road is a two-lane undivided roadway with a posted speed limit of 25 mph.
- › The land uses along S Elliott Road are primarily commercial within the study area limits.
- › According to the NCDOT, the 2017 AADT along S Elliott Road was 9,500 vpd east of Franklin Street.

Willow Drive

- › Within the study area limits, Willow Drive is a two-lane undivided roadway with no posted speed limit.
- › The land uses along Willow Dr are primarily commercial within the study area.
- › According to the NCDOT, the 2017 AADT along Willow Drive was 7,900 vpd west of Fordham Boulevard (US 15-501).

Conner Drive

- › Within the study area limits, Conner Drive is a two-lane undivided roadway with no posted speed limit.
- › The land uses along Conner Drive are primarily residential and commercial within the study area.
- › No AADT information was available for Conner Drive.

Table 1 Existing Study Area Roadways

Road Name	Functional Classification*	Study Area Cross-Section	Recent AADT (vpd)	Speed Limit (mph)	Sidewalk (Y/N/S)	On-Street Parking (Y/N/S)
Fordham Boulevard (US 15-501)	Principal Arterial	Four-Lane Divided	31,000 - 49,500	45	N	N
Ephesus Church Road (SR 1742)	Major Collector	Two-Lane Undivided	10,500	35/25	S	N
S Elliott Road	Local	Two-Lane Undivided	9,500	25	S	N
Willow Drive	Local	Two-Lane Undivided	7,900	25	S	S
Estes Drive (SR 1750)	Minor Arterial	Four-Lane Undivided; TWLTL	9,100 - 15,000	35	Y	N
Conner Drive	Local	Two-Lane Undivided	Not Available	Not Posted	S	S
E Franklin Street (SR 1010)	Principal Arterial	Four-Lane Undivided; TWLTL	16,500 - 22,500	35	Y	N

S – Some Sidewalk/On-Street Parking Present.

* - NCDOT Urban Functional Classification Map (2018).

Intersections

Table 2 shows all study area intersections analyzed for this study. Additionally, the table provides information regarding traffic control and pedestrian amenities at each intersection. Figure 3 provides a schematic diagram of the existing roadways near the proposed development, including the intersection geometrics.

Table 2 Study Intersections

ID	Intersection	Traffic Control	Signal Inv No.	Signal Phases	Signal Operation	Cross-walk	Ped Signals
100	Fordham Boulevard (US 15-501) at S Estes Drive (SR 1750)	Signal	07-0529	6	Fully Actuated	SB	Y (1)
110	Fordham Boulevard (US 15-501) at Willow Drive	Signal	07-0506	5	Fully Actuated	NB, EB	Y (2)
120	Fordham Blvd (US 15-501) at S. Elliott Road	Signal	07-0547	5	Fully Actuated	N/A	N
130	Fordham Boulevard (US 15-501) at Ephesus Church Road (SR 1742)	Signal	07-0530	8	Fully Actuated	All Legs	Y (4)
200	E Franklin Street (SR 1010) at Estes Drive (SR 1750)	Signal	07-0527	8	Fully Actuated	All Legs	Y (4)
210	S Estes Dr (SR 1750) at Willow Drive/ Shepherd Lane	Signal	07-0556	3	Fully Actuated	SB, WB	Y (2)
303	Willow Drive at Conner Drive / Future Site Access	TWSC	N/A	N/A	N/A	SB	N
101	Fordham Boulevard (US 15-501) at Site Access #1	TWSC	N/A	N/A	N/A	EB	N
214	S Estes Drive (SR 1750) at Site Access #2	TWSC	N/A	N/A	N/A	N/A	N
213	S Estes Drive (SR 1750) at Site Access #3	TWSC	N/A	N/A	N/A	N/A	N
212	S Estes Drive (SR 1750) at Site Access #4	TWSC	N/A	N/A	N/A	N/A	N
211	S Estes Drive (SR 1750) at Site Access #5	TWSC	N/A	N/A	N/A	N/A	N
301	Willow Drive at Site Access #6	TWSC	N/A	N/A	N/A	N/A	N
302	Willow Drive at Site Access #7	TWSC	N/A	N/A	N/A	N/A	N
304	Willow Drive at Site Access #8	TWSC	N/A	N/A	N/A	N/A	N
305	Willow Drive at Site Access #9	TWSC	N/A	N/A	N/A	NB	N

¹TWSC – Two-Way Stop Control.

Bicycle Routes and Sidewalks

Bicycle-specific facilities are not present within the study area. Pedestrian facilities are present along some of the study area roadways, but the network of facilities is not complete. Figure 4 illustrates the locations of pedestrian and bicycle facilities in the area.

LEGEND	
	Existing Roadway
	Existing Stop Controlled Approach
	Existing Signalized Intersection
	Existing Lane Configuration

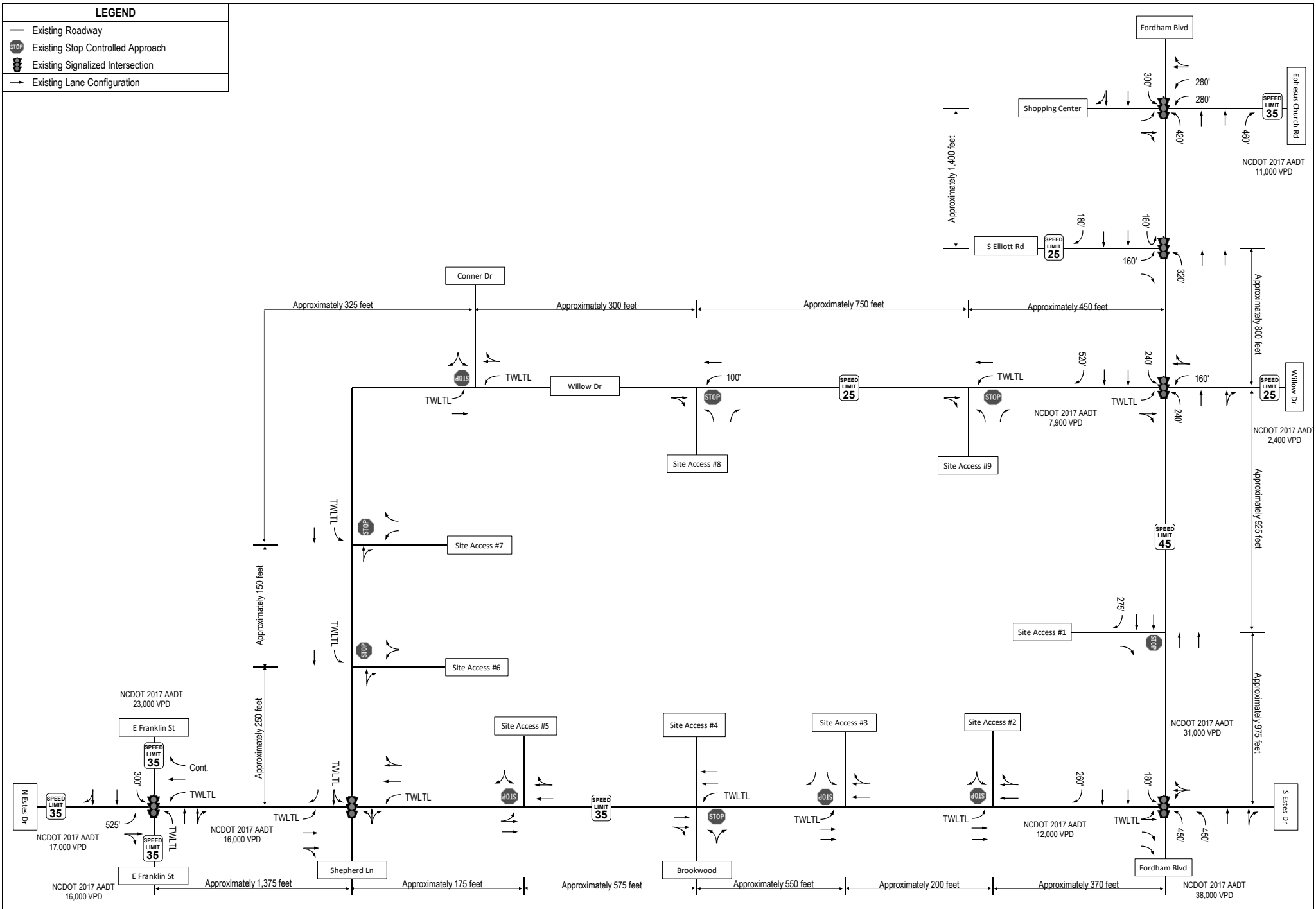


Figure 3
Existing (2019) Lane Configurations and Traffic Control



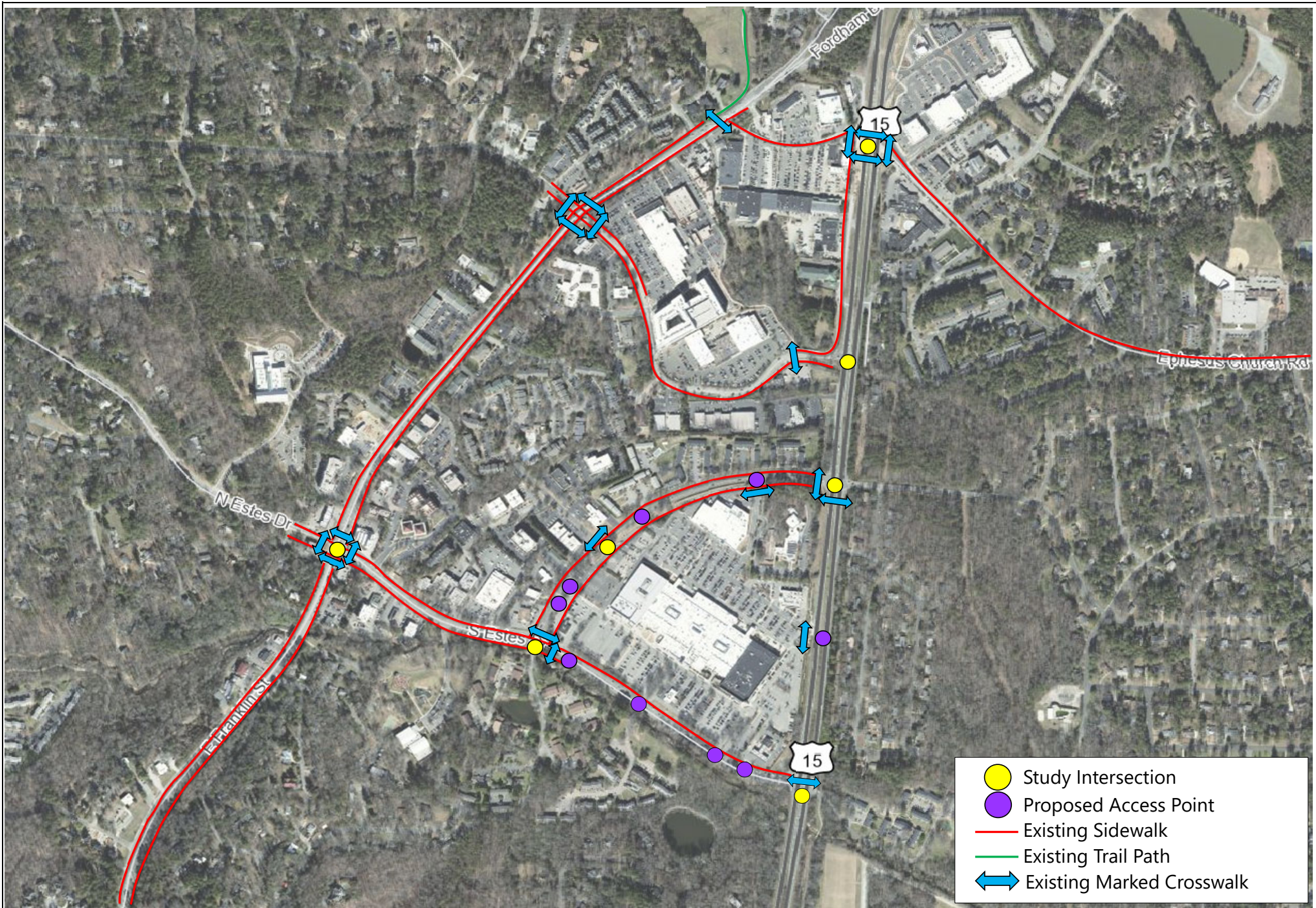


Figure 4
Existing Pedestrian and Bicycle Facilities

Transit Routes

Chapel Hill Transit (CHT) has six bus stops located within the study area: two bus stops near the intersection of Willow Drive at Future Access #6, one bus stop between the intersections of Willow Drive at Conner Drive and Willow Drive at Future Access #8, one bus stop near the intersection of Willow Drive at Future Access #9, and two bus stops near the intersection of Fordham Boulevard (US 15-501) at S Estes Drive (SR 1750). Table 3 and Figure 5 provide additional detail about the area transit service. Note that transit demand and resulting transit service have temporarily reduced due to COVID and other related travel impacts. As a result, the table and figure represent pre-COVID transit routes.

Table 3 Adjacent Transit Route Information

Route	Headways (Minutes)			Study Area Stops	Destinations
	AM Peak	PM Peak	Off Peak		
F, G D, FG-Saturday	21/37/ 15/80	60/55/ 15/80	65/50/ 30/70	Willow Dr @ S Estes Dr (ID: 3597)	University Place
F, G D, FG-Saturday	21/37/ 15/80	60/55/ 15/80	65/50/ 30/70	S Estes Dr @ Camelot Apts (ID: 3375)	University Place
G FG-Saturday	37/80	55/80	50/70	S Estes Dr @ Fordham Blvd (EB) (ID: 3373)	University Place
G FG-Saturday	37/80	55/80	50/70	S Estes Dr @ Fordham Blvd (EB) (ID: 3374)	University Place
D-Saturday	65	65	65	Willow Dr @ Willow Terrace Condos (ID: unknown)	University Place
D-Saturday	65	65	65	Willow Dr @ Connor Dr (ID: unknown)	University Place
F, G D, FG-Saturday	21/37/ 15/80	60/55/ 15/80	65/50/ 30/70	University Place	University Place
F D,FG-Saturday	21/15/80	60/15/80	65/30/70	S Estes Dr @ Community Center Dr (ID: 3372)	University Place
CL, D, F D, FG-Saturday	56/15/ 21/80	70/30/ 60/80	NA/30/ 65/70	E Franklin St @ Etna Gas Station (ID: 3369)	University Place
CL, D, F D, FG-Saturday	56/15/ 21/80	70/30/ 60/80	NA/30/ 65/70	E Franklin St @ Couch Rd (Franklin Woods) (ID: 3368)	University Place
CL, D, F FG-Saturday	56/15/ 21/80	70/30/ 60/80	NA/30/ 65/70	E Franklin St @ Couch Rd (EB) (ID: 3367)	University Place
CL, D, F D, FG-Saturday	56/15/ 21/80	70/30/ 60/80	NA/30/ 65/70	E Franklin St @ S Elliott Rd (EB) (ID: 3365)	University Place
F FG-Saturday	25/80	60/80	65/70	S Elliott Rd @ Whole Foods Market (ID: 3454)	University Place
D	15	15	30	S Elliott Rd @ Plaza Theatres (ID: 3271)	University Place
F FG-Saturday	25/80	60/80	65/70	Elliot Rd @ Fordham Blvd (WB) (ID: 3069)	University Place

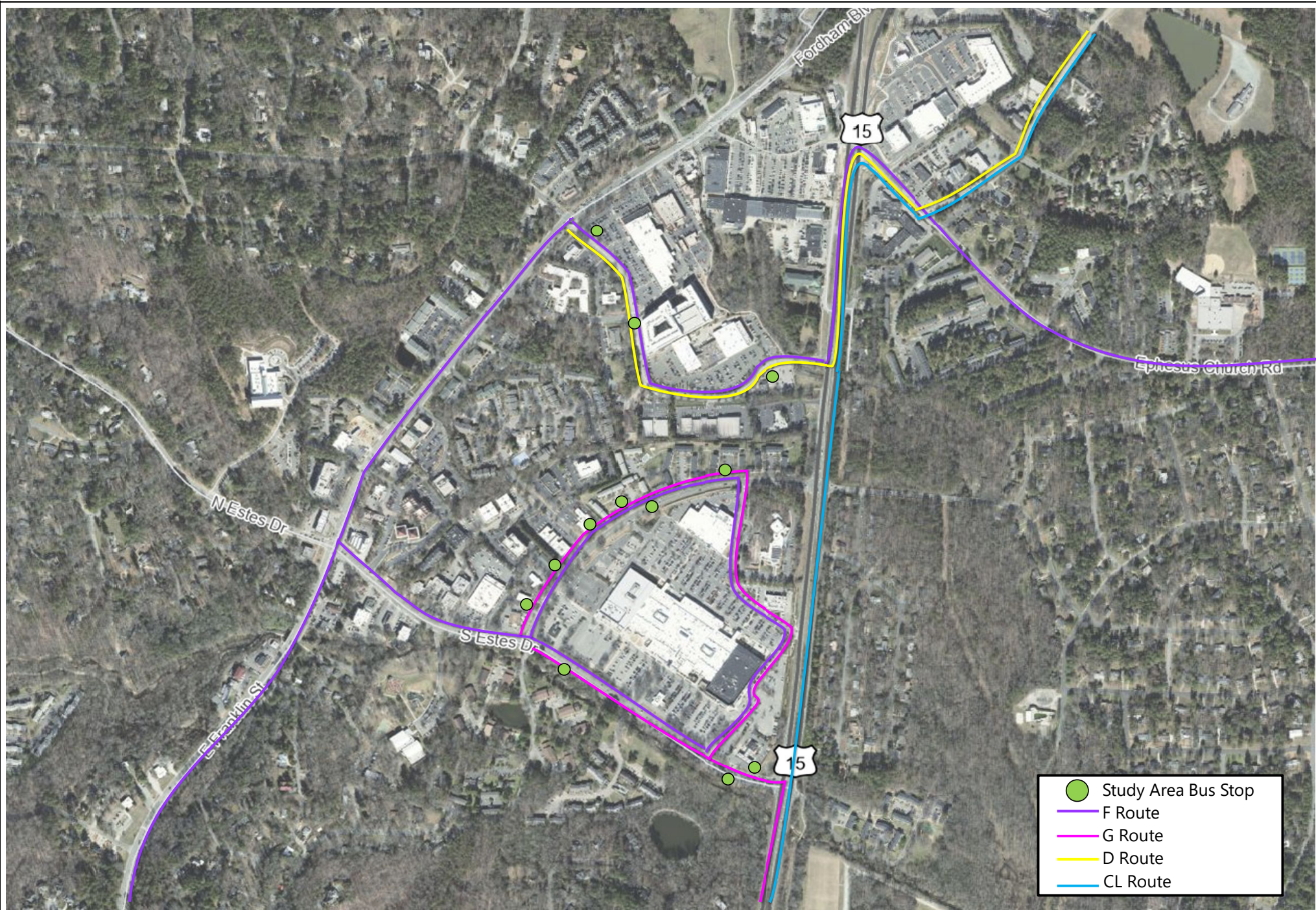


Figure 5
Existing Area Transit Service

Existing Turning Movement Data

Existing turning movement counts were obtained from multiple sources. The UNC TIA 2019 Update was submitted in December 2019. A total of four intersections that were included in the UNC TIA analysis were also included in the analysis for this TIA. Table 4 summarizes the intersections whose counts were obtained from the UNC TIA.

Table 4 UNC TIA Weekday Peak Hour Turning Movement Count Schedule

Intersection	Time Period	Data Collection Date
Fordham Boulevard (US 15-501) at S Estes Drive (SR 1750) (signalized)	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Wednesday September 25, 2019
Fordham Boulevard (US 15-501) at Willow Drive (signalized)	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Tuesday October 8, 2019
Fordham Boulevard (US 15-501) at S Elliott Road (signalized)	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Tuesday October 8, 2019
Fordham Boulevard (US 15-501) at Ephesus Church Road (SR 1742) (signalized)	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Wednesday September 25, 2019

Turning movement counts for the other intersections were collected by VHB Engineering NC, P.C. during the AM and PM peak hours in November of 2019. Table 5 summarizes the schedule used to obtain the turning movement data. A detailed summary of all traffic counts can be found in Appendix B.

TransModeler models can use unbalanced input volumes and a series of integrated algorithms to balance the network; however, using this method of traffic volume input can produce inaccuracies in the processed volumes at nodes. To accurately model the network in TransModeler, the collected volumes were developed into a balanced network. The calculated existing peak hour turning movement volumes are shown in Figure 6.

Table 5 Weekday Peak Hour Turning Movement Count Schedule

Intersection	Time Period	Data Collection Date
S Estes Drive at Bank Driveway	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Thursday November 21, 2019
S Estes Drive at Kangaroo Driveway	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Thursday November 21, 2019
S Estes Drive at University Place/ Brookwood Condos Driveway	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Thursday November 21, 2019
S Estes Drive at University Place	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Thursday November 21, 2019
S Estes Drive at Willow Drive	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Thursday November 21, 2019
Fordham Boulevard at University Place	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Thursday November 21, 2019
Estes Drive at E Franklin Street (SR 1010)	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Thursday November 21, 2019
Willow Drive at Bank Driveways	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Thursday November 21, 2019
Willow Drive at Conner Drive	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Thursday November 21, 2019
Willow Drive at Harris Teeter Driveway	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Thursday November 21, 2019
Willow Drive at University Place/Bank Driveway	7:00 AM – 9:00 AM 11:00 AM – 1:00 PM 4:00 PM – 6:00 PM	Thursday November 21, 2019

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Existing Signalized Intersection
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

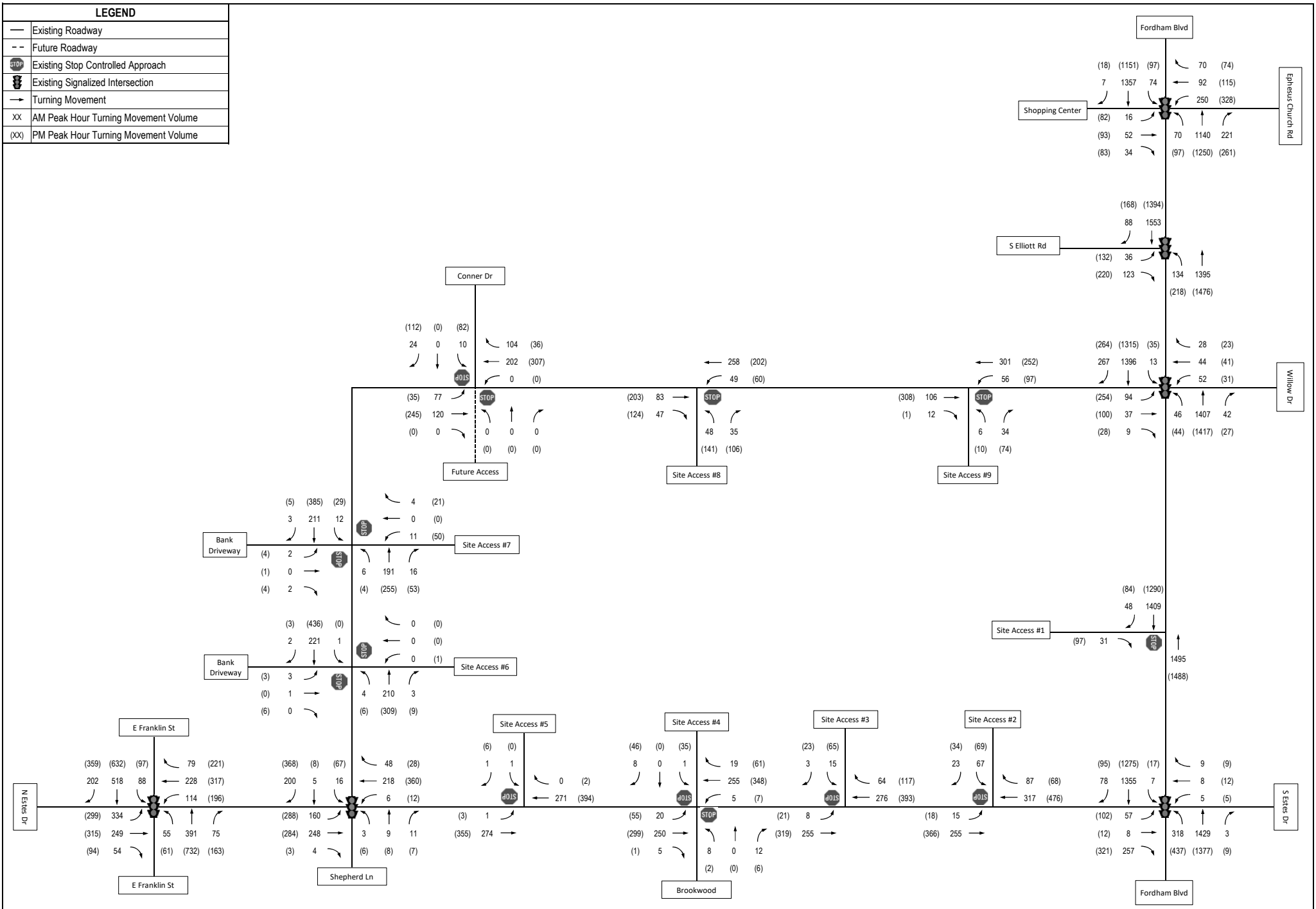


Figure 6
Existing (2019) AM and PM Peak Hour Volumes

Crash Analysis

VHB obtained five-year crash data (12/01/2014 - 11/30/2019) from the NCDOT Traffic Engineering Accident Analysis System (TEAAS) along Willow Drive, Estes Drive (SR 1750), and Fordham Boulevard (US 15-501) adjacent to the site. Note that crashes within the mileposts specified were grouped by intersection (or the closest available landmark). As a result, crashes reported just upstream or downstream of a specific location were grouped inside the intersection itself. The detailed reports are included in Appendix C.

The crash rates for Willow Drive from SR 1750 (S Estes Drive) to Fordham Boulevard (US 15-501) are reported in Table 6. The Willow Drive crash rates exceed the statewide average for urban secondary routes for total crashes, non-fatal injury, night and wet crashes. The Willow Drive crash rates exceed the critical crash rate for total crashes, non-fatal injury, and wet crashes.

Table 7 displays the total number of crashes for each crash type observed along this corridor throughout the study area. The predominant crash type was left-turn crashes (53%), with the next highest being angle crashes (11%).

Table 8 shows the intersection with the highest amount of crashes (24) over the five-year period was at the signalized intersection of Willow Drive at Fordham Boulevard (US 15-501).

Table 6 Willow Drive from S Estes Drive (SR 1750) to Fordham Blvd (US 15-501)

Rate	Crashes	Crashes per 100 MVM	Statewide Crash Rate	Critical Crash Rate
Total	45	1174.93	318.88	482.03
Fatal	0	0.00	1.08	22.87
Non-Fatal Injury	22	574.41	94.22	188.87
Night	5	130.55	76.64	163.28
Wet	8	208.88	49.98	122.46

**2015-2017 statewide crash rate for urban 2-lane undivided secondary routes with continuous left-turn lane*

Table 7 Crash Type Summary (Willow Drive)

Crash Type	Crashes	%
Angle	5	11%
Head On	1	2%
Left Turn	24	53%
Other	1	2%
Pedalcyclist	1	2%
Pedestrian	2	4%
Ran Off Road	4	9%
Rear End	4	9%
Right Turn	1	2%
Sideswipe	2	4%

Table 8 Crashes by Location (Willow Drive)

Intersection/Location	Angle	Head On	Left Turn	Rear End	Right Turn	Sideswipe	Other	Total
Willow Dr at Estes Dr	1	0	2	0	1	0	2	6
Willow Dr at Driveway	1	0	3	0	0	0	0	4
Willow Dr at Conner Dr	0	0	1	0	0	0	2	3
Willow Dr at Driveway	0	1	2	0	0	0	2	5
Willow Dr at Driveway	0	0	2	0	0	1	0	3
Willow Dr at US 15/501	3	0	14	4	0	1	2	24

The crash rates for S Estes Drive (SR 1750) from E Franklin Street (SR 1010) to Fordham Boulevard (US 15-501) are reported in Table 9. The total crash rate for the corridor was higher than the statewide crash rate and critical crash rate, as were the non-fatal injury crash and the night conditions crash rates.

Table 10 displays the total number of crashes for each crash type observed along this corridor throughout the study area. The predominant crash type was left-turn crashes (33%), with the next highest being rear-end crashes (20%) and angle crashes (18%).

Table 11 shows the intersection with the highest amount of crashes (30) over the five-year period was at the unsignalized intersection of S Estes Drive (SR 1750) at the shopping center driveway immediately preceding the intersection with the second highest amount of crashes (20), the signalized intersection of Estes Drive (SR 1750) at E Franklin Street (SR 1010). The signalized intersection of S Estes Drive (SR 1750) at Fordham Boulevard (US 15-501) closely follows with the third highest amount of crashes (19).

Table 9 S Estes Drive (SR 1750) from E Franklin St to Fordham Blvd (US 15-501)

Rate	Crashes	Crashes per 100 MVM	Statewide Crash Rate	Critical Crash Rate
Total	108	671.64	467.95	559.80
Fatal	0	0.00	1.29	9.06
Non-Fatal Injury	33	205.22	140.58	192.33
Night	22	136.82	90.03	132.06
Wet	12	74.63	75.04	113.69

**2015-2017 statewide crash rate for urban 4-lane undivided secondary routes with continuous left-turn*

Table 10 Crash Type Summary (S Estes Drive [SR 1750])

Crash Type	Crashes	%
Angle	19	18%
Head On	2	2%
Left Turn	36	33%
Other	1	1%
Overturn/Rollover	1	1%
Pedalcyclist	1	1%
Pedestrian	5	5%
Ran Off Road	4	4%
Rear End	22	20%
Right Turn	6	6%
Sideswipe	11	10%

Table 11 Crashes by Location (S Estes Drive [SR 1750])

Intersection/Location	Angle	Head On	Left Turn	Overturn	Rear End	Right Turn	Sideswipe	Other	Total
Estes Dr at Franklin St	5	1	4	0	4	0	4	2	20
Estes Dr at Driveway	6	1	18	0	2	0	2	1	30
Estes Dr at Driveway	1	0	0	0	2	0	0	0	3
Estes Dr at Barrett Ln	0	0	1	0	0	1	0	0	2
Estes Dr at Driveway	2	0	1	0	2	0	1	1	7
Estes Dr at Shepherd Ln/Willow Dr	1	0	4	0	1	1	1	3	11
Estes Dr at Driveway	2	0	0	0	0	0	0	0	2
Estes Dr at Driveway	0	0	2	0	0	0	0	0	2
Estes Dr at Driveway	0	0	0	0	0	0	1	0	1
Estes Dr at Driveway	0	0	0	1	0	0	0	0	1
Estes Dr at Driveway	0	0	4	0	2	0	0	0	6
Estes Dr at US 15 SB Couplet	0	0	0	0	3	0	0	1	4
Estes Dr at Fordham Blvd (US 15-501)	2	0	2	0	6	4	2	3	19

The crash rates for Fordham Boulevard (US 15-501) from S Estes Drive (SR 1750) to Ephesus Church Road (SR 1742)/Eastgate Shopping Center Road are reported in Table 12. The crash rates for Fordham Boulevard (US 15-501) exceed all statewide and critical crash rates except for fatal crashes.

Table 13 displays the total number of crashes for each crash type observed along this corridor throughout the study area. The predominant crash type was rear-end crashes (62%), with the next highest being left-turn crashes (14%).

Table 14 shows the intersection with the highest amount of crashes (56) over the five-year period was at the signalized intersection of Fordham Boulevard (US 15-501) at Elliot Road. The next highest (41) was, as previously called out, the signalized intersection of Fordham Boulevard (US 15-501) at Willow Drive followed by the signalized intersection of Fordham Boulevard (US 15-501) at S Estes Drive (SR 1750) (32).

Table 12 Fordham Blvd (US 15-501) from S Estes Dr to Ephesus Church Rd

Rate	Crashes	Crashes per 100 MVM	Statewide Crash Rate	Critical Crash Rate
Total	238	540.42	210.61	247.72
Fatal	0	0.00	0.73	3.98
Non-Fatal Injury	89	202.09	62.79	83.57
Night	50	113.53	51.44	70.35
Wet	43	97.64	34.53	50.23

**2015-2017 statewide crash rate for urban 4-lane divided urban United States routes with partial control access*

Table 13 Crash Type Summary (Fordham Boulevard [US 15-501])

Crash Type	Crashes	%
Angle	16	7%
Animal	1	0%
Left Turn	32	14%
Other	1	0%
Pedalcyclist	1	0%
Pedestrian	1	0%
Ran Off Road	13	6%
Rear End	148	62%
Right Turn	8	4%
Sideswipe	16	7%
Unknown	1	0%

Table 14 Crashes by Location (Fordham Boulevard [US 15-501])

Intersection/Location	Angle	Animal	Left Turn	Rear End	Right Turn	Sideswipe	Other	Total
Fordham Blvd (US 15-501) at Estes Dr	2	0	2	18	5	3	2	32
Fordham Blvd (US 15-501) at Driveway	0	0	0	3	0	0	1	4
Fordham Blvd (US 15-501) at Driveway	0	0	0	3	0	0	0	3
Fordham Blvd (US 15-501) at Driveway	1	0	0	4	0	0	0	5
Fordham Blvd (US 15-501) at Walnut	0	0	0	3	0	0	0	3
Fordham Blvd (US 15-501) at Driveway	0	0	0	13	0	3	1	17
Fordham Blvd (US 15-501) at Willow Dr	5	1	14	15	0	2	4	41
Fordham Blvd (US 15-501) at Driveway	0	0	0	2	0	0	0	2
Fordham Blvd (US 15-501) at Bypass Ln	0	0	0	4	0	0	0	4
Fordham Blvd (US 15-501) at Driveway	1	0	0	11	0	2	0	14
Fordham Blvd (US 15-501) at Elliot Rd	5	0	15	29	2	1	4	56
Fordham Blvd (US 15-501) at Old Oxford Rd	0	0	0	10	0	3	0	13
Fordham Blvd (US 15-501) at Driveway	0	0	0	10	0	0	0	10
Fordham Blvd (US 15-501) at Eastgate	0	0	0	5	1	0	0	6
Fordham Blvd (US 15-501) at Driveway	0	0	0	3	0	0	0	3
Fordham Blvd (US 15-501) at Driveway	0	0	0	5	0	1	1	7
Fordham Blvd (US 15-501) at Ephesus Church Rd	2	0	1	10	0	1	4	18

All crash analysis outputs from TEAAS are attached in Appendix C.

Methodology and Simulation Modeling

Intersection analyses were performed using *Synchro/SimTraffic Version 10* and *TransModeler (TSM) Version 5.0 Build 7255*. Measures of effectiveness were reported for both software programs and the level of service and delay for all intersections are shown in the summary tables in the subsequent sections.

Measure of Effectiveness (MOEs) Descriptions

The *Town of Chapel Hill TIA Guidelines* lists measures of effectiveness that should be reported for traffic impact studies. Table 15 lists the reported measures which include intersection delay, level of service (LOS), and maximum queue lengths within the analysis area. Certain measures are applicable at the intersection level whereas others are corridor or system-wide measures.

Table 15 Summary of Analysis Program Used and MOE Reported

Type	Software	MOE
Intersection	Synchro	Intersection LOS
	Synchro	Intersection Average Delay per Vehicle
	Synchro	Approach Average Delay per Vehicle
	Synchro	Approach LOS
	Synchro	95 th Percentile Queue Length
	SimTraffic	Maximum Observed Queue Length
Roadway Segments	N/A	Daily Volume/Capacity Analysis

Level of Service Criteria

Peak hour LOS measures the adequacy of the intersection geometrics and traffic controls of an intersection or approach for the given turning volumes. LOS range from A through F, based on the average control delay experienced by vehicles traveling through the intersection during the peak hour. Control delay represents the portion of total delay attributed to traffic control devices (e.g., signals or stop signs). The engineering professional generally accepts LOS D as an acceptable operating condition for signalized intersections in urban areas and LOS C for rural areas.

At unsignalized intersections, LOS E is generally considered acceptable only if the side street encounters the delay. Nevertheless, side streets sometimes function at LOS F during peak traffic periods; however, the traffic volume often does not warrant a traffic signal to assist side street traffic. Table 16 provides a general description of various LOS categories and delay ranges.

Table 16 LOS Description for Intersections

LOS	Description	Signalized Intersection	Unsignalized Intersection
A	Little or no delay	<= 10 sec.	<= 10 sec.
B	Short traffic delay	10-20 sec.	10-15 sec.
C	Average traffic delay	20-35 sec.	15-25 sec.
D	Long traffic delay	35-55 sec.	25-35 sec.
E	Very long traffic delay	55-80 sec.	35-50 sec.
F	Unacceptable delay	> 80 sec.	> 50 sec.

TransModeler Model Development

A base model was developed from the data collected for the transportation network in *TransModeler Version 5.0 Build 7255*. The base model was visually validated against observations made in the field and the collected data. Once the base model was validated, the design year build alternatives were developed, and the results were compared.

Network Coding

The Existing (2019) base network includes the above-referenced project background intersections. The geometric data was added by using aerial imagery files available from the NCDOT Congestion Management website.

The base and design year No-Build and Build analyses were based on the existing configuration of the transportation network within the project study area. The No-Build files are based off current lane configuration and traffic controls with no roadway improvements associated with the site redevelopment included. However, the future year no-build analysis includes any improvements to the roadway network in the study area that are associated with background developments.

Driver Behavior Parameters

Driver behavior parameters are used to guide vehicles through the network during the simulation of the model. In microscopic simulation models, driver behavior parameters govern the more detailed actions a driver takes in response to local conditions, surrounding traffic, signals, signs, and incidents. The driver behavior parameters are used to simulate a driver's acceleration, lane changing, gap acceptance, merging, yielding and other behaviors. The driver behavior parameters for this analysis are based on the TransModeler simulation guidelines developed for the NCDOT Congestion Management Unit.

Traffic Volume Development – Origin-Destination Matrices

The primary source of volume data for this study was a series of counts collected by VHB. Additional volume data along Fordham Boulevard (US 15-501) was obtained from the UNC TIA update, submitted December 2019.

For the purpose of this study, it was determined that utilizing an origin-destination (O-D) matrix would be the best method to identify how the volumes are loaded and distributed onto the network. The identified node IDs for this network are shown in Figure 7.

TransModeler models can use unbalanced input volumes and a series of integrated algorithms to balance the network; however, using this method of traffic volume input can produce inaccuracies in the processed volumes at nodes. To accurately model the network in TransModeler, the input volumes were developed into a balanced network. The peak hour volumes were input for all of intersections included in the analysis. A spreadsheet-based origin-destination matrix estimation (ODME) process was utilized to initially balance the network and develop balanced O-D matrices. At the completion of the initial AM and PM peak hour O-D matrix development process, separate O-D matrices were created for the future year No-Build and Build scenarios. The future year No-Build and Build scenarios reflect any changes in vehicle paths occurring between the existing year, No-Build, and Build alternatives. Each matrix includes only the total number of trips occurring between each O-D pair and were not broken down by vehicle type. TransModeler defines the percentage of vehicle types as each trip is generated at an origin based on a distribution provided in the model. Vehicle fleet data was defined at the entry node level for the model as there was not a substantial variation in the truck percentages for the network roadways.

Base Year Model Validation

The University Place Existing (2019) model was developed using the NCDOT default parameters file and NCDOT simulation guidelines. The network was coded based on recently collected field data (counts and field observations). The 2019 AM and PM No-Build peak hour volumes were calculated based on the turning movement count data collected by VHB and included in the UNC TIA update. It was determined based on visual model validation that the base year model reasonably replicated the observed field operations.

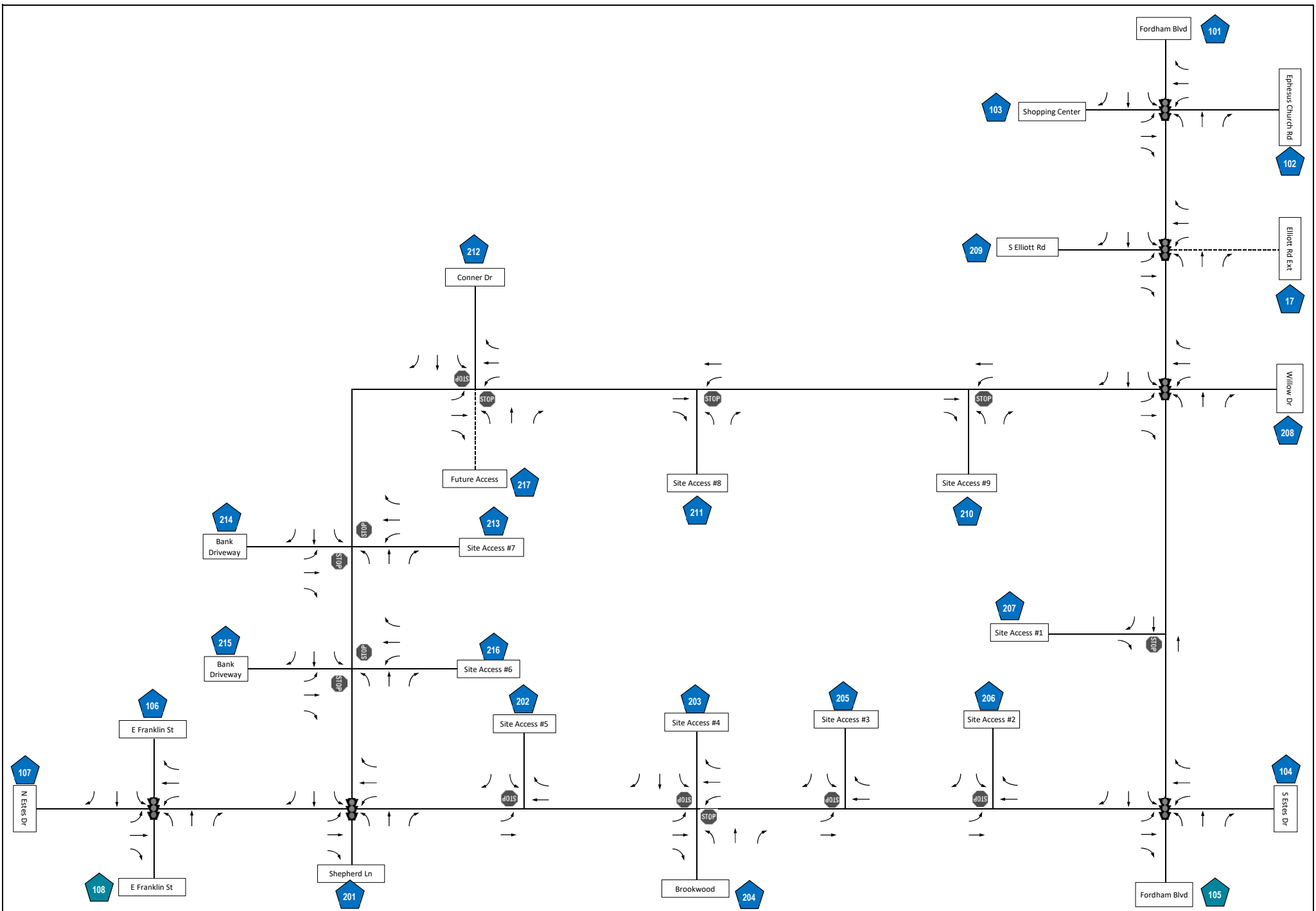


Figure 7
TransModeler Origin-Destination Layout

Level of Service Analysis

Intersection levels of service analyses were performed for the typical weekday AM and PM peak hours using *Synchro/SimTraffic Professional Version 10*. Existing signal plans were obtained through the NCDOT online signal plan library. Signal timings for the study area intersections along Fordham Boulevard (US 15-501) were obtained from the UNC TIA synchro files, and the signal timings for the other signalized intersections along S Estes Drive (SR 1750) were obtained from the Town of Chapel Hill and are included in Appendix D. A summary of the findings for the Existing (2019) scenario LOS analysis can be found in Table 17. The full *Synchro* output and the full TransModeler output can be found in Appendix E.

As reported in Table 17, all signalized intersections operate at an overall acceptable level of service (i.e., LOS D or better) during both peak hours, with one exception. The intersection of E Franklin Street (SR 1010) at Estes Drive (SR 1750) operates at LOS E during the PM peak hour. All stop-controlled approaches operate at acceptable levels of service during both peak hours

Table 17 Existing (2019) LOS Results

ID	Intersection and Approach	Traffic Control	Existing (2019)			
			Synchro		TransModeler	
			AM	PM	AM	PM
100	Fordham Boulevard (US 15-501) at Estes Drive (SR 1750)	Signalized	C	C	C	C
	Eastbound		(24.6)	(31.4)	(21.8)	(26.7)
	Westbound		E-65.8	E-58.0	D-46.9	D-51.0
	Northbound		F-91.5	F-92.7	D-39.0	D-40.3
	Southbound		C-24.0	C-30.1	B-18.6	C-22.2
110	Fordham Boulevard (US 15-501) at Willow Drive	Signalized	B	C	C	C
	Eastbound		(11.5)	(25.2)	(24.0)	(34.0)
	Westbound		E-72.2	E-71.6	D-45.6	D-51.0
	Northbound		F-83.0	F-81.6	D-48.9	E-62.6
	Southbound		A-6.0	B-17.1	C-22.9	D-35.0
120	Fordham Boulevard (US 15-501) at Elliott Rd	Signalized	A	B	B	B
	Eastbound		(7.6)	(18.1)	(13.1)	(19.8)
	Westbound		F-84.3	E-75.6	E-75.9	E-78.6
	Northbound		---	---	---	---
	Southbound		A-3.7	B-10.0	A-9.5	B-13.9
130	Fordham Boulevard (US 15-501) at Ephesus Church Rd (SR 1114)	Signalized	C	D	C	D
	Eastbound		(33.7)	(45.7)	(32.2)	(43.8)
	Westbound		F-91.6	F-98.9	D-54.5	E-68.1
	Northbound		E-79.1	E-79.8	D-47.3	D-53.9
	Southbound		B-16.4	C-27.6	C-24.8	D-38.8
200	Franklin Street at Estes Drive (SR 1750)	Signalized	D	E	D	E
	Eastbound		(48.0)	(57.1)	(46.6)	(76.7)
	Westbound		E-60.1	E-66.4	D-44.0	E-65.2
	Northbound		D-51.6	E-58.6	D-46.5	F-131.0
	Southbound		D-39.9	D-54.9	D-39.2	E-59.4
210	Estes Drive (SR 1750) at Shepherd Lane/Willow Drive	Signalized	B	B	B	C
	Eastbound		(13.4)	(19.6)	(16.6)	(32.0)
	Westbound		B-10.4	B-19.2	B-12.0	C-28.6
	Northbound		A-8.3	B-16.6	C-21.5	D-37.0
	Southbound		C-27.4	C-28.2	B-14.1	B-16.0
303	Willow Drive at Conner Drive / Future Site Access	Unsignalized	-	-	-	-
	Southbound		B-10.7	B-14.6	B-11.4	C-17.6
101	Fordham Boulevard (US 15-501) at Site Access #1	Unsignalized	-	-	-	-
	Eastbound		C-17.0	C-18.6	B-14.9	C-15.8
214	Estes Drive (SR 1750) at Site Access #2	Unsignalized	-	-	-	-
	Southbound		B-13.4	C-16.5	B-13.1	C-16.2
213	Estes Drive (SR 1750) at Site Access #3	Unsignalized	-	-	-	-
	Southbound		B-12.2	C-15.8	B-12.5	C-17.6
212	Estes Drive (SR 1750) at Site Access #4/Brookwood Condos	Unsignalized	-	-	-	-
	Northbound		B-10.8	B-11.2	B-10.8	B-11.4
	Southbound		A-9.6	B-13.9	B-13.3	C-18.9
211	Estes Drive (SR 1750) at Site Access #5	Unsignalized	-	-	-	-
	Southbound		B-10.5	A-9.6	B-10.5	A-9.7
301	Willow Drive at Wells Fargo Driveway/Site Access #6	Unsignalized	-	-	-	-
	Eastbound		B-12.5	B-13.6	B-12.5	B-13.6
	Westbound		A-0.0	C-18.1	B-11.5	C-17.4
302	Willow Drive at Site Access #7	Unsignalized	-	-	-	-
	Westbound		B-11.1	C-15.0	B-11.1	C-15.0
304	Willow Drive at Site Access #8	Unsignalized	-	-	-	-
	Northbound		B-10.9	B-13.3	B-13.0	C-18.4
305	Willow Drive at Site Access #9	Unsignalized	-	-	-	-
	Northbound		A-9.7	B-11.6	B-13.0	C-17.2

X (XX.X) = Overall intersection LOS (average delay), X-XX = Approach LOS and average delay.



3

No-Build (2024) Conditions

Background Growth and Development

The annual growth rates for the study area roadways were determined based on the compound annual growth rates reported in the Ephesus Church Road-Fordham Boulevard Area – Planning District technical memorandum. Based on the reported rates, an annual growth rate of one percent (1%) was applied along Fordham Boulevard (US 15-501) and a rate of one quarter of a percent (0.25%) was applied to all other study area roadways to account for growth between the base year (2019) and the completion of Phase 1 (2024). In addition, trips from the approved developments anticipated to be open prior to the completion of Phase 1, were included in the analysis. Reductions were taken, if applicable, if portions of the proposed developments are currently constructed. The following developments are assumed to be in use before Phase 1 is completed:

Wegmans Supermarket – A new access plan for the Chapel Hill Wegmans Supermarket along Durham-Chapel Hill Boulevard (US 15-501) was proposed. The project proposes a modification to the existing access to allow direct entering and exiting traffic access for Wegmans along with potential future access for the State Employees Credit Union (SECU) property. The development sits north of Old Durham Road, east of Sage Road, and south of Durham-Chapel Hill Boulevard (US 15-501). The site is currently under construction with an anticipated build-out year of 2021. Figure F-1 in Appendix F shows the calculated Wegmans development trip distribution through the University Place study network.

UNC Health Care Medical Office Building Complex Redevelopment – The proposed redevelopment of the existing UNC Health Care Eastowne site is located north of Durham-Chapel Hill Boulevard (US 15-501) and east of Eastowne Drive. The redevelopment will include a larger medical clinic facility with a structured parking deck. The project is currently under construction with an anticipated full build-out year of 2020. Figure F-2 in Appendix F shows the trip distribution for the UNC Health Care redevelopment.

Glen Lennox Neighborhood Redevelopment – The proposed redevelopment of the existing Glen Lennox neighborhood will include residential units, office space, retail stores, and a hotel. The 400-acre redevelopment is located north of Raleigh Road (NC 54) and east of Fordham Boulevard (US 15-501). It is to be constructed in multiple phases over an anticipated 20 years. The first phase was anticipated to be built out in 2018, and the second phase has an expected build-out year of 2023. Figure F-3 in Appendix F shows the calculated Glen Lennox development trip distribution through the University Place study network.

Ephesus Church Road-Fordham Boulevard Area (Blue Hill District) – This district analysis reviewed long-term traffic projections in the vicinity of Fordham Boulevard (US 15-501) and Ephesus Church Road. The area includes Village Plaza, Eastgate Crossing, Rams Plaza and other smaller parcels that include a mix of uses. The growth rates from this analysis were applied to project future traffic along the study area network. Based on a review of the study's No-Build versus Build conditions, three (3) additional developments were identified for inclusion in this study. Trips from the Fordham Boulevard Apartments (F-4), Crown Honda Redevelopment (F-5), and University Inn Redevelopment (F-5) were distributed through the University Place study network.

One (1) background roadway improvement project was identified within the study area. The S Elliott Road Extension plans to construct a fourth leg at the existing Fordham Boulevard (US 15-501) and S Elliott Road intersection. The committed background improvements from this project were included in the No-Build (2024) analysis, and a trip reroute (F-6) was conducted based on the Blue Hill District volume forecast to reflect the shift of vehicular traffic that would utilize the new connection.

Figure 8 shows the relative location of the approved background developments. The No-Build (2024) AM and PM peak hour volumes with the background approved development trips are shown in Figure 9. Lane configurations under the No-Build (2024) scenario are shown in Figure 10.

Level of Service Analysis

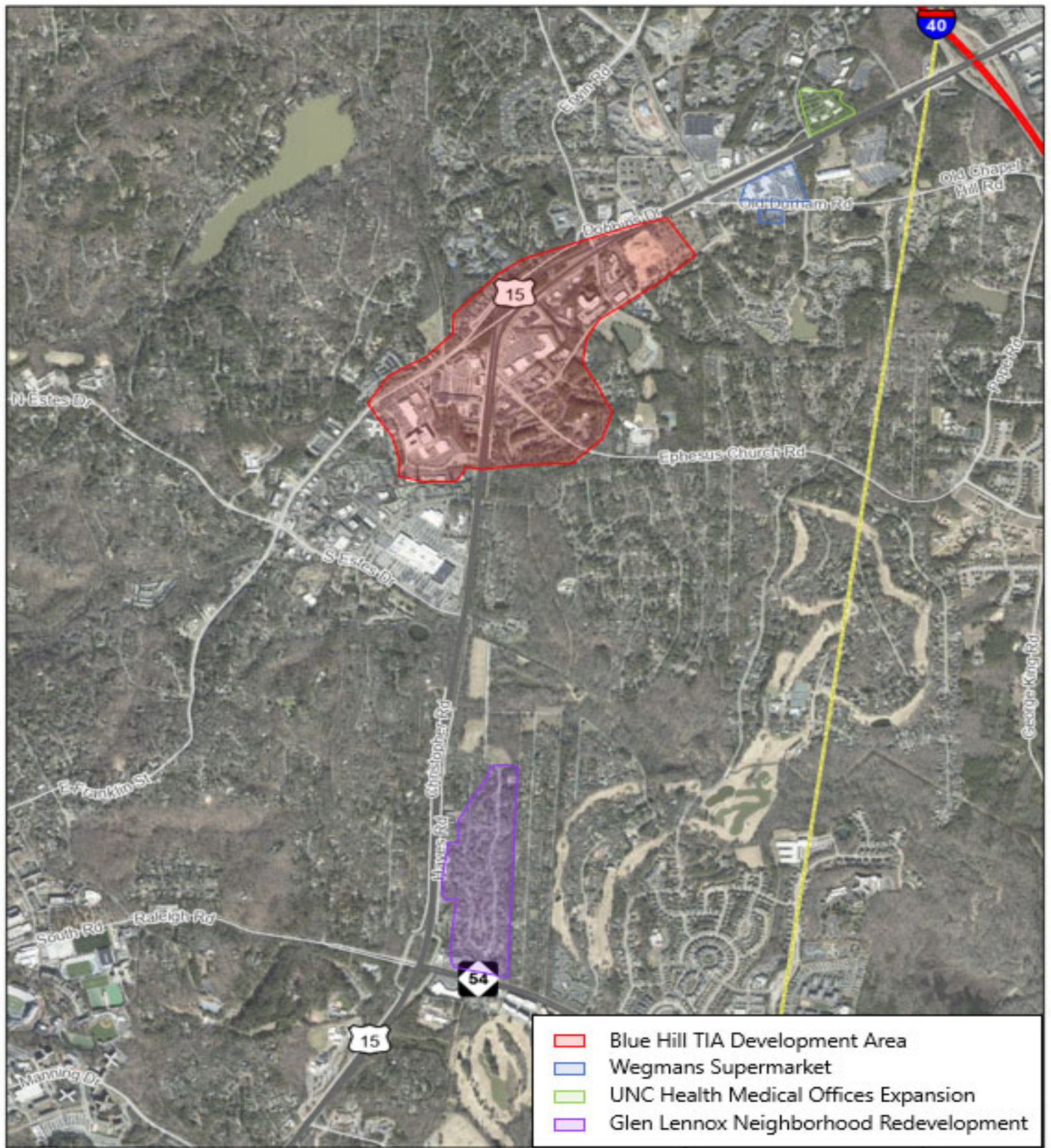
Intersection LOS analyses were performed for the typical weekday AM and PM peak hours using *Synchro/SimTraffic Professional Version 10*. The existing coordinated signal timing splits at the intersections were retained for all signalized intersections except for the intersection of Fordham Boulevard (US 15-501) and S Elliott Road/S Elliott Road Extension. The full *Synchro* output can be found in Appendix E.

As reported in Table 18, all signalized intersections, except for one, continue to operate at an acceptable level of service during both peak hours. The Synchro results indicate that the signalized intersection of E Franklin Street (SR 1010) and Estes Drive (SR 1750) maintains an overall LOS E during the PM peak hour. All stop-controlled approaches continue to operate at acceptable levels of service during both peak hours.

Table 18 No-Build (2024) LOS Results

ID	Intersection and Approach	Traffic Control	No-Build (2024)			
			Synchro		TransModeler	
			AM	PM	AM	PM
100	Fordham Boulevard (US 15-501) at Estes Drive (SR 1750)	Signalized	C (28.5)	D (35.7)	C (32.8)	D (38.1)
	Eastbound		E-65.1	E-56.3	F-118	F-105.0
	Westbound		F-91.5	F-92.7	E-56.1	E-56.5
	Northbound		C-25.1	C-33.0	B-21.9	C-28.3
	Southbound		C-23.8	C-32.6	B-26.5	C-32.3
110	Fordham Boulevard (US 15-501) at Willow Drive	Signalized	B (13.9)	C (28.5)	C (26.4)	D (43.4)
	Eastbound		E-73.0	E-72.3	E-61.3	E-69.6
	Westbound		F-81.7	F-80.6	E-66.8	F-81.2
	Northbound		A-7.8	C-24.8	C-23.3	D-47.9
	Southbound		B-10.3	C-20.4	C-23.7	C-31.6
120	Fordham Boulevard (US 15-501) at Elliott Rd	Signalized	B (15.4)	C (29.4)	C (30.7)	D (51.1)
	Eastbound		F-86.1	F-97.5	E-77.9	F-125.0
	Northbound		A-9.0	B-12.4	C-21.8	D-39.2
	Southbound		A-8.7	C-29.7	C-30.5	D-46.7
130	Fordham Boulevard (US 15-501) at Ephesus Church Rd (SR 1114)	Signalized	D (40.5)	D (54.4)	D (42.7)	E (55.4)
	Eastbound		F-90.6	F-94.3	E-71.6	F-87.9
	Westbound		F-91.5	F-87.0	E-75.5	F-82.7
	Northbound		B-18.9	D-40.8	C-31.1	D-48.7
	Southbound		D-43.6	D-53.6	D-42.3	D-49.4
200	Franklin Street at Estes Drive (SR 1750)	Signalized	D (49.9)	E (65.6)	D (49.7)	F (80.8)
	Eastbound		E-61.6	E-69.7	D-47.9	E-73.1
	Westbound		D-53.0	E-76.3	D-45.2	F-130.0
	Northbound		D-41.7	E-58.6	D-42.9	E-62.1
	Southbound		D-43.9	E-61.4	E-58.1	E-67.6
210	Estes Drive (SR 1750) at Shepherd Lane/Willow Drive	Signalized	B (13.2)	B (19.0)	B (16.8)	C (34.9)
	Eastbound		B-10.2	B-17.5	B-11.7	C-33.1
	Westbound		A-8.5	B-17.8	C-23.1	D-38.1
	Northbound		C-27.2	C-27.5	B-14.1	B-16.5
	Southbound		C-23.8	C-22.0	B-19.2	C-35.0
303	Willow Drive at Conner Drive / Future Site Access	Unsignalized	-	-	-	-
	Southbound		B-11.2	C-15.4	B-12.1	C-19.2
101	Fordham Boulevard (US 15-501) at Site Access #1	Unsignalized	-	-	-	-
	Eastbound		C-22.7	D-25.1	C-18.7	C-19.7
214	Estes Drive (SR 1750) at Site Access #2	Unsignalized	-	-	-	-
	Southbound		B-14.2	C-18.5	B-14.0	C-18.2
213	Estes Drive (SR 1750) at Site Access #3	Unsignalized	-	-	-	-
	Southbound		B-12.9	C-17.9	B-13.4	C-20.0
212	Estes Drive (SR 1750) at Site Access #4/Brookwood Condos	Unsignalized	-	-	-	-
	Northbound		B-11.5	B-11.8	B-11.5	B-12.0
	Southbound		A-9.9	C-15.3	B-14.3	C-21.7
211	Estes Drive (SR 1750) at Site Access #5	Unsignalized	-	-	-	-
	Southbound		B-10.9	A-9.9	B-10.9	A-9.97
301	Willow Drive at Wells Fargo Driveway/Site Access #6	Unsignalized	-	-	-	-
	Eastbound		B-12.8	B-13.9	B-12.7	B-13.9
	Westbound		A-0.0	C-18.7	B-11.7	C-17.9
302	Willow Drive at Site Access #7	Unsignalized	-	-	-	-
	Eastbound		B-11.3	C-15.3	B-11.3	C-15.4
	Westbound		B-12.3	C-18.5	B-13.2	C-21.5
304	Willow Drive at Site Access #8	Unsignalized	-	-	-	-
	Northbound		B-11.0	B-13.6	B-13.2	C-19.3
305	Willow Drive at Site Access #9	Unsignalized	-	-	-	-
	Northbound		A-9.7	B-11.7	B-13.3	C-17.6

X (XX.X) = Overall intersection LOS (average delay), X-XX = Approach LOS and average delay.



LEGEND	
—	Existing Roadway
- -	Future Roadway
	Existing Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
XX	PM Peak Hour Turning Movement Volume

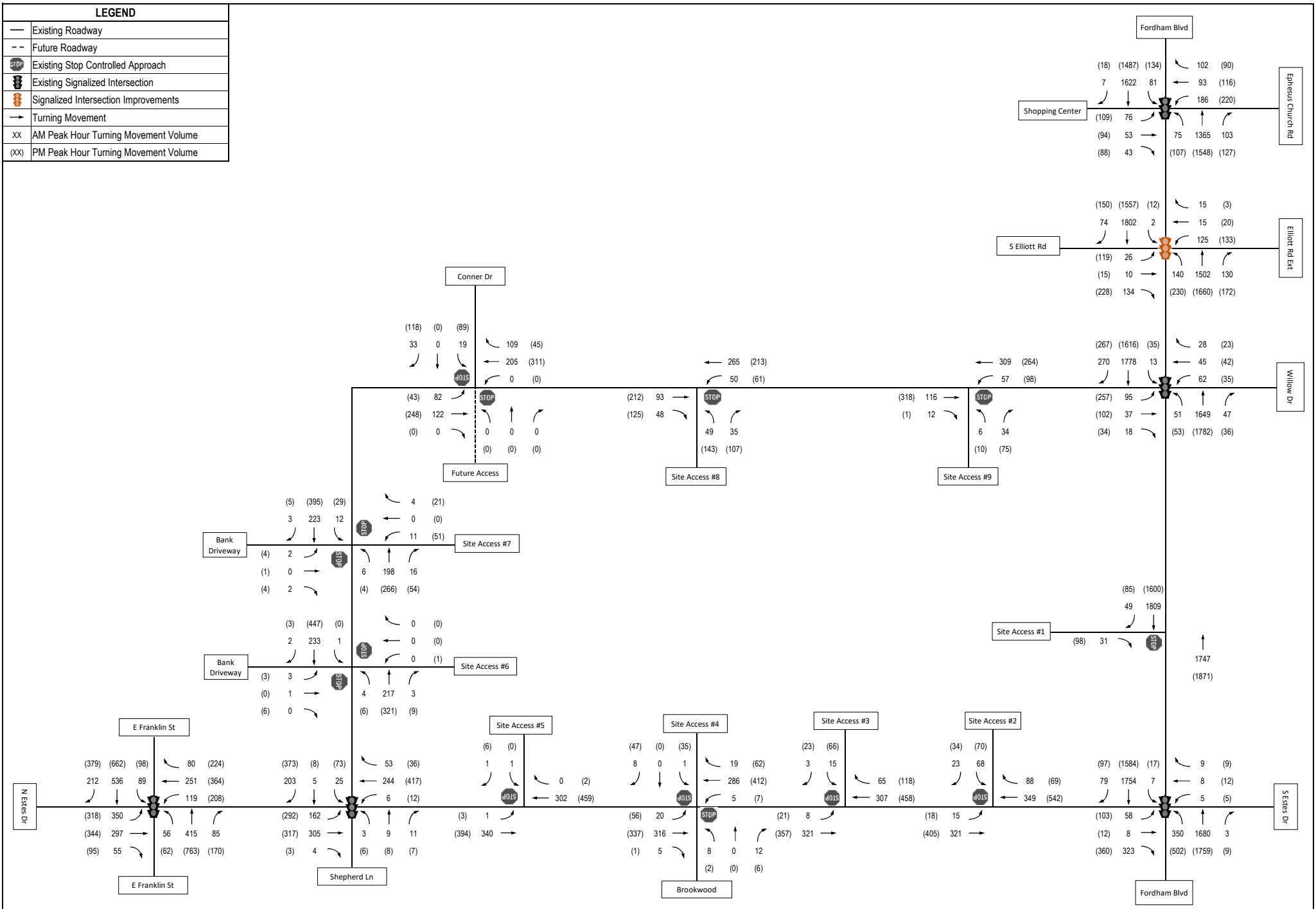
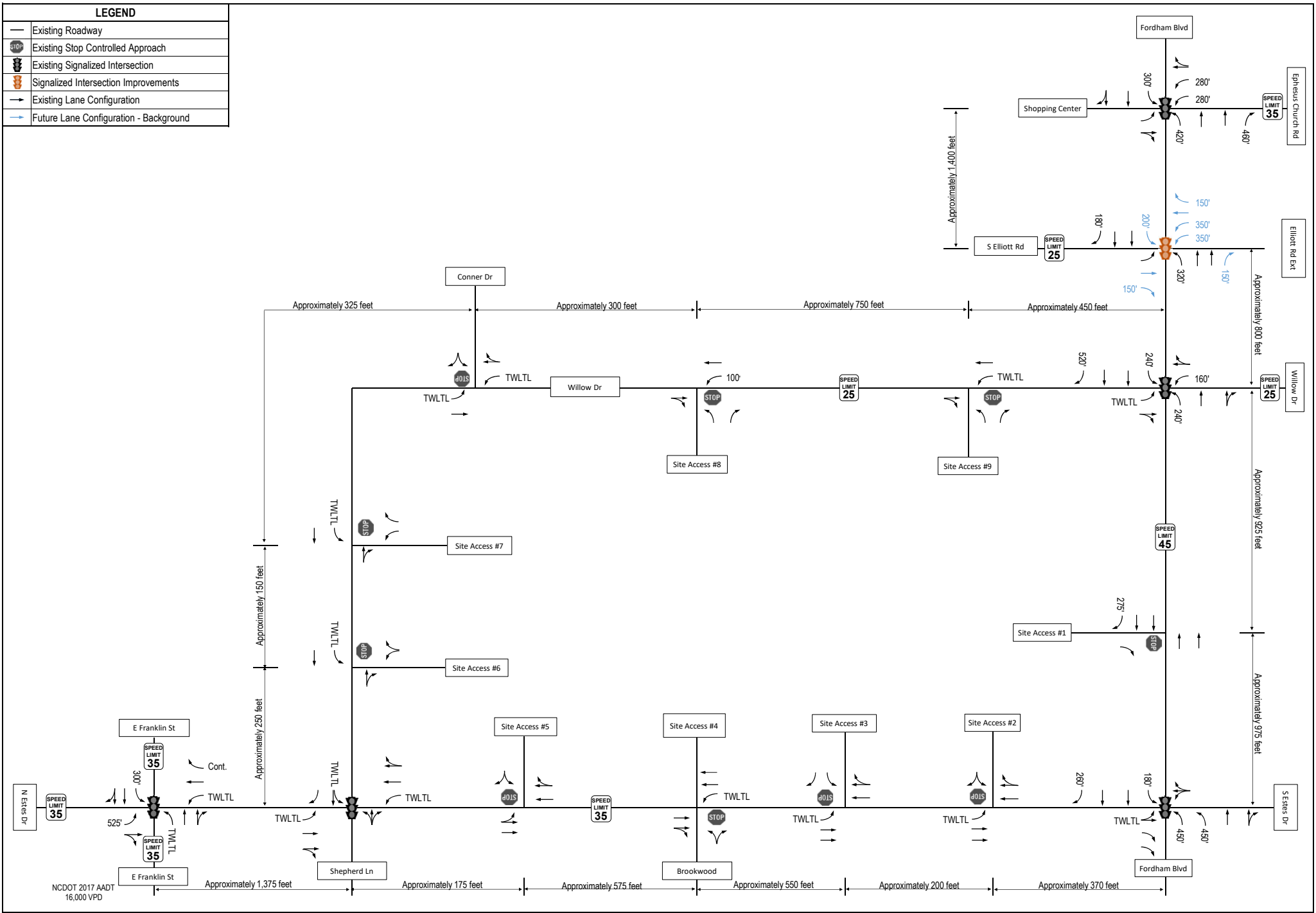


Figure 9
No-Build (2024) AM and PM Peak Hour Volumes

LEGEND	
	Existing Roadway
	Existing Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Existing Lane Configuration
	Future Lane Configuration - Background





4

Build (2024) Conditions

The redevelopment is expected to be constructed in three (3) phases. Phase 1 includes the majority of land use totals with an anticipated build year of 2023, Phase 2 will add 50,000 square feet (sf) of office space by 2025, and Phase 3 will add an additional 45 multi-family dwelling units, 100,000-sf of office space, and 100,000-sf of retail space by 2027. Note that this total represents a mixture of land uses that are occupied today and will remain as is (supermarket, gas station), new uses (residential, fast food, office) and uses that will be expanded or modified (retail, bank). This document summarizes the traffic impacts associated with this redevelopment and improvements needed to mitigate those impacts.

Trip Generation

Rather than a complete demolition and reconstruction of the site, portions of the existing site, such as the Harris Teeter and the movie theater, will remain relatively unchanged. Phase 1 of the proposed redevelopment will consist of the following existing and future land uses:

Existing Land Uses to Remain

- › Movie Theater (Land Use Code (LUC) 445) – 55,929 Square Feet (SF)
- › Gasoline/Service Station with Convenience Market (LUC 945) – 8 fueling positions
- › Supermarket (LUC 850) – 53,371 SF

Phase 1 Future Land Uses to be Constructed

- › Multifamily Housing (Mid-Rise) (LUC 221) – 255 dwelling units
- › General Retail (LUC 820) – 225,000 SF
- › Drive-In Bank (LUC 912) – 7,950 SF
- › Fast-Food Restaurant with Drive-Through Window (LUC 934) – 7,000 SF

Trip generation was conducted based on the most appropriate corresponding trip generation codes included in the *ITE Trip Generation Manual, 10th Edition* and the suggested method of calculation in the NCDOT's "Rate vs. Equation" Spreadsheet. Due to the robust transit service

in the study area, a transit reduction factor of 5% was applied to the future volumes. To be conservative, no walking or bicycling reductions were applied. The existing site trips at the current access driveways were removed and the total external trips for each phase were applied to the driveways in accordance with the following trip distribution. This methodology allows vehicular traffic to shift depending on the locations of future land uses and their proximity to current and future access locations.

As shown in Table 19, Phase 1 of the University Place redevelopment is projected to generate up to 18,748 external daily site trips with 830 trips (453 entering, 377 exiting) occurring in the AM peak hour and 2,521 trips (1,338 entering, 1,183 exiting) occurring in the PM peak hour. The proposed site trips generated include the existing land uses that are to remain in the future year scenarios in addition to the square footage associated with the redevelopment.

Table 19 Build (2024) Trip Generation Rates (Vehicle Trips)

Land Use Code ¹	Land Use	Unit	ADT	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Total Site Trips ²									
221	Multifamily Housing (Mid-Rise)	255 du	1,388	22	64	86	66	43	109
445	Multiplex Movie Theater	55,929 sf		0	0	0	577	418	995
820	General Retail	225,000 sf	10,435	164	100	264	475	515	990
850	Supermarket	53,371 sf	5,699	122	82	204	251	242	493
912	Drive-In Bank	7,950 sf	795	44	32	76	82	81	163
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	3,297	143	138	281	119	110	229
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,643	51	49	100	57	55	112
Development Total			23,257	546	465	1,011	1,627	1,464	3,091
Trip Reduction Due to Internal Capture ³									
221	Multifamily Housing (Mid-Rise)	255 du	505	1	14	15	44	12	56
445	Multiplex Movie Theater	55,929 sf		0	0	0	44	41	85
820	General Retail	225,000 sf	1,069	9	13	22	48	58	107
850	Supermarket	53,371 sf	574	6	11	17	26	27	53
912	Drive-In Bank	7,950 sf	80	2	4	7	8	9	18
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	1,131	48	20	68	42	65	107
945	Gasoline/Service Station with Convenience Market	8 fueling positions	164	3	7	9	6	6	12
Development Total			3,525	69	69	138	218	219	437
Total External Site Trips									
221	Multifamily Housing (Mid-Rise)	255 du	883	21	50	71	22	31	53
445	Multiplex Movie Theater	55,929 sf		0	0	0	533	377	910
820	General Retail	225,000 sf	9,366	155	87	242	427	457	884
850	Supermarket	53,371 sf	5,125	116	71	187	225	215	440
912	Drive-In Bank	7,950 sf	715	42	28	70	74	72	146
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	2,166	95	118	213	77	45	122
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,479	48	42	90	51	49	100
Development Total			19,734	477	396	873	1,409	1,246	2,655
Total External Site Trips - With Transit Reduction (5%)									
221	Multifamily Housing (Mid-Rise)	255 du	839	20	48	68	21	29	50
445	Multiplex Movie Theater	55,929 sf		0	0	0	506	358	864
820	General Retail	225,000 sf	8,898	147	83	230	406	434	840
850	Supermarket	53,371 sf	4,869	110	67	177	214	204	418
912	Drive-In Bank	7,950 sf	679	40	27	67	70	68	138
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	2,058	90	112	202	73	43	116
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,405	46	40	86	48	47	95
Development Total			18,748	453	377	830	1,338	1,183	2,521
Pass-by Site Trips ⁴									
221	Multifamily Housing (Mid-Rise)	255 du		0	0	0	0	0	0
445	Multiplex Movie Theater	55,929 sf		0	0	0	0	0	0
820	General Retail	225,000 sf		0	0	0	143	143	286
850	Supermarket	53,371 sf		0	0	0	75	75	150
912	Drive-In Bank	7,950 sf		10	9	19	24	24	48
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf		49	50	99	29	29	58
945	Gasoline/Service Station with Convenience Market	8 fueling positions		27	26	53	27	26	53
Development Total				86	86	172	298	297	595
Non-Pass-by Site Trips									
221	Multifamily Housing (Mid-Rise)	255 du		20	48	68	21	29	50
445	Multiplex Movie Theater	55,929 sf		0	0	0	506	358	864
820	General Retail	225,000 sf		147	83	230	263	291	554
850	Supermarket	53,371 sf		110	67	177	139	129	268
912	Drive-In Bank	7,950 sf		30	18	48	46	44	90
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf		41	62	103	44	14	58
945	Gasoline/Service Station with Convenience Market	8 fueling positions		19	14	33	21	21	42
Development Total				367	291	658	1,040	886	1,926

Notes:

1. Land Use Code and trip generation rates are determined based on *ITE Trip Generation, 10th Edition*
2. Total site trips are determined based on the suggested method in the NCDOT Rate Vs Equation Spreadsheet
3. Internal capture was based on NCHRP 684 method and NCDOT IC calculation spreadsheet
4. Unconstrained pass-by trips are calculated based on *ITE Trip Generation Handbook, 3rd Edition*. The final projections are not expected to exceed 10% of adjacent street volumes.

Distribution and Assignment

The generated non-pass-by site trips will be distributed in accordance with the existing traffic patterns and land uses in the vicinity of the study area as follows:

- › Fordham Boulevard (US 15-501) to/from the south – 35%
- › Fordham Boulevard (US 15-501) to/from the north – 25%
- › N Estes Drive (SR 1750) to/from the west – 20%
- › E Franklin Street (SR 1010) to/from the north – 3%
- › E Franklin Street (SR 1010) to/from the south – 7%
- › Conner Drive to/from the northwest – 1%
- › Willow Drive to/from the east – 1%
- › S Elliott Road Extension to/from the east – 2%
- › S Elliott Road to/from the west – 2%
- › Shopping Center to/from the west – 1%
- › Ephesus Church Road to/from the east – 3%

Pass-by trips were distributed based on existing traffic flow in the area. The total non-pass-by site trip percentages referenced above are shown in Figure 11, and the pass-by trip percentages are shown in Figure 12. The resulting Build (2024) non-pass-by and pass-by trips are depicted in Figure 13 and Figure 14, respectively. The total site-generated trips are shown in Figure 15 and the Build (2024) volumes are shown in Figure 16.

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
	Percentage of Exiting Trips
	Percentage of Entering Trips
	Percentage of Entering and Exiting Trips

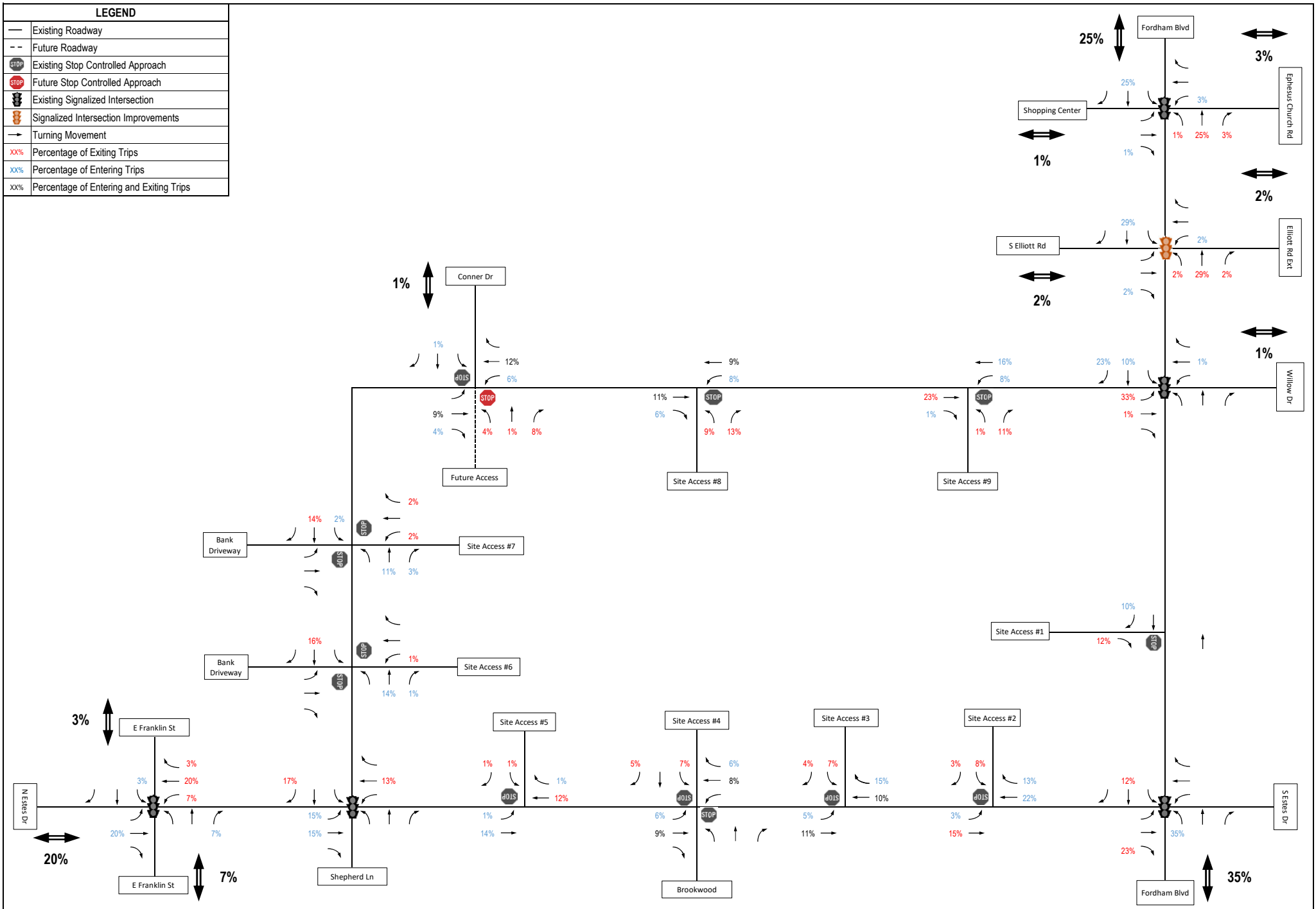


Figure 11
Non-Pass-By Site Trip Distribution Percentages

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
	Percentage of Exiting Trips
	Percentage of Entering Trips

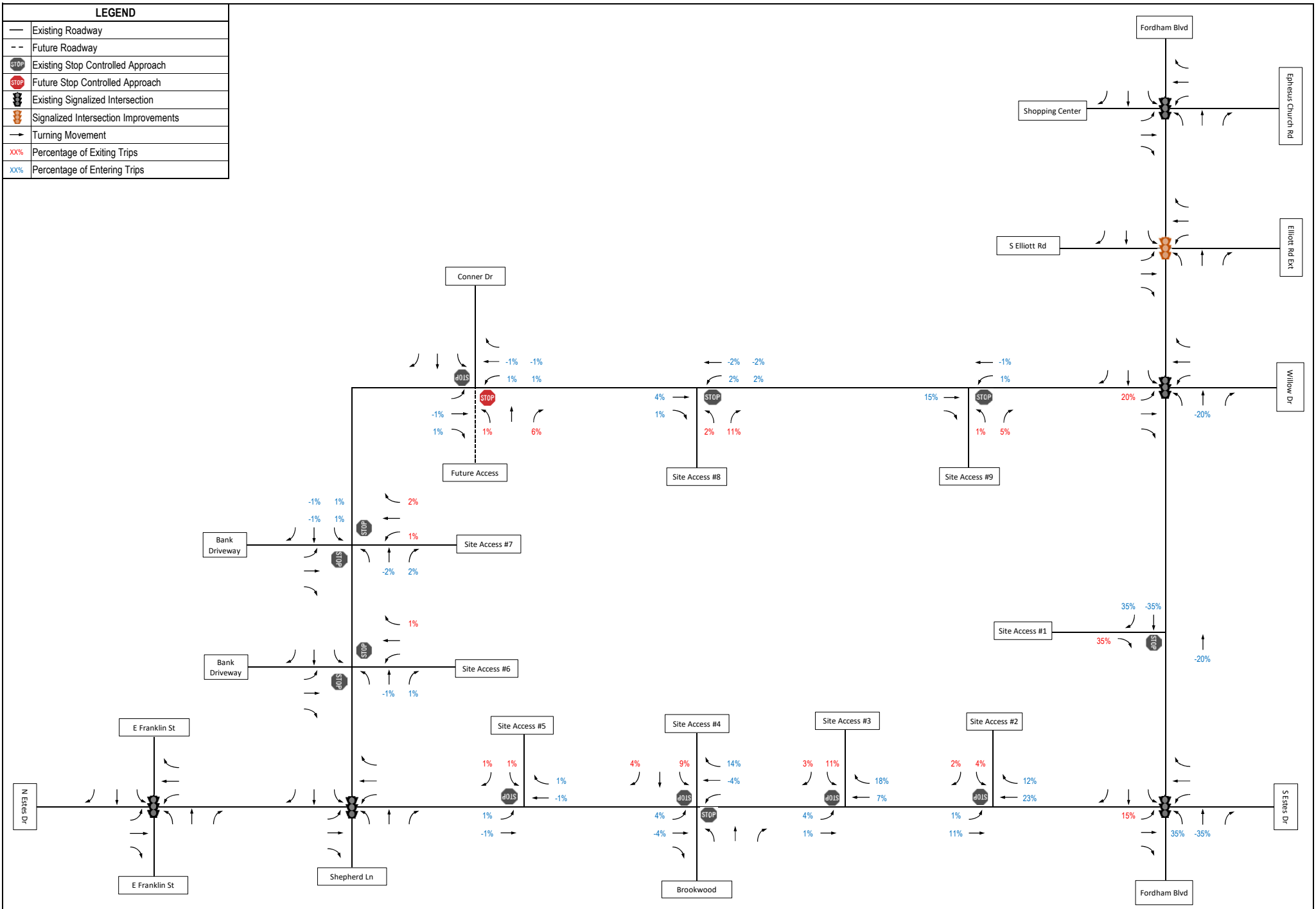


Figure 12
Pass-By Site Trip Distribution Percentages



LEGEND	
—	Existing Roadway
- -	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

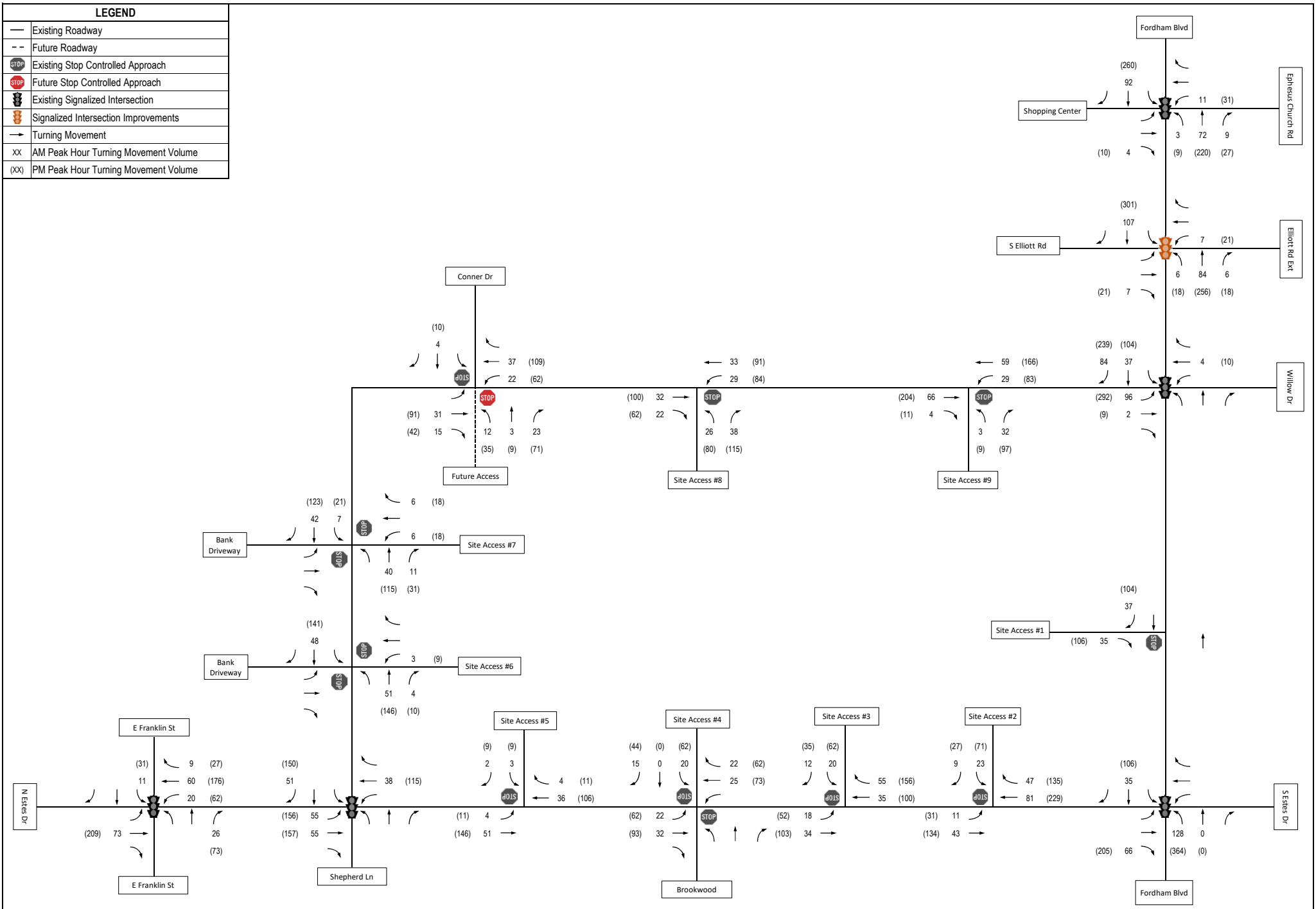


Figure 13
Build (2024) Non-Pass-By Peak Hour Site Generated Trips

LEGEND	
—	Existing Roadway
- -	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

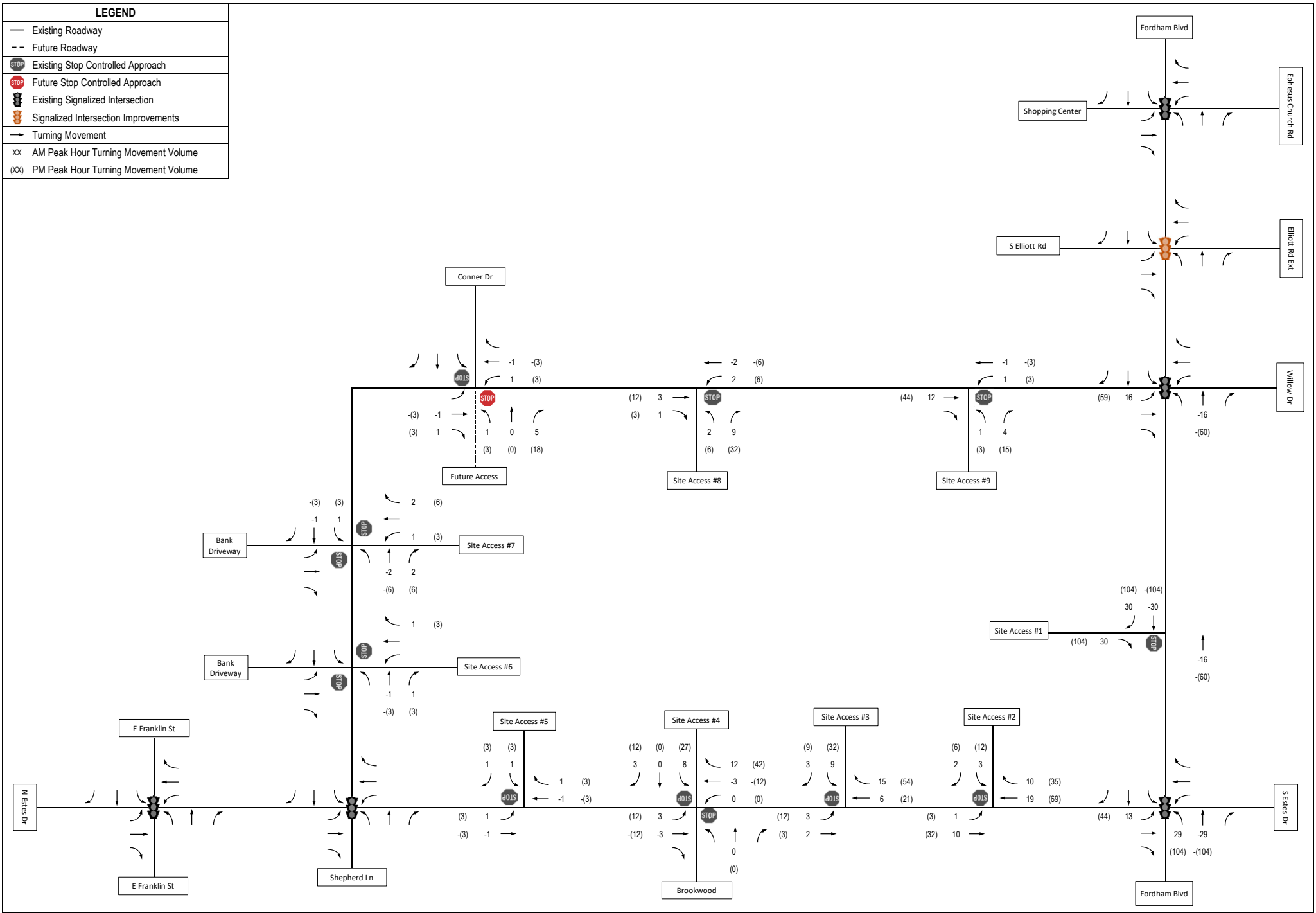


Figure 14
Build (2024) Pass-By Peak Hour Site Generated Trips



LEGEND	
—	Existing Roadway
- -	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

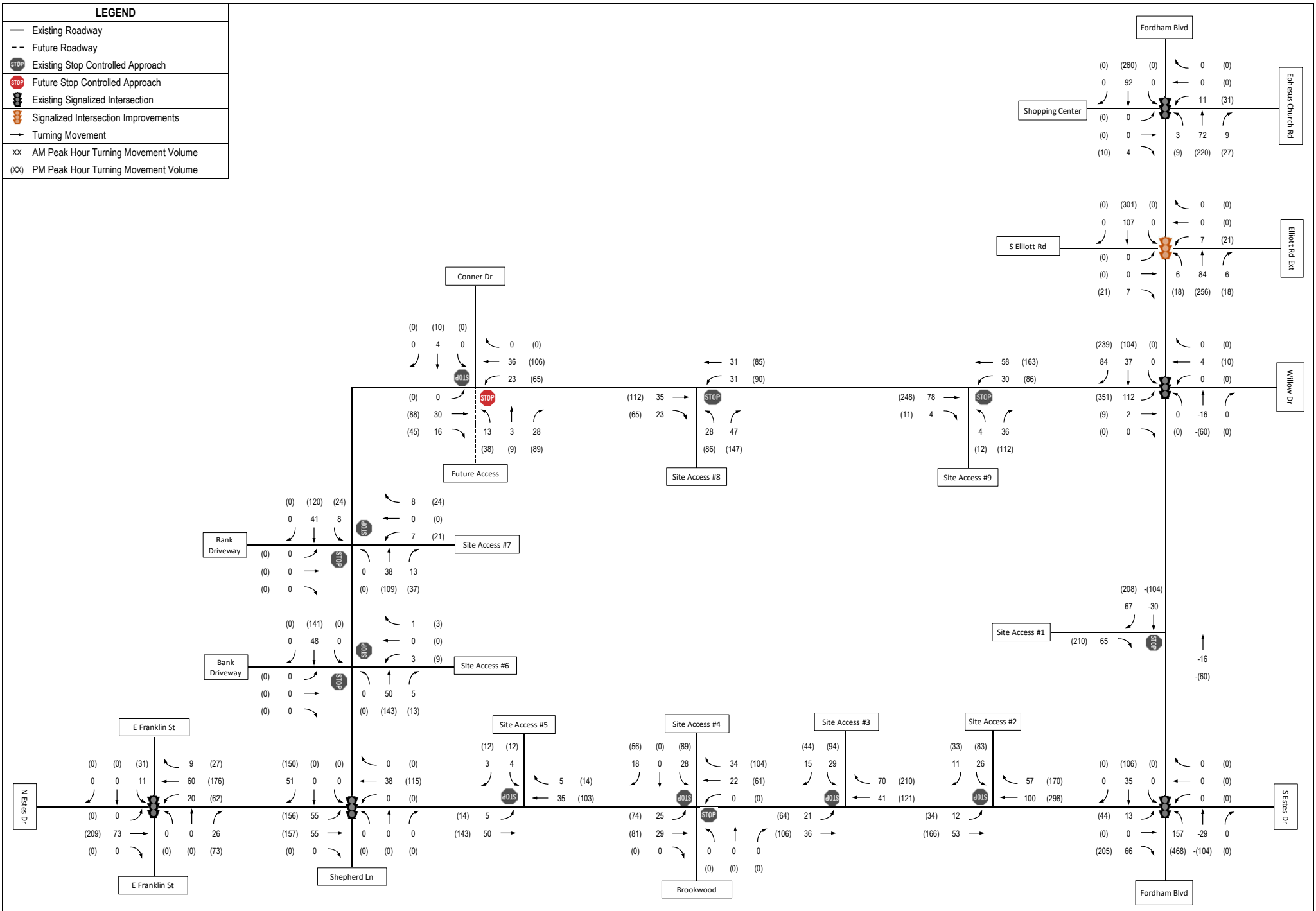


Figure 15
Build (2024) Total Peak Hour Site Generated Trips

LEGEND	
—	Existing Roadway
--	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

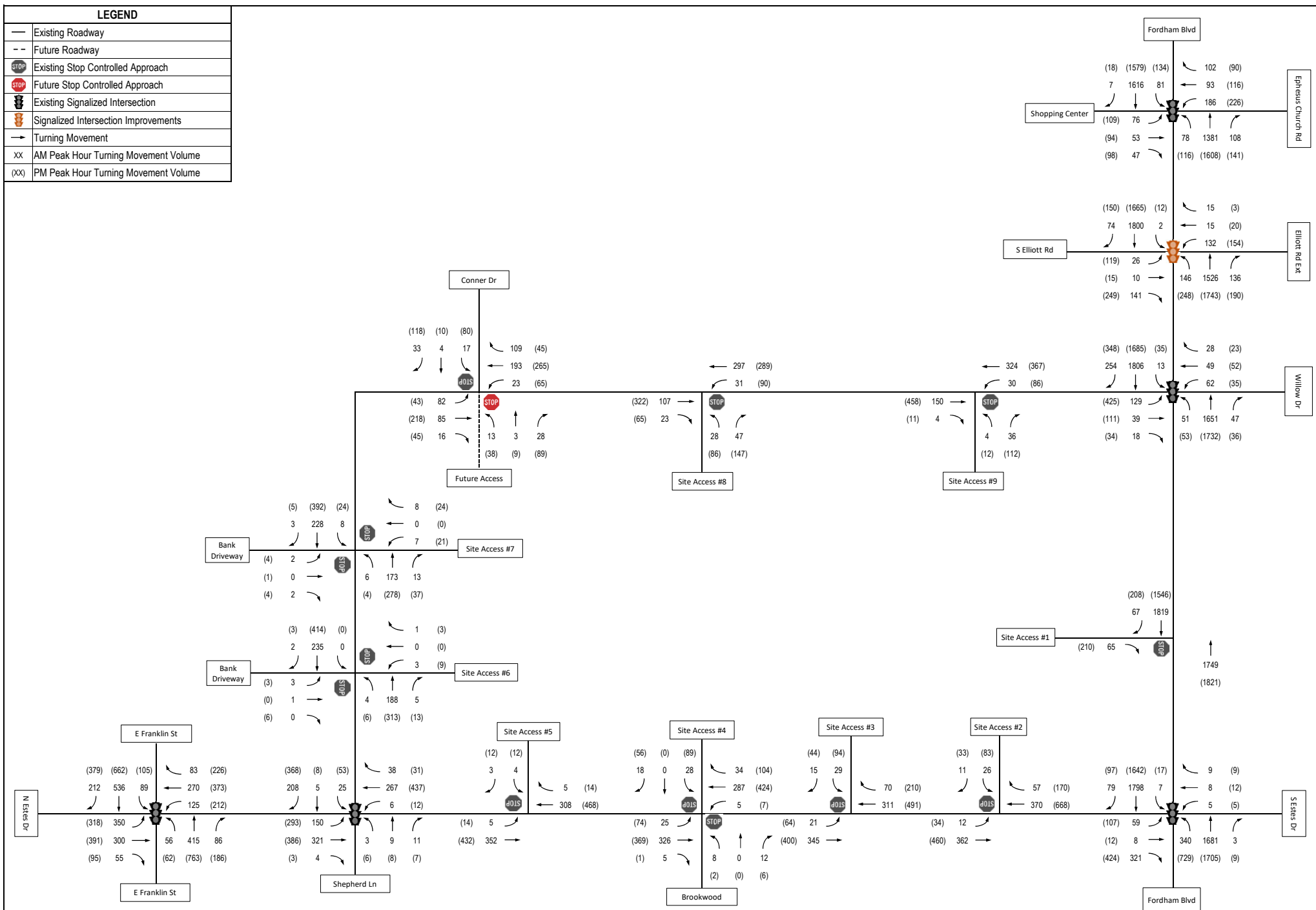


Figure 16
Build (2024) AM and PM Peak Hour Volumes

Level of Service Analysis

Intersection LOS analyses were performed for the typical weekday AM and PM peak hours using *Synchro/SimTraffic Professional Version 10*. The coordinated signal timings analyzed within the No-Build (2024) scenario were maintained for the Build (2024) analysis. A summary of the findings for the Build (2024) scenario LOS analysis can be found in Appendix E.

As reported in Table 20, three (3) signalized study intersections experience poor operations during the PM peak hours. The signalized intersection of Fordham Boulevard (US 15-501) at Willow Drive operates at a LOS D; however, has significant eastbound left-turn queuing. Fordham Boulevard (US 15-501) at Ephesus Church Road (SR 1742) operates at LOS E during the PM peak hour. The signalized intersection of E Franklin Street (SR 1010) at Estes Drive (SR 1750) also maintains a LOS E during the PM peak hour. Additionally, the eastbound stop-controlled approach along Site Access #1 at Fordham Boulevard (US 15-501) operates at LOS E during the PM peak hour.

Table 20 Build (2024) LOS Results

ID	Intersection and Approach	Traffic Control	Build (2024)			
			Synchro		TransModeler	
			AM	PM	AM	PM
100	Fordham Boulevard (US 15-501) at Estes Drive (SR 1750)	Signalized	C (28.7)	D (48.2)	C (33.1)	E (60.7)
	Eastbound		E-65.6	D-52.0	F-120.0	F-201.0
	Westbound		F-91.5	F-92.7	E-56.9	E-63.2
	Northbound		C-25.0	D-37.1	C-21.7	D-43.9
	Southbound		C-24.3	E-61.8	C-27.0	D-40.6
110	Fordham Boulevard (US 15-501) at Willow Drive	Signalized	B (15.6)	D (41.9)	C (29.2)	E (59.9)
	Eastbound		E-75.9	F-152.3	E-63.9	F-193.0
	Westbound		F-81.6	F-83.1	E-71.8	F-83.9
	Northbound		A-8.7	C-25.8	C-25.4	D-45.9
	Southbound		B-11.5	C-23.5	C-26.4	C-34.4
120	Fordham Boulevard (US 15-501) at Elliott Rd	Signalized	B (15.9)	C (32.2)	C (32.4)	E (65.5)
	Eastbound		F-85.3	F-93.7	E-79.2	F-132.0
	Westbound		F-93.8	F-100.3	F-92.9	F-104.0
	Northbound		A-9.3	B-12.6	C-23.0	D-52.9
	Southbound		A-9.0	D-36.2	C-32.0	E-63.2
130	Fordham Boulevard (US 15-501) at Ephesus Church Rd (SR 1114)	Signalized	D (40.5)	E (62.5)	D (43.0)	E (60.6)
	Eastbound		F-90.8	F-94.1	E-71.9	F-96.9
	Westbound		F-91.5	F-84.6	E-75.8	F-84.9
	Northbound		B-19.4	D-49.5	C-31.6	D-52.6
	Southbound		D-43.4	E-65.4	D-42.4	E-56.2
200	Franklin Street at Estes Drive (SR 1750)	Signalized	D (50.7)	E (70.4)	D (51.3)	F (86.8)
	Eastbound		E-61.6	E-77.7	D-49.1	F-82.4
	Westbound		D-54.1	F-86.7	D-47.2	F-138.0
	Northbound		D-42.6	E-61.3	D-44.4	E-68.0
	Southbound		D-44.9	E-61.9	E-60.0	E-70.3
210	Estes Drive (SR 1750) at Shepherd Lane/Willow Drive	Signalized	B (12.9)	B (17.5)	B (16.6)	C (34.3)
	Eastbound		A-9.4	B-14.9	B-11.3	C-31.7
	Westbound		A-8.3	B-16.7	C-23.1	D-37.6
	Northbound		C-27.2	C-29.3	B-14.0	B-16.8
	Southbound		C-24.4	C-21.9	B-19.1	D-35.9
303	Willow Drive at Conner Drive / Future Site Access	Unsignalized	-	-	-	-
	Northbound		B-11.5	C-16.8	B-11.7	C-19.0
	Southbound		B-12.8	D-31.6	B-12.6	D-28.2
101	Fordham Boulevard (US 15-501) at Site Access #1	Unsignalized	-	-	-	-
	Eastbound		D-26.8	E-48.9	C-20.9	D-28.6
214	Estes Drive (SR 1750) at Site Access #2	Unsignalized	-	-	-	-
	Southbound		B-13.0	D-31.5	B-12.8	D-31.2
213	Estes Drive (SR 1750) at Site Access #3	Unsignalized	-	-	-	-
	Southbound		B-13.0	D-29.5	B-14.5	E-35.1
212	Estes Drive (SR 1750) at Site Access #4/Brookwood Condos	Unsignalized	-	-	-	-
	Northbound		B-11.8	B-12.5	B-11.8	B-12.8
	Southbound		B-13.2	D-26.4	C-15.4	D-34.4
211	Estes Drive (SR 1750) at Site Access #5	Unsignalized	-	-	-	-
	Southbound		B-11.4	B-13.7	B-11.4	B-13.6
301	Willow Drive at Wells Fargo Driveway/Site Access #6	Unsignalized	-	-	-	-
	Eastbound		B-12.4	B-13.4	B-12.4	B-13.4
	Westbound		B-11.6	C-16.3	B-11.7	C-16.3
302	Willow Drive at Site Access #7	Unsignalized	-	-	-	-
	Eastbound		B-11.1	C-15.3	B-11.1	C-15.2
	Westbound		B-11.0	B-14.5	B-12.7	C-19.2
304	Willow Drive at Site Access #8	Unsignalized	-	-	-	-
	Northbound		B-10.2	B-14.0	B-12.7	C-23.9
305	Willow Drive at Site Access #9	Unsignalized	-	-	-	-
	Northbound		A-9.7	B-14.3	B-13.0	C-23.2

X (XX.X) = Overall intersection LOS (average delay), **X-XX** = Approach LOS and average delay.



5

No-Build (2026) Conditions

Background Growth and Development

The annual growth rates for the study area roadways were determined based on the compound annual growth rates reported in the Ephesus Church Road-Fordham Boulevard Area – Planning District technical memorandum. Based on the reported rates, an annual growth rate of one percent (1%) was applied along Fordham Blvd (US 15-501) and a rate of one quarter of a percent (0.25%) was applied to all other study area roadways to account for growth between the base year (2019) and the completion of Phase 2 (2026). In addition, trips from the approved developments anticipated to be open, prior to the University Place full build-out years, were included in the analysis. Reductions were taken, if applicable, if portions of the proposed developments are currently constructed. The following developments are assumed to be in use before Phase 2 is completed:

- › Wegmans Supermarket (Appendix F – F-1)
- › UNC Health Care Medical Office Building Complex Redevelopment (Appendix F – F-2)
- › Glen Lennox Neighborhood Redevelopment Phases 1 and 2 (Appendix F – F-3)
- › Ephesus Church Road- Fordham Boulevard Area (Blue Hill District)
 - Fordham Boulevard Apartments (Appendix F – F-4)
 - Crown Honda Redevelopment (Appendix F – F-5)
 - University Inn Redevelopment (Appendix F – F-5)
 - S Elliott Road Extension Reroute (Appendix F – F-6)

The background roadway improvements assumed from the S Elliott Road Extension project in the No-Build (2024) analysis were also analyzed in the No-Build (2026) scenario.

The No-Build (2026) AM and PM peak hour volumes with the background approved development trips are shown in Figure 17. No changes were made to the lane geometrics and traffic control analyzed between the No-Build (2024) and No-Build (2026) scenarios.

Level of Service Analysis

Intersection LOS analyses were performed for the typical weekday AM and PM peak hours using *Synchro/SimTraffic Professional Version 10*. The existing coordinated signal timing splits at the intersections were retained for all signalized intersections except for the intersection of Fordham Boulevard (US 15-501) and S Elliott Road/S Elliott Road Extension. The full *Synchro* output can be found in Appendix E.

As reported in Table 21, two (2) signalized intersections operate at an unacceptable level of service during the PM peak hour. The signalized intersection of Franklin Street (SR 1010) and Estes Drive (SR 1750) maintains an overall LOS E during the PM peak hour. The signalized intersection of Fordham Boulevard (US 15-501) at Ephesus Church Road (SR 1742) operates at LOS E during the PM peak hour. All stop-controlled approaches continue to operate at acceptable levels of service during both peak hours.

Table 21 No-Build (2026) LOS Results

ID	Intersection and Approach	Traffic Control	No-Build (2026)			
			Synchro		TransModeler	
			AM	PM	AM	PM
100	Fordham Boulevard (US 15-501) at S. Estes Drive (SR 1750)	Signalized	C (29.0)	D (36.3)	C (33.7)	D (39.1)
	Eastbound		E-65.0	E-56.5	F-125.0	F-110.0
	Westbound		F-91.5	F-92.7	E-57.3	E-57.5
	Northbound		C-25.3	C-33.4	C-22.2	C-28.7
	Southbound		C-24.8	C-33.8	C-27.2	C-33.1
110	Fordham Boulevard (US 15-501) at Willow Drive	Signalized	B (14.1)	C (29.3)	C (26.9)	D (44.9)
	Eastbound		E-73.1	E-72.3	E-62.4	E-70.4
	Westbound		F-81.7	F-80.4	E-68.2	F-81.9
	Northbound		A-8.1	C-26.3	C-23.8	D-50.5
	Southbound		B-10.6	C-20.8	C-24.2	C-32.4
120	Fordham Boulevard (US 15-501) at S. Elliott Rd	Signalized	B (15.8)	C (29.9)	C (31.8)	D (52.9)
	Eastbound		F-86.2	F-97.4	E-79.3	F-126.0
	Northbound		A-9.3	B-12.8	C-22.3	D-41.0
	Southbound		A-9.3	C-30.7	C-32.0	D-48.8
130	Fordham Boulevard (US 15-501) at Ephesus Church Rd (SR 1114)	Signalized	D (41.2)	E (56.2)	D (43.8)	E (57.1)
	Eastbound		F-90.9	F-94.4	E-73.9	F-90.7
	Westbound		F-91.4	F-86.1	E-77.8	F-84.0
	Northbound		B-19.5	D-43.2	C-31.8	D-50.5
	Southbound		D-44.9	E-55.8	D-43.5	D-50.8
200	E. Franklin Street at N. Estes Drive (SR 1750)	Signalized	D (50.1)	E (66.1)	D (50.1)	F (81.7)
	Eastbound		E-62.0	E-69.9	D-48.4	E-73.7
	Westbound		D-53.2	E-77.7	D-45.5	F-132.0
	Northbound		D-41.8	E-58.9	D-43.1	E-62.7
	Southbound		D-44.1	E-61.6	E-58.5	E-68.1
210	S. Estes Drive (SR 1750) at Shepherd Lane/Willow Drive	Signalized	B (13.2)	B (19.1)	B (16.8)	D (35.2)
	Eastbound		B-10.2	B-17.5	B-11.7	C-33.6
	Westbound		A-8.5	B-18.0	C-23.2	D-38.2
	Northbound		C-27.2	C-27.5	B-14.1	B-16.5
	Southbound		C-23.9	C-21.8	B-19.2	D-35.2
303	Willow Drive at Conner Drive / Future Site Access	Unsignalized	-	-	-	-
	Southbound		B-11.2	C-15.5	B-12.2	C-19.4
101	Fordham Boulevard (US 15-501) at Site Access #1	Unsignalized	-	-	-	-
	Eastbound		C-23.4	D-26.1	C-19.2	C-20.2
214	S. Estes Drive (SR 1750) at Site Access #2	Unsignalized	-	-	-	-
	Southbound		B-14.3	C-18.5	B-14.0	C-18.3
213	S. Estes Drive (SR 1750) at Site Access #3	Unsignalized	-	-	-	-
	Southbound		B-12.9	C-18.0	B-13.4	C-20.2
212	S. Estes Drive (SR 1750) at Site Access #4/Brookwood Condos	Unsignalized	-	-	-	-
	Northbound		B-11.5	B-11.8	B-11.5	B-12.0
	Southbound		A-9.9	C-15.5	B-14.4	C-21.9
211	S. Estes Drive (SR 1750) at Site Access #5	Unsignalized	-	-	-	-
	Southbound		B-10.9	A-9.9	B-10.9	A-9.98
301	Willow Drive at Wells Fargo Driveway/Site Access #6	Unsignalized	-	-	-	-
	Eastbound		B-12.8	B-13.9	B-12.7	B-13.9
	Westbound		A-0.0	C-18.8	B-11.7	C-18.0
302	Willow Drive at Site Access #7	Unsignalized	-	-	-	-
	Eastbound		B-11.3	C-15.4	B-11.3	C-15.4
304	Willow Drive at Site Access #8	Unsignalized	-	-	-	-
	Northbound		B-11.0	B-13.6	B-13.3	C-19.3
305	Willow Drive at Site Access #9	Unsignalized	-	-	-	-
	Northbound		A-9.7	B-11.7	B-13.3	C-17.7

X (XX.X) = Overall intersection LOS (average delay), **X-XX** = Approach LOS and average delay.

LEGEND	
—	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
Signalized	Existing Signalized Intersection
Signalized	Signalized Intersection Improvements
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

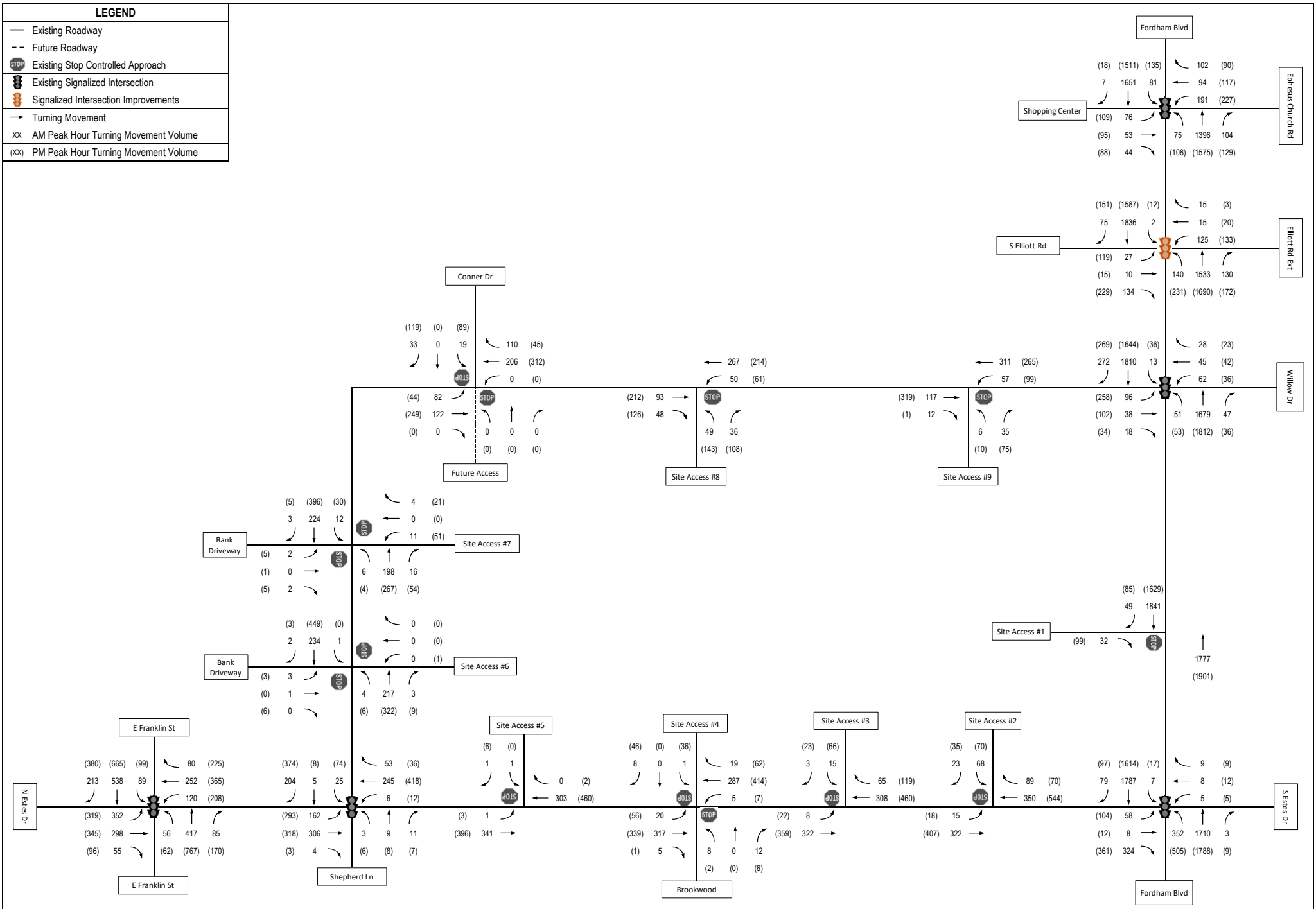


Figure 17
No-Build (2026) AM and PM Peak Hour Volumes



6

Build (2026) Conditions

The redevelopment is expected to be constructed in three (3) phases. Phase 1 includes the majority of land use totals with an anticipated build year of 2023, Phase 2 will add 50,000 square feet (sf) of office space by 2025, and Phase 3 will add an additional 45 multi-family dwelling units, 100,000-sf of office space, and 100,000-sf of retail space by 2027. Note that this total represents a mixture of land uses that are occupied today and will remain as is (supermarket, gas station), new uses (residential, fast food, office) and uses that will be expanded or modified (retail, bank). This document summarizes the traffic impacts associated with this redevelopment and improvements needed to mitigate those impacts.

Trip Generation

Rather than a complete demolition and reconstruction of the site, portions of the existing site such as the Harris Teeter and the movie theater will remain relatively unchanged. Phase 1 and Phase 2 of the proposed redevelopment will consist of the following existing and future land uses:

Existing Land Uses to Remain

- › Movie Theater (Land Use Code (LUC) 445) – 55,929 Square Feet (SF)
- › Gasoline/Service Station with Convenience Market (LUC 945) – 8 fueling positions
- › Supermarket (LUC 850) – 53,371 SF

Phase 1 and Phase 2 Future Land Uses to be Constructed

- › Multifamily Housing (Mid-Rise) (LUC 221) – 255 dwelling units
- › General Retail (LUC 820) – 225,000 SF
- › Drive-In Bank (LUC 912) – 7,950 SF
- › Fast-Food Restaurant with Drive-Through Window (LUC 934) – 7,000 SF
- › General Office (LUC 710) – 50,000 SF

Trip generation was conducted based on the most appropriate corresponding trip generation codes included in the *ITE Trip Generation Manual, 10th Edition* and the suggested method of calculation in the NCDOT's *"Rate vs. Equation" Spreadsheet*. Due to the robust transit service in the study area, a transit reduction factor of 5% was applied to the future volumes. To be conservative, no walking or bicycling reductions were applied. The existing site trips at the current access driveways were removed and the total external trips for each phase were applied to the driveways in accordance with the following trip distribution. This methodology allows vehicular traffic to shift depending on the locations of future land uses and their proximity to current and future access locations.

As shown in Table 22, Phase 1 and Phase 2 of the University Place redevelopment is projected to generate up to 18,812 external daily site trips with 871 trips (506 entering, 365 exiting) occurring in the AM peak hour and 2,589 trips (1,337 entering, 1,252 exiting) occurring in the PM peak hour. The proposed site trips generated include the existing land uses that are to remain in the future year scenarios in addition to the square footage associated with the redevelopment.

Distribution and Assignment

The generated non-pass-by site trips will be distributed in accordance with the existing traffic patterns and land uses in the vicinity of the study area. For the purpose of this study, the same non-pass by and pass-by directional distribution percentages were utilized for the Build (2024) and Build (2026) scenarios. The resulting non-pass-by and pass-by trips for the Build (2026) conditions are depicted in Figure 18 and Figure 19, respectively. The total site-generated trips are shown in Figure 20 and the Build (2026) volumes are shown in Figure 21.

Table 22 Build (2026) Trip Generation Rates (Vehicle Trips)

Land Use Code¹	Land Use	Unit	ADT	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Total Site Trips²									
221	Multifamily Housing (Mid-Rise)	255 du	1,388	22	64	86	66	43	109
445	Multiplex Movie Theater	55,929 sf		0	0	0	577	418	995
710	General Office	50,000 sf	542	79	11	90	22	98	120
820	General Retail	225,000 sf	10,435	164	100	264	475	515	990
850	Supermarket	53,371 sf	5,699	122	82	204	251	242	493
912	Drive-In Bank	7,950 sf	795	44	32	76	82	81	163
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	3,297	143	138	281	119	110	229
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,643	51	49	100	57	55	112
Development Total			23,799	625	476	1,101	1,649	1,562	3,211
Trip Reduction Due to Internal Capture³									
221	Multifamily Housing (Mid-Rise)	255 du	534	1	15	16	45	14	59
445	Multiplex Movie Theater	55,929 sf		0	0	0	44	42	86
710	General Office	50,000 sf	124	14	10	24	13	11	24
820	General Retail	225,000 sf	1,164	10	14	24	53	62	116
850	Supermarket	53,371 sf	627	7	12	19	28	29	57
912	Drive-In Bank	7,950 sf	87	3	5	7	9	10	19
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	1,280	55	31	86	43	69	112
945	Gasoline/Service Station with Convenience Market	8 fueling positions	180	3	7	10	6	7	13
Development Total			3,996	93	94	187	242	244	486
Total External Site Trips									
221	Multifamily Housing (Mid-Rise)	255 du	854	21	49	70	21	29	50
445	Multiplex Movie Theater	55,929 sf		0	0	0	533	376	909
710	General Office	50,000 sf	418	65	1	66	9	87	96
820	General Retail	225,000 sf	9,271	154	86	240	422	453	875
850	Supermarket	53,371 sf	5,072	115	70	185	223	213	436
912	Drive-In Bank	7,950 sf	708	41	27	68	73	71	144
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	2,017	88	107	195	76	41	117
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,463	48	42	90	51	48	99
Development Total			19,803	532	382	914	1,408	1,318	2,726
Total External Site Trips - With Transit Reduction (5%)									
221	Multifamily Housing (Mid-Rise)	255 du	811	20	47	67	20	28	48
445	Multiplex Movie Theater	55,929 sf		0	0	0	506	357	863
710	General Office	50,000 sf	397	62	1	63	9	83	92
820	General Retail	225,000 sf	8,807	146	82	228	401	430	831
850	Supermarket	53,371 sf	4,818	109	67	176	212	202	414
912	Drive-In Bank	7,950 sf	673	39	26	65	69	67	136
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	1,916	84	102	186	72	39	111
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,390	46	40	86	48	46	94
Development Total			18,812	506	365	871	1,337	1,252	2,589
Pass-by Site Trips⁴									
221	Multifamily Housing (Mid-Rise)	255 du		0	0	0	0	0	0
445	Multiplex Movie Theater	55,929 sf		0	0	0	0	0	0
710	General Office	50,000 sf		0	0	0	0	0	0
820	General Retail	225,000 sf		0	0	0	141	142	283
850	Supermarket	53,371 sf		0	0	0	75	74	149
912	Drive-In Bank	7,950 sf		9	10	19	24	24	48
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf		46	45	91	28	28	56
945	Gasoline/Service Station with Convenience Market	8 fueling positions		27	26	53	26	27	53
Development Total				82	81	163	294	293	587
Non-Pass-by Site Trips									
221	Multifamily Housing (Mid-Rise)	255 du		20	47	67	20	28	48
445	Multiplex Movie Theater	55,929 sf		0	0	0	506	357	863
710	General Office	50,000 sf		62	1	63	9	83	92
820	General Retail	225,000 sf		146	82	228	260	288	548
850	Supermarket	53,371 sf		109	67	176	137	128	265
912	Drive-In Bank	7,950 sf		30	16	46	45	43	88
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf		38	57	95	44	12	56
945	Gasoline/Service Station with Convenience Market	8 fueling positions		19	14	33	22	19	41
Development Total				424	284	708	1,043	959	2,000

Notes:

1. Land Use Code and trip generation rates are determined based on ITE Trip Generation, 10th Edition

2. Total site trips are determined based on the suggested method in the NCDOT Rate Vs Equation Spreadsheet

3. Internal capture was based on NCHRP 684 method and NCDOT IC calculation spreadsheet

4. Unconstrained pass-by trips are calculated based on ITE Trip Generation Handbook, 3rd Edition. The final projections are not expected to exceed 10% of adjacent street volumes.

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

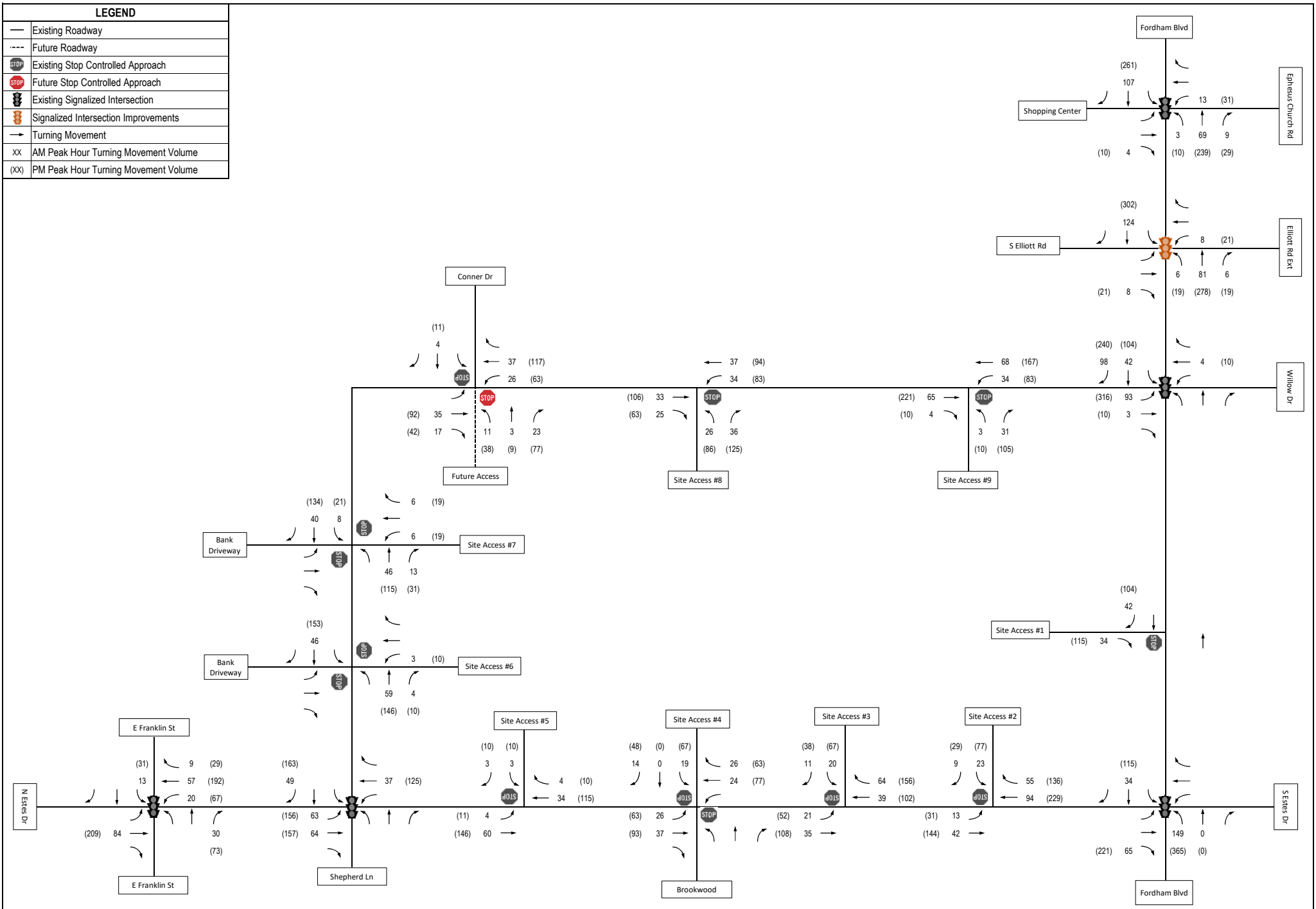


Figure 18
Build (2026) Non-Pass-By Peak Hour Site Generated Trips

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

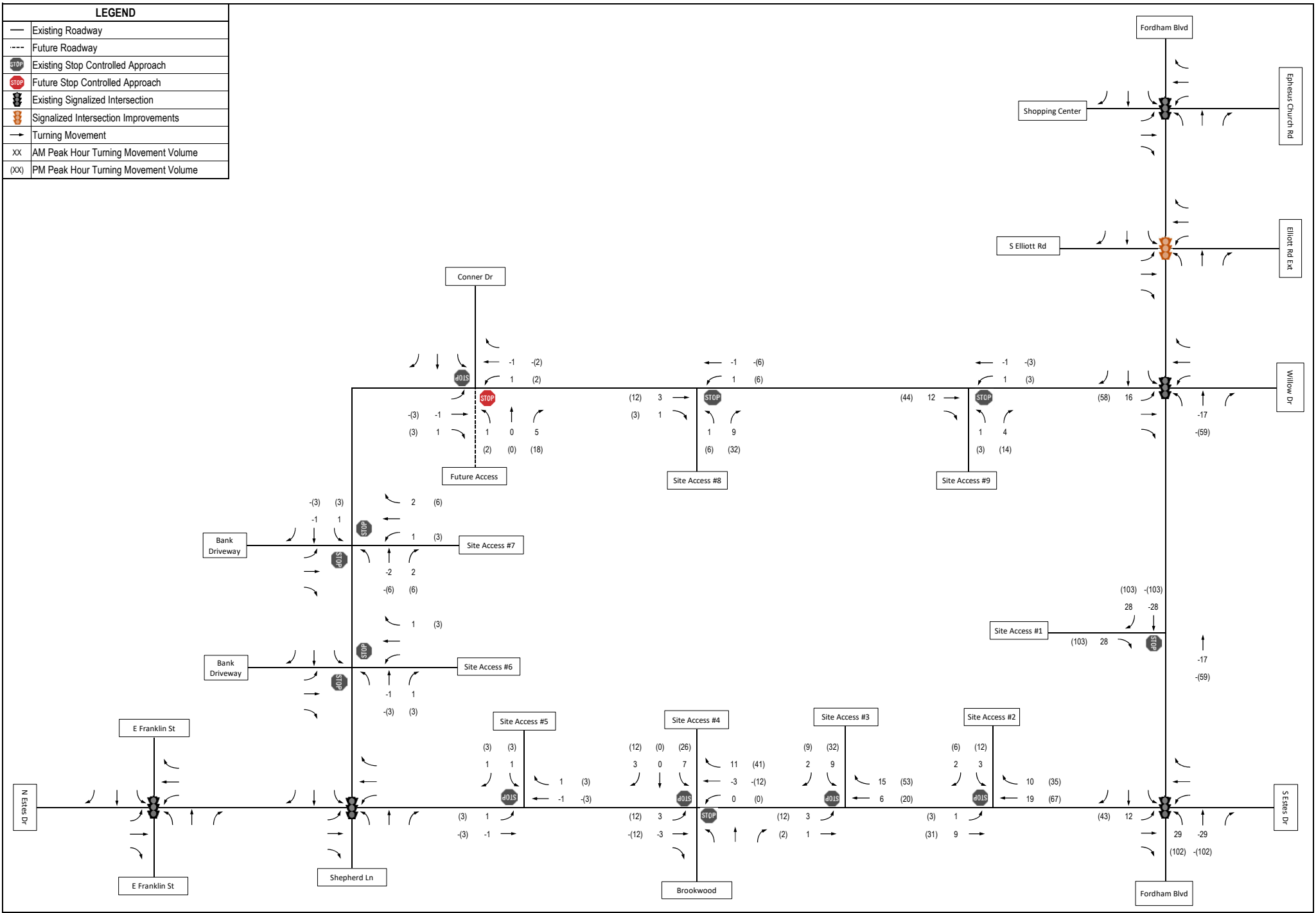


Figure 19
Build (2026) Pass-By Peak Hour Site Generated Trips



LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

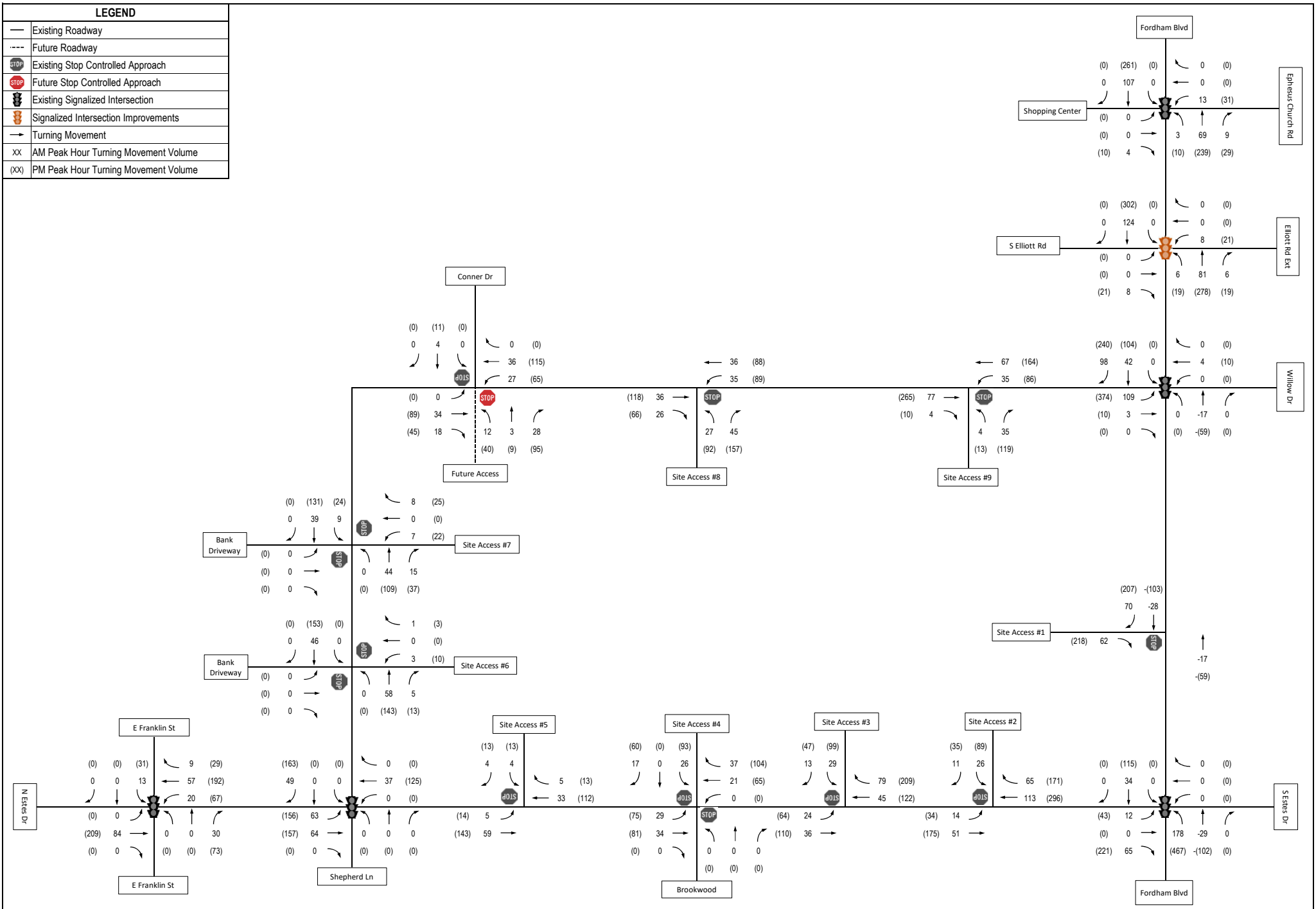


Figure 20
Build (2026) Total Peak Hour Site Generated Trips

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

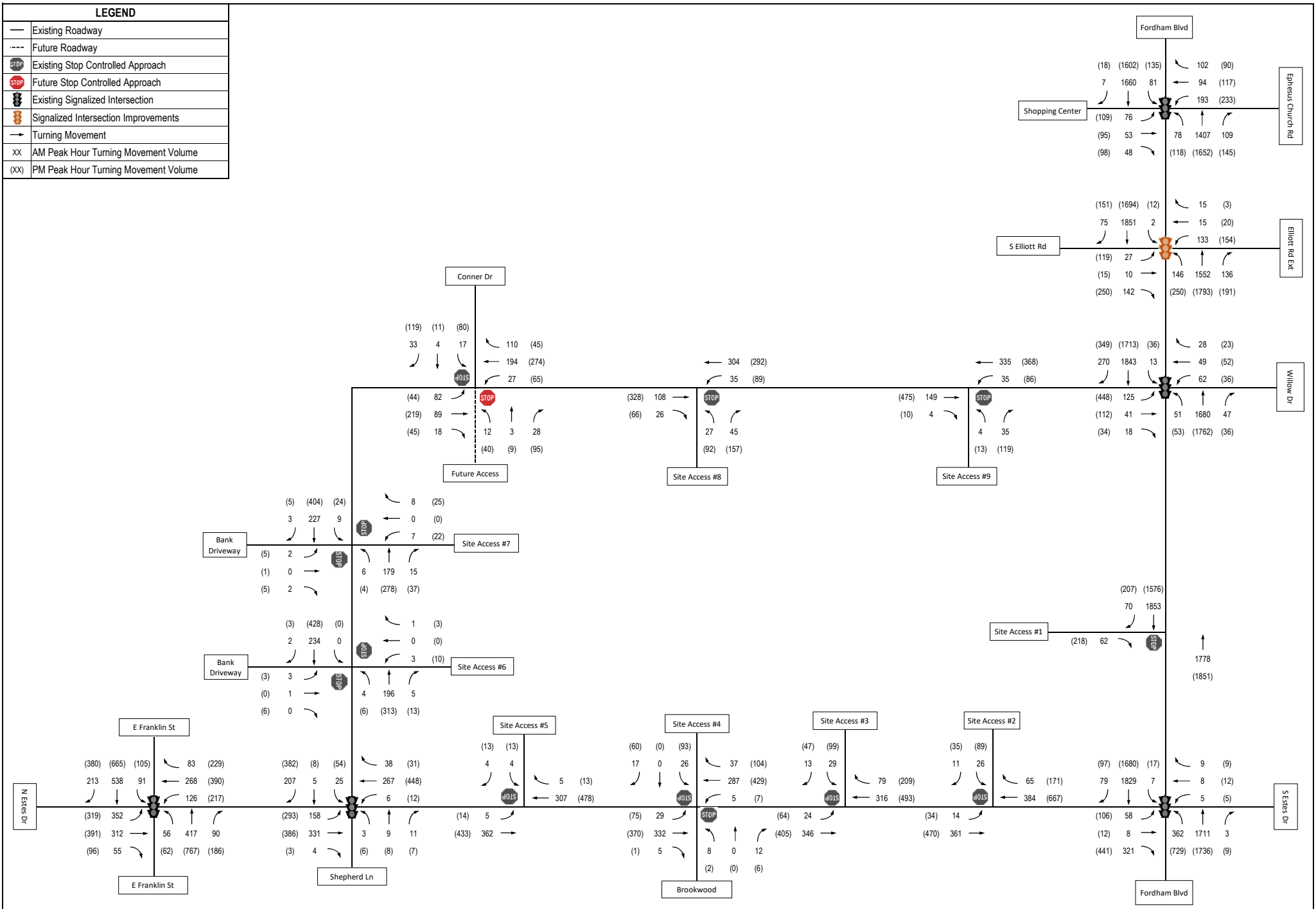


Figure 21
Build (2026) AM and PM Peak Hour Volumes

Level of Service Analysis

Intersection LOS analyses were performed for the typical weekday AM and PM peak hours using *Synchro/SimTraffic Professional Version 10*. Lane configurations under the Build (2026) scenario are identical to the Build (2024) scenario. The coordinated signal timings analyzed within the No-Build (2026) scenario were maintained for the Build (2026) analysis. A summary of the findings for the Build (2026) scenario LOS analysis can be found in Appendix E.

As reported in Table 23, three (3) signalized study intersections experience poor operations during the PM peak hours. The signalized intersection of Fordham Boulevard (US 15-501) at Willow Drive operates at a LOS D; however, has significant eastbound left-turn queuing. Fordham Boulevard (US 15-501) at Ephesus Church Road (SR 1742) operates at LOS E during the PM peak hour. The signalized intersection of Franklin Street (SR 1010) at Estes Drive (SR 1750) also maintains a LOS E during the PM peak hour. Additionally, the eastbound stop-controlled approach along Site Access #1 at Fordham Boulevard (US 15-501) operates at LOS F during the PM peak hour.

Table 23 Build (2026) LOS Results

ID	Intersection and Approach	Traffic Control	Build (2026)			
			Synchro		TransModeler	
			AM	PM	AM	PM
100	Fordham Boulevard (US 15-501) at S. Estes Drive (SR 1750)	Signalized	C (29.6)	D (51.3)	C (34.8)	E (64.6)
	Eastbound		E-64.6	D-52.2	F-130.0	F-224.0
	Westbound		F-91.5	F-92.7	E-58.7	E-63.7
	Northbound		C-25.6	D-37.2	C-22.5	D-44.7
	Southbound		C-26.2	E-70.0	C-28.7	D-42.4
110	Fordham Boulevard (US 15-501) at Willow Drive	Signalized	B (15.8)	D (46.2)	C (29.5)	E (65.0)
	Eastbound		E-75.5	F-172.8	E-65.0	F-221.0
	Westbound		F-81.6	F-82.8	E-72.9	F-84.4
	Northbound		A-9.1	C-27.0	C-25.6	D-47.8
	Southbound		B-11.9	C-25.3	C-26.8	D-35.1
120	Fordham Boulevard (US 15-501) at S. Elliott Rd	Signalized	B (16.4)	C (32.8)	C (34.3)	E (68.3)
	Eastbound		F-85.6	F-93.3	F-80.8	F-132.0
	Westbound		F-94.0	F-100.3	F-98.3	F-104.0
	Northbound		A-9.7	B-12.2	C-23.9	E-55.3
	Southbound		A-9.8	D-38.7	C-34.5	E-67.7
130	Fordham Boulevard (US 15-501) at Ephesus Church Rd (SR 1114)	Signalized	D (41.5)	E (66.9)	D (44.5)	E (63.6)
	Eastbound		F-91.3	F-94.3	E-75.2	F-100.0
	Westbound		F-91.4	F-84.2	E-78.9	F-85.8
	Northbound		B-19.8	E-55.7	C-32.2	E-56.9
	Southbound		D-45.3	E-70.2	D-44.3	E-58.5
200	E. Franklin Street at N. Estes Drive (SR 1750)	Signalized	D (50.9)	E (72.7)	D (51.5)	F (90.6)
	Eastbound		E-62.0	E-77.9	D-49.5	F-82.9
	Westbound		D-54.0	F-96.1	D-47.2	F-152.0
	Northbound		D-42.7	E-61.4	D-44.8	E-68.4
	Southbound		D-45.0	E-62.0	E-60.1	E-70.7
210	S. Estes Drive (SR 1750) at Shepherd Lane/Willow Drive	Signalized	B (12.9)	B (17.7)	B (16.7)	D (36.3)
	Eastbound		A-9.7	B-14.9	B-11.5	C-34.0
	Westbound		A-8.5	B-16.9	C-23.1	D-38.4
	Northbound		C-27.2	C-29.2	B-14.1	B-16.7
	Southbound		C-24.0	C-22.2	B-19.2	D-38.2
303	Willow Drive at Conner Drive / Future Site Access	Unsignalized	-	-	-	-
	Northbound		B-11.6	C-17.2	B-11.7	C-19.8
	Southbound		B-12.9	D-34.0	B-12.7	D-30.0
101	Fordham Boulevard (US 15-501) at Site Access #1	Unsignalized	-	-	-	-
	Eastbound		D-27.3	F-56.9	C-21.2	D-31.1
214	S. Estes Drive (SR 1750) at Site Access #2	Unsignalized	-	-	-	-
	Southbound		B-13.2	D-33.7	B-13.1	D-33.0
213	S. Estes Drive (SR 1750) at Site Access #3	Unsignalized	-	-	-	-
	Southbound		B-13.4	D-30.6	B-14.8	E-36.7
212	S. Estes Drive (SR 1750) at Site Access #4/Brookwood Condos	Unsignalized	-	-	-	-
	Northbound		B-11.9	B-12.6	B-11.9	B-12.9
	Southbound		B-13.3	D-27.7	C-15.6	E-36.1
211	S. Estes Drive (SR 1750) at Site Access #5	Unsignalized	-	-	-	-
	Southbound		B-11.2	B-13.9	B-11.1	B-13.8
301	Willow Drive at Wells Fargo Driveway/Site Access #6	Unsignalized	-	-	-	-
	Eastbound		B-12.5	B-13.6	B-12.5	B-13.6
	Westbound		B-11.7	C-16.8	B-11.7	C-16.7
302	Willow Drive at Site Access #7	Unsignalized	-	-	-	-
	Westbound		B-11.2	C-15.5	B-11.2	C-15.4
304	Willow Drive at Site Access #8	Unsignalized	-	-	-	-
	Northbound		B-10.3	B-14.3	B-12.9	C-24.8
305	Willow Drive at Site Access #9	Unsignalized	-	-	-	-
	Northbound		A-9.7	B-14.7	B-13.3	C-23.9

X (XX.X) = Overall intersection LOS (average delay), **X-XX** = Approach LOS and average delay.



7

No-Build (2028) Conditions

Background Growth and Development

The annual growth rates for the study area roadways were determined based on the compound annual growth rates reported in the Ephesus Church Road-Fordham Boulevard Area – Planning District technical memorandum. Based on the reported rates, an annual growth rate of one percent (1%) was applied along Fordham Blvd (US 15-501) and a rate of one quarter of a percent (0.25%) was applied to all other study area roadways to account for growth between the base year (2019) and the build-out year (2028). In addition, trips from the approved developments anticipated to be open, prior to the University Place full build-out years, were included in the analysis. Reductions were taken, if applicable, if portions of the proposed developments are currently constructed. The following developments are assumed to be in use before the proposed redevelopment is in place:

- › Wegmans Supermarket (Appendix F – F-1)
- › UNC Health Care Medical Office Building Complex Redevelopment (Appendix F – F-2)
- › Glen Lennox Neighborhood Redevelopment Phases 1, 2, and 3 (Appendix F – F-3)
 - Phase 3 of the Glen Lennox Redevelopment has an anticipated build-out year of 2028; therefore, the site trips from Phase 3 were included in the No-Build (2028) analysis.
- › Ephesus Church Road- Fordham Boulevard Area (Blue Hill District)
 - Fordham Boulevard Apartments (Appendix F – F-4)
 - Crown Honda Redevelopment (Appendix F – F-5)
 - University Inn Redevelopment (Appendix F – F-5)
 - S Elliott Road Extension Reroute (Appendix F – F-6)

The background roadway improvements assumed from the S Elliott Road Extension project in the No-Build (2026) analysis were also analyzed in the No-Build (2028) scenario.

The No-Build (2028) AM and PM peak hour volumes with the background approved development trips are shown in Figure 22. No changes were made to the lane geometrics and traffic control analyzed between the No-Build (2026) and No-Build (2028) scenarios.

Level of Service Analysis

Intersection LOS analyses were performed for the typical weekday AM and PM peak hours using *Synchro/SimTraffic Professional Version 10*. The existing coordinated signal timing splits at the intersections were retained for all signalized intersections except for the intersection of Fordham Boulevard (US 15-501) and S Elliott Road/S Elliott Road Extension. The full *Synchro* output can be found in Appendix E.

As reported in Table 24, two (2) signalized intersections operate at an unacceptable level of service during the PM peak hour. The signalized intersection of E Franklin Street (SR 1010) and Estes Drive (SR 1750) maintains an overall LOS E during the PM peak hour, and the signalized intersection of Fordham Boulevard (US 15-501) at Ephesus Church Road (SR 1742) operates at LOS E during the PM peak hour. All stop-controlled approaches continue to operate at acceptable levels of service during both peak hours.

Table 24 No-Build (2028) LOS Results

ID	Intersection and Approach	Traffic Control	No-Build (2028)			
			Synchro		TransModeler	
			AM	PM	AM	PM
100	Fordham Boulevard (US 15-501) at S. Estes Drive (SR 1750)	Signalized	C (29.8)	D (37.8)	D (35.7)	D (42.1)
	Eastbound		E-64.7	E-56.3	F-139.0	F-128.0
	Westbound		F-91.5	F-92.7	E-58.9	E-59.2
	Northbound		C-25.9	C-33.9	C-22.9	C-29.3
	Southbound		C-26.1	D-37.1	C-28.5	D-35.2
110	Fordham Boulevard (US 15-501) at Willow Drive	Signalized	B (14.5)	C (30.9)	C (27.8)	D (47.7)
	Eastbound		E-73.1	E-72.6	E-63.8	E-71.4
	Westbound		F-81.7	F-80.5	E-69.9	F-82.9
	Northbound		A-8.6	C-28.9	C-25.0	E-55.0
	Southbound		B-11.2	C-22.0	C-24.9	C-34.3
120	Fordham Boulevard (US 15-501) at S. Elliott Rd	Signalized	B (16.0)	C (30.8)	C (33.5)	E (56.7)
	Eastbound		F-85.7	F-97.7	F-81.0	F-129.0
	Northbound		A-9.7	B-13.1	C-23.4	D-44.2
	Southbound		A-9.8	C-32.7	C-34.5	D-54.2
130	Fordham Boulevard (US 15-501) at Ephesus Church Rd (SR 1742)	Signalized	D (42.2)	E (60.0)	D (45.5)	E (60.1)
	Eastbound		F-91.2	F-94.9	E-76.8	F-94.7
	Westbound		F-91.4	F-85.6	F-80.6	F-85.5
	Northbound		C-20.3	D-47.7	C-33.1	D-53.8
	Southbound		D-46.6	E-60.7	D-45.3	D-53.9
200	E. Franklin Street at N. Estes Drive (SR 1750)	Signalized	D (50.5)	E (67.4)	D (51.1)	F (84.0)
	Eastbound		E-62.1	E-71.2	D-49.3	E-75.7
	Westbound		D-53.6	F-82.5	D-46.7	F-140.0
	Northbound		D-42.4	E-58.9	D-44.1	E-63.2
	Southbound		D-44.6	E-61.5	E-59.7	E-68.7
210	S. Estes Drive (SR 1750) at Shepherd Lane/Willow Drive	Signalized	B (13.2)	B (19.0)	B (17.0)	D (35.9)
	Eastbound		B-10.3	B-17.3	B-11.8	C-34.8
	Westbound		A-8.5	B-18.2	C-23.3	D-38.3
	Northbound		C-27.2	C-27.5	B-14.2	D-35.7
	Southbound		C-23.9	C-21.8	B-19.3	B-16.6
303	Willow Drive at Conner Drive / Future Site Access	Unsignalized	-	-	-	-
	Southbound		B-11.2	C-15.7	B-12.2	C-19.8
101	Fordham Boulevard (US 15-501) at Site Access #1	Unsignalized	-	-	-	-
	Eastbound		C-24.1	D-27.8	C-19.6	C-21.2
214	S. Estes Drive (SR 1750) at Site Access #2	Unsignalized	-	-	-	-
	Southbound		B-14.5	C-18.9	B-14.2	C-18.6
213	S. Estes Drive (SR 1750) at Site Access #3	Unsignalized	-	-	-	-
	Southbound		B-13.0	C-18.2	B-13.6	C-20.5
212	S. Estes Drive (SR 1750) at Site Access #4/Brookwood Condos	Unsignalized	-	-	-	-
	Northbound		B-11.6	B-11.9	B-11.6	B-12.1
	Southbound		B-10.0	C-15.6	B-14.6	C-22.3
211	S. Estes Drive (SR 1750) at Site Access #5	Unsignalized	-	-	-	-
	Southbound		B-11.0	A-9.9	B-11.0	B-10.0
301	Willow Drive at Wells Fargo Driveway/Site Access #6	Unsignalized	-	-	-	-
	Eastbound		B-12.8	B-14.0	B-12.8	B-14.0
	Westbound		A-0.0	C-19.0	B-11.7	C-18.1
302	Willow Drive at Site Access #7	Unsignalized	-	-	-	-
	Eastbound		B-11.3	C-15.5	B-11.3	C-15.5
	Westbound		B-12.3	C-18.8	B-13.2	C-22.0
304	Willow Drive at Site Access #8	Unsignalized	-	-	-	-
	Northbound		B-11.0	B-13.6	B-13.3	C-19.5
305	Willow Drive at Site Access #9	Unsignalized	-	-	-	-
	Northbound		A-9.7	B-11.8	B-13.4	C-17.8

X (XX.X) = Overall intersection LOS (average delay), X-XX = Approach LOS and average delay.

LEGEND	
—	Existing Roadway
- -	Future Roadway
STOP	Existing Stop Controlled Approach
Signalized Intersection Symbol	Existing Signalized Intersection
Signalized Intersection Improvements Symbol	Signalized Intersection Improvements
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
XX	PM Peak Hour Turning Movement Volume

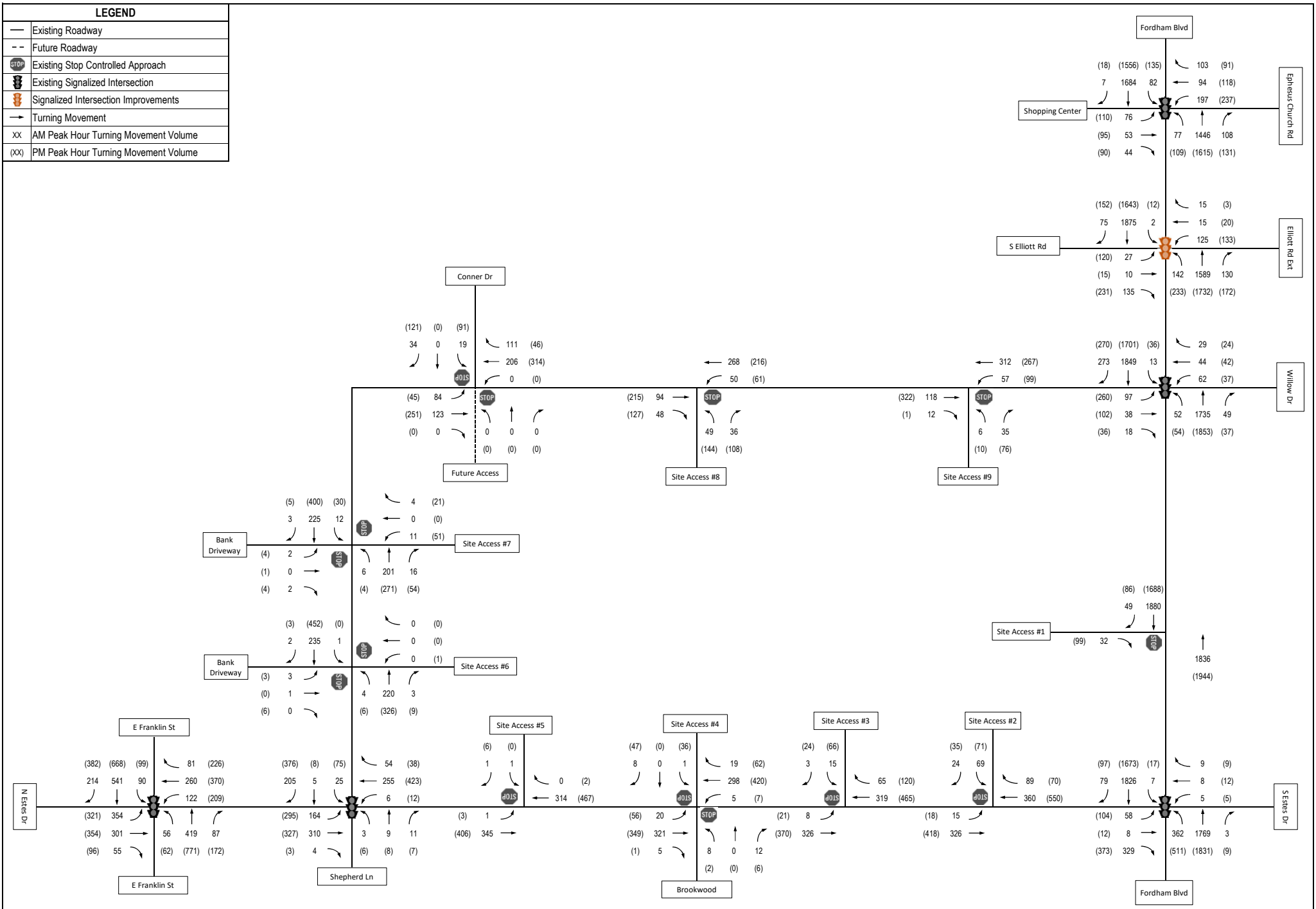


Figure 22
No-Build (2028) AM and PM Peak Hour Volumes



8

Build (2028) Conditions

The redevelopment is expected to be constructed in three (3) phases. Phase 1 includes the majority of land use totals with an anticipated build year of 2023, Phase 2 will add 50,000 square feet (sf) of office space by 2025, and Phase 3 will add an additional 45 multi-family dwelling units, 100,000-sf of office space, and 100,000-sf of retail space by 2027. Note that this total represents a mixture of land uses that are occupied today and will remain as is (supermarket, gas station), new uses (residential, fast food, office) and uses that will be expanded or modified (retail, bank). This document summarizes the traffic impacts associated with this redevelopment and improvements needed to mitigate those impacts.

Trip Generation

Rather than a complete demolition and reconstruction of the site, portions of the existing site such as the Harris Teeter and the movie theater will remain relatively unchanged. The proposed redevelopment will consist of the following existing and future land uses after the completion of Phase 3:

Existing Land Uses to Remain

- › Movie Theater (Land Use Code (LUC) 445) – 55,929 Square Feet (SF)
- › Gasoline/Service Station with Convenience Market (LUC 945) – 8 fueling positions
- › Supermarket (LUC 850) – 53,371 SF

Full Build-out Future Land Uses to be Constructed

- › Multifamily Housing (Mid-Rise) (LUC 221) – 300 dwelling units
- › General Retail (LUC 820) – 325,000 SF
- › Drive-In Bank (LUC 912) – 7,950 SF
- › Fast-Food Restaurant with Drive-Through Window (LUC 934) – 7,000 SF
- › General Office (LUC 710) – 150,000 SF
- › Hotel – 150 rooms

Trip generation was conducted based on the most appropriate corresponding trip generation codes included in the *ITE Trip Generation Manual, 10th Edition* and the suggested method of calculation in the NCDOT's *"Rate vs. Equation" Spreadsheet*. Due to the robust transit service in the study area, a transit reduction factor of 5% was applied to the future volumes. To be conservative, no walking or bicycling reductions were applied. The existing site trips at the current access driveways were removed and the total external trips for each phase were applied to the driveways in accordance with the following trip distribution. This methodology allows vehicular traffic to shift depending on the locations of future land uses and their proximity to current and future access locations.

As shown in Table 25, the full build-out of the University Place redevelopment (with existing land uses to remain) is projected to generate up to 22,548 external daily site trips with 1,025 trips (646 entering, 379 exiting) occurring in the AM peak hour and 2,959 trips (1,484 entering, 1,475 exiting) occurring in the PM peak hour. The proposed site trips generated include the existing land uses that are to remain in the future year scenarios in addition to the square footage associated with the redevelopment.

Table 26 was requested as a guide to give the applicant flexibility to swap uses in the future. Using ratios in the upper table allows the applicant to compare rates between uses and the lower three tables provide some example calculations. For example, the developer may remove 1,000 square feet of retail and offset that with approximately three additional multifamily dwelling units or 780 square feet of office and still remain under the AM or PM external peak hour trips calculated in Table 25. The lower two tables calculate equivalent rates for 1,000 square feet of general office or ten dwelling units. Note that removal of too much of one use can result in a loss of internal capture reduction, which is not reflected in this table. As a result, this can be used as a guide, however a full trip generation of the entire site should be conducted to ensure that the total trips remain under the total trips contained in Table 25 or earlier phases.

Distribution and Assignment

The generated non-pass-by site trips will be distributed in accordance with the existing traffic patterns and land uses in the vicinity of the study area. For the purpose of this study, the same non-pass by and pass-by directional distribution percentages were utilized for the Build (2024), Build (2026), and Build (2028) scenarios. The resulting non-pass-by and pass-by trips for the Build (2028) conditions are depicted in Figure 23 and Figure 24, respectively. The total site-generated trips are shown in Figure 25, and the Build (2028) volumes are shown in Figure 26.

Table 25 Build (2028) Trip Generation Rates (Vehicle Trips)

Land Use Code¹	Land Use	Unit	ADT	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Total Site Trips²									
221	Multifamily Housing (Mid-Rise)	300 du	1,633	26	74	100	77	50	127
310	Hotel	150 rooms	1,267	41	29	70	44	42	86
445	Multiplex Movie Theater	55,929 sf		0	0	0	577	418	995
710	General Office	150,000 sf	1,572	209	28	237	41	189	230
820	General Retail	325,000 sf	13,400	195	119	314	624	676	1,300
850	Supermarket	53,371 sf	5,699	122	82	204	251	242	493
912	Drive-In Bank	7,950 sf	795	44	32	76	82	81	163
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	3,297	143	138	281	119	110	229
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,643	51	49	100	57	55	111
Development Total			29,306	831	551	1,382	1,872	1,863	3,735
Trip Reduction Due to Internal Capture³									
221	Multifamily Housing (Mid-Rise)	300 du	640	1	18	19	53	17	70
310	Hotel	150 rooms	365	2	13	15	17	13	30
445	Multiplex Movie Theater	55,929 sf		0	0	0	51	50	101
710	General Office	150,000 sf	377	45	26	71	21	20	41
820	General Retail	325,000 sf	1,598	15	19	35	73	85	158
850	Supermarket	53,371 sf	676	9	13	23	29	30	60
912	Drive-In Bank	7,950 sf	94	3	5	9	10	10	20
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	1,623	72	51	123	50	78	128
945	Gasoline/Service Station with Convenience Market	8 fueling positions	198	4	8	12	7	7	14
Development Total			5,571	152	154	306	311	310	621
Total External Site Trips									
221	Multifamily Housing (Mid-Rise)	300 du	993	25	56	81	24	33	57
310	Hotel	150 rooms	902	39	16	55	27	29	56
445	Multiplex Movie Theater	55,929 sf		0	0	0	526	368	894
710	General Office	150,000 sf	1,195	164	2	166	20	169	189
820	General Retail	325,000 sf	11,802	180	100	280	551	591	1,142
850	Supermarket	53,371 sf	5,023	113	69	182	222	212	434
912	Drive-In Bank	7,950 sf	701	41	27	68	72	71	143
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	1,674	71	87	158	69	32	101
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,445	47	41	88	50	48	98
Development Total			23,735	680	398	1,078	1,561	1,553	3,114
Total External Site Trips - With Transit Reduction (5%)									
221	Multifamily Housing (Mid-Rise)	300 du	943	24	53	77	23	31	54
310	Hotel	150 rooms	857	37	15	52	26	28	54
445	Multiplex Movie Theater	55,929 sf		0	0	0	500	350	850
710	General Office	150,000 sf	1,135	156	2	158	19	161	180
820	General Retail	325,000 sf	11,212	171	95	266	523	561	1,084
850	Supermarket	53,371 sf	4,772	107	66	173	211	201	412
912	Drive-In Bank	7,950 sf	666	39	26	65	68	67	135
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	1,590	67	83	150	66	30	96
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,373	45	39	84	48	46	94
Development Total			22,548	646	379	1,025	1,484	1,475	2,959
Pass-by Site Trips⁴									
221	Multifamily Housing (Mid-Rise)	300 du		0	0	0	0	0	0
310	Hotel	150 rooms		0	0	0	0	0	0
445	Multiplex Movie Theater	55,929 sf		0	0	0	0	0	0
710	General Office	150,000 sf		0	0	0	0	0	0
820	General Retail	325,000 sf		0	0	0	184	184	368
850	Supermarket	53,371 sf		0	0	0	74	74	148
912	Drive-In Bank	7,950 sf		9	10	19	24	24	48
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf		37	37	74	24	24	48
945	Gasoline/Service Station with Convenience Market	8 fueling positions		26	26	52	26	26	52
Development Total				72	72	144	332	332	664
Non-Pass-by Site Trips									
221	Multifamily Housing (Mid-Rise)	300 du		24	53	77	23	31	54
310	Hotel	150 rooms		37	15	52	26	28	54
445	Multiplex Movie Theater	55,929 sf		0	0	0	500	350	850
710	General Office	150,000 sf		156	2	158	19	161	180
820	General Retail	325,000 sf		171	95	266	339	377	716
850	Supermarket	53,371 sf		107	66	173	137	127	264
912	Drive-In Bank	7,950 sf		30	16	46	44	43	87
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf		30	47	77	42	6	48
945	Gasoline/Service Station with Convenience Market	8 fueling positions		19	13	32	22	20	42
Development Total				574	307	881	1,152	1,143	2,295

Notes:

1. Land Use Code and trip generation rates are determined based on ITE Trip Generation, 10th Edition
2. Total site trips are determined based on the suggested method in the NCDOT Rate Vs Equation Spreadsheet
3. Internal capture was based on NCHRP 684 method and NCDOT IC calculation spreadsheet
4. Unconstrained pass-by trips are calculated based on ITE Trip Generation Handbook, 3rd Edition. The final projections are not expected to exceed 10% of adjacent street volumes.

Table 26 Trip Generation Comparison Matrix**External Trip Comparison Ratios Per Use (Maximum Build-Out)**

ITE Code	Use	Daily	AM	PM
221	Multifamily Housing (unit)	3.14	0.26	0.18
310	Hotel (rooms)	5.71	0.35	0.36
445	Movie Theater (1,000 sf)	-	-	15.20
710	Office (1,000 sf)	7.57	1.05	1.20
820	Retail (1,000 sf)	34.50	0.82	3.34
850	Supermarket (1,000 sf)	89.41	3.24	7.72
912	Drive-In Bank (1,000 sf)	83.77	8.18	16.98
934	Fast-Food (1,000 sf)	227.14	21.43	13.71
945	Gas Station (fueling position)	171.63	10.50	11.75

Equivalency Table for 1,000 sf General Square Feet of General Retail

ITE Code	Use	Daily	AM	PM	Minimum (Rounded)
221	Multifamily Housing (unit)	11	3	19	3 du
310	Hotel (rooms)	6	2	9	2 rooms
445	Movie Theater (sf)	-	-	219	220 sf
710	Office (sf)	4559	777	2779	780 sf
820	Retail (sf)	1000	1000	1000	1000 sf
850	Supermarket (sf)	386	252	432	250 sf
912	Drive-In Bank (sf)	412	100	196	100 sf
934	Fast-Food (sf)	152	38	243	40 sf
945	Gas Station (fueling Positions)	0	0	0	0 pumps

Equivalency Table for 1,000 sf General Square Feet of General Office

ITE Code	Use	Daily	AM	PM	Minimum (Rounded)
221	Multifamily Housing (unit)	2	4	7	4 du
310	Hotel (rooms)	1	3	3	3 rooms
445	Movie Theater (sf)	-	-	79	80 sf
710	Office (sf)	1000	1000	1000	1000 sf
820	Retail (sf)	219	1287	360	360 sf
850	Supermarket (sf)	85	325	155	160 sf
912	Drive-In Bank (sf)	90	129	71	70 sf
934	Fast-Food (sf)	33	49	88	50 sf
945	Gas Station (fueling Positions)	0	0	0	0 pumps

Equivalency Table for 10 Multifamily Dwelling Units

ITE Code	Use	Daily	AM	PM	Minimum (Rounded)
221	Multifamily Housing (unit)	10	10	10	10 du
310	Hotel (rooms)	6	7	5	5 rooms
445	Movie Theater (sf)	-	-	118	120 sf
710	Office (sf)	42	2437	1500	1500 sf
820	Retail (sf)	9	3136	540	540 sf
850	Supermarket (sf)	4	792	233	230 sf
912	Drive-In Bank (sf)	4	314	106	110 sf
934	Fast-Food (sf)	1	120	131	120 sf
945	Gas Station (fueling Positions)	0	0	0	0 pumps

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

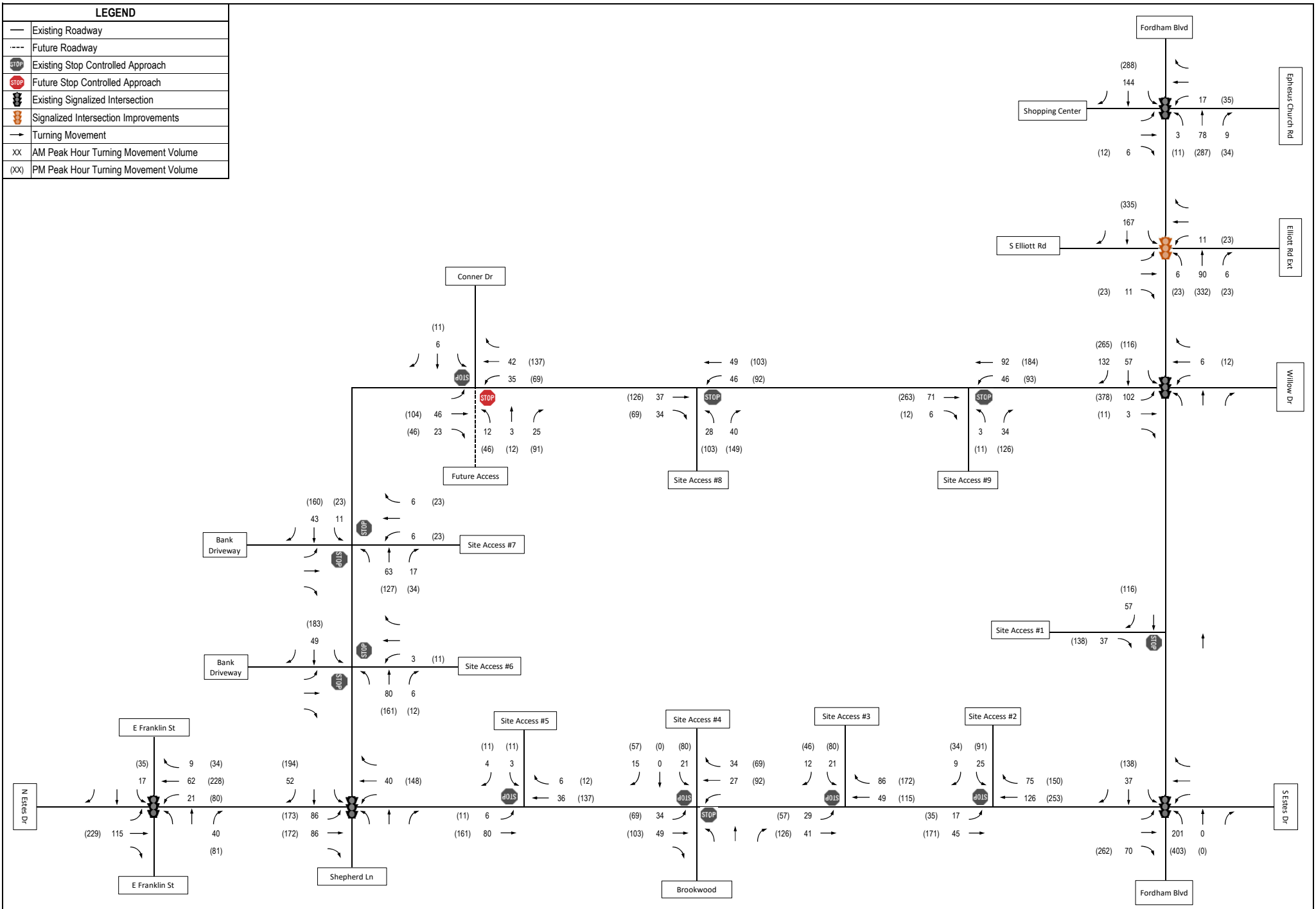


Figure 23
Build (2028) Non-Pass-By Peak Hour Site Generated Trips



LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

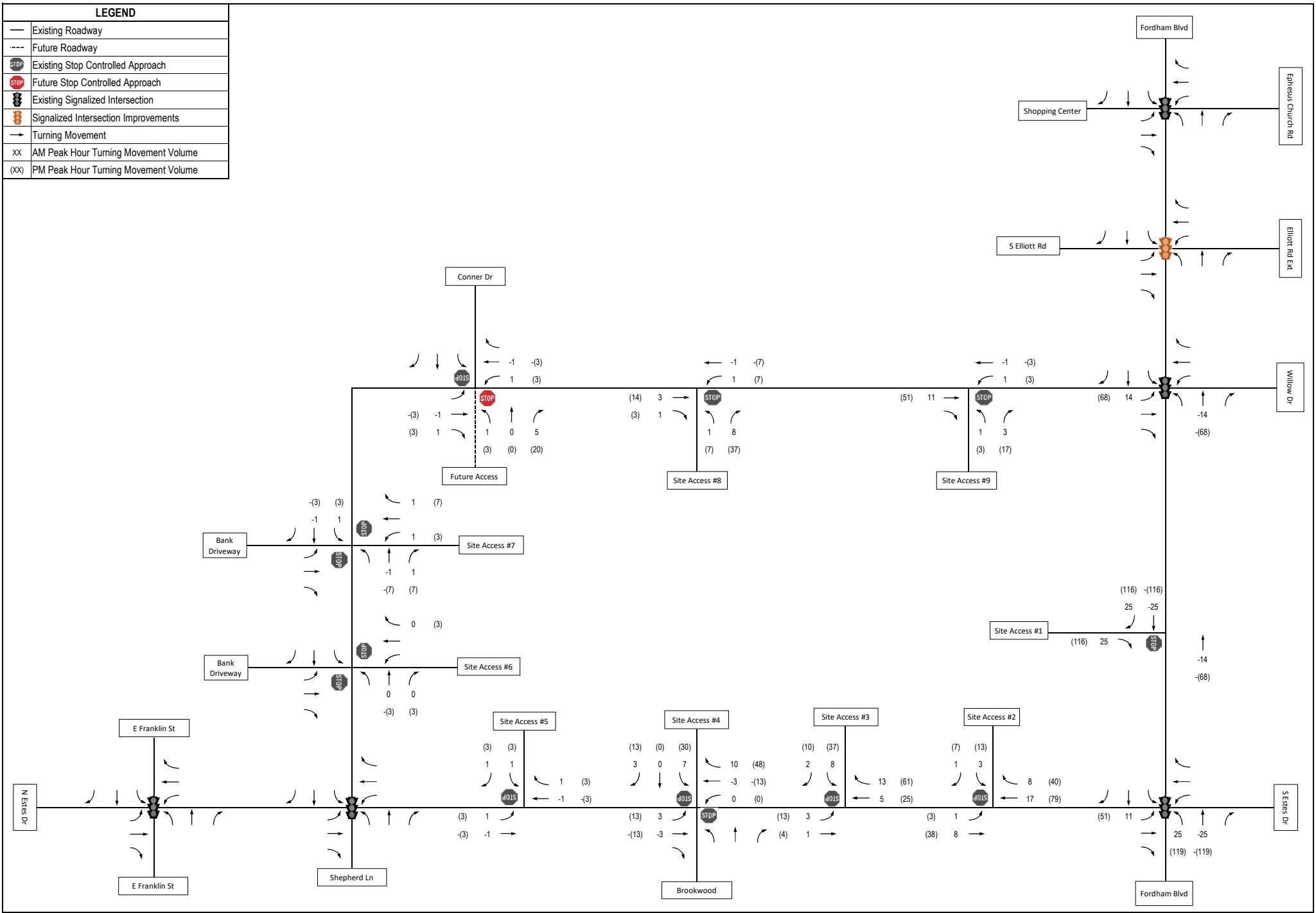


Figure 24
Build (2028) Pass-By Peak Hour Site Generated Trips

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

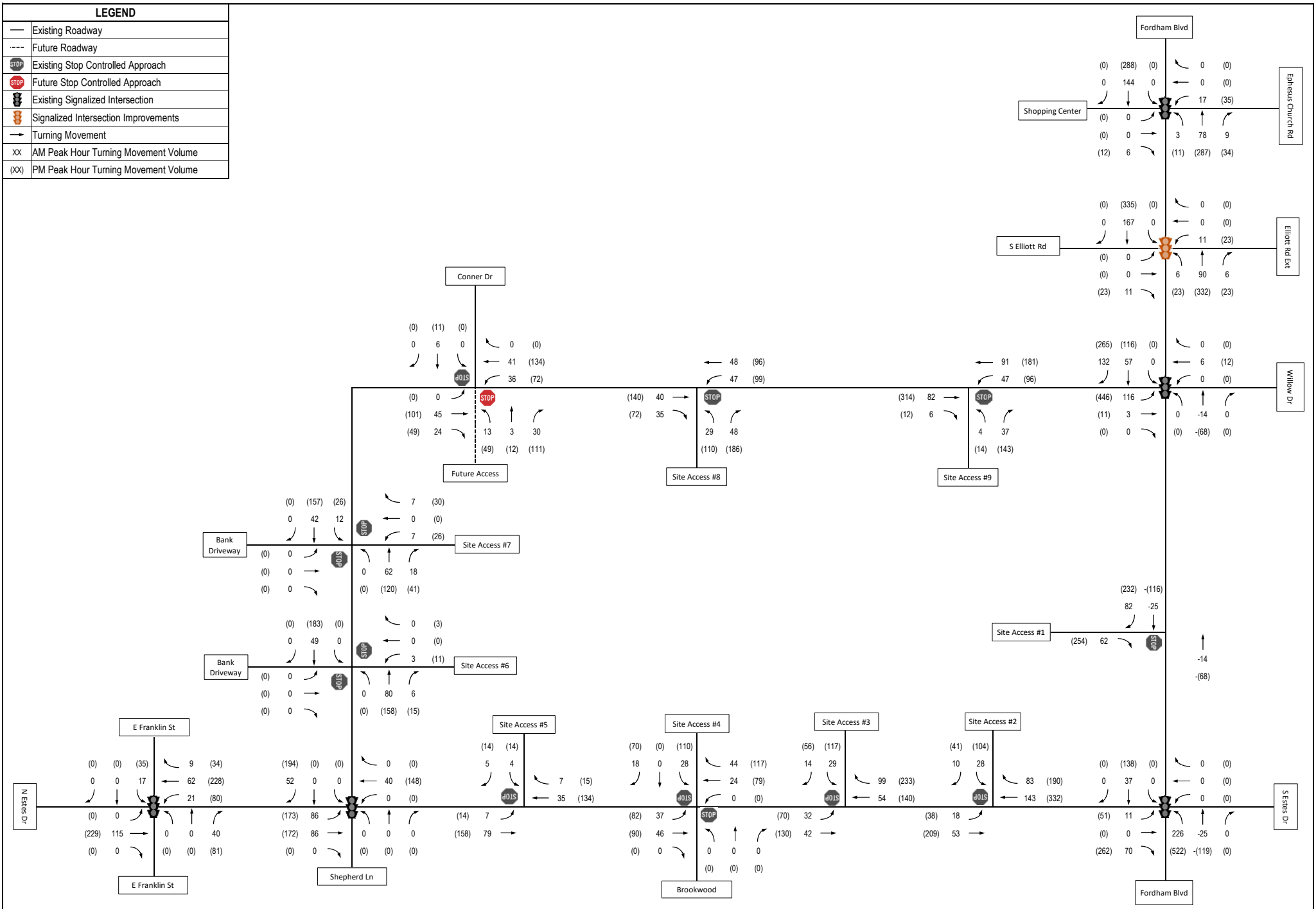


Figure 25
Build (2028) Total Peak Hour Site Generated Trips

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

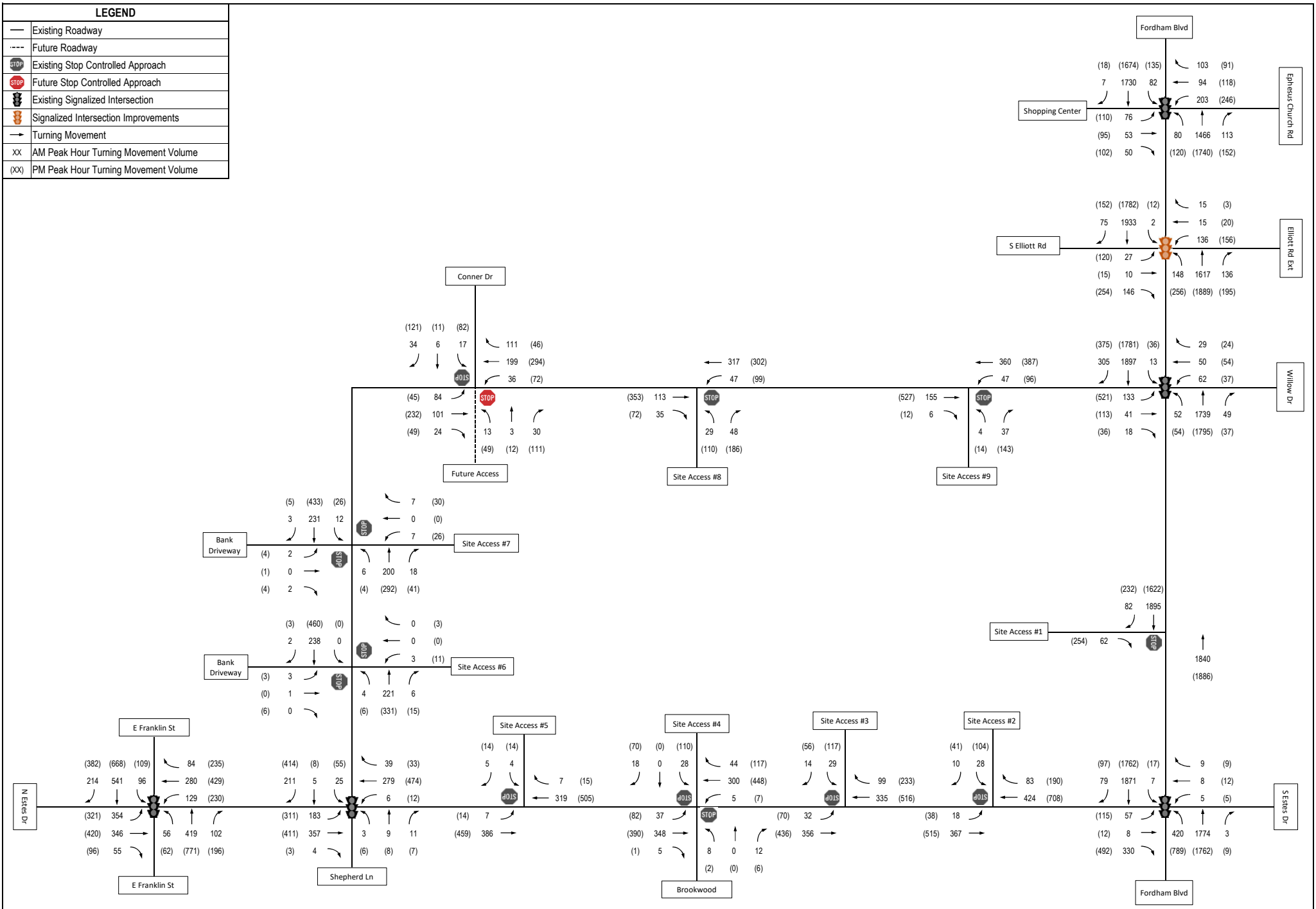


Figure 26
Build (2028) AM and PM Peak Hour Volumes

Level of Service Analysis

Intersection LOS analyses were performed for the typical weekday AM and PM peak hours using *Synchro/SimTraffic Professional Version 10*. Lane configurations under the Build (2028) scenario are identical to the Build (2026) scenario. The coordinated signal timings analyzed within the No-Build (2028) scenario were maintained for the Build (2028) analysis. A summary of the findings for the Build (2028) scenario LOS analysis can be found in Appendix E.

As reported in Table 27, four (4) signalized study intersections experience poor operations during the PM peak hours. The signalized intersections of Fordham Boulevard (US 15-501) at Willow Drive and Fordham Boulevard (US 15-501) at S Estes Drive operate at a LOS E during the PM peak hour. The intersections of Fordham Boulevard (US 15-501) at Ephesus Church Road (SR 1742) and Franklin Street (SR 1010) at Estes Drive (SR 1750) degrade to LOS F during the PM peak hour. Additionally, the eastbound stop-controlled approach along Site Access #1 at Fordham Boulevard (US 15-501) operates at LOS F during the PM peak hour.

Table 27 Build (2028) LOS Results

ID	Intersection and Approach	Traffic Control	Build (2028)			
			Synchro		TransModeler	
			AM	PM	AM	PM
100	Fordham Boulevard (US 15-501) at S. Estes Drive (SR 1750)	Signalized	C (32.1)	E (61.9)	D (40.1)	F (98.1)
	Eastbound		E-62.5	D-54.0	F-160.0	F-389.0
	Westbound		F-91.5	F-92.7	E-62.1	E-65.7
	Northbound		C-27.4	D-43.4	C-24.6	E-73.5
	Southbound		C-30.5	F-89.2	C-33.0	D-36.0
110	Fordham Boulevard (US 15-501) at Willow Drive	Signalized	B (16.8)	E (62.2)	C (31.4)	F (111.2)
	Eastbound		E-76.4	F-242.8	E-67.8	F-618.0
	Westbound		F-81.7	F-83.3	E-75.8	E-75.4
	Northbound		A-9.8	C-29.3	C-27.5	C-32.8
	Southbound		B-13.3	C-34.3	C-28.6	C-25.8
120	Fordham Boulevard (US 15-501) at S. Elliott Rd	Signalized	B (17.3)	D (39.8)	D (38.5)	F (87.5)
	Eastbound		F-85.4	F-92.9	F-82.2	F-246.0
	Westbound		F-94.7	F-100.9	F-107.0	F-172.0
	Northbound		A-9.9	B-12.6	C-27.3	F-89.1
	Southbound		B-11.8	E-56.3	D-39.5	D-46.9
130	Fordham Boulevard (US 15-501) at Ephesus Church Rd (SR 1742)	Signalized	D (43.8)	F (81.2)	D (47.5)	E (68.3)
	Eastbound		F-92.3	F-94.6	F-80.1	F-132.0
	Westbound		F-91.2	F-83.2	F-83.4	F-91.3
	Northbound		C-20.9	E-73.8	C-33.7	E-56.9
	Southbound		D-49.6	F-86.5	D-48.1	E-63.4
200	E. Franklin Street at N. Estes Drive (SR 1750)	Signalized	D (51.8)	F (81.2)	D (53.3)	F (115.9)
	Eastbound		E-63.0	F-84.8	D-51.1	F-89.5
	Westbound		D-54.4	F-123.5	D-49.0	F-99.1
	Northbound		D-43.7	E-63.0	D-47.2	F-138.0
	Southbound		D-46.0	E-62.2	E-62.0	F-129.0
210	S. Estes Drive (SR 1750) at Shepherd Lane/Willow Drive	Signalized	B (13.2)	B (17.8)	B (17.2)	E (55.2)
	Eastbound		B-10.6	B-14.6	B-12.5	D-47.9
	Westbound		A-8.9	B-18.3	C-23.5	C-34.6
	Northbound		C-27.2	C-29.2	B-14.3	B-16.6
	Southbound		C-23.4	C-21.8	B-19.7	F-90.4
303	Willow Drive at Conner Drive / Future Site Access	Unsignalized	-	-	-	-
	Northbound		B-12.0	C-20.3	B-12.2	C-24.9
	Southbound		B-13.6	E-47.6	B-13.4	E-39.6
101	Fordham Boulevard (US 15-501) at Site Access #1	Unsignalized	-	-	-	-
	Eastbound		D-28.5	F-94.9	C-21.9	E-42.2
214	S. Estes Drive (SR 1750) at Site Access #2	Unsignalized	-	-	-	-
	Southbound		B-14.2	F-51.1	B-14.2	E-48.2
213	S. Estes Drive (SR 1750) at Site Access #3	Unsignalized	-	-	-	-
	Southbound		B-14.1	E-44.4	C-15.8	F-52.4
212	S. Estes Drive (SR 1750) at Site Access #4/Brookwood Condos	Unsignalized	-	-	-	-
	Northbound		B-12.3	B-13.2	B-12.3	B-13.6
	Southbound		B-14.0	E-37.6	C-16.7	E-49.0
211	S. Estes Drive (SR 1750) at Site Access #5	Unsignalized	-	-	-	-
	Southbound		B-11.2	B-14.5	B-11.2	B-14.3
301	Willow Drive at Wells Fargo Driveway/Site Access #6	Unsignalized	-	-	-	-
	Eastbound		B-12.9	B-14.2	B-12.8	B-14.2
	Westbound		B-12.8	C-18.1	B-12.8	C-18.0
302	Willow Drive at Site Access #7	Unsignalized	-	-	-	-
	Westbound		B-11.4	C-16.4	B-11.4	C-16.4
			B-11.5	C-15.7	B-13.3	C-21.4
304	Willow Drive at Site Access #8	Unsignalized	-	-	-	-
	Northbound		B-10.5	C-15.7	B-13.6	D-30.9
305	Willow Drive at Site Access #9	Unsignalized	-	-	-	-
	Northbound		A-9.9	C-16.4	B-14.1	D-27.6

X (XX.X) = Overall intersection LOS (average delay), **X-XX** = Approach LOS and average delay



9

Findings and Conclusions

The proposed redevelopment is expected to impact operations at multiple study intersections under Build (2024), Build (2026), and Build (2028) conditions. The project study area includes several intersections that have current operational deficiencies or projected future deficiencies based on background growth or approved developments. Multiple improvements were identified but are not directly adjacent to the site and are not caused solely by the University Place redevelopment. As a result, these improvements are not considered to be the responsibility of the applicant.

E Franklin Street (SR 1010) at Estes Drive (SR 1750) (signalized)

The signalized intersection is projected to operate at LOS E during the PM peak hour under existing conditions. Additional degradation of operations is expected with background growth, additional approved development trips, as well as site generated trips. Since poor operations exist already, this is not a requirement of the applicant, however, is an improvement that has been identified to help improve operations at this location:

- › Construct an exclusive southbound right-turn lane with at least 350 feet of storage and appropriate taper.

Fordham Boulevard (US 15-501) at Ephesus Church Road (SR 1742) (signalized)

The signalized intersection is projected to operate at LOS E during the PM peak hour under Build (2024) and Build (2026) conditions, this is not a requirement of the applicant, however, is an improvement that has been identified to help improve operations at this location:

- › Construct an exclusive eastbound right-turn lane with at least 100 feet of storage and appropriate taper.

The following offsite roadway improvements have been identified due to direct impacts from the increase in site traffic from the proposed redevelopment and should be implemented with the construction of Phase 1:

Fordham Boulevard (US 15-501) at S Estes Drive (SR 1750) (signalized)

The signalized intersection is projected to operate at LOS D during the PM peak hour under Build (2024) and Build (2026) conditions, but site adds a considerable volume to the northbound left-turn, which creates 95th percentile PM peak hour queues of approximately 650 feet, which exceeds the existing available storage. Therefore, the following lane geometric improvements are recommended:

- › Extend the storage of both turn lanes to at least 700 feet of full width storage with appropriate taper.

Fordham Boulevard (US 15-501) at Willow Drive (signalized)

The signalized intersection is projected to operate at LOS D during the PM peak hour under Build (2024) and Build (2026) conditions, but site adds a considerable volume to the eastbound left-turn, which creates 95th percentile PM peak hour queues of over 750 feet, which more than doubles the existing available storage. Therefore, the following lane geometric improvements are recommended:

- › Construct a second exclusive eastbound left-turn and extend the storage of both turn lanes to at least 450 feet with appropriate taper.

Fordham Boulevard (US 15-501) at Site Access #1

The stop-controlled driveway is projected to operate at LOS E during the PM peak hour under Build (2024) and LOS F during the PM peak hour under Build (2026) conditions. The following intersection configuration is recommended:

- › Provide one ingress lane and one egress lane along the driveway.
- › Provide a high visibility painted crosswalk across the eastbound driveway approach.

S Estes Drive (SR 1750) at Site Access #2

The stop-controlled driveway is projected to operate at LOS D during the PM peak hour under Build (2024) and Build (2026) conditions. The eastbound queueing from the Fordham Boulevard (US 15-501) at Estes Drive (SR 1750) intersection is expected to spill back to this driveway during both peaks, which increase potential for left-turning crashes. With internal connections in place, left-turning vehicles can divert to Site Access #3 or Site Access #4 to make the left-turning ingress or egress movements and have better spacing from Fordham Boulevard (US 15-501). In addition, there is high right-turn volume that can impede vehicles along Estes Drive, particularly when there is a platoon of vehicles turning left onto Estes Drive from Fordham Boulevard. The separated right-turn lane helps minimize conflicts and improve efficiency for the westbound Estes Drive. The following intersection configuration is recommended:

- › Provide one ingress lane and one egress lane along the driveway.

- › Reconfigure the driveway to right-in/right-out only access.
- › Construct an exclusive westbound right-turn lane with at least 100 feet of full storage with appropriate taper.
- › Provide a high visibility painted crosswalk across the southbound driveway approach.

S Estes Drive (SR 1750) at Site Access #3

The stop-controlled driveway is projected to operate at LOS B during the AM peak hour and LOS D during the PM peak hour under Build (2024) and Build (2026) conditions. There is high right-turn volume that can impede vehicles along Estes Drive and the separated right-turn lane helps minimize conflicts and improve efficiency for the westbound Estes Drive. Due to the limited space between Site Access #3 and Site Access #2 The following intersection configuration is recommended:

- › Provide two ingress lanes and two egress lanes along the driveway.
- › Construct an exclusive westbound right-turn lane with continuous storage back to Site Access #2.
- › Provide a high visibility painted crosswalk across the southbound driveway approach.

S Estes Drive (SR 1750) at Brookwood Apartments Driveway/Site Access #4

The stop-controlled driveway is projected to operate at LOS B during the AM peak hour and LOS D during the PM peak hour under Build (2024) and Build (2026) conditions. The following driveway configuration is recommended:

- › Provide one or two ingress lanes and two egress lanes along the driveway.
- › Monitor for possible future signalization.

S Estes Drive (SR 1750) at Site Access #5

The stop-controlled driveway is projected to operate at LOS B during both peak hours under Build (2024) and Build (2026) conditions. The westbound queueing from the Estes Drive (SR 1750) at Willow Drive intersection is expected to spill back to this driveway during the PM peak, which increases potential for left-turning crashes. With internal connections in place, left-turning vehicles can divert to Site Access #6 or Site Access #4 to make the left-turning ingress or egress movements and have better spacing from the adjacent intersection. The following driveway configuration is recommended:

- › Provide one ingress lane and one egress lane along the driveway.
- › Reconfigure the driveway to right-in/right-out only access.
- › Provide a high visibility painted crosswalk across the southbound driveway approach.

Willow Drive at Site Access #6

The stop-controlled westbound driveway is projected to operate at LOS B during the AM peak hour and LOS C during the PM peak hour under Build (2024) and Build (2026) conditions. The following driveway configuration is recommended:

- › Provide one ingress lane and one egress lane along the driveway.
- › Provide a high visibility painted crosswalk across the westbound driveway approach.

Willow Drive at Site Access #7

The stop-controlled westbound driveway is projected to operate at LOS B during both peak hours under Build (2024) and Build (2026) conditions. The following driveway configuration is recommended:

- › Provide one ingress lane and two egress lanes along the driveway. The egress lanes should consist of a through/left-turn lane and an exclusive right-turn lane.
- › Provide a high visibility painted crosswalk across the westbound driveway approach.

Willow Drive at Conner Drive/Future Site Access

The stop-controlled southbound approach along Conner Drive is projected to operate at LOS D during the PM peak hour under Build (2024) and Build (2026) conditions. The following intersection configuration is recommended:

- › Provide single-lane stop-controlled approaches along Conner Drive and the future Site Access driveway.
- › Provide one ingress lane and two egress lanes along the driveway
- › Provide a high-visibility painted crosswalk across the two stop-controlled approaches.

Willow Drive at Site Access #8

The stop-controlled driveway is projected to operate at LOS B during both peak hours under Build (2024) and Build (2026) conditions. The following driveway configuration is recommended:

- › Provide one ingress lane and two egress lanes along the driveway.
- › Provide a high visibility painted crosswalk across the northbound driveway approach.

Willow Drive at Site Access #9

The stop-controlled driveway is projected to operate at LOS A during the AM peak hour and LOS B during the PM peak hour under Build (2024) and Build (2026) conditions. However, queues along the eastbound approach at the intersection of Fordham Boulevard (US 15-501) and Willow Drive are expected to back up through the site access driveway. In addition, the proposed eastbound left-turn lanes at the Fordham Boulevard (US 15-501) and Willow Drive intersection will extend past this driveway. Therefore, the following intersection configuration is recommended:

- › Provide one ingress lane and one egress lane along the driveway.
- › Reconfigure the driveway to right-in/right-out only access.
- › Provide a high visibility painted crosswalk across the northbound driveway approach.

No additional offsite improvements are recommended with the construction of Phase 2. The increase in site traffic from Phase 3 will require the implementation of these additional offsite roadway improvements.

Fordham Boulevard (US 15-501) at Estes Drive (SR 1750) (signalized)

The signalized intersection is projected to operate at LOS D during the PM peak hour under Build (2028) conditions, but Phase 3 of the site will add additionally northbound left-turning traffic to the intersection. Queuing from this increase in traffic is expected to exceed the available storage provided in Phase 1. Therefore, the following lane geometric improvements are recommended:

- › Extend the storage of both turn lanes to at least 850 feet of full width storage with appropriate taper.
- › Converting the Fordham Boulevard at Estes Drive intersection to a Reduced Conflict Intersection (RCI) design may be considered as an alternative improvement at this location. This would result in substantially improved operations at the intersection, however, would require upstream and downstream signalized U-turn locations along Fordham Boulevard, likely at Access #1 to the north and Cleland Drive to the south.

S Estes Drive (SR 1750) at Brookwood Apartments Driveway/Site Access #4

The stop-controlled driveway is projected to operate at LOS E during the PM peak hour under Build (2028) conditions, worsening to a LOS F with re-routed trips included. The following additional improvement is recommended to make the ingress more efficient and reduce delay for the egress movement:

- › Construct an exclusive westbound right-turn lane with at least 100 feet of storage and appropriate taper.

Fordham Boulevard (US 15-501) at Site Access #1

The following intersection configuration may be considered as an alternative improvement at this location:

- › Accommodating a signalized left-turn ingress with exclusive left-turn lane at this location may be considered as an alternative improvement in conjunction with the conversion of the Fordham Boulevard at Estes Drive intersection to a Reduced Conflict Intersection (RCI) design.

Due to restricting access to right-in/right-out only at several development driveways, some intersection levels of service degrade after the improvements are in place as a result of the associated volume reroutes. However, the impacts to the level of service and delay at the intersections are minor and the restrictions will reduce conflict points along the network roadways within the study area.

The primary recommended roadway improvements for each Phase of the development are outlined in Table 28.

Table 28 Summary of Roadway Improvements and Trip Thresholds Per Phase

Phase (Year)	Total AM External Trips	Total PM External Trips	Required Roadway Requirements
Phase 1 (2024)	830 trips	2,521 trips	• 450 ft dual EB left-turn lanes at Fordham Blvd/Willow Drive • 700 ft dual NB left-turn lanes at Fordham Blvd/Estes Drive • 100 ft WB right-turn lane at Site Access #2 • Continuous WB right-turn lane at Site Access #3 • Right-in, right-out restrictions at Accesses #2, #5, and #9
Phase 2 (2026)	871 trips	2,589 trips	• None
Phase 3 (2028)	1,025 trips	2,959 trips	• 850 ft dual NB left-turn lanes at Fordham Blvd/Estes Drive • 100 ft WB right-turn lane at Site Access #4

Signal Warrant Analysis

If a traffic signal was recommended for an intersection that is not currently signalized or is not proposed to be signalized under Build (2024) or Build (2026) Conditions, then AM and PM peak hour turning movements were reviewed to determine if a peak hour signal warrant was expected to be met. Currently, no unsignalized intersection meets the minimum threshold for signal warrants based on the *Manual of Uniform Traffic Control Devices* (MUTCD) guidance. However, the intersection of S Estes Drive (SR 1750) and Brookwood Apartments/Site Access #4 should be monitored for future degradation and potential signalization.

Sight Distance Analysis

Driveways for the development will generally remain as they currently are today. The driveway along Fordham Boulevard (US 15-501) is on a long tangent section allowing for adequate sight distance for drivers. While a curve is present along Willow Drive, the speeds are relatively low. Any landscaping or signs within the developments site triangles should be removed to further improve visibility for drivers.

Special Analysis/Issues Related to Project

Based on discussions with the Town of Chapel Hill staff, there are no special issues associated with this project, and no special analyses needed beyond the ones included within this report.

Access Analysis

The proposed concept plan and study recommendations for the vehicular site access includes the following:

- › All current site access driveways will remain in their current locations.
- › Site Access #2, #5, and #9 will be converted to right-in, right-out only.
- › Site Access #4 will be monitored for potential future signalization.
- › A future access point is constructed at the intersection of Willow Drive and Conner Drive creating a four-leg, two-way stop-controlled intersection in this location.

Two alternative scenarios were tested along Fordham Boulevard (US 15-501) at S Estes Drive (SR 1750) and Site Access #1. Previously, it has been discussed to add a left-over from Fordham Boulevard (US 15-501) in to Site Access #1. This additional option would allow some drivers to choose to use the new direct access into the site rather than waiting to turn left on to S Estes Drive (SR 1750) to access the site. It was assumed that 30% of the northbound left-turning site traffic would choose to use the new left-over at Site Access #1. While the volume shift improves the Estes intersection, there is significant southbound queueing projected in the PM peak along Fordham Boulevard (US 15-501) that will spill past this driveway, creating additional conflicts with left-turning vehicles at this intersection.

A second alternative to accommodate the left-over at Site Access #1 would be to implement a Restricted Crossing Intersection (RCI) design at Fordham Boulevard (US 15-501) and S Estes Drive (SR 1750). With this configuration, the southbound queue spillback issue is resolved and the left-over at Site Access #1 could also accommodate U-turns from the restricted access at S Estes Drive (SR 1750). This alternative would be more impactful to the current Fordham Boulevard (US 15-501) corridor, but it would improve operations in both directions. As shown in Table 29, an RCI design would improve operations from 52.6 seconds of delay in the PM to only 17.2 seconds of delay in the PM peak. Southbound queueing reduces by nearly 1,000 feet and other approaches and the AM peak also receive delay savings. As part of the design, US 15-501 northbound and southbound would be split into two, independently operating intersections, each able to operate as two-phase signals. Minor street through and left-turn movements would be re-routed to an accompanying U-turn signal at Access #1 and another located to the south. The likely location would be at Cleland Drive or potentially at a midblock location just north of Cleland Drive. Additional analysis would be necessary to determine the feasibility of this design as large U-turn bulbs would likely need to be incorporated into the design. Also, since the U-turns may occur at existing intersections rather than isolated locations, a third phase may be necessary to separate the minor right-turns from the protected U-turn phase. The intersection analyses for all concepts are presented in Table 29.

Table 29 Site Access #1 Alternative Concepts LOS Results

Intersection and Approach	Traffic Control	Build (2028) with Improvements		Build (2028) with Left-Over		Build (2028) with RCI Design	
		AM	PM	AM	PM	AM	PM
Fordham Boulevard (US 15-501) at Estes Drive (SR 1750)	Signalized	C (26.7)	D (52.6)	C (25.1)	D (42.1)	-	-
Eastbound		E-73.2	E-70.0	E-75.4	E-74.0	---	---
Westbound		F-94.0	F-96.8	F-94.0	F-96.8	---	---
Northbound		C-26.4	D-40.1	C-24.9	D-37.0	---	---
Southbound		B-16.9	E-63.3	B-14.2	D-37.8	---	---
Southbound 95th Percentile Queue (ft)		408'	1441'	385'	1368'	---	---
Fordham Boulevard (US 15-501) at Site Access #1	Unsignalized/ Signalized	-	-	-	-	B (11.0)	B (17.2)
Eastbound		D-28.7	F-94.9	D-28.7	F-94.9	C-26.3	D-38.5
Northbound Left-Turn		---	---	C-24.6	D-26.3	C-26.6	C-24.0
Southbound		---	---	---	---	A-9.8	B-13.6
Fordham Boulevard (US 15-501) SB at Estes Drive (SR 1750)	Signalized	-	-	-	-	B (15.9)	C (26.1)
Eastbound		---	---	---	---	D-43.4	E-57.2
Northbound Left-Turn		---	---	---	---	C-27.2	C-29.8
Southbound		---	---	---	---	A-8.3	B-14.5
Southbound 95th Percentile Queue (ft)		---	---	---	---	50'	497'
Fordham Boulevard (US 15-501) NB at Estes Drive (SR 1750)	Signalized	-	-	-	-	A (4.4)	A (5.3)
Westbound		---	---	---	---	D-39.6	D-40.2
Northbound		---	---	---	---	A-3.9	A-4.6
Southbound Left-Turn		---	---	---	---	D-37.3	D-38.4

X (XX.X) = Overall intersection LOS (average delay), **X-XX** = Approach LOS and average delay.

With all mitigation measures in place, the intersections under full build-out conditions will experience queuing as noted in Table 30, Table 31, and Table 32. Providing a protected internal stem of 100 feet or more should be provided as part of the redevelopment to ensure vehicles can enter and exit the site with minimal disruption. Site Accesses #1, #3 and #4 are higher volume driveways that intersect with primary network mainlines and should have at least 200 feet of internal protected stem.

Table 30 Build (2024) Driveway Queuing Analysis – with Improvements

Intersection/Movement	Build (2024) with Improvements				Intersection/Movement	Build (2024) with Improvements			
	Synchro 95th Q		SimTraffic Max Q			Synchro 95th Q		SimTraffic Max Q	
	AM	PM	AM	PM		AM	PM	AM	PM
Fordham Boulevard (US 15-501) at Estes Drive					Fordham Boulevard (US 15-501) at UPlace Access #1				
Eastbound Left/Through	164	307	170	262	Eastbound Right-Turn	30	153	39	223
Eastbound Right-Turn	279	275	258	234	Northbound Through	0	0	0	0
Westbound Left/Through/Right-Turn	67	74	84	92	Southbound Through	0	0	0	0
Northbound Left-Turn	290	641	409	750	Southbound Right-Turn	0	0	0	0
Northbound Through/Right-Turn	711	763	346	984	Estes Drive at UPlace Access #2				
Southbound Left-Turn	12	29	60	256	Eastbound Through	0	0	0	16
Southbound Through	367	1270	445	589	Westbound Through	0	0	14	72
Southbound Right-Turn	17	39	274	360	Westbound Right-Turn	0	0	0	0
Fordham Boulevard (US 15-501) at Willow Avenue					Southbound Right-Turn	0	5	26	48
Eastbound Left-Turn	127	352	148	361	Estes Drive at UPlace Access #3				
Eastbound Through/Right-Turn	119	253	152	372	Eastbound Left-Turn	3	8	37	55
Westbound Left-Turn	118	70	128	94	Eastbound Through	0	0	0	8
Westbound Through/Right-Turn	160	178	187	189	Westbound Through	0	0	0	9
Northbound Left-Turn	39	43	117	205	Westbound Right-Turn	0	0	0	0
Northbound Through/Right-Turn	378	1187	278	449	Southbound Left-Turn	5	50	46	118
Southbound Left-Turn	3	12	55	99	Southbound Right-Turn	3	5	52	58
Southbound Through	846	424	301	334	Estes Drive at Driveway/UPlace Access #4				
Southbound Right-Turn	34	49	94	117	Eastbound Left-Turn	3	13	30	85
Fordham Boulevard (US 15-501) at Elliott Road					Eastbound Through/Right-Turn	0	0	4	0
Eastbound Left-Turn	74	318	82	599	Westbound Left-Turn	0	0	21	27
Eastbound Through	37	48	269	409	Westbound Through/Right-Turn	0	0	10	20
Eastbound Right-Turn	245	381	241	250	Northbound Left/Through/Right-Turn	3	3	39	31
Westbound Left-Turn	164	180	285	286	Southbound Left/Through	18	265	77	239
Westbound Through	49	60	107	85	Southbound Right-Turn	3	8	49	87
Westbound Right-Turn	45	13	62	23	Estes Drive at UPlace Access #5				
Northbound Left-Turn	233	343	225	353	Eastbound Through	0	0	0	0
Northbound Through	290	448	261	345	Westbound Through/Right-Turn	0	0	20	166
Northbound Right-Turn	36	35	135	183	Southbound Right-Turn	0	3	30	37
Southbound Left-Turn	0	6	18	245	Willow Avenue at Wells Fargo Driveway/UPlace Access #6				
Southbound Through	333	1025	400	773	Eastbound Left/Through/Right-Turn	0	3	27	32
Southbound Right-Turn	15	99	211	280	Westbound Left/Through/Right-Turn	0	3	26	38
Fordham Boulevard (US 15-501) at Ephesus Church Road					Northbound Left/Through/Right-Turn	0	0	26	104
Eastbound Left-Turn	188	277	150	192	Southbound Left-Turn	0	0	0	0
Eastbound Through	109	174	152	351	Southbound Through/Right-Turn	0	0	11	109
Eastbound Right-Turn	75	161	111	188	Willow Avenue at UPlace Access #7				
Westbound Left-Turn	189	237	288	318	Eastbound Left/Through/Right-Turn	0	3	31	35
Westbound Through/Right-Turn	344	364	348	325	Westbound Left/Through	3	8	48	47
Northbound Left-Turn	190	256	187	404	Westbound Right-Turn	0	3	51	65
Northbound Through	530	1218	378	589	Northbound Left-Turn	0	0	18	21
Northbound Right-Turn	0	0	0	357	Northbound Through/Right-Turn	0	0	0	9
Southbound Left-Turn	171	321	399	400	Southbound Left-Turn	0	3	18	25
Southbound Through/Right-Turn	1090	1111	602	619	Southbound Through/Right-Turn	0	0	0	0
Franklin Street at Estes Drive					Willow Avenue at UPlace Access #8				
Eastbound Left-Turn	430	548	432	550	Eastbound Through/Right-Turn	0	0	2	22
Eastbound Through/Right-Turn	325	673	395	638	Westbound Left-Turn	5	15	39	91
Westbound Left-Turn	0	316	250	250	Westbound Through	0	0	0	0
Westbound Through	370	633	397	612	Northbound Left-Turn	5	38	54	134
Westbound Right-Turn	105	256	136	267	Northbound Right-Turn	5	25	61	88
Northbound Left-Turn	99	141	182	250	Willow Avenue at UPlace Access #9				
Northbound Through/Right-Turn	290	622	260	496	Eastbound Through/Right-Turn	0	0	0	0
Southbound Left-Turn	151	241	166	230	Westbound Through	0	0	0	0
Southbound Through	303	373	305	369	Northbound Right-Turn	3	20	49	69
Southbound Right-Turn	144	495	172	391	Willow Avenue at Conner Drive/Future UPlace Access				
Estes Drive at Willow Avenue/Shepherd Lane					Eastbound Left-Turn	5	3	74	40
Eastbound Left-Turn	89	247	158	199	Eastbound Through/Right-Turn	0	0	0	24
Eastbound Through/Right-Turn	64	64	114	140	Westbound Left-Turn	3	5	27	51
Westbound Left-Turn	8	16	24	33	Westbound Through/Right-Turn	0	0	10	2
Westbound Through/Right-Turn	68	145	107	130	Northbound Left/Through	5	25	38	56
Northbound Left/Through/Right-Turn	28	30	55	63	Northbound Right-Turn	3	10	46	83
Southbound Left/Through	35	64	66	108	Southbound Left/Through/Right-Turn	10	108	75	152
Southbound Right-Turn	106	175	174	199					

Table 31 Build (2026) Driveway Queuing Analysis – with Improvements

Intersection/Movement	Build (2026) with Improvements				Intersection/Movement	Build (2026) with Improvements			
	Synchro 95th Q		SimTraffic Max Q			Synchro 95th Q		SimTraffic Max Q	
	AM	PM	AM	PM		AM	PM	AM	PM
Fordham Boulevard (US 15-501) at Estes Drive					Fordham Boulevard (US 15-501) at UPlace Access #1				
Eastbound Left/Through	147	305	165	281	Eastbound Right-Turn	30	173	44	271
Eastbound Right-Turn	282	291	240	238	Northbound Through	0	0	0	0
Westbound Left/Through/Right-Turn	67	74	92	101	Southbound Through	0	0	89	74
Northbound Left-Turn	358	651	497	750	Southbound Right-Turn	0	0	0	38
Northbound Through/Right-Turn	755	794	381	985	Estes Drive at UPlace Access #2				
Southbound Left-Turn	12	29	38	255	Eastbound Through	0	0	0	16
Southbound Through	365	1313	446	645	Westbound Through	0	0	9	41
Southbound Right-Turn	16	39	209	360	Westbound Right-Turn	0	0	0	0
Fordham Boulevard (US 15-501) at Willow Avenue					Southbound Right-Turn	0	5	22	54
Eastbound Left-Turn	123	387	150	365	Estes Drive at UPlace Access #3				
Eastbound Through/Right-Turn	125	256	154	388	Eastbound Left-Turn	3	8	37	56
Westbound Left-Turn	118	72	123	99	Eastbound Through	0	0	0	11
Westbound Through/Right-Turn	160	189	191	204	Westbound Through	0	0	0	8
Northbound Left-Turn	46	43	114	152	Westbound Right-Turn	0	0	0	0
Northbound Through/Right-Turn	177	1219	341	466	Southbound Left-Turn	8	55	54	132
Southbound Left-Turn	3	11	48	87	Southbound Right-Turn	3	5	50	50
Southbound Through	908	380	328	327	Estes Drive at Driveway/UPlace Access #4				
Southbound Right-Turn	34	46	147	112	Eastbound Left-Turn	3	13	53	89
Fordham Boulevard (US 15-501) at Elliott Road					Eastbound Through/Right-Turn	0	0	1	11
Eastbound Left-Turn	75	318	110	552	Westbound Left-Turn	0	0	29	18
Eastbound Through	37	48	283	453	Westbound Through/Right-Turn	0	0	65	28
Eastbound Right-Turn	245	382	232	250	Northbound Left/Through/Right-Turn	3	3	41	31
Westbound Left-Turn	165	180	284	364	Southbound Left/Through	18	298	74	263
Westbound Through	49	60	92	129	Southbound Right-Turn	3	8	53	60
Westbound Right-Turn	45	13	55	16	Estes Drive at UPlace Access #5				
Northbound Left-Turn	235	338	240	328	Eastbound Through	0	0	0	0
Northbound Through	305	476	252	322	Westbound Through/Right-Turn	0	0	19	193
Northbound Right-Turn	37	33	122	228	Southbound Right-Turn	0	3	30	32
Southbound Left-Turn	0	6	20	223	Willow Avenue at Wells Fargo Driveway/UPlace Access #6				
Southbound Through	337	1298	415	894	Eastbound Left/Through/Right-Turn	0	3	27	32
Southbound Right-Turn	15	97	215	280	Westbound Left/Through/Right-Turn	0	3	28	43
Fordham Boulevard (US 15-501) at Ephesus Church Road					Northbound Left/Through/Right-Turn	0	0	35	72
Eastbound Left-Turn	188	384	160	198	Southbound Left-Turn	0	0	0	0
Eastbound Through	109	177	178	328	Southbound Through/Right-Turn	0	0	10	109
Eastbound Right-Turn	76	161	106	195	Willow Avenue at UPlace Access #7				
Westbound Left-Turn	193	246	248	352	Eastbound Left/Through/Right-Turn	0	3	31	30
Westbound Through/Right-Turn	344	365	326	374	Westbound Left/Through	3	8	40	59
Northbound Left-Turn	190	258	215	428	Westbound Right-Turn	0	3	63	61
Northbound Through	597	1276	410	635	Northbound Left-Turn	0	0	29	18
Northbound Right-Turn	0	0	0	390	Northbound Through/Right-Turn	0	0	0	7
Southbound Left-Turn	171	324	400	400	Southbound Left-Turn	0	3	23	30
Southbound Through/Right-Turn	1160	1134	607	615	Southbound Through/Right-Turn	0	0	0	3
Franklin Street at Estes Drive					Willow Avenue at UPlace Access #8				
Eastbound Left-Turn	435	550	392	489	Eastbound Through/Right-Turn	0	0	4	24
Eastbound Through/Right-Turn	346	645	387	595	Westbound Left-Turn	5	15	42	80
Westbound Left-Turn	0	294	250	250	Westbound Through	0	0	0	0
Westbound Through	366	657	416	676	Northbound Left-Turn	5	43	56	112
Westbound Right-Turn	105	266	124	268	Northbound Right-Turn	5	28	63	90
Northbound Left-Turn	99	120	173	250	Willow Avenue at UPlace Access #9				
Northbound Through/Right-Turn	293	655	270	541	Eastbound Through/Right-Turn	0	0	0	43
Southbound Left-Turn	155	241	179	251	Westbound Through	0	0	0	0
Southbound Through	304	393	320	372	Northbound Right-Turn	3	23	50	97
Southbound Right-Turn	145	327	160	339	Willow Avenue at Conner Drive/Future UPlace Access				
Estes Drive at Willow Avenue/Shepherd Lane					Eastbound Left-Turn	5	3	72	49
Eastbound Left-Turn	85	266	156	197	Eastbound Through/Right-Turn	0	0	0	8
Eastbound Through/Right-Turn	58	63	88	109	Westbound Left-Turn	3	5	26	51
Westbound Left-Turn	8	16	29	33	Westbound Through/Right-Turn	0	0	6	5
Westbound Through/Right-Turn	69	150	109	130	Northbound Left/Through	5	28	36	69
Northbound Left/Through/Right-Turn	28	30	61	51	Northbound Right-Turn	3	13	56	74
Southbound Left/Through	35	65	66	98	Southbound Left/Through/Right-Turn	10	118	72	140
Southbound Right-Turn	104	181	161	194					

Table 32 Build (2028) Driveway Queuing Analysis – with Improvements

Intersection/Movement	Build (2028) with Improvements				Intersection/Movement	Build (2028) with Improvements			
	Synchro 95th Q		SimTraffic Max Q			Synchro 95th Q		SimTraffic Max Q	
	AM	PM	AM	PM		AM	PM	AM	PM
Fordham Boulevard (US 15-501) at Estes Drive					Fordham Boulevard (US 15-501) at UPlace Access #1				
Eastbound Left/Through	178	329	166	311	Eastbound Right-Turn	33	260	55	386
Eastbound Right-Turn	284	327	263	258	Northbound Through	0	0	0	0
Westbound Left/Through/Right-Turn	67	74	83	101	Southbound Through	0	0	0	14
Northbound Left-Turn	377	721	569	950	Southbound Right-Turn	0	0	0	0
Northbound Through/Right-Turn	762	822	337	1444	Estes Drive at UPlace Access #2				
Southbound Left-Turn	12	28	95	234	Eastbound Through	0	0	0	52
Southbound Through	408	1441	475	808	Westbound Through	0	0	25	70
Southbound Right-Turn	15	38	295	360	Westbound Right-Turn	0	0	0	0
Fordham Boulevard (US 15-501) at Willow Avenue					Southbound Right-Turn	0	5	24	53
Eastbound Left-Turn	130	457	143	376	Estes Drive at UPlace Access #3				
Eastbound Through/Right-Turn	124	259	156	438	Eastbound Left-Turn	3	8	42	60
Westbound Left-Turn	117	72	125	102	Eastbound Through	0	0	0	12
Westbound Through/Right-Turn	164	212	194	206	Westbound Through	0	0	7	9
Northbound Left-Turn	52	41	125	164	Westbound Right-Turn	0	0	0	0
Northbound Through/Right-Turn	765	1290	318	425	Southbound Left-Turn	8	85	52	136
Southbound Left-Turn	2	12	51	79	Southbound Right-Turn	3	8	48	53
Southbound Through	1051	537	312	388	Estes Drive at Driveway/UPlace Access #4				
Southbound Right-Turn	33	45	110	114	Eastbound Left-Turn	5	15	51	90
Fordham Boulevard (US 15-501) at Elliott Road					Eastbound Through/Right-Turn	0	0	0	5
Eastbound Left-Turn	75	325	72	529	Westbound Left-Turn	0	0	20	29
Eastbound Through	37	48	254	441	Westbound Through	0	0	6	0
Eastbound Right-Turn	253	386	232	250	Westbound Right-Turn	0	0	0	5
Westbound Left-Turn	173	189	279	275	Northbound Left/Through/Right-Turn	3	3	39	31
Westbound Through	49	60	62	73	Southbound Left/Through	20	408	74	273
Westbound Right-Turn	45	13	56	21	Southbound Right-Turn	3	8	48	77
Northbound Left-Turn	230	324	250	330	Estes Drive at UPlace Access #5				
Northbound Through	356	500	239	295	Eastbound Through	0	0	0	7
Northbound Right-Turn	39	32	99	132	Westbound Through/Right-Turn	0	0	38	166
Southbound Left-Turn	0	5	50	250	Southbound Right-Turn	0	3	27	37
Southbound Through	421	1411	541	886	Willow Avenue at Wells Fargo Driveway/UPlace Access #6				
Southbound Right-Turn	19	96	279	280	Eastbound Left/Through/Right-Turn	0	3	25	28
Fordham Boulevard (US 15-501) at Ephesus Church Road					Westbound Left/Through/Right-Turn	0	5	29	47
Eastbound Left-Turn	188	286	174	199	Northbound Left/Through/Right-Turn	0	0	27	113
Eastbound Through	109	177	193	365	Southbound Left-Turn	0	0	0	0
Eastbound Right-Turn	81	167	120	179	Southbound Through/Right-Turn	0	0	12	123
Westbound Left-Turn	217	275	318	364	Willow Avenue at UPlace Access #7				
Westbound Through/Right-Turn	347	370	379	412	Eastbound Left/Through/Right-Turn	0	3	28	35
Northbound Left-Turn	209	244	202	456	Westbound Left/Through	3	10	42	67
Northbound Through	583	1370	395	649	Westbound Right-Turn	0	5	56	57
Northbound Right-Turn	0	0	22	446	Northbound Left-Turn	0	0	17	30
Southbound Left-Turn	199	336	399	400	Northbound Through/Right-Turn	0	0	3	13
Southbound Through/Right-Turn	1234	1293	611	612	Southbound Left-Turn	0	3	24	33
Franklin Street at Estes Drive					Southbound Through/Right-Turn	0	0	0	9
Eastbound Left-Turn	464	568	412	579	Willow Avenue at UPlace Access #8				
Eastbound Through/Right-Turn	393	757	417	699	Eastbound Through/Right-Turn	0	0	2	29
Westbound Left-Turn	100	373	250	250	Westbound Left-Turn	5	18	42	98
Westbound Through	391	726	417	788	Westbound Through	0	0	0	0
Westbound Right-Turn	93	282	142	416	Northbound Left-Turn	8	63	53	143
Northbound Left-Turn	99	120	176	250	Northbound Right-Turn	5	35	57	118
Northbound Through/Right-Turn	299	684	276	542	Willow Avenue at UPlace Access #9				
Southbound Left-Turn	169	251	177	290	Eastbound Through/Right-Turn	0	0	0	166
Southbound Through	302	399	291	391	Westbound Through	0	0	0	0
Southbound Right-Turn	146	340	183	314	Northbound Right-Turn	3	33	45	146
Estes Drive at Willow Avenue/Shepherd Lane					Willow Avenue at Conner Drive/Future UPlace Access				
Eastbound Left-Turn	98	266	164	198	Eastbound Left-Turn	8	3	58	54
Eastbound Through/Right-Turn	52	66	93	152	Eastbound Through/Right-Turn	0	0	2	18
Westbound Left-Turn	8	17	29	31	Westbound Left-Turn	3	5	26	55
Westbound Through/Right-Turn	74	165	119	127	Westbound Through/Right-Turn	0	0	10	4
Northbound Left/Through/Right-Turn	28	29	49	54	Northbound Left/Through	5	43	34	76
Southbound Left/Through	35	65	70	103	Northbound Right-Turn	3	15	53	86
Southbound Right-Turn	102	190	171	202	Southbound Left/Through/Right-Turn	13	153	66	158

Distribution and Assignment

The access recommendations identified for the study area network were analyzed under Build (2024), Build (2026), and Build (2028) conditions. The generated non-pass-by site trips and pass-by site trips will be distributed in accordance with the directional distributions shown in Figure 27 and Figure 28, respectively. The resulting non-pass-by, pass-by, and total site trips for Build (2024) conditions are depicted in Figure 29, Figure 30, and Figure 31, respectively. The Build (2026) non-pass-by, pass-by, and total site generated trips are depicted in Figure 32, Figure 33, and Figure 34, respectively. The Build (2028) non-pass-by, pass-by, and total site generated trips are depicted in Figure 35, Figure 36, and Figure 37, respectively. The Build (2024), Build (2026), and Build (2028) volumes with the associated site trips and volumes rerouted are shown in Figure 38, Figure 39, and Figure 40, respectively.

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
	Percentage of Exiting Trips
	Percentage of Entering Trips
	Percentage of Entering and Exiting Trips

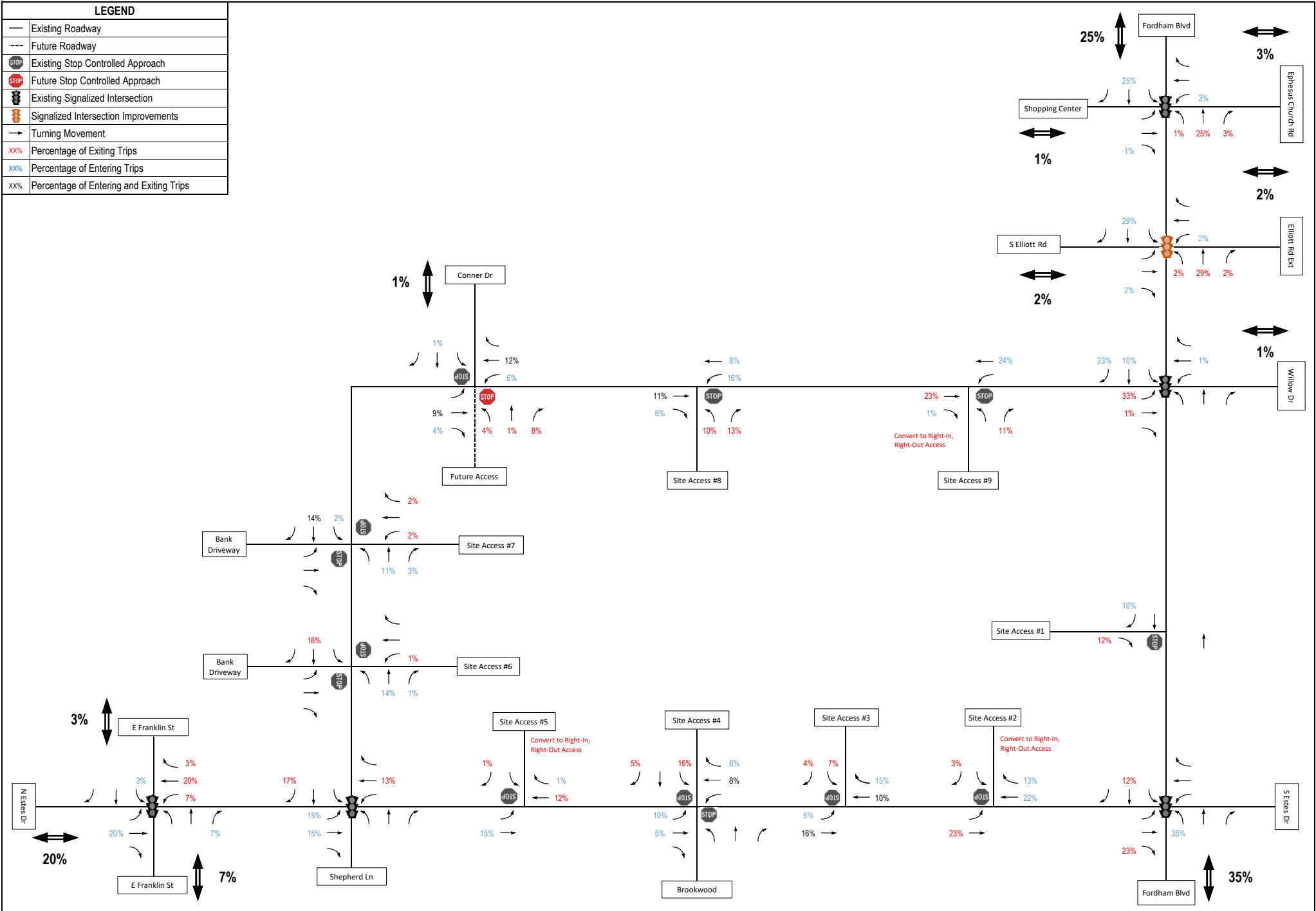


Figure 27
Non-Pass-By Site Trip Distribution Percentages - Improved

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX%	Percentage of Exiting Trips
XX%	Percentage of Entering Trips

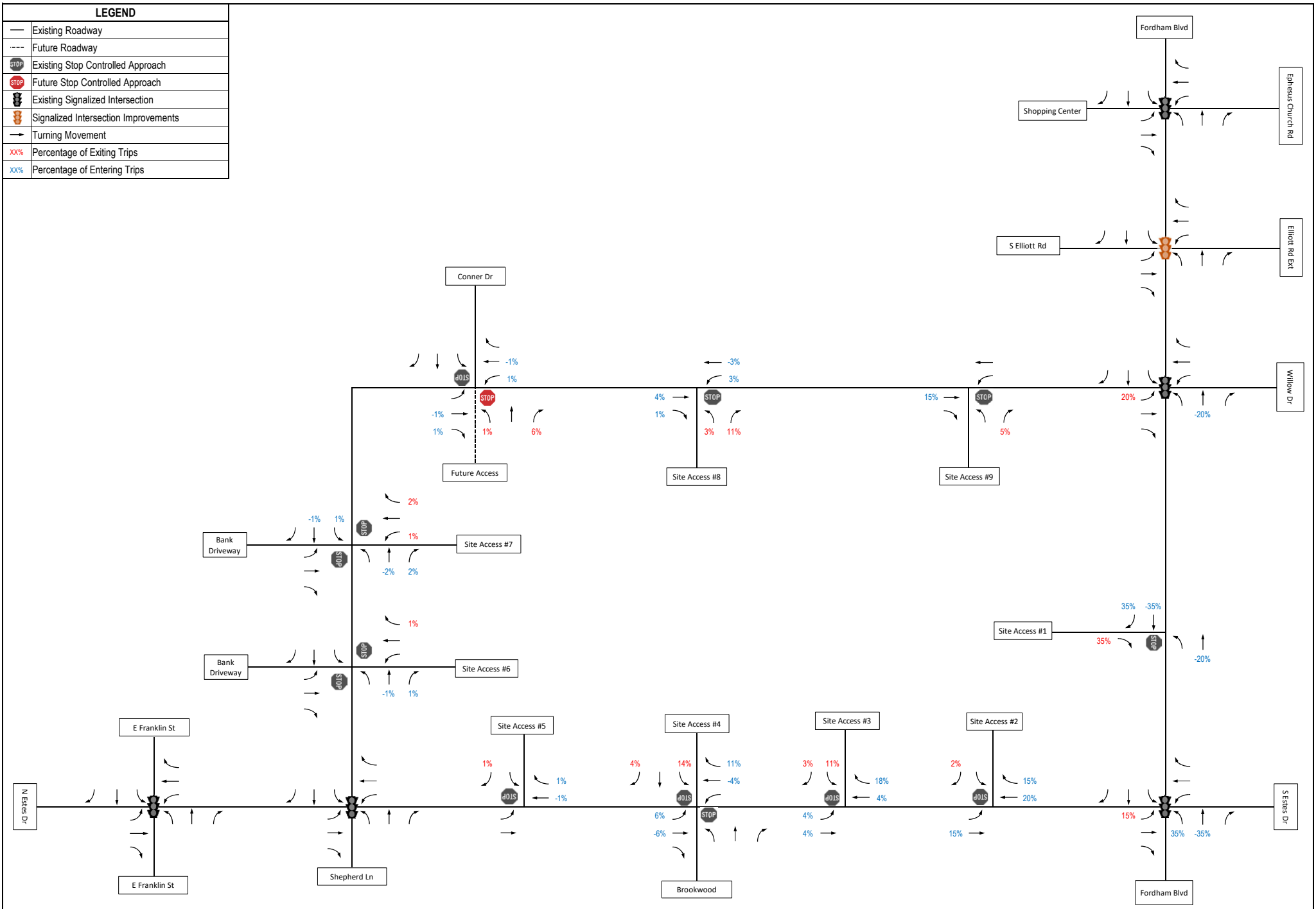
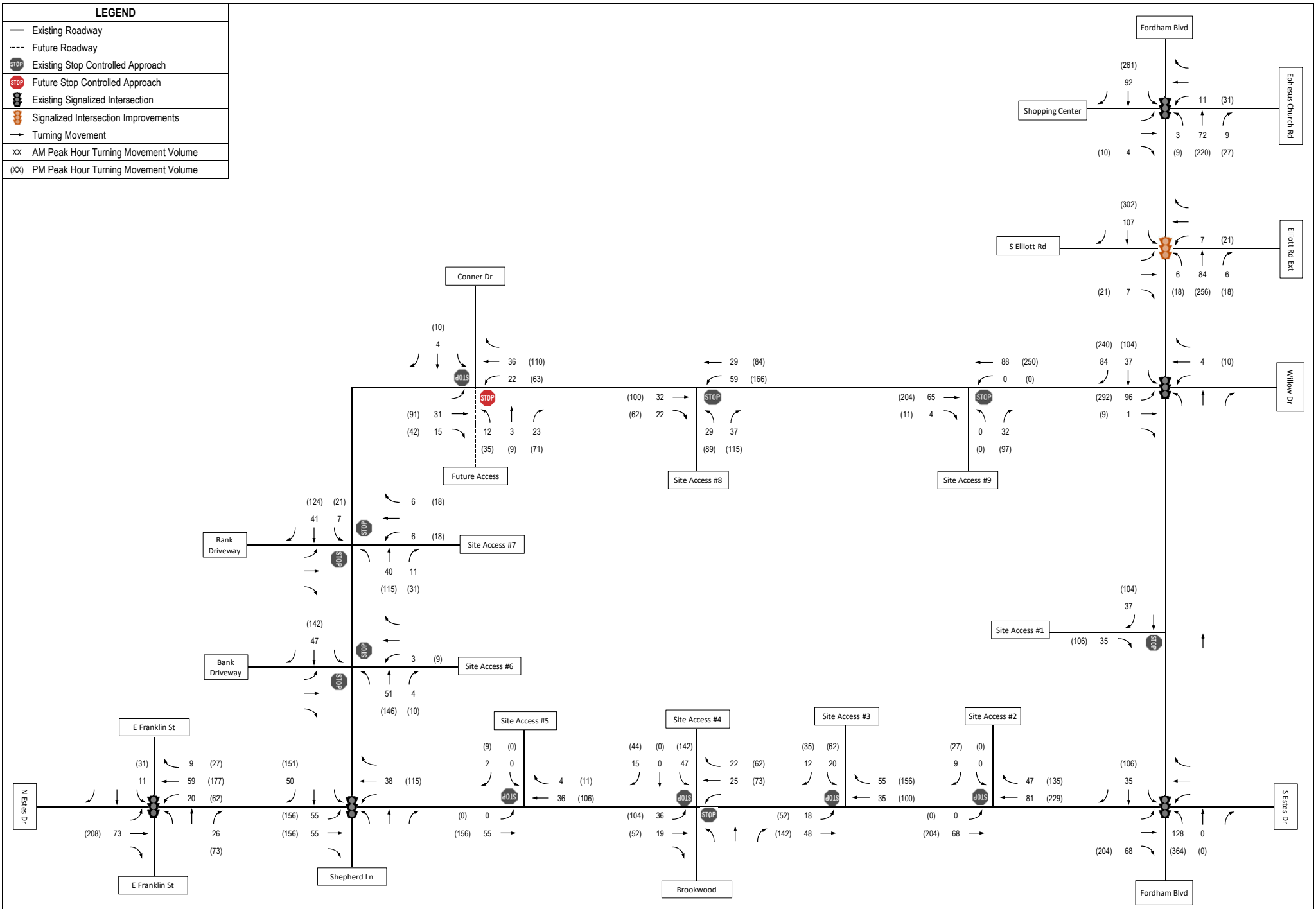


Figure 28
Pass-By Site Trip Distribution Percentages - Improved



LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume



LEGEND	
—	Existing Roadway
---	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

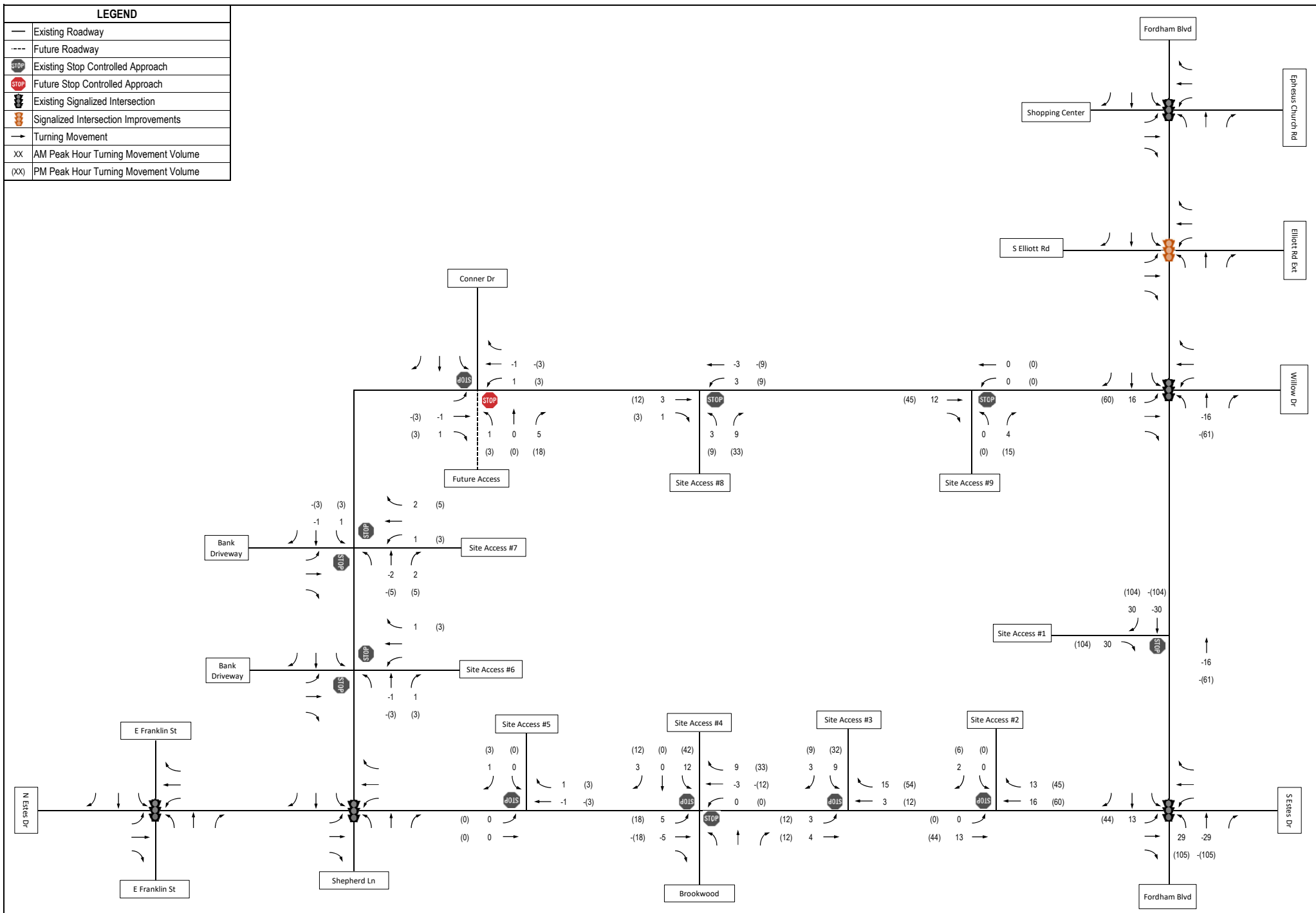


Figure 30
Build (2024) Pass-By Peak Hour Site Generated Trips - Improved

LEGEND	
---	Existing Roadway
----	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

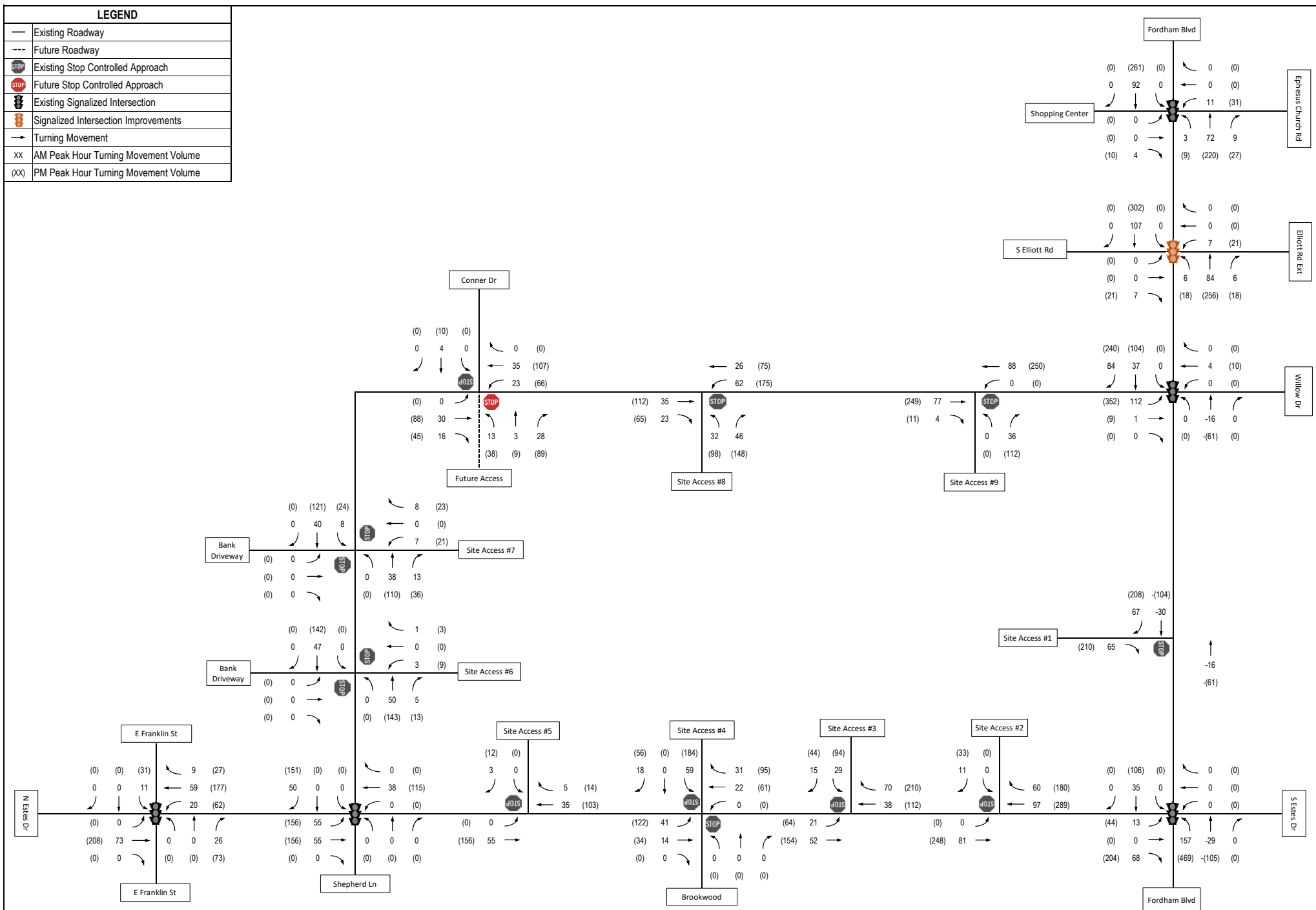
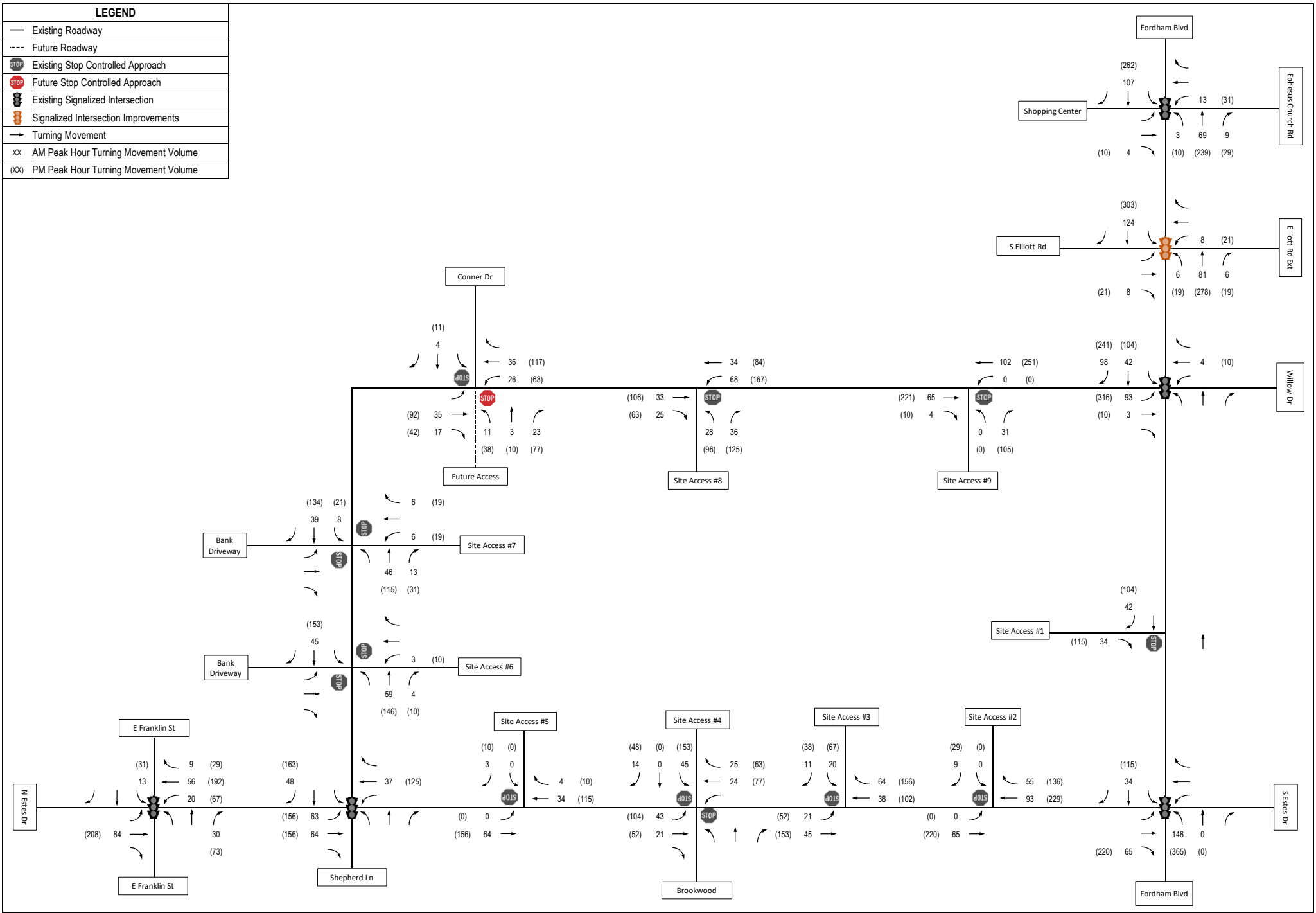


Figure 31
Build (2024) Total Peak Hour Site Generated Trips - Improved

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume



LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

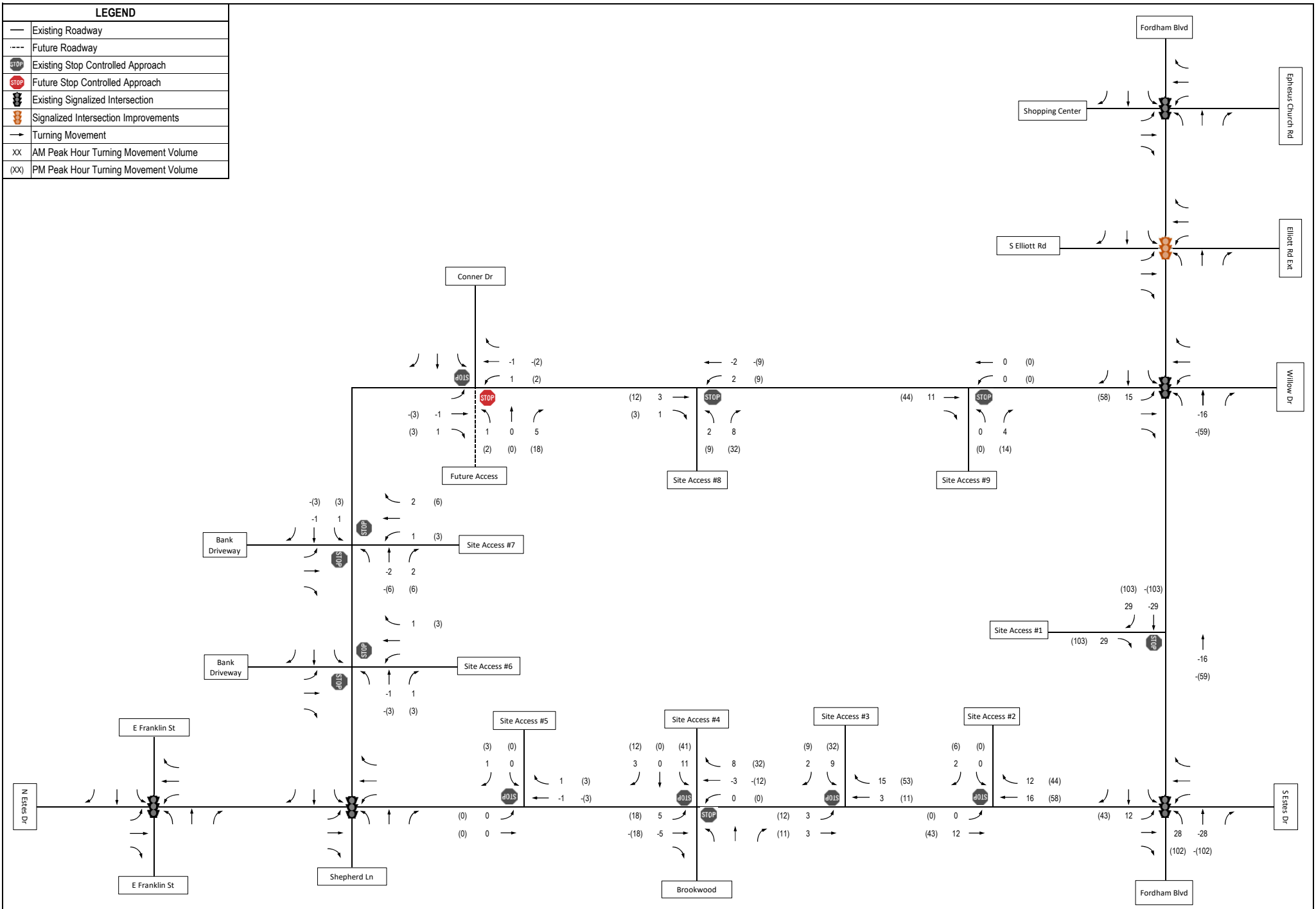


Figure 33
Build (2026) Pass-By Peak Hour Site Generated Trips - Improved



LEGEND	
—	Existing Roadway
---	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

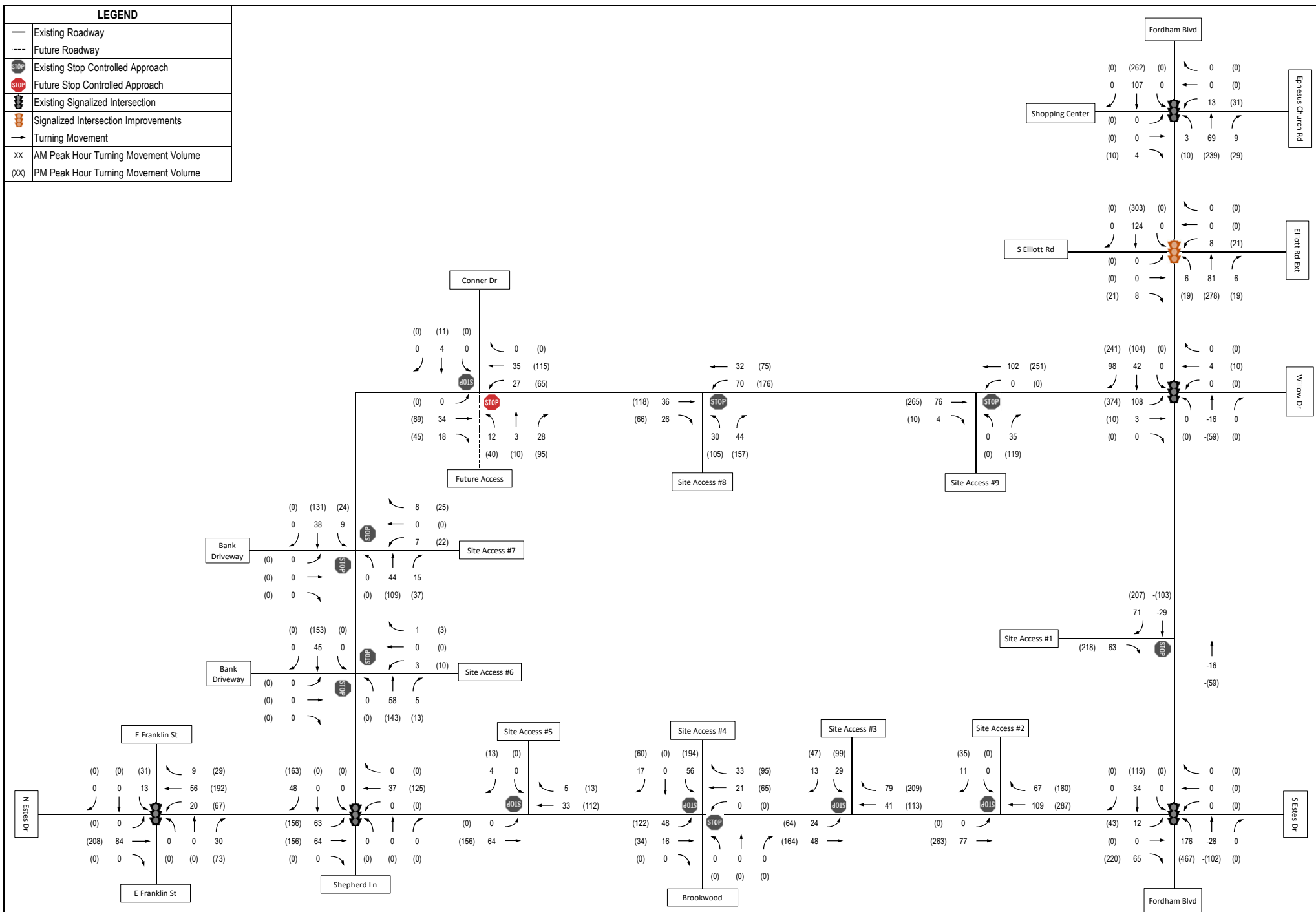


Figure 34
Build (2026) Total Peak Hour Site Generated Trips - Improved

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

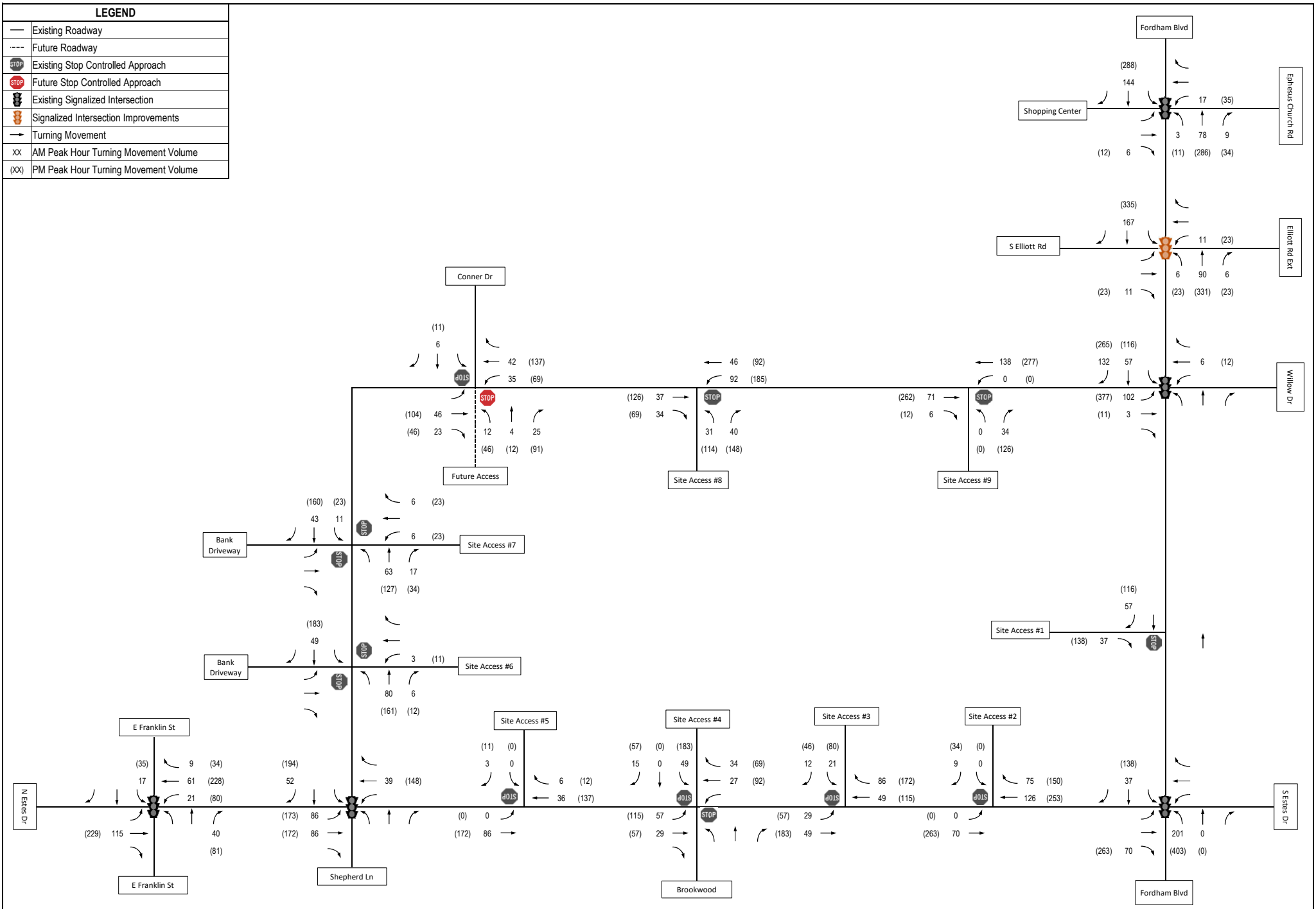


Figure 35
Build (2028) Non-Pass-By Peak Hour Site Generated Trips - Improved

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

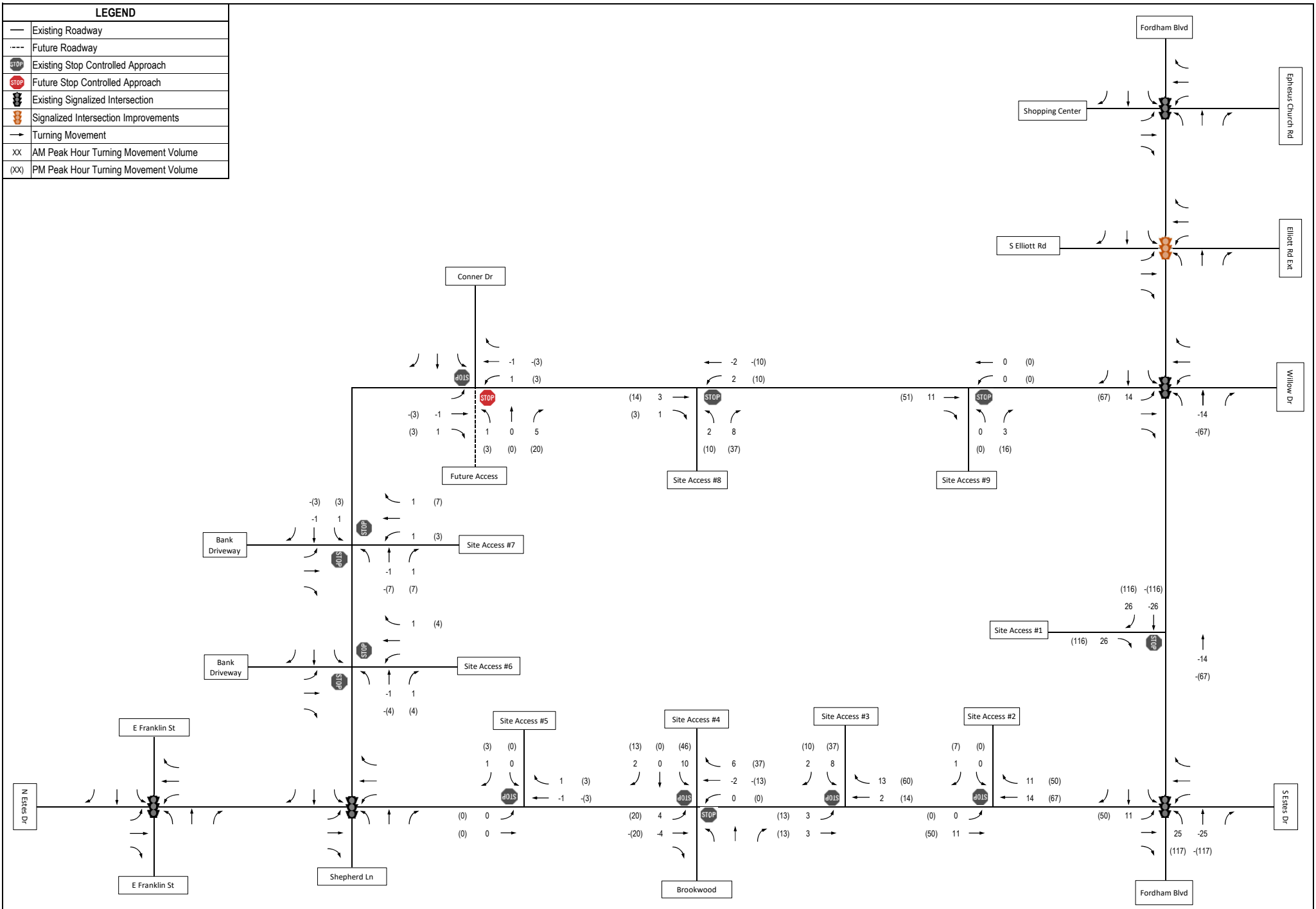


Figure 36
Build (2028) Pass-By Peak Hour Site Generated Trips - Improved

LEGEND	
—	Existing Roadway
---	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

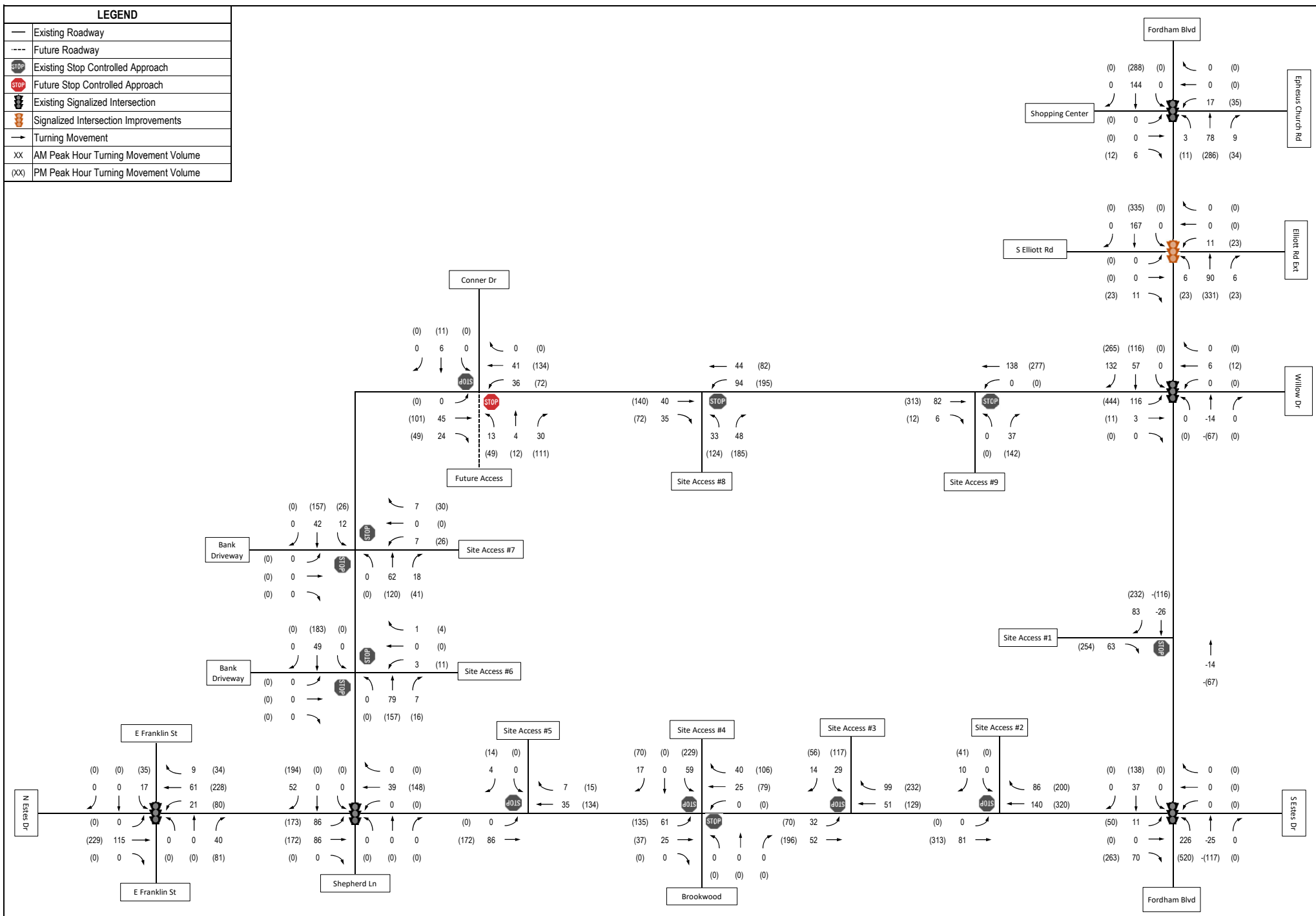


Figure 37
Build (2028) Total Peak Hour Site Generated Trips - Improved

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

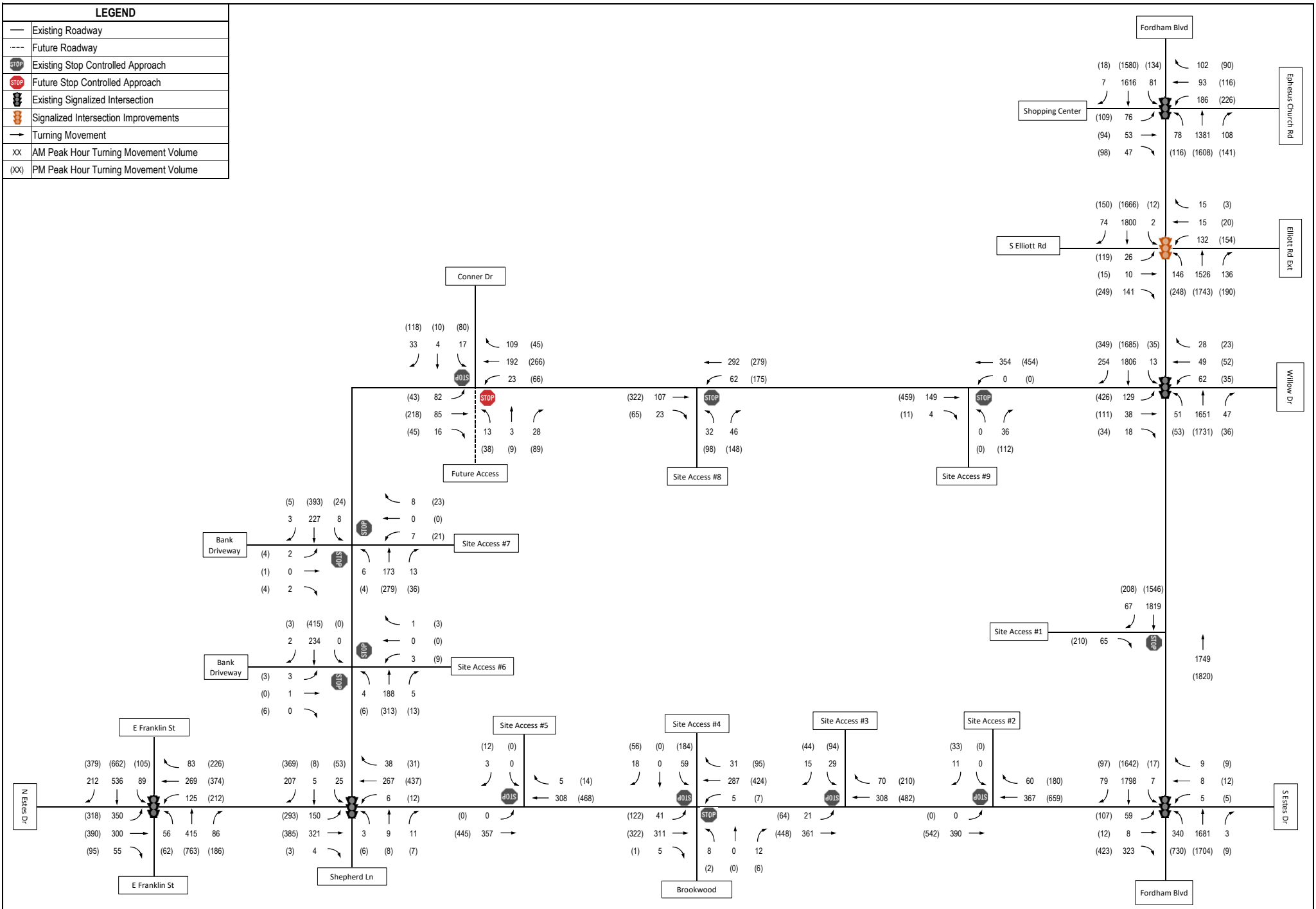


Figure 38
Build (2024) AM and PM Peak Hour Volumes - Improved

LEGEND	
—	Existing Roadway
---	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
→	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

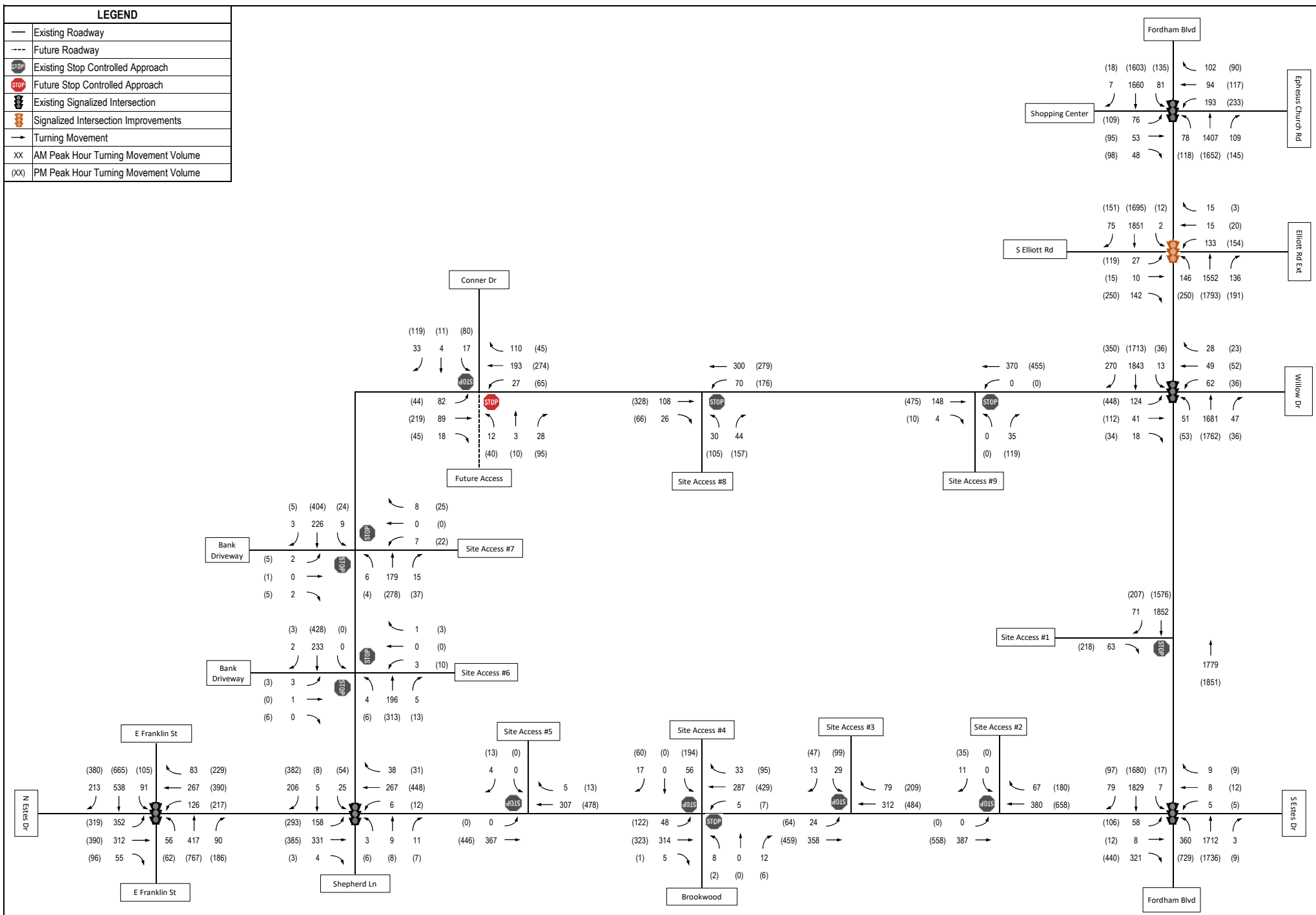


Figure 39
Build (2026) AM and PM Peak Hour Volumes - Improved

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Turning Movement
XX	AM Peak Hour Turning Movement Volume
(XX)	PM Peak Hour Turning Movement Volume

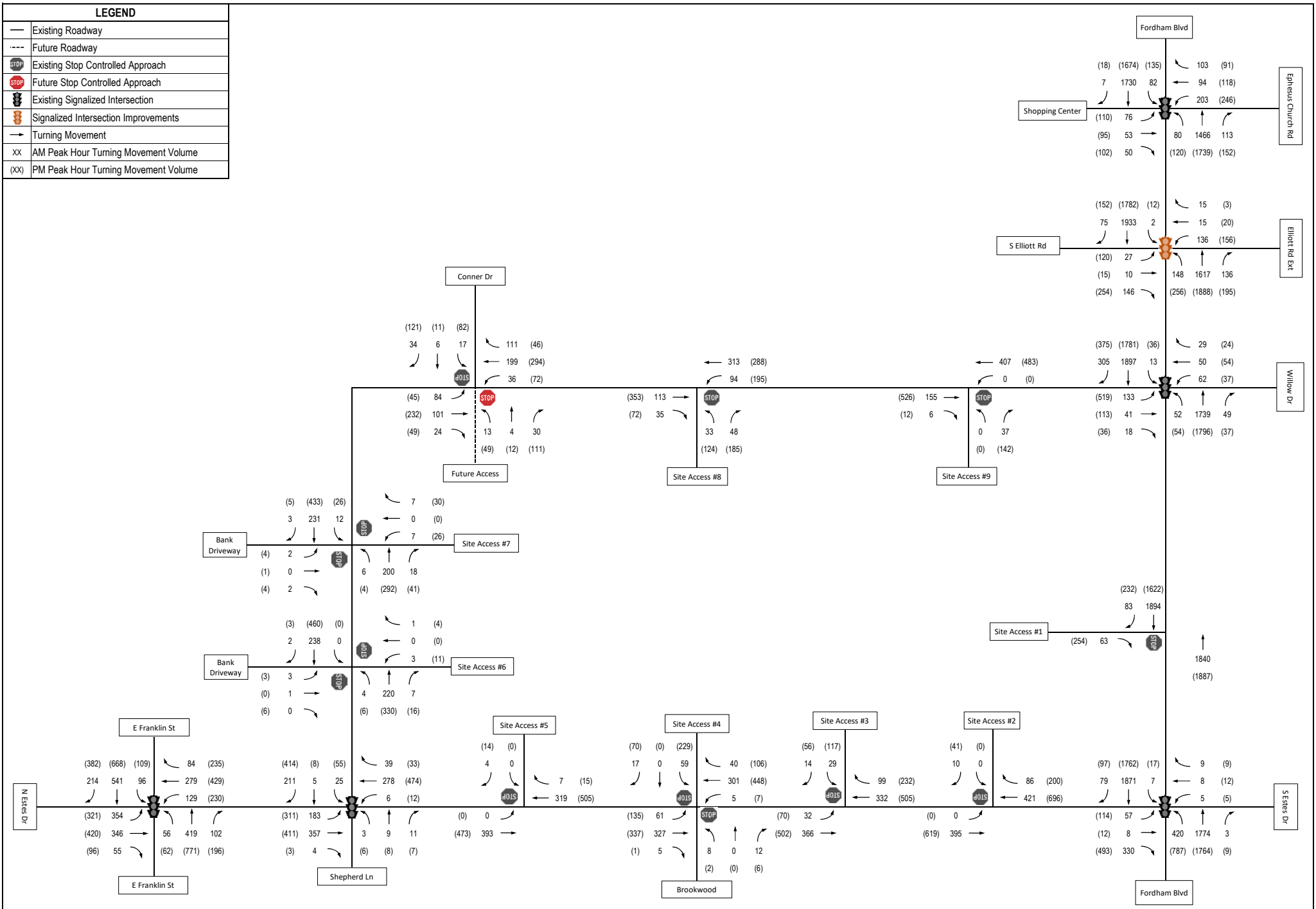


Figure 40
Build (2028) AM and PM Peak Hour Volumes - Improved



Level of Service Analysis

Intersection LOS analyses were performed for the typical weekday AM and PM peak hours using *Synchro/SimTraffic Professional Version 10*. The coordinated signal timings analyzed within the Build (2024), Build (2026), and Build (2028) with improvements scenarios were optimized where appropriate. A summary of the findings for the Build (2024), Build (2026), and Build (2028) LOS analyses can be found in Appendix E. Due to the minimal impact of the Phase 2 office trips to the overall network, the lane configuration recommendations for the Build (2024) and Build (2026) scenarios are identical and are shown in Figure 41. Any additional offsite improvements that are warranted with additional trips generated with Phase 3 of the development are shown in Figure 42.

Due to restricting access to right-in/right-out only at several development driveways, some intersection levels of service degrade after the improvements are in place as a result of the associated volume reroutes. However, the impacts to the level of service and delay at the intersections are minor and the restrictions will reduce conflict points along the network roadways within the study area. The level of service summaries for the Build (2024), Build (2026), and Build (2028) scenarios with all network improvements in place can be found in Table 33.

As reported in Table 33, only two signalized intersections are expected to not operate acceptably with the proposed improvements in place. The intersections of Fordham Boulevard (US 15-501) at Ephesus Church Road (SR 1742) and Franklin Street (SR 1010) at Estes Drive (SR 1750) are expected to operate at LOS E during the PM peak hour under all Build with Improvements conditions. The restriction of access along S Estes Drive (SR 1750) will cause the stop-controlled approach along Site Access #3 to operate at LOS E during the PM peak hour and Site Access #4 to operate at LOS F during the PM peak hour. Additionally, stop-controlled Site Access #1 is expected to operate at LOS F during the PM peak hour.

Table 33 Summary Level of Service Results

Intersection and Approach	Traffic Control	Existing (2019)		No-Build (2024)		Build (2024) Phase 1		Build (2024) Phase 1 with Improvements		No-Build (2026)		Build (2026) Phase 2		Build (2026) Phase 2 with Improvements		No-Build (2028)		Build (2028) - Phase 3		Build (2028) Phase 3 with Improvements	
		AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM	AM	PM
Fordham Boulevard (US 15-501) at Estes Drive (SR 1750)	Signalized	C (24.6)	C (31.4)	C (28.5)	D (35.7)	C (28.7)	D (48.2)	C (24.3)	D (42.2)	C (29.0)	D (36.3)	C (29.6)	D (51.3)	C (24.9)	D (43.6)	C (29.8)	D (37.8)	C (32.1)	E (61.9)	C (26.7)	D (52.6)
Eastbound		E-65.8	E-58.0	E-65.1	E-56.3	E-65.6	D-52.0	E-74.4	E-67.0	E-65.0	E-56.5	E-64.6	D-52.2	E-73.4	E-66.8	E-64.7	E-56.3	E-62.5	D-54.0	E-73.2	E-70.0
Westbound		F-91.5	F-92.7	F-91.5	F-92.7	F-91.5	F-92.7	F-94.0	F-96.8	F-91.5	F-92.7	F-91.5	F-92.7	F-94.0	F-96.8	F-91.5	F-92.7	F-91.5	F-92.7	F-94.0	F-96.8
Northbound		C-24.0	C-30.1	C-25.1	C-33.0	C-25.0	D-37.1	C-24.3	D-37.2	C-25.3	C-33.4	C-25.6	D-37.2	C-26.2	D-37.3	C-25.9	C-33.9	C-27.4	D-43.4	C-26.4	D-40.1
Southbound		B-15.0	C-23.6	C-23.8	C-32.6	C-24.3	E-61.8	B-13.0	D-40.7	C-24.8	C-33.8	C-26.2	E-70.0	B-12.7	D-44.2	C-26.1	D-37.1	C-30.5	F-89.2	B-16.9	E-63.3
Fordham Boulevard (US 15-501) at Willow Drive	Signalized	B (11.5)	C (25.2)	B (13.9)	C (28.5)	B (15.6)	D (41.9)	B (16.5)	C (30.3)	B (14.1)	C (29.3)	B (15.8)	D (46.2)	B (16.6)	C (31.3)	B (14.5)	C (30.9)	B (16.8)	E (62.2)	B (18.4)	D (38.8)
Eastbound		E-72.2	E-71.6	E-73.0	E-72.3	E-75.9	F-152.3	F-88.5	F-84.7	E-73.1	E-72.3	E-75.5	F-172.8	F-88.4	F-86.6	E-73.1	E-72.6	E-76.4	F-242.8	F-88.2	F-87.6
Westbound		F-83.0	F-81.6	F-81.7	F-80.6	F-81.6	F-83.1	F-83.2	F-93.3	F-81.7	F-80.4	F-81.6	F-82.8	F-83.4	F-96.9	F-81.7	F-80.5	F-81.7	F-83.3	F-83.3	F-105.6
Northbound		A-6.0	B-17.1	A-7.8	C-24.8	A-8.7	C-25.8	A-9.4	C-23.8	A-8.1	C-26.3	A-9.1	C-27.0	A-9.3	C-24.3	A-8.6	C-28.9	A-9.8	C-29.3	B-11.3	C-29.0
Southbound		A-6.0	B-18.2	B-10.3	C-20.4	B-11.5	C-23.5	B-11.7	B-17.6	B-10.6	C-20.8	B-11.9	C-25.3	B-12.1	B-18.2	B-11.2	C-22.0	B-13.3	C-34.3	B-14.0	C-28.8
Fordham Boulevard (US 15-501) at Elliott Rd	Signalized	A (7.6)	B (18.1)	B (15.4)	C (29.4)	B (15.9)	C (32.2)	B (16.5)	C (33.7)	B (15.8)	C (29.9)	B (16.4)	C (32.8)	B (17.0)	C (34.0)	B (16.0)	C (30.8)	B (17.3)	D (39.8)	B (18.8)	D (39.3)
Eastbound		F-84.3	E-75.6	F-86.1	F-97.5	F-85.3	F-93.7	F-85.9	F-97.9	F-86.2	F-97.4	F-85.6	F-93.3	F-85.6	F-97.6	F-85.7	F-97.7	F-85.4	F-92.9	F-84.6	F-98.8
Westbound		---	---	F-92.2	F-94.4	F-93.8	F-100.3	F-93.8	F-103.5	F-92.2	F-94.4	F-94.0	F-100.3	F-93.6	F-103.5	F-92.2	F-94.4	F-94.7	F-100.9	F-94.3	F-107.8
Northbound		A-3.7	B-10.0	A-9.0	B-12.4	A-9.3	B-12.6	B-10.1	B-14.6	A-9.3	B-12.8	A-9.7	B-12.2	B-10.5	B-14.6	A-9.7	B-13.1	A-9.9	B-12.6	B-10.8	B-14.9
Southbound		A-3.9	B-13.9	A-8.7	C-29.7	A-9.0	D-36.2	A-9.5	D-36.4	A-9.3	C-30.7	A-9.8	D-38.7	B-10.2	D-37.6	A-9.8	C-32.7	B-11.8	E-56.3	B-14.0	D-50.6
Fordham Boulevard (US 15-501) at Ephesus Church Rd (SR 1742)	Signalized	C (33.7)	D (45.7)	D (40.5)	D (54.4)	D (40.5)	E (62.5)	D (39.0)	E (55.2)	D (41.2)	E (56.2)	D (41.5)	E (66.9)	D (39.7)	E (56.6)	D (42.2)	E (60.0)	D (43.8)	F (81.2)	D (41.0)	E (61.8)
Eastbound		F-91.6	F-98.9	F-90.6	F-94.3	F-90.8	F-94.1	F-82.5	F-87.1	F-90.9	F-94.4	F-91.3	F-94.3	F-82.4	F-90.5	F-91.2	F-94.9	F-92.3	F-94.6	F-82.0	F-90.6
Westbound		E-79.1	E-79.8	F-91.5	F-87.0	F-91.5	F-84.6	F-99.7	F-104.1	F-91.4	F-86.1	F-91.4	F-84.2	F-99.0	F-105.9	F-91.4	F-85.6	F-91.2	F-83.2	F-104.0	F-117.3
Northbound		B-16.4	C-27.6	B-18.9	D-40.8	B-19.4	D-49.5	B-19.9	D-44.9	B-19.5	D-43.2	B-19.8	E-55.7	C-20.2	D-46.3	C-20.3	D-47.7	C-20.9	E-73.8	C-20.8	D-52.4
Southbound		C-33.8	D-43.9	D-43.6	D-53.6	D-43.4	E-65.4	D-38.4	D-48.5	D-44.9	E-55.8	D-45.3	E-70.2	D-40.0	D-49.6	D-46.6	E-60.7	D-49.6	F-86.5	D-41.6	D-53.6
Franklin Street at Estes Drive (SR 1750)	Signalized	D (48.0)	E (57.1)	D (49.9)	E (65.6)	D (50.7)	E (70.4)	D (45.3)	E (62.8)	D (50.1)	E (66.1)	D (50.9)	E (72.7)	D (45.4)	E (60.2)	D (50.5)	E (67.4)	D (51.8)	F (81.2)	D (46.3)	E (66.5)
Eastbound		E-60.1	E-66.4	E-61.6	E-69.7	E-61.6	E-77.7	D-50.6	E-73.8	E-62.0	E-69.9	E-62.0	E-77.9	D-50.9	E-73.3	E-62.1	E-71.2	E-63.0	F-84.8	D-51.6	F-80.2
Westbound		D-51.6	E-58.6	D-53.0	E-76.3	D-54.1	F-86.7	D-53.0	E-71.0	D-53.2	E-77.7	D-54.0	F-96.1	D-52.8	E-70.5	D-53.6	F-82.5	D-54.4	F-123.5	D-54.7	E-78.9
Northbound		D-39.9	D-54.9	D-41.7	E-58.6	D-42.6	E-61.3	D-45.1	E-60.2	D-41.8	E-58.9	D-42.7	E-61.4	D-45.2	E-62.3	D-42.4	E-58.9	D-43.7	E-63.0	D-45.8	E-69.8
Southbound		D-41.7	D-52.1	D-43.9	E-61.4	D-44.9	E-61.9	D-36.6	D-51.5	D-44.1	E-61.6	D-45.0	E-62.0	D-36.7	D-41.6	D-44.6	E-61.5	D-46.0	E-62.2	D-37.2	D-44.0
Estes Drive (SR 1750) at Shepherd Lane/Willow Drive	Signalized	B (13.4)	B (19.6)	B (13.2)	B (19.0)	B (12.9)	B (17.5)	B (12.8)	B (17.8)	B (13.2)	B (19.1)	B (12.9)	B (17.7)	B (12.7)	B (18.1)	B (13.2)	B (19.0)	B (13.2)	B (17.8)	B (12.8)	B (18.0)
Eastbound		B-10.4	B-19.2	B-10.2	B-17.5	A-9.4	B-14.9	A-9.3	B-15.6	B-10.2	B-17.5	A-9.7	B-14.9	A-9.3	B-16.0	B-10.3	B-17.3	B-10.6	B-14.6	A-9.9	B-14.9
Westbound		A-8.3	B-16.6	A-8.5	B-17.8	A-8.3	B-16.7	A-8.3	B-16.7	A-8.5	B-18.0	A-8.5	B-16.9	A-8.5	B-16.9	A-8.5	B-18.2	A-8.9	B-18.3	A-8.9	B-18.3
Northbound		C-27.4	C-28.2	C-27.2	C-27.5	C-27.2	C-29.3	C-27.2	C-29.3	C-27.2	C-27.5	C-27.2	C-29.2	C-27.2	C-29.2	C-27.2	C-27.5	C-27.2	C-29.2	C-27.2	C-29.2
Southbound		C-23.7	C-22.4	C-23.8	C-22.0	C-24.4	C-21.9	C-24.4	C-22.0	C-23.9	C-21.8	C-24.0	C-22.2	C-24.0	C-22.2	C-23.9	C-21.8	C-23.4	C-21.8	C-23.4	C-21.8
Willow Drive at Conner Drive/Future Site Access	Unsignalized	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northbound		---	---	---	---	B-11.5	C-16.8	B-11.5	C-16.9	---	---	B-11.6	C-17.2	B-11.5	C-17.3	---	---	B-12.0	C-20.3	B-12.1	C-20.3
Southbound		B-10.7	B-14.6	B-11.2	C-15.4	B-12.8	D-31.6	B-12.8	D-32.0	B-11.2	C-15.5	B-12.9	D-34.0	B-12.9	D-34.5	B-11.2	C-15.7	B-13.6	E-47.6	B-13.6	E-47.6
Fordham Boulevard (US 15-501) at Site Access #1	Unsignalized	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastbound		C-17.0	C-18.6	C-22.7	D-25.1	D-26.8	E-48.9	D-26.8	E-48.9	C-23.4	D-26.1	D-27.3	F-56.9	D-27.5	F-56.9	C-24.1	D-27.8	D-28.5	F-94.9	D-28.7	F-94.9
Estes Drive (SR 1750) at Site Access #2	Unsignalized	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Southbound		B-13.4	C-16.5	B-14.2	C-18.5	B-13.0	D-31.5	A-9.6	B-11.1	B-14.3	C-18.5	B-13.2	D-33.7	A-9.6	B-11.1	B-14.5	C-18.9	B-14.2	F-51.1	A-9.8	B-11.4
Estes Drive (SR 1750) at Site Access #3	Unsignalized	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Southbound		B-12.2	C-15.8	B-12.9	C-17.9	B-13.0	D-29.5	B-12.6	C-23.9	B-12.9	C-18.0	B-13.4	D-30.6	B-12.9	C-24.8	B-13.0	C-18.2	B-14.1	E-44.4	B-13.3	D-32.7
Estes Drive (SR 1750) at Site Access #4/ Brookwood Condos	Unsignalized	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northbound		B-10.8	B-11.2	B-11.5	B-11.8	B-11.8	B-12.5	B-11.9	B-13.0	B-11.5	B-11.8	B-11.9	B-12.6	B-12.1	B-13.1	B-11.6	B-11.9	B-12.3	B-13.2	B-12.6	B-13.7
Southbound		A-9.6	B-13.9	A-9.9	C-15.3	B-13.2	D-26.4	C-15.7	F-131.9	A-9.9	C-15.5	B-13.3	D-27.7	C-15.9	F-152.6	B-10.0	C-15.6	B-14.0	E-37.6	C-17.0	F-230.3
Estes Drive (SR 1750) at Site Access #5	Unsignalized	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Southbound		B-10.5	A-9.6	B-10.9	A-9.9	B-11.4	B-13.7	A-9.3	B-10.0	B-10.9	A-9.9	B-11.2	B-13.9	A-9.3	B-10.1	B-11.0	A-9.9	B-11.2	B-14.5	A-9.4	B-10.2
Willow Drive at Wells Fargo Driveway/Site Access #6	Unsignalized	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastbound		B-12.5	B-13.6	B-12.8	B-13.9	B-12.4	B-13.4	B-12.4	B-13.4	B-12.8	B-13.9	B-12.5	B-13.6	B-12.5	B-13.6	B-12.8	B-14.0	B-12.9	B-14.2	B-12.9	B-14.2
Westbound		A-0.0	C-18.1	A-0.0	C-18.7	B-11.6	C-16.3	B-11.6	C-16.3	A-0.0	C-18.8	B-11.7	C-16.8	B-11.7	C-16.8	A-0.0	C-19.0	B-12.8	C-18.1	B-12.0	C-17.6
Willow Drive at Site Access #7	Unsignalized	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Eastbound		B-11.1	C-15.0	B-11.3	C-15.3	B-11.1	C-15.3	B-11.1	C-15.3	B-11.3	C-15.4	B-11.2	C-15.5	B-11.1	C-15.5	B-11.3	C-15.5	B-11.4	C-16.4	B-11.4	C-16.4
Westbound		B-12.1	C-17.8	B-12.3	C-18.5	B-11.0	B-14.5	B-10.9	B-14.6	B-12.3	C-18.7	B-11.1	B-14.8	B-11.1	B-14.8	B-12.3	C-18.8	B-11.5	C-15.7	B-11.5	C-15.7
Willow Drive at Site Access #8	Unsignalized	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northbound		B-10.9	B-13.3	B-11.0	B-13.6	B-10.2	B-14.0	B-10.6	C-16.3	B-11.0	B-13.6	B-10.3	B-14.3	B-10.7	C-16.9	B-11.0	B-13.6	B-10.5	C-15.7	B-11.1	C-19.8
Willow Drive at Site Access #9	Unsignalized	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Northbound		A-9.7	B-11.6	A-9.7	B-11.7	A-9.7	B-14.3	A-9.3	B-13.3	A-9.7	B-11.7	A-9.7	B-14.7	A-9.3	B-13.7	A-9.7	B-11.8	A-9.9	C-16.4	A-9.4	C-15.3

X (XX.X) = Overall intersection LOS (average delay), **X-XX** = Approach LOS and average delay.

LEGEND	
	Existing Roadway
	Future Roadway
	Existing Stop Controlled Approach
	Future Stop Controlled Approach
	Existing Signalized Intersection
	Signalized Intersection Improvements
	Existing Lane Configuration
	Phase 1/2 Lane Configuration - by Applicant
	Future Lane Configuration - Committed Background
	Future Lane Configuration - Other Background

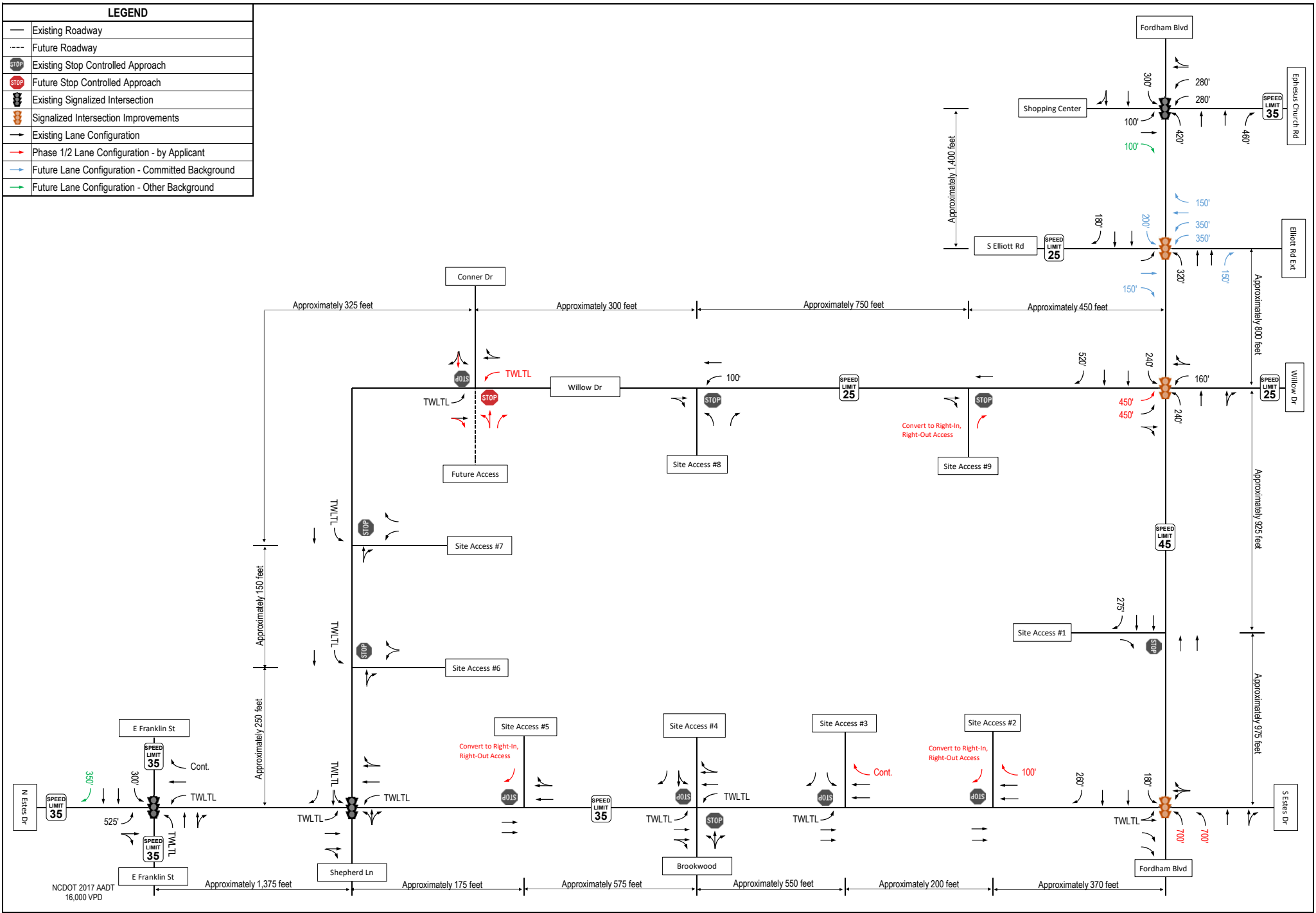
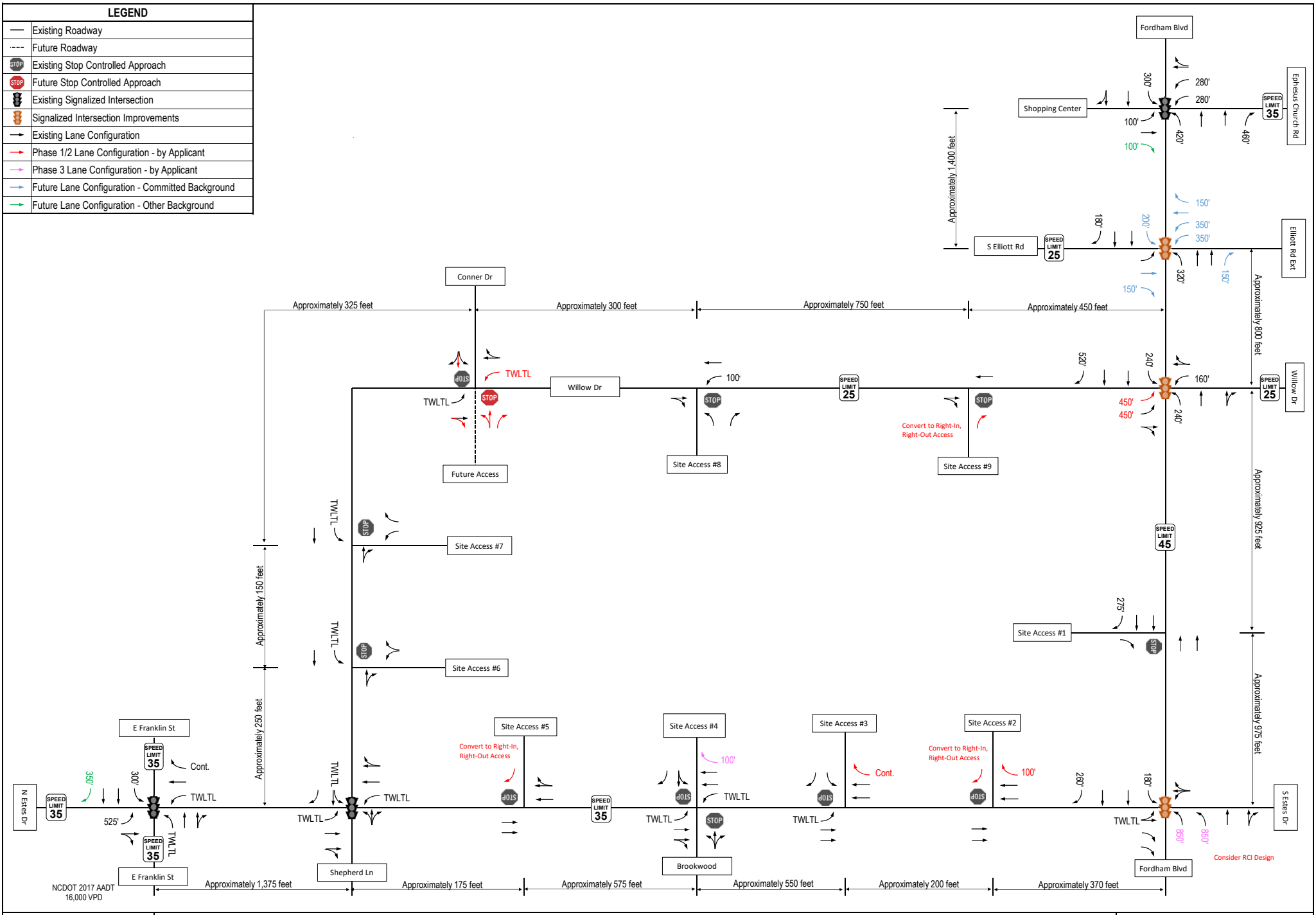


Figure 41
Build (2024) and Build (2026) Lane Geometrics and Traffic Control



Appendices

A

Memorandum of Understanding



To: Kumar Neppalli
Town of Chapel Hill

Date: February 2, 2021

Memorandum

Project #: 39139.00

From: Andrew Topp, PE, PTOE

Re: University Place Redevelopment Memorandum of Understanding –
Chapel Hill, NC

This memorandum summarizes the assumptions for conducting a traffic impact analysis (TIA) for the proposed University Place Redevelopment that is planned north of South Estes Drive (SR 1750) and west of Fordham Boulevard (US 15-501) in Chapel Hill, North Carolina. Due to an update to the site plan and build years for the University Place Redevelopment, a TIA update will be conducted to reassess the site under the new build conditions and updated land uses. Rather than a complete demolition and reconstruction of the site, portions of the existing site such as the Harris Teeter and the Movie Theater will remain relatively unchanged. The proposed redevelopment will consist of the following existing and future land uses:

Existing Land Uses to Remain

- Movie Theater (Land Use Code (LUC) 445) – 55,929 Square Feet (SF)
- Gasoline/Service Station with Convenience Market (LUC 945) – 8 fueling positions
- Supermarket (LUC 850) – 53,371 SF

Future Land Uses to be Constructed

- Multifamily Housing (Mid-Rise) (LUC 221)
 - 255 dwelling units (Phase 1)
 - 45 dwelling units (Phase 3)
- General Retail (LUC 820)
 - 225,000 SF (Phase 1)
 - 100,000 SF (Phase 3)
- Drive-In Bank (LUC 912) – 7,950 SF (Phase 1)
- Fast-Food Restaurant with Drive-Through Window (LUC 934) – 7,000 SF (Phase 1)
- General Office (LUC 710)
 - 50,000 SF (Phase 2)
 - 100,000 SF (Phase 3)
- Hotel (LUC 310) – 150 Rooms (Phase 3)

Based on discussions with the developer and the Town of Chapel Hill, the redevelopment will be constructed in three phases. Phase one with an anticipated build out of 2023, Phase 2 with a build year of 2025, and Phase 3 with a build out year of 2027.

Based on a preliminary site plan, the current development is accessed through nine (9) connections along Fordham Blvd (US 15-501), Willow Drive, and S Estes Dr (SR 1750). All of the existing site access points will remain or be reconstructed in a slightly different location by the future development and one (1) will be constructed as part of the redevelopment (Future Site Access) along Willow Drive. As a result, traffic may access the site from multiple directions as follows:

940 Main Campus Drive
Suite 500
Raleigh, NC 27606
P 919.829.0328

- Fordham Boulevard (US 15-501) at Site Access #1 (unsignalized, RIRO)
- S Estes Drive (SR 1750) at Site Access #2 (unsignalized, full access)
- S Estes Drive (SR 1750) at Site Access #3 (unsignalized, full access)
- S Estes Drive (SR 1750) at Site Access #4/Brookwood Condos (unsignalized, full access)
- S Estes Drive (SR 1750) at Site Access #5 (unsignalized, full access)
- Willow Drive at Site Access #6 (unsignalized, full access)
- Willow Drive at Site Access #7 (unsignalized, full access)
- Willow Drive at Site Access #8 (unsignalized, full access)
- Willow Drive at Site Access #9 (unsignalized, full access)
- Willow Drive at Future Site Access/Conner Drive (unsignalized, full access)

Study Area

Based on the original study area intersections, the following existing and future study area intersections will be analyzed for AM and PM peak hour conditions:

- Fordham Boulevard (US 15-501) at Ephesus Church Road (SR 1114) (signalized)
- Fordham Boulevard (US 15-501) at S Elliott Road (signalized)
- Fordham Boulevard (US 15-501) at Willow Drive (signalized)
- Fordham Boulevard (US 15-501) at S Estes Drive (SR 1750) (signalized)
- Willow Drive at Future Site Access/Conner Drive (unsignalized)
- S Estes Drive (SR 1750) at Willow Drive/Shepherd Lane (signalized)
- E Franklin Street at N Estes Drive (SR 1750) (signalized)
- Fordham Boulevard (US 15-501) at Site Access #1 (unsignalized, RIRO)
- S Estes Drive (SR 1750) at Site Access #2 (unsignalized, full access)
- S Estes Drive (SR 1750) at Site Access #3 (unsignalized, full access)
- S Estes Drive (SR 1750) at Site Access #4/Brookwood Condos (unsignalized, full access)
- S Estes Drive (SR 1750) at Site Access #5 (unsignalized, full access)
- Willow Drive at Site Access #6 (unsignalized, full access)
- Willow Drive at Site Access #7 (unsignalized, full access)
- Willow Drive at Site Access #8 (unsignalized, full access)
- Willow Drive at Site Access #9 (unsignalized, full access)

Figure MOU-1 shows a vicinity map of the study area. The existing intersection's traffic control and lane geometrics throughout the study area are depicted in Figure MOU-2.

Data Collection

Turning movement counts for the study area intersections were obtained from multiple sources. The UNC TIA 2019 Update was submitted in December of 2019 and a total of four intersections that were included in the UNC TIA analysis were also included in the analysis for this TIA. Counts for the following intersections were obtained from the UNC TIA:

- Fordham Boulevard (US 15-501) at Estes Drive (SR 1750)
- Fordham Boulevard (US 15-501) at Willow Drive
- Fordham Boulevard (US 15-501) at S Elliott Road (SR 1114)
- Fordham Boulevard (US 15-501) at Ephesus Church Road

Turning movement counts for the other intersections were collected by VHB Engineering NC, P.C. during the AM and PM peak hours in November of 2019.

Analysis Scenarios

Based on NCDOT and Town of Chapel Hill requirements, future year analysis of the traffic conditions will be conducted for the projected build year plus one (+1). Therefore, the AM and PM peak hour analysis will be performed under the following ten (10) scenarios:

- Existing (2019)
- No-Build (2024)
- Build (2024) Phase 1
- Build (2024) Phase 1 with Improvements
- No-Build (2026)
- Build (2026) Phase 2
- Build (2026) Phase 2 with Improvements
- No-Build (2028)
- Build (2028) Phase 3
- Build (2028) Phase 3 with Improvements

Background Projects and Growth

Based on historical traffic data in the study area, an annual growth rate of one percent (1.0%) will be applied along Fordham Blvd (US 15-501) and a rate of point twenty-five (0.25%) will be applied to all other study area roadways to account for growth between the base year (2019) and the future years (2024/2026/2028). The following four (4) background developments have been identified within the study area:

- Wegmans Supermarket (100% traffic applied to Phase 1/2/3)
- UNC Health Care Medical Office Building Complex Redevelopment (100% traffic applied to Phase 1/2/3)
- Glen Lennox Neighborhood Redevelopment
 - Phase 1 and 2: 100% traffic applied from Glen Lennox Phase 1 and 2
 - Phase 3: 100% traffic applied from Glen Lennox Phase 1/2/3
- Ephesus Church Road-Fordham Boulevard Area (Blue Hill District) (100% traffic applied to Phase 1 and Phase 2)
 - Fordham Blvd Apartments
 - Crown Honda Redevelopment
 - University Inn Redevelopment

Trips from the approved developments that are anticipated to be open, prior to the University Place full build-out year, were included in the analysis. Reductions will be proposed, if applicable, if portions of the proposed developments are currently constructed. The following background network changes have been identified within the study area:

- Construct a fourth leg at the intersection of US 15-501 and Elliott Road, with the following lane configurations:
 - Construct new 150-foot northbound right-turn lane
 - Construct new dual 350-foot westbound left-turn lanes
 - Construct new continuous westbound through lane
 - Construct new 150-foot westbound right-turn lane
 - Lengthen southbound left-turn lane to provide 200 feet of storage
 - Lengthen eastbound left-turn lane to provide continuous storage

- Construct new continuous eastbound through lane
- Modify eastbound right-turn lane to provide 150 feet of storage

Note that previous studies have identified potential improvements at the intersection of E Franklin Street and N Estes Drive, however we understand that they are not fully funded and committed at this point. As a result, no background improvements will be assumed at this intersection.

Trip Generation

Trip Generation for the updated site plan will be conducted based on the most appropriate corresponding trip generation codes included in the *ITE Trip Generation Manual, 10th Edition* and the suggested method of calculation in the NCDOT's "Rate vs. Equation" spreadsheet. The trip generation results are shown in Table 1 and Table 2 below. Due to the robust transit service in the study area, a transit reduction factor of 5% will be applied to the future volumes. To be conservative, no walking or bicycling reductions will be applied. For the purpose of this study, the existing site trips were removed from the study area driveways and network. The proposed site trips generated include the existing land uses that are to remain in the future year scenarios in addition to the square footage associated with the redevelopment.

As shown in Table 1, the Phase 1 of the University Place redevelopment is projected to generate up to 18,748 external daily site trips with 830 trips (453 entering, 377 exiting) occurring in the AM peak hour and 2,521 trips (1,338 entering, 1,183 exiting) occurring in the PM peak hour.

As shown in Table 2, the University Place redevelopment (with existing land uses to remain) is projected to generate up to 18,812 external daily site trips with 871 trips (506 entering, 365 exiting) occurring in the AM peak hour and 2,589 trips (1,337 entering, 1,252 exiting) occurring in the PM peak hour.

As shown in Table 3, the University Place redevelopment (with existing land uses to remain) is projected to generate up to 22,548 external daily site trips with 1,025 trips (646 entering, 379 exiting) occurring in the AM peak hour and 2,959 trips (1,484 entering, 1,475 exiting) occurring in the PM peak hour.

Table 1: Phase 1 Land-Uses Trip Generation Results

Land Use Code ¹	Land Use	Unit	ADT	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Total Site Trips ²									
221	Multifamily Housing (Mid-Rise)	255 du	1,388	22	64	86	66	43	109
445	Multiplex Movie Theater	55,929 sf		0	0	0	577	418	995
820	General Retail	225,000 sf	10,435	164	100	264	475	515	990
850	Supermarket	53,371 sf	5,699	122	82	204	251	242	493
912	Drive-In Bank	7,950 sf	795	44	32	76	82	81	163
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	3,297	143	138	281	119	110	229
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,643	51	49	100	57	55	112
Development Total			23,257	546	465	1,011	1,627	1,464	3,091
Trip Reduction Due to Internal Capture ³									
221	Multifamily Housing (Mid-Rise)	255 du	505	1	14	15	44	12	56
445	Multiplex Movie Theater	55,929 du		0	0	0	44	41	85
820	General Retail	225,000 sf	1,069	9	13	22	48	58	107
850	Supermarket	53,371 sf	574	6	11	17	26	27	53
912	Drive-In Bank	7,950 sf	80	2	4	7	8	9	18
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	1,131	48	20	68	42	65	107
945	Gasoline/Service Station with Convenience Market	8 fueling positions	164	3	7	9	6	6	12
Development Total			3,525	69	69	138	218	219	437
Total External Site Trips									
221	Multifamily Housing (Mid-Rise)	255 du	883	21	50	71	22	31	53
445	Multiplex Movie Theater	55,929 du		0	0	0	533	377	910
820	General Retail	225,000 sf	9,366	155	87	242	427	457	884
850	Supermarket	53,371 sf	5,125	116	71	187	225	215	440
912	Drive-In Bank	7,950 sf	715	42	28	70	74	72	146
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	2,166	95	118	213	77	45	122
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,479	48	42	90	51	49	100
Development Total			19,734	477	396	873	1,409	1,246	2,655
Total External Site Trips - With Transit Reduction (5%)									
221	Multifamily Housing (Mid-Rise)	255 du	839	20	48	68	21	29	50
445	Multiplex Movie Theater	55,929 du		0	0	0	506	358	864
820	General Retail	225,000 sf	8,898	147	83	230	406	434	840
850	Supermarket	53,371 sf	4,869	110	67	177	214	204	418
912	Drive-In Bank	7,950 sf	679	40	27	67	70	68	138
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	2,058	90	112	202	73	43	116
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,405	46	40	86	48	47	95
Development Total			18,748	453	377	830	1,338	1,183	2,521
Pass-by Site Trips ⁴									
221	Multifamily Housing (Mid-Rise)	255 du		0	0	0	0	0	0
445	Multiplex Movie Theater	55,929 du		0	0	0	0	0	0
820	General Retail	225,000 sf		0	0	0	143	143	286
850	Supermarket	53,371 sf		0	0	0	75	75	150
912	Drive-In Bank	7,950 sf		10	9	19	24	24	48
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf		49	50	99	29	29	58
945	Gasoline/Service Station with Convenience Market	8 fueling positions		27	26	53	27	26	53
Development Total				86	86	172	298	297	595
Non-Pass-by Site Trips									
221	Multifamily Housing (Mid-Rise)	255 du		20	48	68	21	29	50
445	Multiplex Movie Theater	55,929 du		0	0	0	506	358	864
820	General Retail	225,000 sf		147	83	230	263	291	554
850	Supermarket	53,371 sf		110	67	177	139	129	268
912	Drive-In Bank	7,950 sf		30	18	48	46	44	90
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf		41	62	103	44	14	58
945	Gasoline/Service Station with Convenience Market	8 fueling positions		19	14	33	21	21	42
Development Total				367	291	658	1,040	886	1,926

Notes:

1. Land Use Code and trip generation rates are determined based on ITE Trip Generation, 10th Edition
2. Total site trips are determined based on the suggested method in the NCDOT Rate Vs Equation Spreadsheet
3. Internal capture was based on NCHRP 684 method and NCDOT IC calculation spreadsheet

Table 2: Phase 2 Land-Uses Trip Generation Results

Land Use Code ¹	Land Use	Unit	ADT	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Total Site Trips ²									
221	Multifamily Housing (Mid-Rise)	255 du	1,388	22	64	86	66	43	109
445	Multiplex Movie Theater	55,929 sf		0	0	0	577	418	995
710	General Office	50,000 sf	542	79	11	90	22	98	120
820	General Retail	225,000 sf	10,435	164	100	264	475	515	990
850	Supermarket	53,371 sf	5,699	122	82	204	251	242	493
912	Drive-In Bank	7,950 sf	795	44	32	76	82	81	163
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	3,297	143	138	281	119	110	229
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,643	51	49	100	57	55	112
Development Total			23,799	625	476	1,101	1,649	1,562	3,211
Trip Reduction Due to Internal Capture ³									
221	Multifamily Housing (Mid-Rise)	255 du	534	1	15	16	45	14	59
445	Multiplex Movie Theater	55,929 du		0	0	0	44	42	86
710	General Office	50,000 sf	124	14	10	24	13	11	24
820	General Retail	225,000 sf	1,164	10	14	24	53	62	116
850	Supermarket	53,371 sf	627	7	12	19	28	29	57
912	Drive-In Bank	7,950 sf	87	3	5	7	9	10	19
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	1,280	55	31	86	43	69	112
945	Gasoline/Service Station with Convenience Market	8 fueling positions	180	3	7	10	6	7	13
Development Total			3,996	93	94	187	242	244	486
Total External Site Trips									
221	Multifamily Housing (Mid-Rise)	255 du	854	21	49	70	21	29	50
445	Multiplex Movie Theater	55,929 du		0	0	0	533	376	909
710	General Office	50,000 sf	418	65	1	66	9	87	96
820	General Retail	225,000 sf	9,271	154	86	240	422	453	875
850	Supermarket	53,371 sf	5,072	115	70	185	223	213	436
912	Drive-In Bank	7,950 sf	708	41	27	68	73	71	144
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	2,017	88	107	195	76	41	117
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,463	48	42	90	51	48	99
Development Total			19,803	532	382	914	1,408	1,318	2,726
Total External Site Trips - With Transit Reduction (5%)									
221	Multifamily Housing (Mid-Rise)	255 du	811	20	47	67	20	28	48
445	Multiplex Movie Theater	55,929 du		0	0	0	506	357	863
710	General Office	50,000 sf	397	62	1	63	9	83	92
820	General Retail	225,000 sf	8,807	146	82	228	401	430	831
850	Supermarket	53,371 sf	4,818	109	67	176	212	202	414
912	Drive-In Bank	7,950 sf	673	39	26	65	69	67	136
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	1,916	84	102	186	72	39	111
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,390	46	40	86	48	46	94
Development Total			18,812	506	365	871	1,337	1,252	2,589
Pass-by Site Trips ⁴									
221	Multifamily Housing (Mid-Rise)	255 du		0	0	0	0	0	0
445	Multiplex Movie Theater	55,929 du		0	0	0	0	0	0
710	General Office	50,000 sf		0	0	0	0	0	0
820	General Retail	225,000 sf		0	0	0	141	142	283
850	Supermarket	53,371 sf		0	0	0	75	74	149
912	Drive-In Bank	7,950 sf		9	10	19	24	24	48
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf		46	45	91	28	28	56
945	Gasoline/Service Station with Convenience Market	8 fueling positions		27	26	53	26	27	53
Development Total				82	81	163	294	293	587
Non-Pass-by Site Trips									
221	Multifamily Housing (Mid-Rise)	255 du		20	47	67	20	28	48
445	Multiplex Movie Theater	55,929 du		0	0	0	506	357	863
710	General Office	50,000 sf		62	1	63	9	83	92
820	General Retail	225,000 sf		146	82	228	260	288	548
850	Supermarket	53,371 sf		109	67	176	137	128	265
912	Drive-In Bank	7,950 sf		30	16	46	45	43	88
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf		38	57	95	44	12	56
945	Gasoline/Service Station with Convenience Market	8 fueling positions		19	14	33	22	19	41
Development Total				424	284	708	1,043	959	2,002

Notes:

1. Land Use Code and trip generation rates are determined based on *ITE Trip Generation, 10th Edition*
2. Total site trips are determined based on the suggested method in the NCDOT Rate Vs Equation Spreadsheet
3. Internal capture was based on NCHRP 684 method and NCDOT IC calculation spreadsheet

Table 3: Phase 3 Full Build-Out Land-Uses Trip Generation Results

Land Use Code¹	Land Use	Unit	ADT	AM Peak Hour			PM Peak Hour		
				Enter	Exit	Total	Enter	Exit	Total
Total Site Trips²									
221	Multifamily Housing (Mid-Rise)	300 du	1,633	26	74	100	77	50	127
310	Hotel	150 du	1,267	41	29	70	44	42	86
445	Multiplex Movie Theater	55,929 sf		0	0	0	577	418	995
710	General Office	150,000 sf	1,572	209	28	237	41	189	230
820	General Retail	325,000 sf	13,400	195	119	314	624	676	1,300
850	Supermarket	53,371 sf	5,699	122	82	204	251	242	493
912	Drive-In Bank	7,950 sf	795	44	32	76	82	81	163
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	3,297	143	138	281	119	110	229
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,643	51	49	100	57	55	112
Development Total			29,306	831	551	1,382	1,872	1,863	3,735
Trip Reduction Due to Internal Capture³									
221	Multifamily Housing (Mid-Rise)	300 du	640	1	18	19	53	17	70
310	Hotel	150 du	365	2	13	15	17	13	30
445	Multiplex Movie Theater	55,929 du		0	0	0	51	50	101
710	General Office	150,000 sf	377	45	26	71	21	20	41
820	General Retail	325,000 sf	1,598	15	19	35	73	85	158
850	Supermarket	53,371 sf	676	9	13	23	29	30	60
912	Drive-In Bank	7,950 sf	94	3	5	9	10	10	20
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	1,623	72	51	123	50	78	128
945	Gasoline/Service Station with Convenience Market	8 fueling positions	198	4	8	12	7	7	14
Development Total			5,571	152	154	306	311	310	621
Total External Site Trips									
221	Multifamily Housing (Mid-Rise)	300 du	993	25	56	81	24	33	57
310	Hotel	150 du	902	39	16	55	27	29	56
445	Multiplex Movie Theater	55,929 du		0	0	0	526	368	894
710	General Office	150,000 sf	1,195	164	2	166	20	169	189
820	General Retail	325,000 sf	11,802	180	100	280	551	591	1,142
850	Supermarket	53,371 sf	5,023	113	69	182	222	212	434
912	Drive-In Bank	7,950 sf	701	41	27	68	72	71	143
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	1,674	71	87	158	69	32	101
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,445	47	41	88	50	48	98
Development Total			23,735	680	398	1,078	1,561	1,553	3,114
Total External Site Trips - With Transit Reduction (5%)									
221	Multifamily Housing (Mid-Rise)	300 du	943	24	53	77	23	31	54
310	Hotel	150 du	857	37	15	52	26	28	54
445	Multiplex Movie Theater	55,929 du		0	0	0	500	350	850
710	General Office	150,000 sf	1,135	156	2	158	19	161	180
820	General Retail	325,000 sf	11,212	171	95	266	523	561	1,084
850	Supermarket	53,371 sf	4,772	107	66	173	211	201	412
912	Drive-In Bank	7,950 sf	666	39	26	65	68	67	135
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf	1,590	67	83	150	66	30	96
945	Gasoline/Service Station with Convenience Market	8 fueling positions	1,373	45	39	84	48	46	94
Development Total			22,548	646	379	1,025	1,484	1,475	2,959
Pass-by Site Trips⁴									
221	Multifamily Housing (Mid-Rise)	300 du		0	0	0	0	0	0
310	Hotel	150 du		0	0	0	0	0	0
445	Multiplex Movie Theater	55,929 du		0	0	0	0	0	0
710	General Office	150,000 sf		0	0	0	0	0	0
820	General Retail	325,000 sf		0	0	0	184	184	368
850	Supermarket	53,371 sf		0	0	0	74	74	148
912	Drive-In Bank	7,950 sf		9	10	19	24	24	48
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf		37	37	74	24	24	48
945	Gasoline/Service Station with Convenience Market	8 fueling positions		26	26	52	26	26	52
Development Total				72	72	144	332	332	664
Non-Pass-by Site Trips									
221	Multifamily Housing (Mid-Rise)	300 du		24	53	77	23	31	54
310	Hotel	150 du		39	15	54	26	28	54
445	Multiplex Movie Theater	55,929 du		0	0	0	500	350	850
710	General Office	150,000 sf		156	2	158	19	161	180
820	General Retail	325,000 sf		171	95	266	339	377	716
850	Supermarket	53,371 sf		107	66	173	137	127	264
912	Drive-In Bank	7,950 sf		30	16	46	44	43	87
934	Fast-Food Restaurant with Drive-Through Window	7,000 sf		30	47	77	42	6	48
945	Gasoline/Service Station with Convenience Market	8 fueling positions		19	13	32	22	20	42
Development Total				576	307	883	1,152	1,143	2,295

Notes:

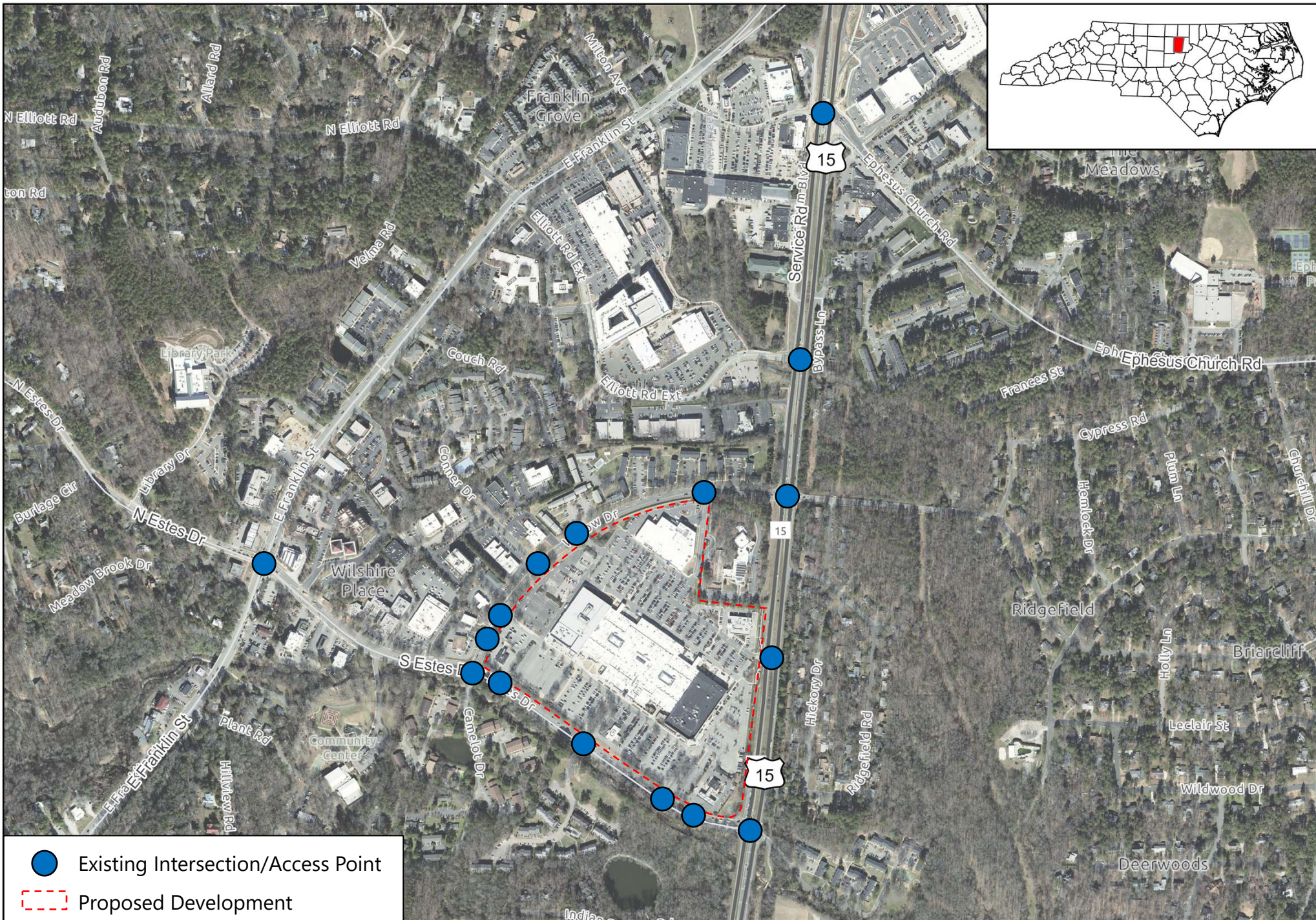
1. Land Use Code and trip generation rates are determined based on *ITE Trip Generation, 10th Edition*
2. Total site trips are determined based on the suggested method in the NCDOT Rate Vs Equation Spreadsheet
3. Internal capture was based on NCHRP 684 method and NCDOT IC calculation spreadsheet
4. Unconstrained pass-by trips are calculated based on *ITE Trip Generation Handbook, 3rd Edition*. The final projections are not expected to exceed 10% of adjacent street volumes.

Trip Distribution and Assignment

The generated non-pass-by site trips will be distributed in accordance with the existing traffic patterns and land uses in the vicinity of the study area as follows:

- Fordham Boulevard (US 15-501) to/from the southeast – 35%
- Fordham Boulevard (US 15-501) to/from the north – 25%
- Estes Drive (SR 1750) to/from the west – 20%
- Franklin Street to/from the northwest – 3%
- Franklin Street to/from the southwest – 7%
- Conner Drive to/from the northwest – 1%
- Willow Drive to/from the east – 1%
- S Elliott Road to/from the northwest – 2%
- Shopping Center to/from the northwest – 1%
- Ephesus Church Road to/from the northeast – 5 %

Pass-by trips for the site were distributed based on existing traffic flow in the area.



Scale
0 0.1 0.2 Miles



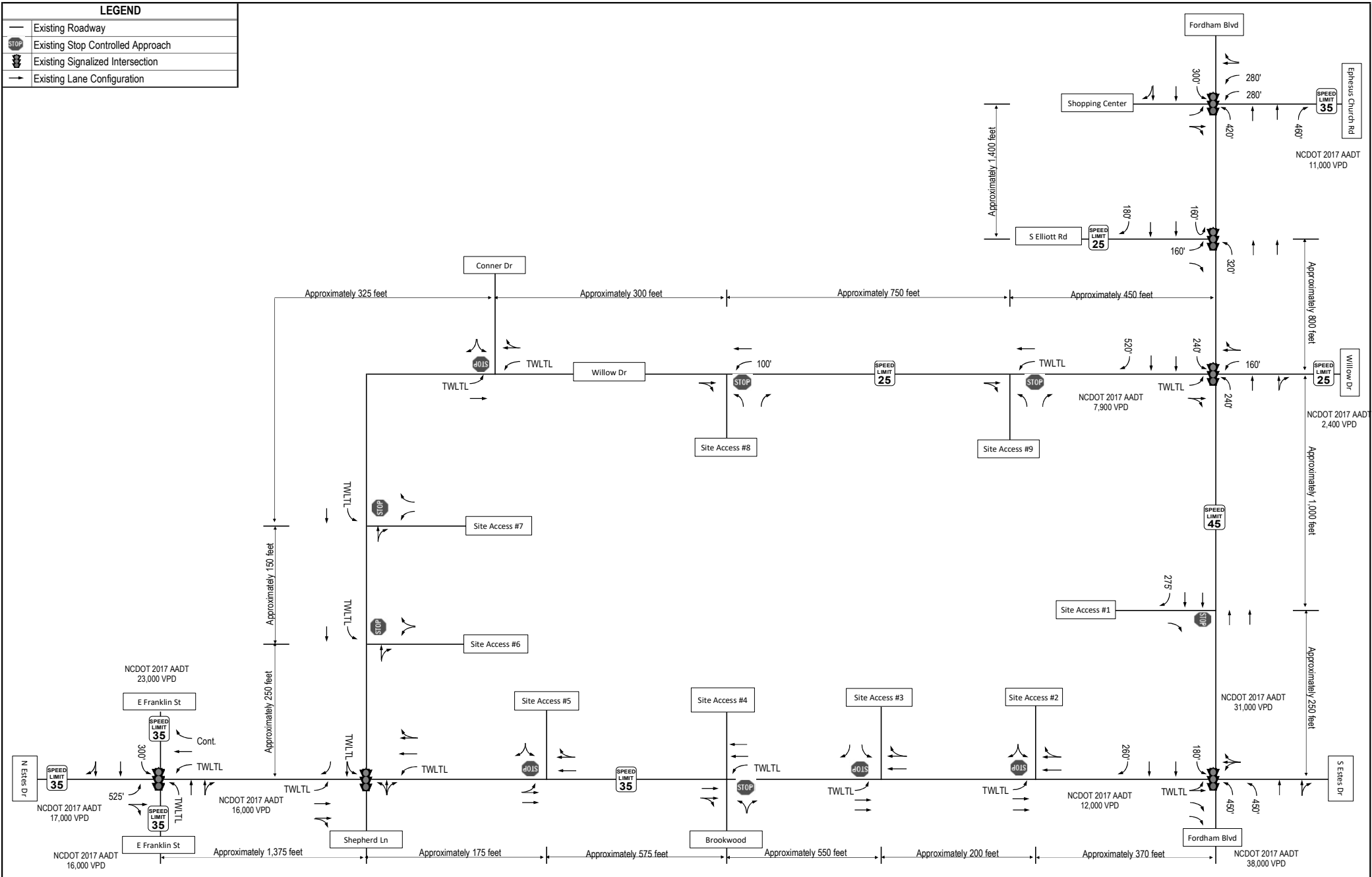
MOU-1
Vicinity Map

University Place Redevelopment
Traffic Impact Analysis
Chapel Hill, NC



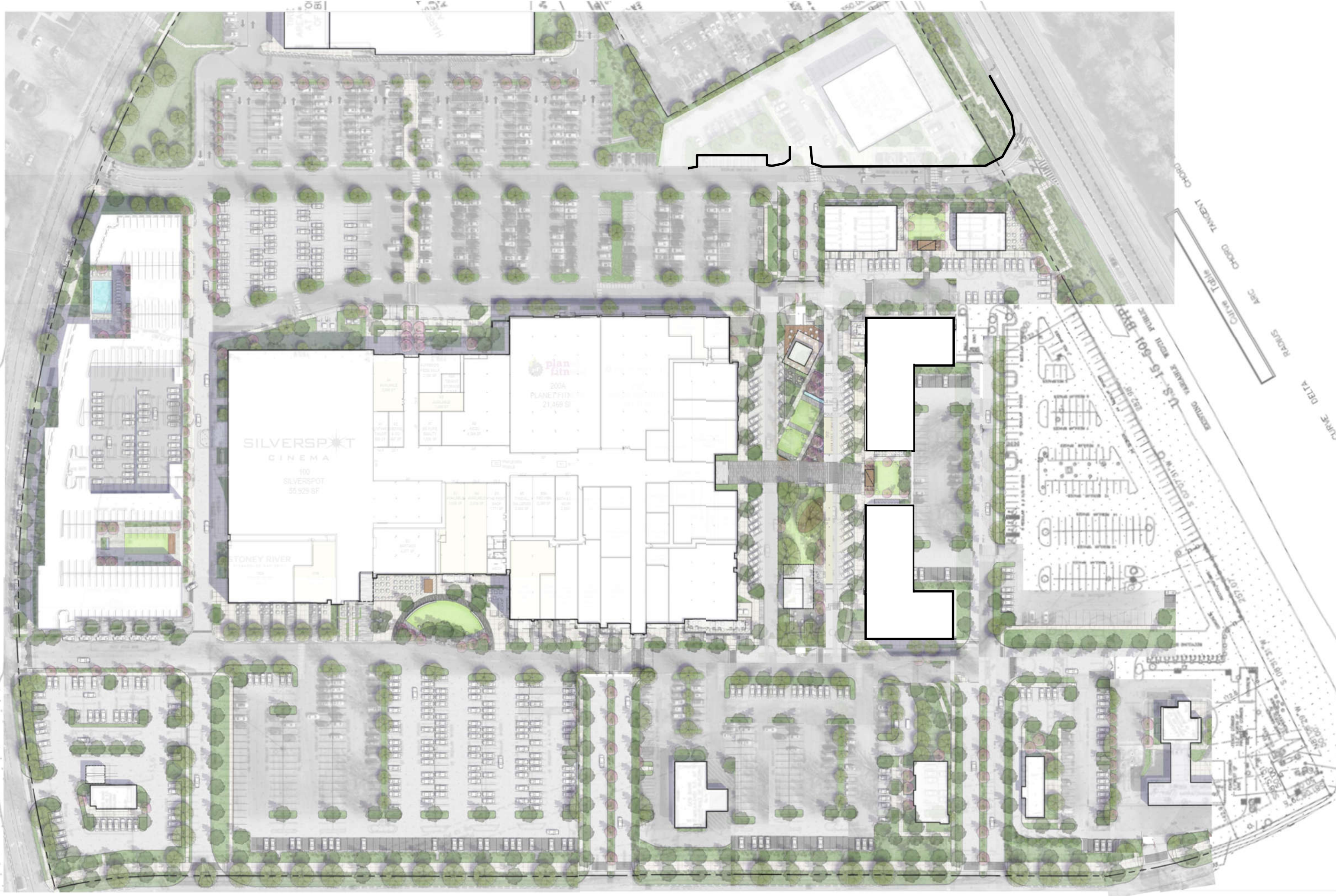
LEGEND

	Existing Roadway
	Existing Stop Controlled Approach
	Existing Signalized Intersection
	Existing Lane Configuration



MOU-2 Existing (2019) Lane Configurations and Traffic Control

University Place Redevelopment
Traffic Impact Analysis
Chapel Hill, NC



SILVERSPOT
CINEMA
100
SILVERSPOT
55,529 SF

planet
fitness
2004
PLANET FITNESS
21,469 SF

STONEY RIVER

KEEPING VARIANTS FROM PUBLIC
U.S. 15-501 BTP
W. 15th St. S.
CURVE DELTA
CURVE RADIUS
ARC
CHORD
TANGENT
CHORD

B

Turning Movement Counts

VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : 101_Fordham@Estes
Site Code :
Start Date : 9/25/2019
Page No : 1

Groups Printed- Passenger Vehicles - Single Unit - TTST

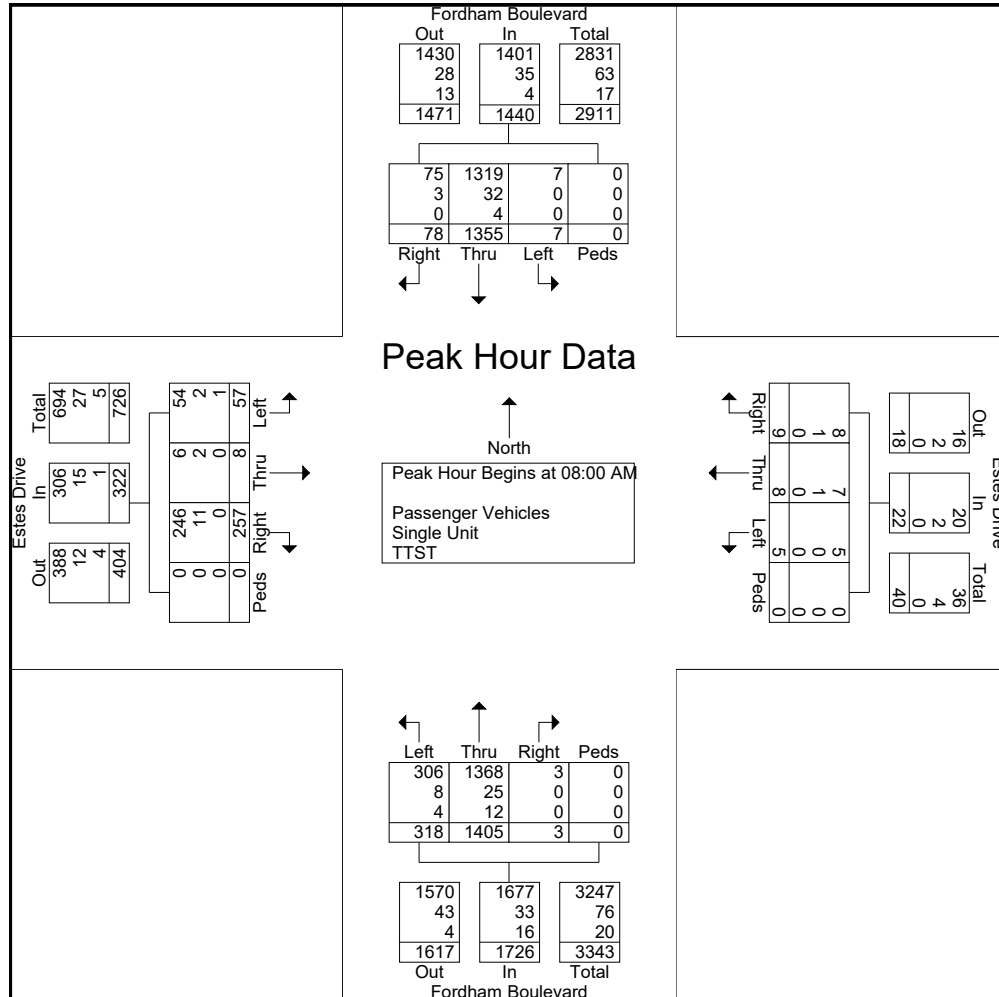
	Fordham Boulevard Southbound				Estes Drive Westbound				Fordham Boulevard Northbound				Estes Drive Eastbound				Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00 AM	3	248	20	0	5	0	3	0	35	275	2	0	7	0	38	0	636
07:15 AM	2	340	13	0	1	2	0	0	52	291	1	0	10	1	53	0	766
07:30 AM	0	447	10	0	1	0	4	0	51	335	0	0	7	2	62	0	919
07:45 AM	2	316	24	0	3	2	2	0	78	354	0	0	9	2	64	0	856
Total	7	1351	67	0	10	4	9	0	216	1255	3	0	33	5	217	0	3177
08:00 AM	1	324	18	0	2	4	4	0	53	368	0	0	10	2	63	0	849
08:15 AM	2	327	16	0	2	1	2	0	75	357	1	0	17	3	63	0	866
08:30 AM	2	337	21	0	1	0	1	0	84	342	1	0	14	2	58	0	863
08:45 AM	2	367	23	0	0	3	2	0	106	338	1	0	16	1	73	0	932
Total	7	1355	78	0	5	8	9	0	318	1405	3	0	57	8	257	0	3510
*** BREAK ***																	
11:00 AM	4	237	25	0	0	2	2	0	87	250	2	0	21	1	77	0	708
11:15 AM	2	244	28	0	2	2	0	0	100	267	5	0	23	0	58	0	731
11:30 AM	5	247	24	0	2	4	0	0	91	251	1	0	16	3	71	0	715
11:45 AM	2	264	26	0	1	2	1	0	99	287	0	0	20	3	75	0	780
Total	13	992	103	0	5	10	3	0	377	1055	8	0	80	7	281	0	2934
12:00 PM	1	308	39	0	2	2	0	0	79	270	2	0	16	1	69	0	789
12:15 PM	0	277	24	0	1	0	0	0	111	264	1	0	15	1	90	0	784
12:30 PM	2	293	31	0	1	0	1	0	104	266	0	0	24	0	87	0	809
12:45 PM	2	260	23	0	1	2	2	0	99	296	2	0	20	1	81	0	789
Total	5	1138	117	0	5	4	3	0	393	1096	5	0	75	3	327	0	3171
*** BREAK ***																	
04:00 PM	3	307	17	0	1	3	4	0	94	291	2	0	20	1	70	0	813
04:15 PM	3	351	28	0	1	3	2	0	98	363	3	0	20	5	74	0	951
04:30 PM	2	313	31	0	0	5	5	0	107	337	3	0	19	2	87	0	911
04:45 PM	6	303	17	0	3	1	2	0	132	334	2	0	33	4	82	0	919
Total	14	1274	93	0	5	12	13	0	431	1325	10	0	92	12	313	0	3594
05:00 PM	6	308	19	0	1	3	0	0	100	368	1	0	30	1	78	0	915
05:15 PM	3	294	24	0	0	4	1	0	104	393	2	0	33	1	84	0	943
05:30 PM	7	277	23	0	3	3	1	0	81	404	2	0	27	1	66	0	895
05:45 PM	1	291	19	0	1	3	0	0	129	371	0	0	21	4	62	0	902
Total	17	1170	85	0	5	13	2	0	414	1536	5	0	111	7	290	0	3655
Grand Total	63	7280	543	0	35	51	39	0	2149	7672	34	0	448	42	1685	0	20041
Apprch %	0.8	92.3	6.9	0	28	40.8	31.2	0	21.8	77.8	0.3	0	20.6	1.9	77.5	0	
Total %	0.3	36.3	2.7	0	0.2	0.3	0.2	0	10.7	38.3	0.2	0	2.2	0.2	8.4	0	
Passenger Vehicles	59	7122	529	0	33	46	37	0	2107	7526	33	0	436	37	1643	0	19608
% Passenger Vehicles	93.7	97.8	97.4	0	94.3	90.2	94.9	0	98	98.1	97.1	0	97.3	88.1	97.5	0	97.8
Single Unit	4	124	10	0	2	5	2	0	33	104	1	0	11	5	41	0	342
% Single Unit	6.3	1.7	1.8	0	5.7	9.8	5.1	0	1.5	1.4	2.9	0	2.5	11.9	2.4	0	1.7
TTST	0	34	4	0	0	0	0	0	9	42	0	0	1	0	1	0	91
% TTST	0	0.5	0.7	0	0	0	0	0	0.4	0.5	0	0	0.2	0	0.1	0	0.5

VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : 101_Fordham@Estes
Site Code :
Start Date : 9/25/2019
Page No : 2

	Fordham Boulevard Southbound					Estes Drive Westbound					Fordham Boulevard Northbound					Estes Drive Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	1	324	18	0	343	2	4	4	0	10	53	368	0	0	421	10	2	63	0	75	849
08:15 AM	2	327	16	0	345	2	1	2	0	5	75	357	1	0	433	17	3	63	0	83	866
08:30 AM	2	337	21	0	360	1	0	1	0	2	84	342	1	0	427	14	2	58	0	74	863
08:45 AM	2	367	23	0	392	0	3	2	0	5	106	338	1	0	445	16	1	73	0	90	932
Total Volume	7	1355	78	0	1440	5	8	9	0	22	318	1405	3	0	1726	57	8	257	0	322	3510
% App. Total	0.5	94.1	5.4	0		22.7	36.4	40.9	0		18.4	81.4	0.2	0		17.7	2.5	79.8	0		
PHF	.875	.923	.848	.000	.918	.625	.500	.563	.000	.550	.750	.954	.750	.000	.970	.838	.667	.880	.000	.894	.942
Passenger Vehicles	7	1319	75	0	1401	5	7	8	0	20	306	1368	3	0	1677	54	6	246	0	306	3404
% Passenger Vehicles	100	97.3	96.2	0	97.3	100	87.5	88.9	0	90.9	96.2	97.4	100	0	97.2	94.7	75.0	95.7	0	95.0	97.0
Single Unit	0	32	3	0	35	0	1	1	0	2	8	25	0	0	33	2	2	11	0	15	85
% Single Unit	0	2.4	3.8	0	2.4	0	12.5	11.1	0	9.1	2.5	1.8	0	0	1.9	3.5	25.0	4.3	0	4.7	2.4
TTST	0	4	0	0	4	0	0	0	0	0	4	12	0	0	16	1	0	0	0	1	21
% TTST	0	0.3	0	0	0.3	0	0	0	0	0	1.3	0.9	0	0	0.9	1.8	0	0	0	0.3	0.6



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

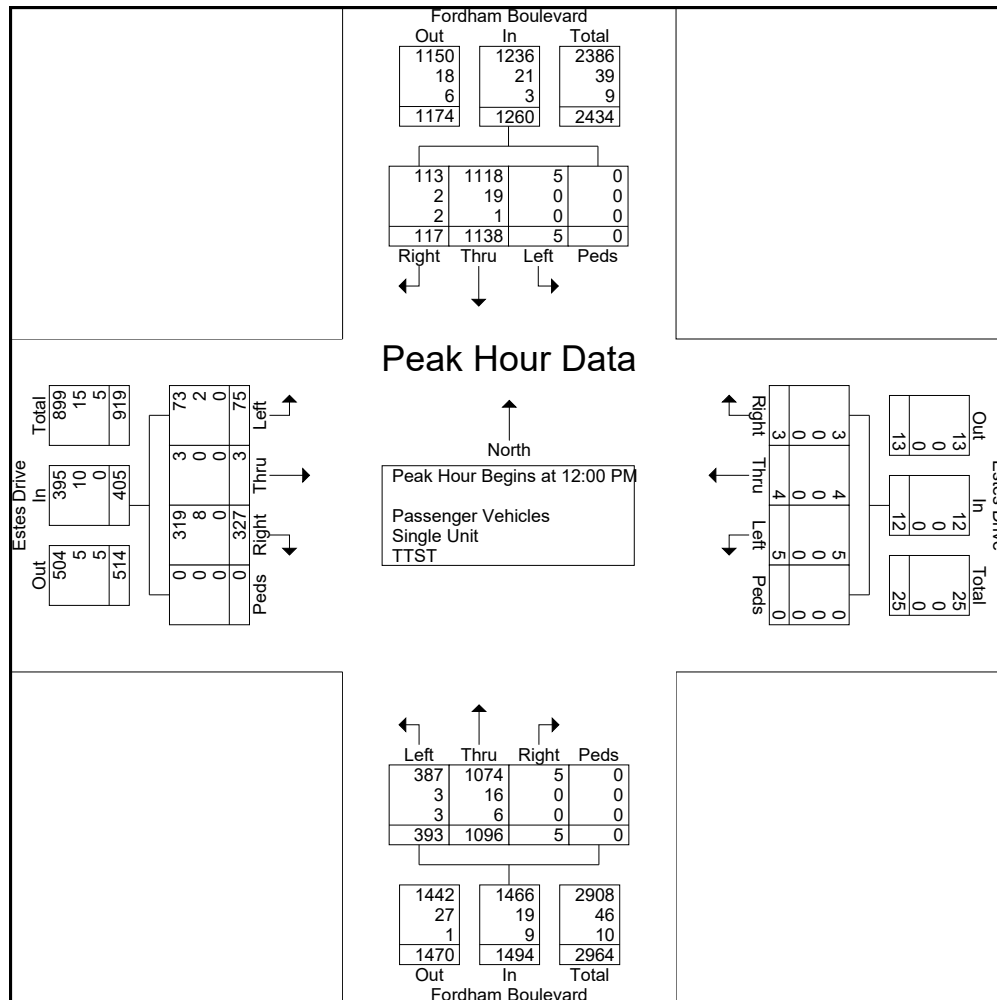
File Name : 101_Fordham@Estes

Site Code :

Start Date : 9/25/2019

Page No : 3

	Fordham Boulevard Southbound					Estes Drive Westbound					Fordham Boulevard Northbound					Estes Drive Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	1	308	39	0	348	2	2	0	0	4	79	270	2	0	351	16	1	69	0	86	789
12:15 PM	0	277	24	0	301	1	0	0	0	1	111	264	1	0	376	15	1	90	0	106	784
12:30 PM	2	293	31	0	326	1	0	1	0	2	104	266	0	0	370	24	0	87	0	111	809
12:45 PM	2	260	23	0	285	1	2	2	0	5	99	296	2	0	397	20	1	81	0	102	789
Total Volume	5	1138	117	0	1260	5	4	3	0	12	393	1096	5	0	1494	75	3	327	0	405	3171
% App. Total	0.4	90.3	9.3	0		41.7	33.3	25	0		26.3	73.4	0.3	0		18.5	0.7	80.7	0		
PHF	.625	.924	.750	.000	.905	.625	.500	.375	.000	.600	.885	.926	.625	.000	.941	.781	.750	.908	.000	.912	.980
Passenger Vehicles	5	1118	113	0	1236	5	4	3	0	12	387	1074	5	0	1466	73	3	319	0	395	3109
% Passenger Vehicles	100	98.2	96.6	0	98.1	100	100	100	0	100	98.5	98.0	100	0	98.1	97.3	100	97.6	0	97.5	98.0
Single Unit	0	19	2	0	21	0	0	0	0	0	3	16	0	0	19	2	0	8	0	10	50
% Single Unit	0	1.7	1.7	0	1.7	0	0	0	0	0	0.8	1.5	0	0	1.3	2.7	0	2.4	0	2.5	1.6
TTST	0	1	2	0	3	0	0	0	0	0	3	6	0	0	9	0	0	0	0	0	12
% TTST	0	0.1	1.7	0	0.2	0	0	0	0	0	0.8	0.5	0	0	0.6	0	0	0	0	0	0.4



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

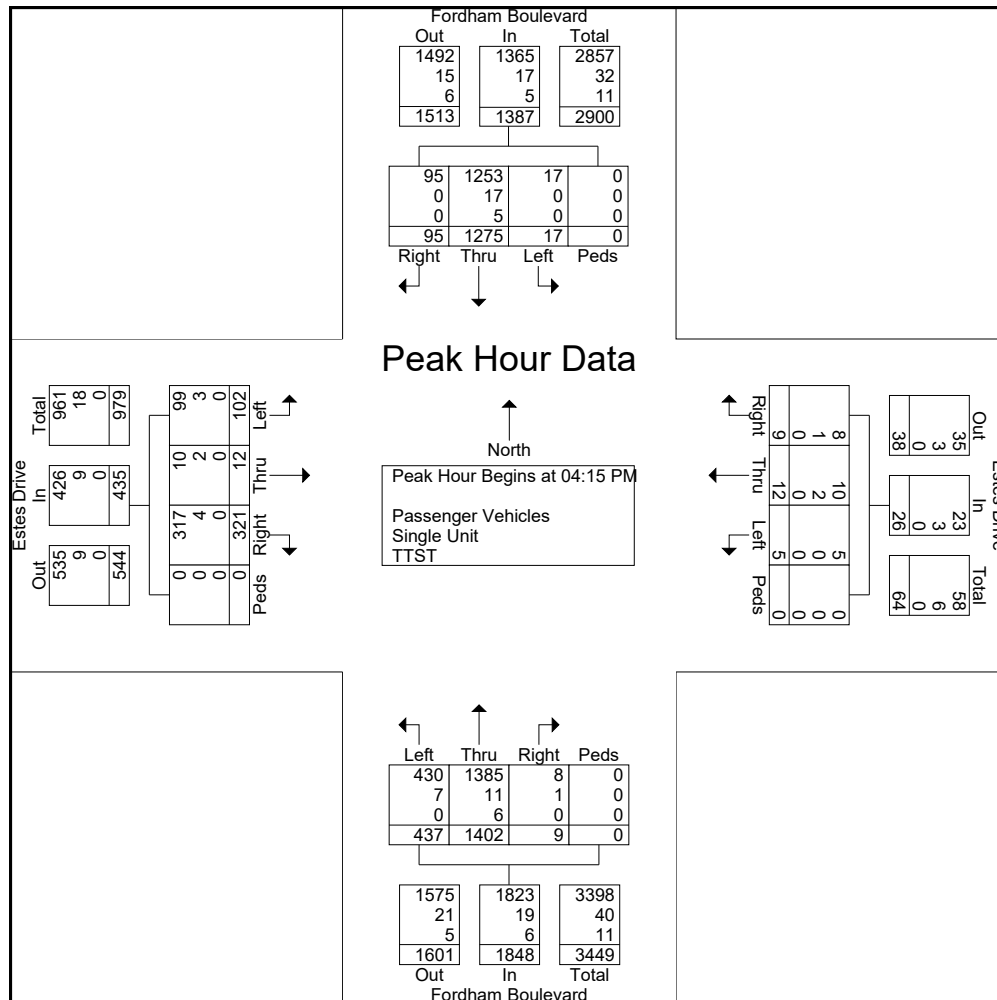
File Name : 101_Fordham@Estes

Site Code :

Start Date : 9/25/2019

Page No : 4

	Fordham Boulevard Southbound					Estes Drive Westbound					Fordham Boulevard Northbound					Estes Drive Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	3	351	28	0	382	1	3	2	0	6	98	363	3	0	464	20	5	74	0	99	951
04:30 PM	2	313	31	0	346	0	5	5	0	10	107	337	3	0	447	19	2	87	0	108	911
04:45 PM	6	303	17	0	326	3	1	2	0	6	132	334	2	0	468	33	4	82	0	119	919
05:00 PM	6	308	19	0	333	1	3	0	0	4	100	368	1	0	469	30	1	78	0	109	915
Total Volume	17	1275	95	0	1387	5	12	9	0	26	437	1402	9	0	1848	102	12	321	0	435	3696
% App. Total	1.2	91.9	6.8	0		19.2	46.2	34.6	0		23.6	75.9	0.5	0		23.4	2.8	73.8	0		
PHF	.708	.908	.766	.000	.908	.417	.600	.450	.000	.650	.828	.952	.750	.000	.985	.773	.600	.922	.000	.914	.972
Passenger Vehicles	17	1253	95	0	1365	5	10	8	0	23	430	1385	8	0	1823	99	10	317	0	426	3637
% Passenger Vehicles	100	98.3	100	0	98.4	100	83.3	88.9	0	88.5	98.4	98.8	88.9	0	98.6	97.1	83.3	98.8	0	97.9	98.4
Single Unit	0	17	0	0	17	0	2	1	0	3	7	11	1	0	19	3	2	4	0	9	48
% Single Unit	0	1.3	0	0	1.2	0	16.7	11.1	0	11.5	1.6	0.8	11.1	0	1.0	2.9	16.7	1.2	0	2.1	1.3
TTST	0	5	0	0	5	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	11
% TTST	0	0.4	0	0	0.4	0	0	0	0	0	0	0.4	0	0	0.3	0	0	0	0	0	0.3



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : 102_Fordham@Willow
Site Code :
Start Date : 10/8/2019
Page No : 1

Groups Printed- Passenger Vehicles - Single Unit - TTST

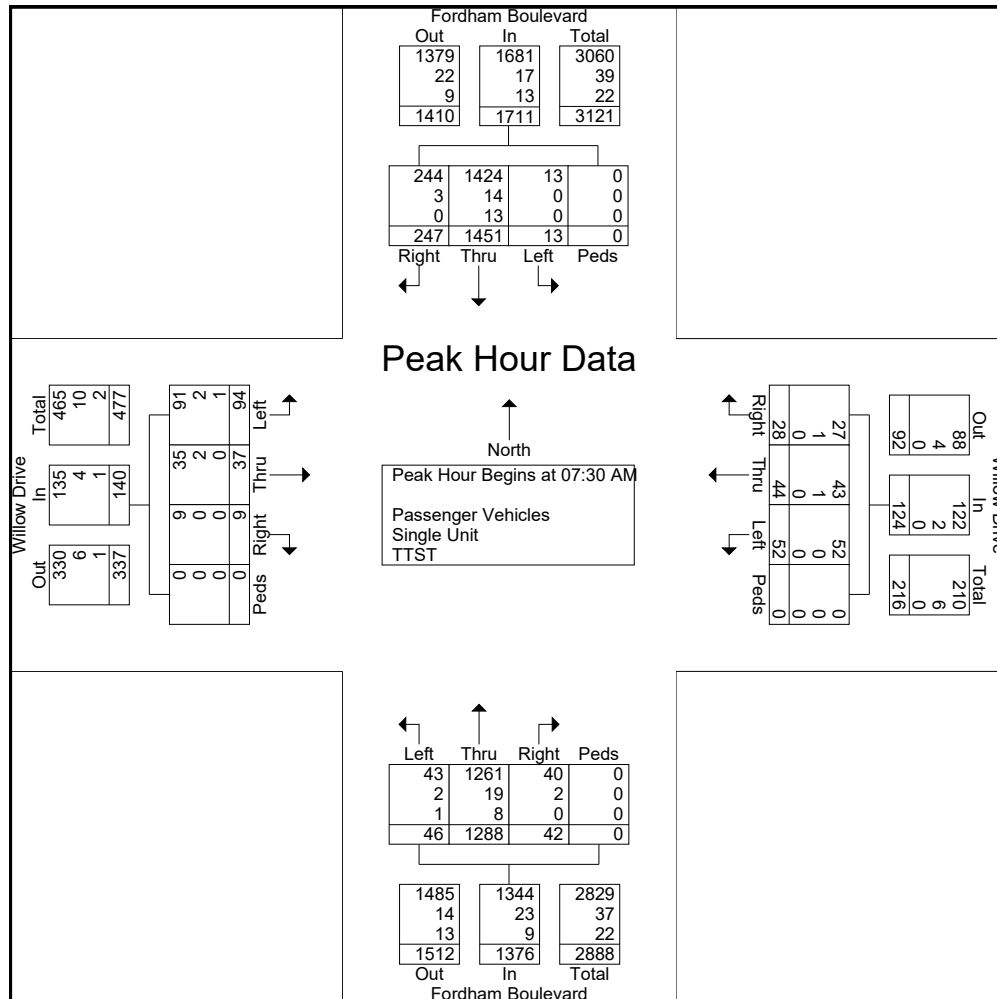
	Fordham Boulevard Southbound				Willow Drive Westbound				Fordham Boulevard Northbound				Willow Drive Eastbound				Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00 AM	1	266	27	0	6	14	3	0	8	237	3	0	26	3	3	0	597
07:15 AM	4	332	31	0	13	13	6	0	14	289	5	0	19	4	3	0	733
07:30 AM	1	413	40	0	14	10	11	0	6	331	6	0	19	7	3	0	861
07:45 AM	3	349	69	0	15	10	8	0	13	361	5	0	24	5	1	0	863
Total	9	1360	167	0	48	47	28	0	41	1218	19	0	88	19	10	0	3054
08:00 AM	6	331	64	0	10	9	4	0	15	307	16	0	24	11	3	0	800
08:15 AM	3	358	74	0	13	15	5	0	12	289	15	0	27	14	2	0	827
08:30 AM	6	331	57	0	9	11	7	0	18	247	19	0	24	10	3	0	742
08:45 AM	6	343	73	0	7	15	6	0	30	276	10	0	24	6	2	0	798
Total	21	1363	268	0	39	50	22	0	75	1119	60	0	99	41	10	0	3167
*** BREAK ***																	
11:00 AM	2	220	59	0	7	3	7	0	6	214	6	0	47	8	4	0	583
11:15 AM	3	251	52	0	5	8	1	0	12	253	4	0	40	9	5	0	643
11:30 AM	3	262	58	0	10	11	2	0	11	210	3	0	40	5	4	0	619
11:45 AM	6	298	72	0	5	10	4	0	21	254	6	0	47	14	2	0	739
Total	14	1031	241	0	27	32	14	0	50	931	19	0	174	36	15	0	2584
12:00 PM	5	279	44	0	9	9	0	0	20	258	1	0	69	9	7	0	710
12:15 PM	5	264	63	0	4	7	0	0	12	250	4	0	62	9	5	0	685
12:30 PM	4	274	76	0	10	1	0	0	16	303	3	0	59	9	6	0	761
12:45 PM	6	325	56	0	1	9	4	0	21	268	4	0	59	4	3	0	760
Total	20	1142	239	0	24	26	4	0	69	1079	12	0	249	31	21	0	2916
*** BREAK ***																	
04:00 PM	4	302	52	0	7	12	4	0	8	357	9	0	55	15	10	0	835
04:15 PM	11	362	79	0	5	13	1	0	6	369	4	0	45	19	6	0	920
04:30 PM	8	309	57	0	6	10	5	0	14	344	6	0	64	24	12	0	859
04:45 PM	8	317	63	0	8	9	3	0	15	391	11	0	56	34	6	0	921
Total	31	1290	251	0	26	44	13	0	43	1461	30	0	220	92	34	0	3535
05:00 PM	8	274	56	0	12	9	14	0	9	374	6	0	89	23	4	0	878
05:15 PM	4	293	47	0	9	15	3	0	15	392	9	0	68	29	3	0	887
05:30 PM	9	312	64	0	8	12	1	0	13	336	14	0	61	28	3	0	861
05:45 PM	8	293	57	0	5	10	4	0	22	383	9	0	60	24	5	0	880
Total	29	1172	224	0	34	46	22	0	59	1485	38	0	278	104	15	0	3506
Grand Total	124	7358	1390	0	198	245	103	0	337	7293	178	0	1108	323	105	0	18762
Apprch %	1.4	82.9	15.7	0	36.3	44.9	18.9	0	4.3	93.4	2.3	0	72.1	21	6.8	0	
Total %	0.7	39.2	7.4	0	1.1	1.3	0.5	0	1.8	38.9	0.9	0	5.9	1.7	0.6	0	
Passenger Vehicles	122	7206	1369	0	195	239	101	0	321	7123	174	0	1086	319	102	0	18357
% Passenger Vehicles	98.4	97.9	98.5	0	98.5	97.6	98.1	0	95.3	97.7	97.8	0	98	98.8	97.1	0	97.8
Single Unit	2	107	19	0	3	6	2	0	15	128	4	0	19	4	3	0	312
% Single Unit	1.6	1.5	1.4	0	1.5	2.4	1.9	0	4.5	1.8	2.2	0	1.7	1.2	2.9	0	1.7
TTST	0	45	2	0	0	0	0	0	1	42	0	0	3	0	0	0	93
% TTST	0	0.6	0.1	0	0	0	0	0	0.3	0.6	0	0	0.3	0	0	0	0.5

VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : 102_Fordham@Willow
Site Code :
Start Date : 10/8/2019
Page No : 2

	Fordham Boulevard Southbound					Willow Drive Westbound					Fordham Boulevard Northbound					Willow Drive Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	1	413	40	0	454	14	10	11	0	35	6	331	6	0	343	19	7	3	0	29	861
07:45 AM	3	349	69	0	421	15	10	8	0	33	13	361	5	0	379	24	5	1	0	30	863
08:00 AM	6	331	64	0	401	10	9	4	0	23	15	307	16	0	338	24	11	3	0	38	800
08:15 AM	3	358	74	0	435	13	15	5	0	33	12	289	15	0	316	27	14	2	0	43	827
Total Volume	13	1451	247	0	1711	52	44	28	0	124	46	1288	42	0	1376	94	37	9	0	140	3351
% App. Total	0.8	84.8	14.4	0		41.9	35.5	22.6	0		3.3	93.6	3.1	0		67.1	26.4	6.4	0		
PHF	.542	.878	.834	.000	.942	.867	.733	.636	.000	.886	.767	.892	.656	.000	.908	.870	.661	.750	.000	.814	.971
Passenger Vehicles	13	1424	244	0	1681	52	43	27	0	122	43	1261	40	0	1344	91	35	9	0	135	3282
% Passenger Vehicles	100	98.1	98.8	0	98.2	100	97.7	96.4	0	98.4	93.5	97.9	95.2	0	97.7	96.8	94.6	100	0	96.4	97.9
Single Unit	0	14	3	0	17	0	1	1	0	2	2	19	2	0	23	2	2	0	0	4	46
% Single Unit	0	1.0	1.2	0	1.0	0	2.3	3.6	0	1.6	4.3	1.5	4.8	0	1.7	2.1	5.4	0	0	2.9	1.4
TTST	0	13	0	0	13	0	0	0	0	0	1	8	0	0	9	1	0	0	0	1	23
% TTST	0	0.9	0	0	0.8	0	0	0	0	0	2.2	0.6	0	0	0.7	1.1	0	0	0	0.7	0.7



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

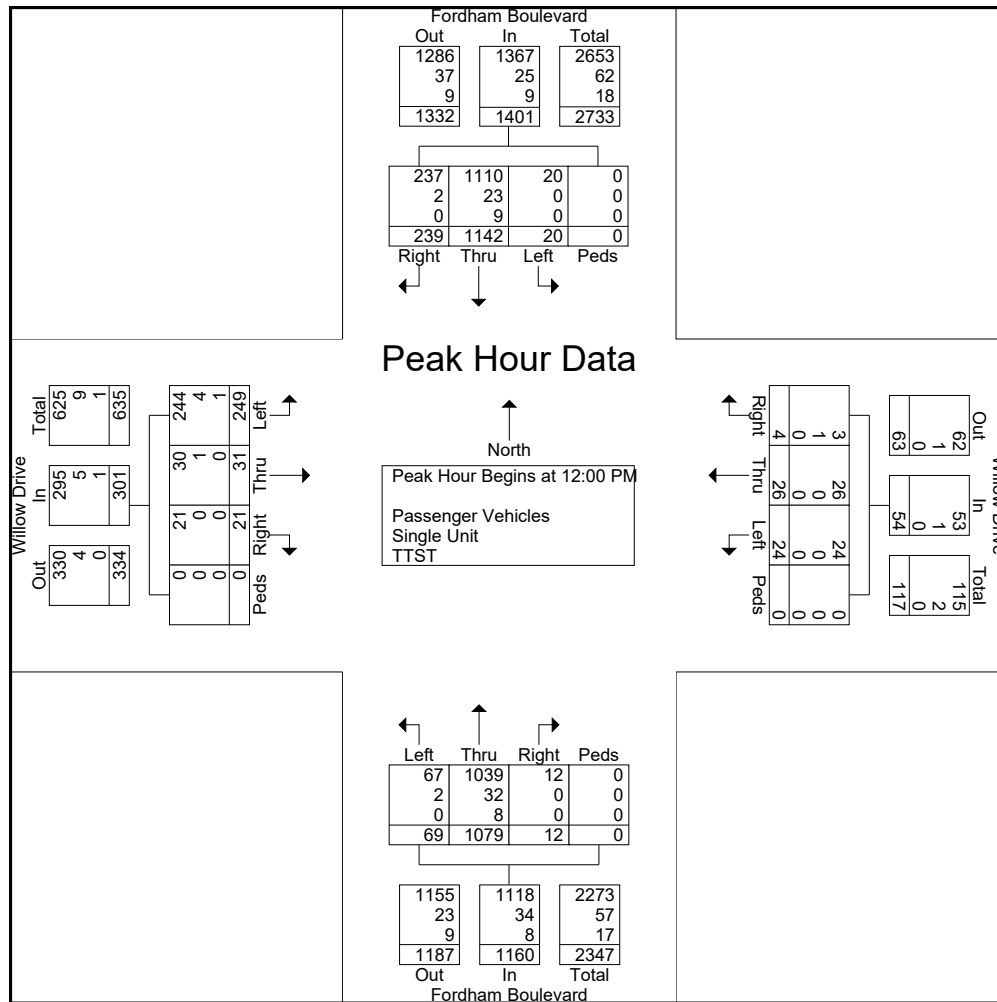
File Name : 102_Fordham@Willow

Site Code :

Start Date : 10/8/2019

Page No : 3

	Fordham Boulevard Southbound					Willow Drive Westbound					Fordham Boulevard Northbound					Willow Drive Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	5	279	44	0	328	9	9	0	0	18	20	258	1	0	279	69	9	7	0	85	710
12:15 PM	5	264	63	0	332	4	7	0	0	11	12	250	4	0	266	62	9	5	0	76	685
12:30 PM	4	274	76	0	354	10	1	0	0	11	16	303	3	0	322	59	9	6	0	74	761
12:45 PM	6	325	56	0	387	1	9	4	0	14	21	268	4	0	293	59	4	3	0	66	760
Total Volume	20	1142	239	0	1401	24	26	4	0	54	69	1079	12	0	1160	249	31	21	0	301	2916
% App. Total	1.4	81.5	17.1	0		44.4	48.1	7.4	0		5.9	93	1	0		82.7	10.3	7	0		
PHF	.833	.878	.786	.000	.905	.600	.722	.250	.000	.750	.821	.890	.750	.000	.901	.902	.861	.750	.000	.885	.958
Passenger Vehicles	20	1110	237	0	1367	24	26	3	0	53	67	1039	12	0	1118	244	30	21	0	295	2833
% Passenger Vehicles	100	97.2	99.2	0	97.6	100	100	75.0	0	98.1	97.1	96.3	100	0	96.4	98.0	96.8	100	0	98.0	97.2
Single Unit	0	23	2	0	25	0	0	1	0	1	2	32	0	0	34	4	1	0	0	5	65
% Single Unit	0	2.0	0.8	0	1.8	0	0	25.0	0	1.9	2.9	3.0	0	0	2.9	1.6	3.2	0	0	1.7	2.2
TTST	0	9	0	0	9	0	0	0	0	0	0	8	0	0	8	1	0	0	0	1	18
% TTST	0	0.8	0	0	0.6	0	0	0	0	0	0	0.7	0	0	0.7	0.4	0	0	0	0.3	0.6



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

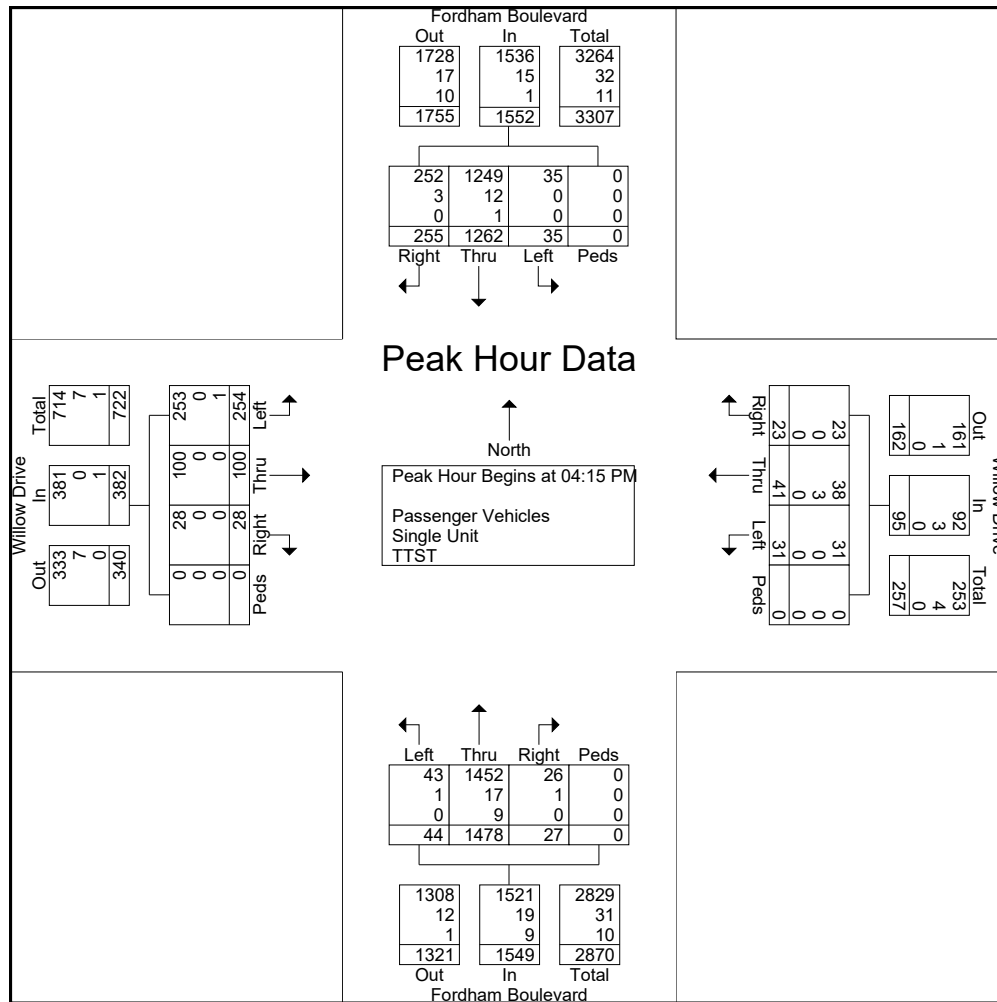
File Name : 102_Fordham@Willow

Site Code :

Start Date : 10/8/2019

Page No : 4

	Fordham Boulevard Southbound					Willow Drive Westbound					Fordham Boulevard Northbound					Willow Drive Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	11	362	79	0	452	5	13	1	0	19	6	369	4	0	379	45	19	6	0	70	920
04:30 PM	8	309	57	0	374	6	10	5	0	21	14	344	6	0	364	64	24	12	0	100	859
04:45 PM	8	317	63	0	388	8	9	3	0	20	15	391	11	0	417	56	34	6	0	96	921
05:00 PM	8	274	56	0	338	12	9	14	0	35	9	374	6	0	389	89	23	4	0	116	878
Total Volume	35	1262	255	0	1552	31	41	23	0	95	44	1478	27	0	1549	254	100	28	0	382	3578
% App. Total	2.3	81.3	16.4	0		32.6	43.2	24.2	0		2.8	95.4	1.7	0		66.5	26.2	7.3	0		
PHF	.795	.872	.807	.000	.858	.646	.788	.411	.000	.679	.733	.945	.614	.000	.929	.713	.735	.583	.000	.823	.971
Passenger Vehicles	35	1249	252	0	1536	31	38	23	0	92	43	1452	26	0	1521	253	100	28	0	381	3530
% Passenger Vehicles	100	99.0	98.8	0	99.0	100	92.7	100	0	96.8	97.7	98.2	96.3	0	98.2	99.6	100	100	0	99.7	98.7
Single Unit	0	12	3	0	15	0	3	0	0	3	1	17	1	0	19	0	0	0	0	0	37
% Single Unit	0	1.0	1.2	0	1.0	0	7.3	0	0	3.2	2.3	1.2	3.7	0	1.2	0	0	0	0	0	1.0
TTST	0	1	0	0	1	0	0	0	0	0	0	9	0	0	9	1	0	0	0	1	11
% TTST	0	0.1	0	0	0.1	0	0	0	0	0	0	0.6	0	0	0.6	0.4	0	0	0	0.3	0.3



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : 103_Fordham@Elliott
Site Code :
Start Date : 10/8/2019
Page No : 1

Groups Printed- Passenger Vehicles - Single Unit - TTST

	Fordham Boulevard Southbound				No Approach Westbound				Fordham Boulevard Northbound				Elliott Road Eastbound				Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00 AM	1	287	18	0	0	0	0	0	18	221	0	0	4	0	16	0	565
07:15 AM	1	354	17	0	0	0	0	0	19	282	0	0	10	0	21	0	704
07:30 AM	1	430	13	0	0	0	0	0	24	321	0	0	7	0	25	0	821
07:45 AM	0	379	24	0	0	0	0	0	23	331	0	0	9	0	28	0	794
Total	3	1450	72	0	0	0	0	0	84	1155	0	0	30	0	90	0	2884
08:00 AM	1	357	25	0	0	0	0	0	38	294	0	0	12	0	36	0	763
08:15 AM	0	406	26	0	0	0	0	0	49	264	0	0	8	0	34	0	787
08:30 AM	0	380	25	0	0	0	0	0	40	265	0	0	8	0	36	0	754
08:45 AM	0	389	23	0	0	0	0	0	34	270	0	0	6	0	36	0	758
Total	1	1532	99	0	0	0	0	0	161	1093	0	0	34	0	142	0	3062
*** BREAK ***																	
11:00 AM	1	250	26	0	0	0	0	0	40	238	0	0	21	0	40	0	616
11:15 AM	3	245	35	0	0	0	0	0	44	272	0	0	27	0	50	0	676
11:30 AM	1	277	40	0	0	0	0	0	49	227	0	0	21	0	60	0	675
11:45 AM	5	301	36	0	0	0	0	0	44	282	0	0	34	0	71	0	773
Total	10	1073	137	0	0	0	0	0	177	1019	0	0	103	0	221	0	2740
12:00 PM	3	277	45	0	0	0	0	0	59	280	0	0	23	0	56	0	743
12:15 PM	6	272	39	0	0	0	0	0	56	283	0	0	32	0	62	0	750
12:30 PM	7	292	39	0	0	0	0	0	59	322	0	0	39	0	62	0	820
12:45 PM	5	309	50	0	0	0	0	0	54	295	0	0	25	0	66	0	804
Total	21	1150	173	0	0	0	0	0	228	1180	0	0	119	0	246	0	3117
*** BREAK ***																	
04:00 PM	3	313	40	0	0	0	0	0	41	390	0	0	30	0	58	0	875
04:15 PM	1	383	55	0	0	0	0	0	54	375	0	0	39	0	60	0	967
04:30 PM	4	339	37	0	0	0	0	0	59	367	0	0	29	0	47	0	882
04:45 PM	5	334	42	0	0	0	0	0	52	427	0	0	32	0	57	0	949
Total	13	1369	174	0	0	0	0	0	206	1559	0	0	130	0	222	0	3673
05:00 PM	5	289	34	0	0	0	0	0	53	418	0	0	32	0	56	0	887
05:15 PM	4	291	43	0	0	0	0	0	66	397	0	0	36	0	53	0	890
05:30 PM	0	323	43	0	0	0	0	0	46	357	0	0	41	0	57	0	867
05:45 PM	2	304	31	0	0	0	0	0	49	413	0	0	33	0	44	0	876
Total	11	1207	151	0	0	0	0	0	214	1585	0	0	142	0	210	0	3520
Grand Total	59	7781	806	0	0	0	0	0	1070	7591	0	0	558	0	1131	0	18996
Apprch %	0.7	90	9.3	0	0	0	0	0	12.4	87.6	0	0	33	0	67	0	
Total %	0.3	41	4.2	0	0	0	0	0	5.6	40	0	0	2.9	0	6	0	
Passenger Vehicles	59	7625	780	0	0	0	0	0	1060	7416	0	0	524	0	1113	0	18577
% Passenger Vehicles	100	98	96.8	0	0	0	0	0	99.1	97.7	0	0	93.9	0	98.4	0	97.8
Single Unit	0	121	22	0	0	0	0	0	8	135	0	0	32	0	16	0	334
% Single Unit	0	1.6	2.7	0	0	0	0	0	0.7	1.8	0	0	5.7	0	1.4	0	1.8
TTST	0	35	4	0	0	0	0	0	2	40	0	0	2	0	2	0	85
% TTST	0	0.4	0.5	0	0	0	0	0	0.2	0.5	0	0	0.4	0	0.2	0	0.4

VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

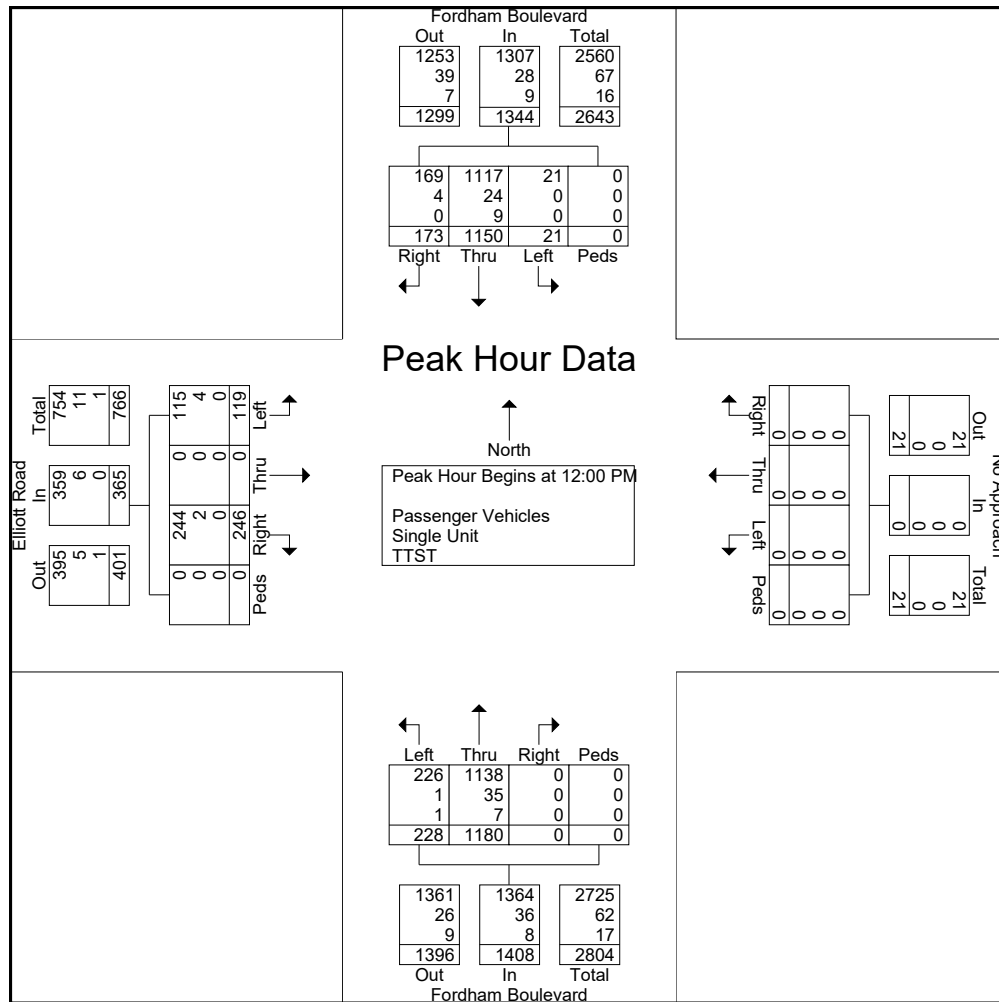
File Name : 103_Fordham@Elliott

Site Code :

Start Date : 10/8/2019

Page No : 3

	Fordham Boulevard Southbound					No Approach Westbound					Fordham Boulevard Northbound					Elliott Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	3	277	45	0	325	0	0	0	0	0	59	280	0	0	339	23	0	56	0	79	743
12:15 PM	6	272	39	0	317	0	0	0	0	0	56	283	0	0	339	32	0	62	0	94	750
12:30 PM	7	292	39	0	338	0	0	0	0	0	59	322	0	0	381	39	0	62	0	101	820
12:45 PM	5	309	50	0	364	0	0	0	0	0	54	295	0	0	349	25	0	66	0	91	804
Total Volume	21	1150	173	0	1344	0	0	0	0	0	228	1180	0	0	1408	119	0	246	0	365	3117
% App. Total	1.6	85.6	12.9	0		0	0	0	0		16.2	83.8	0	0		32.6	0	67.4	0		
PHF	.750	.930	.865	.000	.923	.000	.000	.000	.000	.000	.966	.916	.000	.000	.924	.763	.000	.932	.000	.903	.950
Passenger Vehicles	21	1117	169	0	1307	0	0	0	0	0	226	1138	0	0	1364	115	0	244	0	359	3030
% Passenger Vehicles	100	97.1	97.7	0	97.2	0	0	0	0	0	99.1	96.4	0	0	96.9	96.6	0	99.2	0	98.4	97.2
Single Unit	0	24	4	0	28	0	0	0	0	0	1	35	0	0	36	4	0	2	0	6	70
% Single Unit	0	2.1	2.3	0	2.1	0	0	0	0	0	0.4	3.0	0	0	2.6	3.4	0	0.8	0	1.6	2.2
TTST	0	9	0	0	9	0	0	0	0	0	1	7	0	0	8	0	0	0	0	0	17
% TTST	0	0.8	0	0	0.7	0	0	0	0	0	0.4	0.6	0	0	0.6	0	0	0	0	0	0.5



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Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

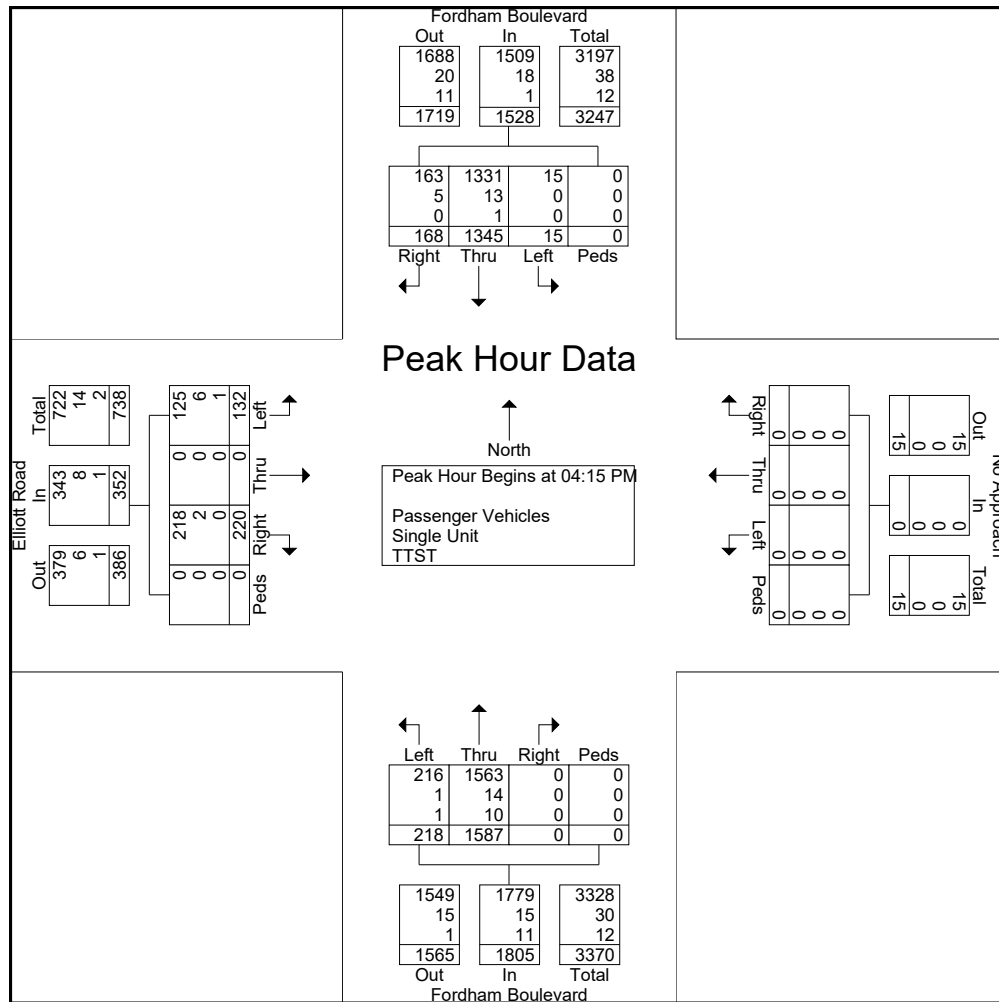
File Name : 103_Fordham@Elliott

Site Code :

Start Date : 10/8/2019

Page No : 4

	Fordham Boulevard Southbound					No Approach Westbound					Fordham Boulevard Northbound					Elliott Road Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	1	383	55	0	439	0	0	0	0	0	54	375	0	0	429	39	0	60	0	99	967
04:30 PM	4	339	37	0	380	0	0	0	0	0	59	367	0	0	426	29	0	47	0	76	882
04:45 PM	5	334	42	0	381	0	0	0	0	0	52	427	0	0	479	32	0	57	0	89	949
05:00 PM	5	289	34	0	328	0	0	0	0	0	53	418	0	0	471	32	0	56	0	88	887
Total Volume	15	1345	168	0	1528	0	0	0	0	0	218	1587	0	0	1805	132	0	220	0	352	3685
% App. Total	1	88	11	0		0	0	0	0		12.1	87.9	0	0		37.5	0	62.5	0		
PHF	.750	.878	.764	.000	.870	.000	.000	.000	.000	.000	.924	.929	.000	.000	.942	.846	.000	.917	.000	.889	.953
Passenger Vehicles	15	1331	163	0	1509	0	0	0	0	0	216	1563	0	0	1779	125	0	218	0	343	3631
% Passenger Vehicles	100	99.0	97.0	0	98.8	0	0	0	0	0	99.1	98.5	0	0	98.6	94.7	0	99.1	0	97.4	98.5
Single Unit	0	13	5	0	18	0	0	0	0	0	1	14	0	0	15	6	0	2	0	8	41
% Single Unit	0	1.0	3.0	0	1.2	0	0	0	0	0	0.5	0.9	0	0	0.8	4.5	0	0.9	0	2.3	1.1
TTST	0	1	0	0	1	0	0	0	0	0	1	10	0	0	11	1	0	0	0	1	13
% TTST	0	0.1	0	0	0.1	0	0	0	0	0	0.5	0.6	0	0	0.6	0.8	0	0	0	0.3	0.4



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Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : 104_Fordham@EphesusChurch
Site Code :
Start Date : 9/25/2019
Page No : 1

Groups Printed- Passenger Vehicles - Single Unit - TTST

	Fordham Boulevard Southbound				Ephesus Church Road Westbound				Fordham Boulevard Northbound				Eastgate Crossing Eastbound				Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	
07:00 AM	10	235	1	0	31	4	2	0	5	227	39	0	3	7	2	0	566
07:15 AM	20	312	1	0	44	15	10	0	5	264	26	0	3	5	6	0	711
07:30 AM	28	408	1	0	63	21	18	0	13	288	39	0	3	11	5	0	898
07:45 AM	20	324	1	0	74	29	24	0	19	298	53	0	3	11	9	0	865
Total	78	1279	4	0	212	69	54	0	42	1077	157	0	12	34	22	0	3040
08:00 AM	18	348	3	0	55	19	15	0	19	299	62	0	5	10	10	0	863
08:15 AM	8	331	2	0	58	23	13	0	19	255	67	0	5	20	10	0	811
08:30 AM	17	341	0	0	71	31	14	0	24	279	40	0	7	10	15	0	849
08:45 AM	29	357	3	0	55	24	10	0	20	248	61	0	11	16	23	0	857
Total	72	1377	8	0	239	97	52	0	82	1081	230	0	28	56	58	0	3380
*** BREAK ***																	
11:00 AM	19	186	3	0	58	16	4	0	33	202	34	0	18	30	29	0	632
11:15 AM	22	206	3	0	46	20	9	0	40	227	45	0	26	21	21	0	686
11:30 AM	16	223	4	0	56	23	13	0	38	223	33	0	21	22	16	0	688
11:45 AM	29	199	6	0	66	37	11	0	44	195	40	0	18	22	24	0	691
Total	86	814	16	0	226	96	37	0	155	847	152	0	83	95	90	0	2697
12:00 PM	17	236	7	0	58	17	16	0	44	236	45	0	26	16	30	0	748
12:15 PM	21	221	7	0	61	30	14	0	43	205	52	0	23	23	29	0	729
12:30 PM	27	215	4	0	57	40	14	0	39	198	57	0	33	24	20	0	728
12:45 PM	27	190	5	0	55	33	15	0	53	232	64	0	27	32	19	0	752
Total	92	862	23	0	231	120	59	0	179	871	218	0	109	95	98	0	2957
*** BREAK ***																	
04:00 PM	20	243	5	0	64	32	12	0	32	255	57	0	25	24	25	0	794
04:15 PM	30	284	2	0	61	23	11	0	27	273	71	0	18	19	19	0	838
04:30 PM	20	280	5	0	98	21	21	0	21	300	47	0	9	15	22	0	859
04:45 PM	25	260	4	0	70	29	14	0	36	319	56	0	23	17	24	0	877
Total	95	1067	16	0	293	105	58	0	116	1147	231	0	75	75	90	0	3368
05:00 PM	31	235	4	0	87	35	18	0	19	319	72	0	23	32	17	0	892
05:15 PM	21	257	5	0	73	30	21	0	21	312	86	0	27	29	20	0	902
05:30 PM	25	242	3	0	93	31	13	0	25	278	73	0	27	28	18	0	856
05:45 PM	31	266	2	0	66	35	18	0	30	219	60	0	16	23	21	0	787
Total	108	1000	14	0	319	131	70	0	95	1128	291	0	93	112	76	0	3437
Grand Total	531	6399	81	0	1520	618	330	0	669	6151	1279	0	400	467	434	0	18879
Apprch %	7.6	91.3	1.2	0	61.6	25	13.4	0	8.3	75.9	15.8	0	30.7	35.9	33.4	0	
Total %	2.8	33.9	0.4	0	8.1	3.3	1.7	0	3.5	32.6	6.8	0	2.1	2.5	2.3	0	
Passenger Vehicles	517	6241	80	0	1488	609	313	0	659	6034	1234	0	394	466	430	0	18465
% Passenger Vehicles	97.4	97.5	98.8	0	97.9	98.5	94.8	0	98.5	98.1	96.5	0	98.5	99.8	99.1	0	97.8
Single Unit	9	121	1	0	29	7	14	0	8	84	45	0	5	1	4	0	328
% Single Unit	1.7	1.9	1.2	0	1.9	1.1	4.2	0	1.2	1.4	3.5	0	1.2	0.2	0.9	0	1.7
TTST	5	37	0	0	3	2	3	0	2	33	0	0	1	0	0	0	86
% TTST	0.9	0.6	0	0	0.2	0.3	0.9	0	0.3	0.5	0	0	0.2	0	0	0	0.5

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Venture I

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p: 919.829.0328 f: 919.833.0034

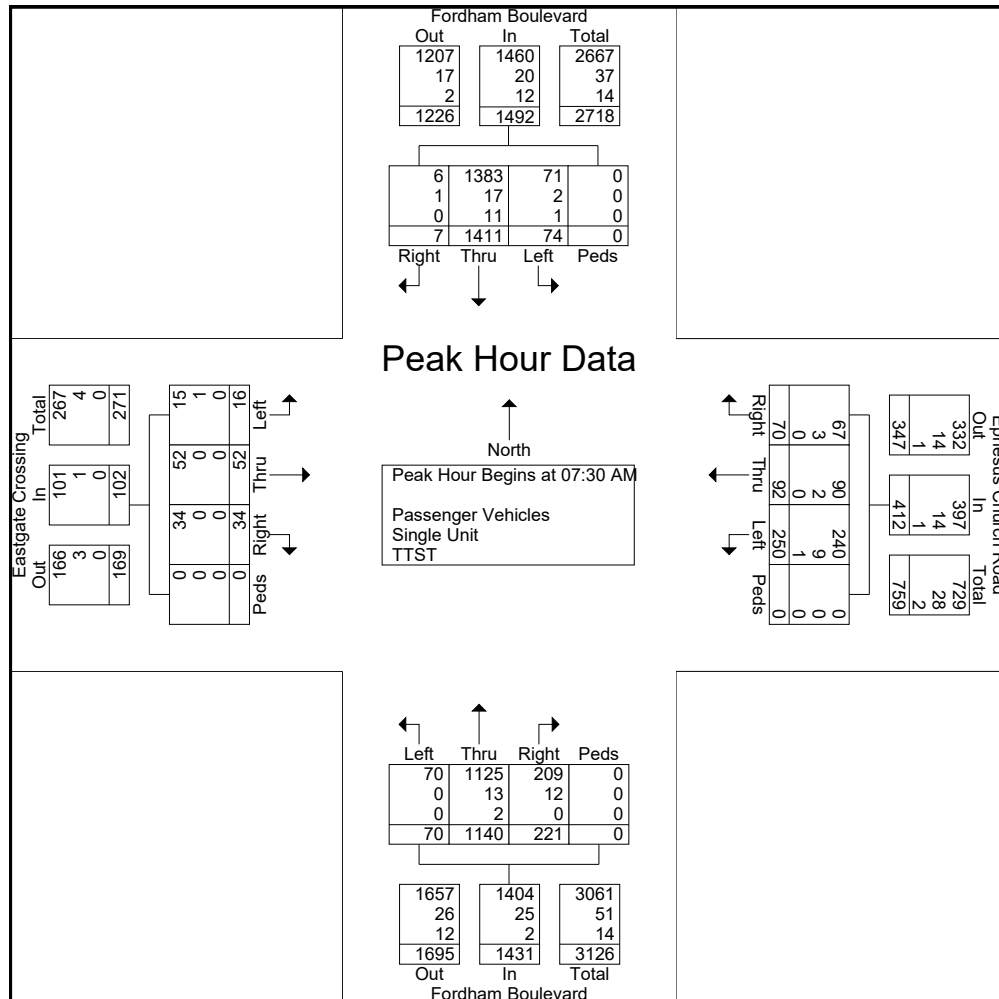
File Name : 104_Fordham@EphesusChurch

Site Code :

Start Date : 9/25/2019

Page No : 2

	Fordham Boulevard Southbound					Ephesus Church Road Westbound					Fordham Boulevard Northbound					Eastgate Crossing Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	28	408	1	0	437	63	21	18	0	102	13	288	39	0	340	3	11	5	0	19	898
07:45 AM	20	324	1	0	345	74	29	24	0	127	19	298	53	0	370	3	11	9	0	23	865
08:00 AM	18	348	3	0	369	55	19	15	0	89	19	299	62	0	380	5	10	10	0	25	863
08:15 AM	8	331	2	0	341	58	23	13	0	94	19	255	67	0	341	5	20	10	0	35	811
Total Volume	74	1411	7	0	1492	250	92	70	0	412	70	1140	221	0	1431	16	52	34	0	102	3437
% App. Total	5	94.6	0.5	0		60.7	22.3	17	0		4.9	79.7	15.4	0		15.7	51	33.3	0		
PHF	.661	.865	.583	.000	.854	.845	.793	.729	.000	.811	.921	.953	.825	.000	.941	.800	.650	.850	.000	.729	.957
Passenger Vehicles	71	1383	6	0	1460	240	90	67	0	397	70	1125	209	0	1404	15	52	34	0	101	3362
% Passenger Vehicles	95.9	98.0	85.7	0	97.9	96.0	97.8	95.7	0	96.4	100	98.7	94.6	0	98.1	93.8	100	100	0	99.0	97.8
Single Unit	2	17	1	0	20	9	2	3	0	14	0	13	12	0	25	1	0	0	0	1	60
% Single Unit	2.7	1.2	14.3	0	1.3	3.6	2.2	4.3	0	3.4	0	1.1	5.4	0	1.7	6.3	0	0	0	1.0	1.7
TTST	1	11	0	0	12	1	0	0	0	1	0	2	0	0	2	0	0	0	0	0	15
% TTST	1.4	0.8	0	0	0.8	0.4	0	0	0	0.2	0	0.2	0	0	0.1	0	0	0	0	0	0.4



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

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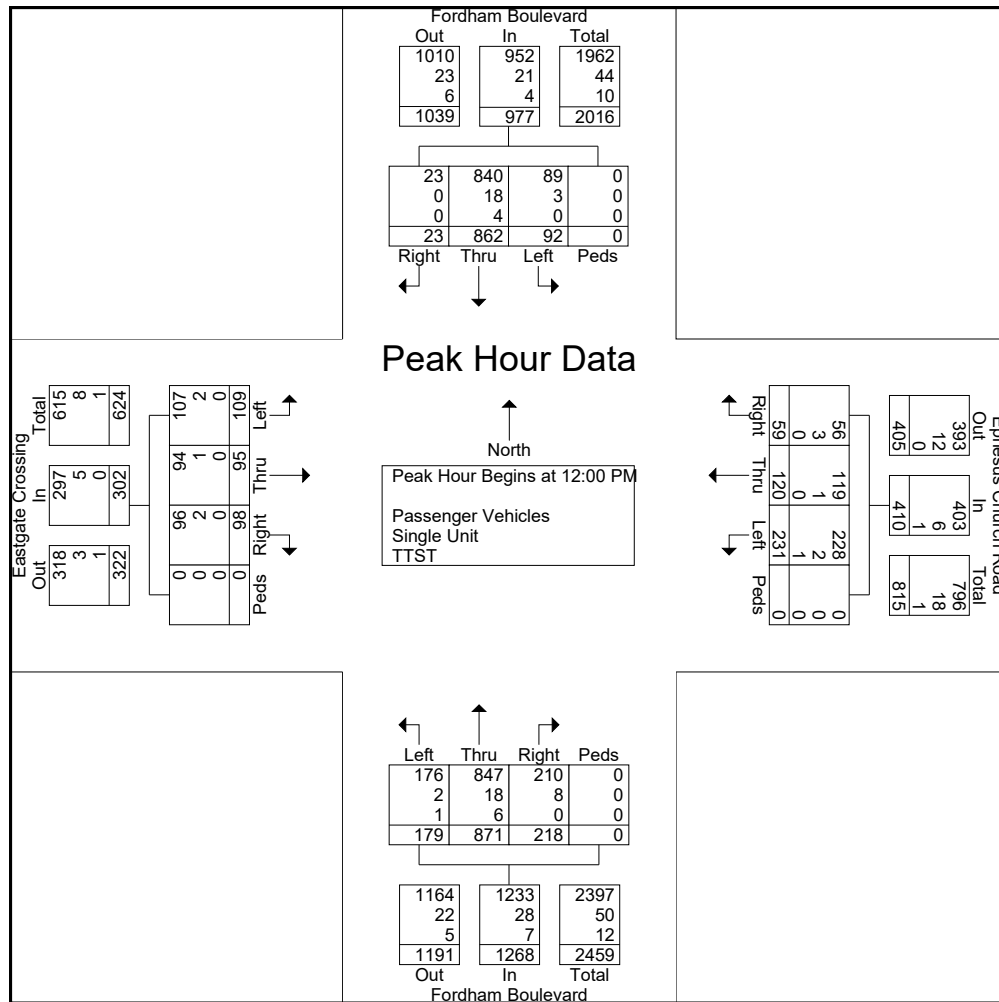
File Name : 104_Fordham@EphesusChurch

Site Code :

Start Date : 9/25/2019

Page No : 3

	Fordham Boulevard Southbound					Ephesus Church Road Westbound					Fordham Boulevard Northbound					Eastgate Crossing Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 12:00 PM																					
12:00 PM	17	236	7	0	260	58	17	16	0	91	44	236	45	0	325	26	16	30	0	72	748
12:15 PM	21	221	7	0	249	61	30	14	0	105	43	205	52	0	300	23	23	29	0	75	729
12:30 PM	27	215	4	0	246	57	40	14	0	111	39	198	57	0	294	33	24	20	0	77	728
12:45 PM	27	190	5	0	222	55	33	15	0	103	53	232	64	0	349	27	32	19	0	78	752
Total Volume	92	862	23	0	977	231	120	59	0	410	179	871	218	0	1268	109	95	98	0	302	2957
% App. Total	9.4	88.2	2.4	0		56.3	29.3	14.4	0		14.1	68.7	17.2	0		36.1	31.5	32.5	0		
PHF	.852	.913	.821	.000	.939	.947	.750	.922	.000	.923	.844	.923	.852	.000	.908	.826	.742	.817	.000	.968	.983
Passenger Vehicles	89	840	23	0	952	228	119	56	0	403	176	847	210	0	1233	107	94	96	0	297	2885
% Passenger Vehicles	96.7	97.4	100	0	97.4	98.7	99.2	94.9	0	98.3	98.3	97.2	96.3	0	97.2	98.2	98.9	98.0	0	98.3	97.6
Single Unit	3	18	0	0	21	2	1	3	0	6	2	18	8	0	28	2	1	2	0	5	60
% Single Unit	3.3	2.1	0	0	2.1	0.9	0.8	5.1	0	1.5	1.1	2.1	3.7	0	2.2	1.8	1.1	2.0	0	1.7	2.0
TTST	0	4	0	0	4	1	0	0	0	1	1	6	0	0	7	0	0	0	0	0	12
% TTST	0	0.5	0	0	0.4	0.4	0	0	0	0.2	0.6	0.7	0	0	0.6	0	0	0	0	0	0.4



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Venture I

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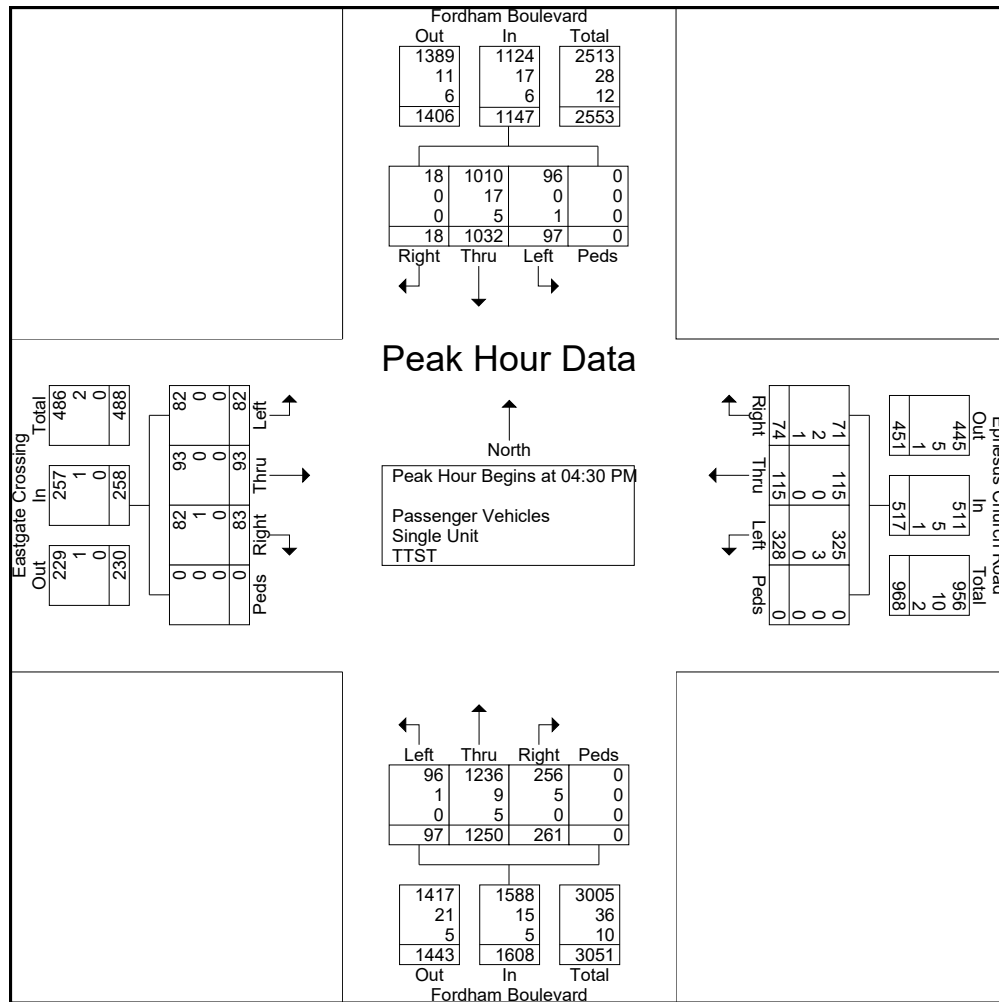
File Name : 104_Fordham@EphesusChurch

Site Code :

Start Date : 9/25/2019

Page No : 4

	Fordham Boulevard Southbound					Ephesus Church Road Westbound					Fordham Boulevard Northbound					Eastgate Crossing Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	20	280	5	0	305	98	21	21	0	140	21	300	47	0	368	9	15	22	0	46	859
04:45 PM	25	260	4	0	289	70	29	14	0	113	36	319	56	0	411	23	17	24	0	64	877
05:00 PM	31	235	4	0	270	87	35	18	0	140	19	319	72	0	410	23	32	17	0	72	892
05:15 PM	21	257	5	0	283	73	30	21	0	124	21	312	86	0	419	27	29	20	0	76	902
Total Volume	97	1032	18	0	1147	328	115	74	0	517	97	1250	261	0	1608	82	93	83	0	258	3530
% App. Total	8.5	90	1.6	0		63.4	22.2	14.3	0		6	77.7	16.2	0		31.8	36	32.2	0		
PHF	.782	.921	.900	.000	.940	.837	.821	.881	.000	.923	.674	.980	.759	.000	.959	.759	.727	.865	.000	.849	.978
Passenger Vehicles	96	1010	18	0	1124	325	115	71	0	511	96	1236	256	0	1588	82	93	82	0	257	3480
% Passenger Vehicles	99.0	97.9	100	0	98.0	99.1	100	95.9	0	98.8	99.0	98.9	98.1	0	98.8	100	100	98.8	0	99.6	98.6
Single Unit	0	17	0	0	17	3	0	2	0	5	1	9	5	0	15	0	0	1	0	1	38
% Single Unit	0	1.6	0	0	1.5	0.9	0	2.7	0	1.0	1.0	0.7	1.9	0	0.9	0	0	1.2	0	0.4	1.1
TTST	1	5	0	0	6	0	0	1	0	1	0	5	0	0	5	0	0	0	0	0	12
% TTST	1.0	0.5	0	0	0.5	0	0	1.4	0	0.2	0	0.4	0	0	0.3	0	0	0	0	0	0.3



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Estes@Bank
Site Code :
Start Date : 11/21/2019
Page No : 1

Groups Printed- Passenger Vehicles - Single Unit - TTST - Bicycles on Crosswalk - Pedestrians

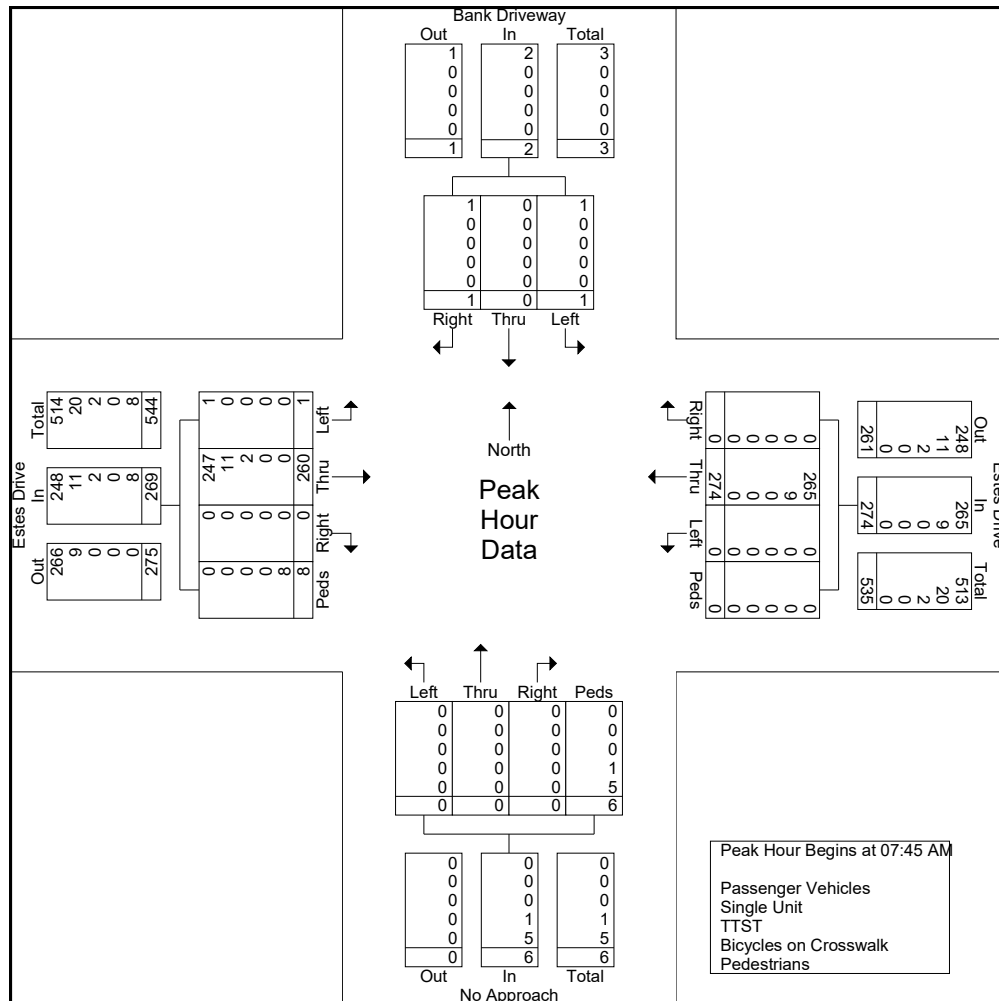
	Bank Driveway Southbound				Estes Drive Westbound				No Approach Northbound				Estes Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	0	0	0	1	0	36	0	0	0	0	0	1	1	50	0	0	1	88	89
07:15 AM	0	0	0	0	0	50	0	0	0	0	0	2	0	43	0	0	0	95	95
07:30 AM	0	0	0	1	0	54	0	0	0	0	0	0	0	77	0	0	1	131	132
07:45 AM	0	0	0	1	0	86	0	0	0	0	0	2	1	70	0	0	1	159	160
Total	0	0	0	3	0	226	0	0	0	0	0	5	2	240	0	0	3	473	476
08:00 AM	0	0	1	2	0	56	0	0	0	0	0	2	0	59	0	5	2	123	125
08:15 AM	0	0	0	0	0	61	0	0	0	0	0	0	0	74	0	2	0	137	137
08:30 AM	1	0	0	1	0	71	0	0	0	0	0	2	0	57	0	1	1	132	133
08:45 AM	0	0	0	2	0	77	1	0	0	0	0	1	0	68	0	5	2	152	154
Total	1	0	1	5	0	265	1	0	0	0	0	5	0	258	0	13	5	544	549
*** BREAK ***																			
11:00 AM	0	0	1	0	0	76	0	0	0	0	0	0	0	87	0	0	0	164	164
11:15 AM	0	0	0	0	0	97	1	0	0	0	0	0	0	98	0	0	0	196	196
11:30 AM	0	0	2	0	0	79	1	0	0	0	0	0	1	89	0	0	0	172	172
11:45 AM	0	0	1	0	0	98	6	0	0	0	0	0	0	103	0	0	0	208	208
Total	0	0	4	0	0	350	8	0	0	0	0	0	1	377	0	0	0	740	740
12:00 PM	0	0	1	2	0	74	2	2	0	0	0	0	0	91	0	4	2	174	176
12:15 PM	0	0	0	4	0	96	1	0	0	0	0	1	0	96	0	5	4	199	203
12:30 PM	0	0	1	1	0	85	3	0	0	0	0	1	0	89	0	1	1	180	181
12:45 PM	0	0	0	0	0	100	1	0	0	0	0	1	1	94	0	1	0	198	198
Total	0	0	2	7	0	355	7	2	0	0	0	3	1	370	0	11	7	751	758
*** BREAK ***																			
04:00 PM	1	0	0	3	0	101	1	0	0	0	0	1	0	90	0	0	3	194	197
04:15 PM	0	0	1	1	0	94	0	0	0	0	0	2	0	89	0	0	1	186	187
04:30 PM	0	0	1	1	0	92	0	0	0	0	0	0	0	94	0	0	1	187	188
04:45 PM	0	0	1	1	0	94	0	0	0	0	0	3	1	83	0	0	1	182	183
Total	1	0	3	6	0	381	1	0	0	0	0	6	1	356	0	0	6	749	755
05:00 PM	0	0	2	2	0	92	1	0	0	0	0	0	0	105	0	2	2	202	204
05:15 PM	0	0	2	3	0	109	1	0	0	0	0	0	2	86	0	7	3	207	210
05:30 PM	0	0	2	2	0	90	0	0	0	0	0	0	1	71	0	2	2	166	168
05:45 PM	1	0	2	6	0	101	2	0	0	0	0	0	1	63	0	5	6	175	181
Total	1	0	8	13	0	392	4	0	0	0	0	0	4	325	0	16	13	750	763
Grand Total	3	0	18	34	0	1969	21	2	0	0	0	19	9	1926	0	40	34	4007	4041
Apprch %	14.3	0	85.7		0	98.8	1.1	0.1	0	0	0	100	0.5	97.5	0	2			
Total %	0.1	0	0.4		0	49.1	0.5	0	0	0	0	0.5	0.2	48.1	0	1	0.8	99.2	
Passenger Vehicles	3	0	18		0	1926	20	0	0	0	0	0	9	1848	0	0	0	0	3824
% Passenger Vehicles	100	0	100	0	0	97.8	95.2	0	0	0	0	0	100	96	0	0	0	0	94.6
Single Unit	0	0	0		0	41	1	0	0	0	0	0	0	70	0	0	0	0	112
% Single Unit	0	0	0	0	0	2.1	4.8	0	0	0	0	0	0	3.6	0	0	0	0	2.8
TTST	0	0	0		0	2	0	0	0	0	0	0	0	8	0	0	0	0	10
% TTST	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0.4	0	0	0	0	0.2
Bicycles on Crosswalk	0	0	0		0	0	0	0	0	0	0	1	0	0	0	0	0	0	3
% Bicycles on Crosswalk	0	0	0	5.9	0	0	0	0	0	0	0	5.3	0	0	0	0	0	0	0.1
Pedestrians	0	0	0		0	0	0	2	0	0	0	18	0	0	0	40	0	0	92
% Pedestrians	0	0	0	94.1	0	0	0	100	0	0	0	94.7	0	0	0	100	0	0	2.3

VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Estes@Bank
Site Code :
Start Date : 11/21/2019
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	Bank Driveway Southbound				Estes Drive Westbound					No Approach Northbound					Estes Drive Eastbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 07:45 AM																				
07:45 AM	0	0	0	0	0	86	0	0	86	0	0	0	2	2	1	70	0	0	71	159
08:00 AM	0	0	1	1	0	56	0	0	56	0	0	0	2	2	0	59	0	5	64	123
08:15 AM	0	0	0	0	0	61	0	0	61	0	0	0	0	0	0	74	0	2	76	137
08:30 AM	1	0	0	1	0	71	0	0	71	0	0	0	2	2	0	57	0	1	58	132
Total Volume	1	0	1	2	0	274	0	0	274	0	0	0	6	6	1	260	0	8	269	551
% App. Total	50	0	50		0	100	0	0		0	0	0	100		0.4	96.7	0	3		
PHF	.250	.000	.250	.500	.000	.797	.000	.000	.797	.000	.000	.000	.750	.750	.250	.878	.000	.400	.885	.866
Passenger Vehicles	1	0	1	2	0	265	0	0	265	0	0	0	0	0	1	247	0	0	248	515
% Passenger Vehicles																				
Single Unit	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	11	0	0	11	20
% Single Unit	0	0	0	0	0	3.3	0	0	3.3	0	0	0	0	0	0	4.2	0	0	4.1	3.6
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0	0	0.7	0.4
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	16.7	16.7	0	0	0	0	0	0.2
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	5	5	0	0	0	8	8	13
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	83.3	83.3	0	0	0	100	3.0	2.4



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

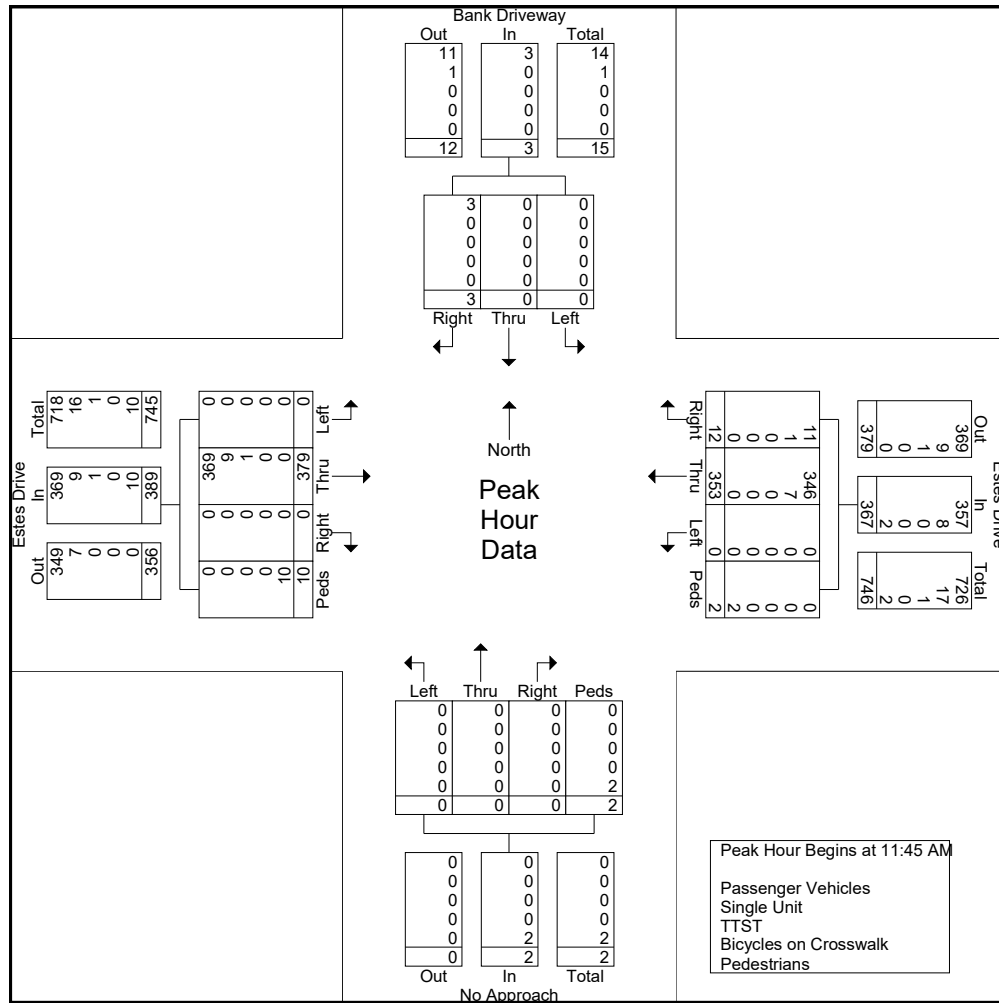
File Name : Estes@Bank

Site Code :

Start Date : 11/21/2019

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	Bank Driveway Southbound				Estes Drive Westbound					No Approach Northbound					Estes Drive Eastbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 11:45 AM																				
11:45 AM	0	0	1	1	0	98	6	0	104	0	0	0	0	0	0	103	0	0	103	208
12:00 PM	0	0	1	1	0	74	2	2	78	0	0	0	0	0	0	91	0	4	95	174
12:15 PM	0	0	0	0	0	96	1	0	97	0	0	0	1	1	0	96	0	5	101	199
12:30 PM	0	0	1	1	0	85	3	0	88	0	0	0	1	1	0	89	0	1	90	180
Total Volume	0	0	3	3	0	353	12	2	367	0	0	0	2	2	0	379	0	10	389	761
% App. Total	0	0	100		0	96.2	3.3	0.5		0	0	0	100		0	97.4	0	2.6		
PHF	.000	.000	.750	.750	.000	.901	.500	.250	.882	.000	.000	.000	.500	.500	.000	.920	.000	.500	.944	.915
Passenger Vehicles	0	0	3	3	0	346	11	0	357	0	0	0	0	0	0	369	0	0	369	729
% Passenger Vehicles																				
Single Unit	0	0	0	0	0	7	1	0	8	0	0	0	0	0	0	9	0	0	9	17
% Single Unit	0	0	0	0	0	2.0	8.3	0	2.2	0	0	0	0	0	0	2.4	0	0	2.3	2.2
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0	0.3	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	2	2	0	0	0	2	2	0	0	0	10	10	14
% Pedestrians	0	0	0	0	0	0	0	100	0.5	0	0	0	100	100	0	0	0	100	2.6	1.8



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Venture I

940 Main Campus Drive, Suite 500

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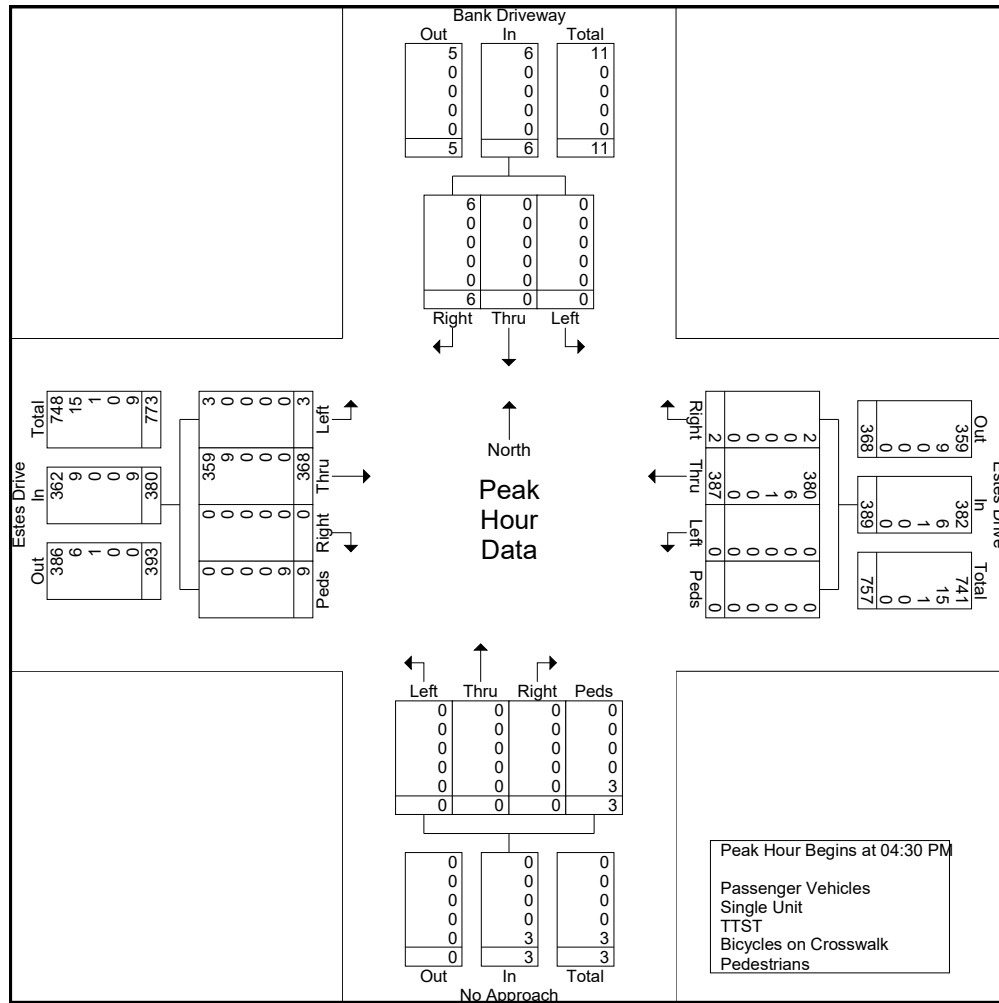
File Name : Estes@Bank

Site Code :

Start Date : 11/21/2019

Page No : 4

	Bank Driveway Southbound				Estes Drive Westbound					No Approach Northbound					Estes Drive Eastbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 04:30 PM																				
04:30 PM	0	0	1	1	0	92	0	0	92	0	0	0	0	0	0	94	0	0	94	187
04:45 PM	0	0	1	1	0	94	0	0	94	0	0	0	3	3	1	83	0	0	84	182
05:00 PM	0	0	2	2	0	92	1	0	93	0	0	0	0	0	0	105	0	2	107	202
05:15 PM	0	0	2	2	0	109	1	0	110	0	0	0	0	0	2	86	0	7	95	207
Total Volume	0	0	6	6	0	387	2	0	389	0	0	0	3	3	3	368	0	9	380	778
% App. Total	0	0	100		0	99.5	0.5	0		0	0	0	100		0.8	96.8	0	2.4		
PHF	.000	.000	.750	.750	.000	.888	.500	.000	.884	.000	.000	.000	.250	.250	.375	.876	.000	.321	.888	.940
Passenger Vehicles	0	0	6	6	0	380	2	0	382	0	0	0	0	0	3	359	0	0	362	750
% Passenger Vehicles																				
Single Unit	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	9	0	0	9	15
% Single Unit	0	0	0	0	0	1.6	0	0	1.5	0	0	0	0	0	0	2.4	0	0	2.4	1.9
TTST	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1
% TTST	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	3	3	0	0	0	9	9	12
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	100	100	0	0	0	100	2.4	1.5



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Estes@Kangaroo
Site Code :
Start Date : 11/21/2019
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Groups Printed- Passenger Vehicles - Single Unit - TTST - Bicycles on Crosswalk - Pedestrians

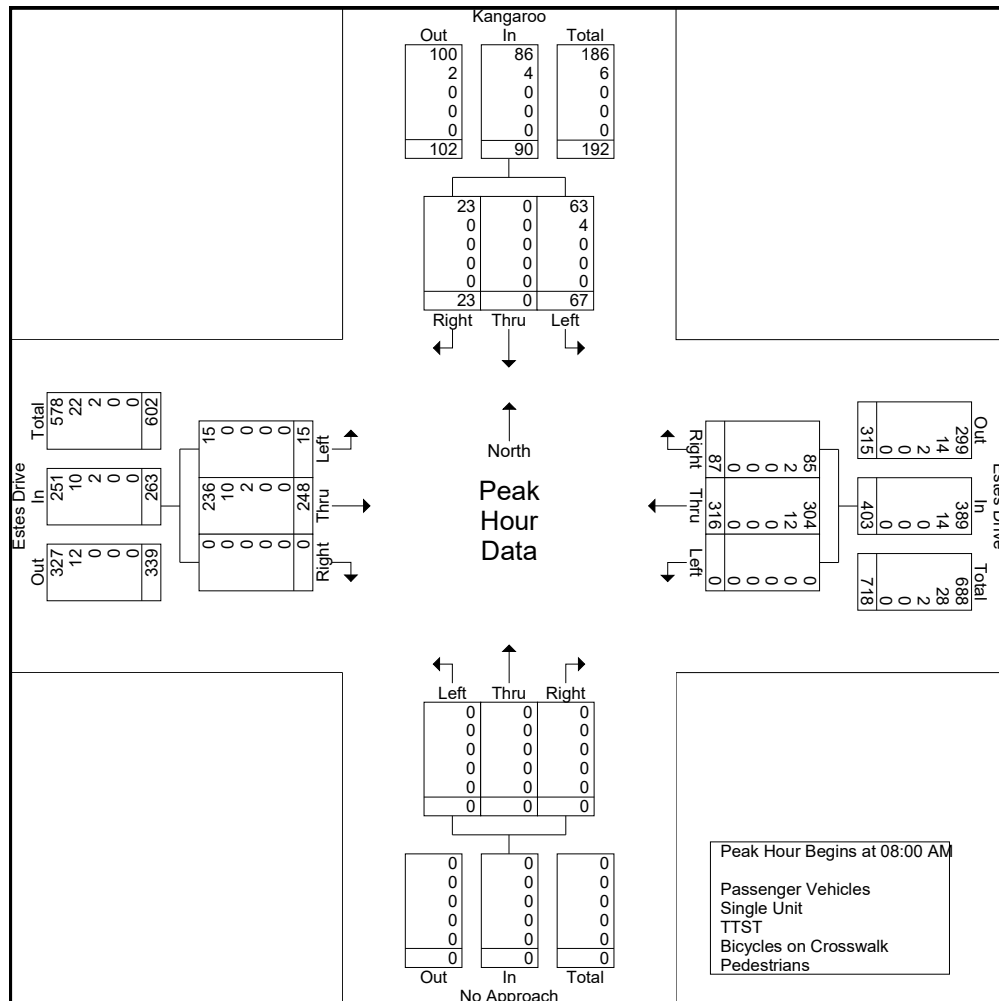
	Kangaroo Southbound				Estes Drive Westbound				No Approach Northbound				Estes Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	12	0	4	1	0	39	16	0	0	0	0	1	5	47	0	0	2	123	125
07:15 AM	20	0	1	0	0	59	16	0	0	0	0	1	3	43	0	0	1	142	143
07:30 AM	19	0	3	0	0	62	17	0	0	0	0	0	5	70	0	0	0	176	176
07:45 AM	14	0	5	0	0	97	16	0	0	0	0	0	2	62	0	0	0	196	196
Total	65	0	13	1	0	257	65	0	0	0	0	2	15	222	0	0	3	637	640
08:00 AM	15	0	2	0	0	71	25	0	0	0	0	0	1	58	0	0	0	172	172
08:15 AM	17	0	9	0	0	69	15	0	0	0	0	0	4	70	0	0	0	184	184
08:30 AM	18	0	7	0	0	81	25	0	0	0	0	0	5	57	0	0	0	193	193
08:45 AM	17	0	5	0	0	95	22	3	0	0	0	0	5	63	0	0	3	207	210
Total	67	0	23	0	0	316	87	3	0	0	0	0	15	248	0	0	3	756	759
*** BREAK ***																			
11:00 AM	12	0	8	0	0	88	18	0	0	0	0	0	6	98	0	0	0	230	230
11:15 AM	19	0	5	0	0	107	14	0	0	0	0	0	6	98	0	0	0	249	249
11:30 AM	8	0	8	0	0	116	23	0	0	0	0	0	2	100	0	0	0	257	257
11:45 AM	7	0	10	0	0	141	12	0	0	0	0	0	5	101	0	0	0	276	276
Total	46	0	31	0	0	452	67	0	0	0	0	0	19	397	0	0	0	1012	1012
12:00 PM	14	0	8	1	0	106	32	0	0	0	0	0	3	110	0	0	1	273	274
12:15 PM	16	0	8	0	0	108	18	0	0	0	0	0	9	108	0	0	0	267	267
12:30 PM	14	0	5	0	0	104	19	0	0	0	0	0	7	87	0	0	0	236	236
12:45 PM	17	0	6	0	0	113	13	0	0	0	0	0	5	106	0	0	0	260	260
Total	61	0	27	1	0	431	82	0	0	0	0	0	24	411	0	0	1	1036	1037
*** BREAK ***																			
04:00 PM	21	0	12	1	0	116	18	0	0	0	0	0	4	104	0	0	1	275	276
04:15 PM	19	0	8	1	0	118	17	0	0	0	0	0	9	88	0	0	1	259	260
04:30 PM	15	0	7	1	0	93	16	0	0	0	0	0	2	97	0	0	1	230	231
04:45 PM	14	0	7	2	0	126	17	0	0	0	0	0	3	92	0	0	2	259	261
Total	69	0	34	5	0	453	68	0	0	0	0	0	18	381	0	0	5	1023	1028
05:00 PM	7	0	7	2	0	115	17	0	0	0	0	0	7	94	0	0	2	247	249
05:15 PM	21	0	6	2	0	141	17	0	0	0	0	0	5	93	0	0	2	283	285
05:30 PM	15	0	11	1	0	102	15	0	0	0	0	0	1	69	0	0	1	213	214
05:45 PM	14	0	7	2	0	129	18	0	0	0	0	0	5	73	0	0	2	246	248
Total	57	0	31	7	0	487	67	0	0	0	0	0	18	329	0	0	7	989	996
Grand Total	365	0	159	14	0	2396	436	3	0	0	0	2	109	1988	0	0	19	5453	5472
Apprch %	69.7	0	30.3		0	84.6	15.4		0	0	0		5.2	94.8	0				
Total %	6.7	0	2.9		0	43.9	8		0	0	0		2	36.5	0		0.3	99.7	
Passenger Vehicles	359	0	159		0	2341	431		0	0	0		107	1928	0		0	0	5325
% Passenger Vehicles	98.4	0	100	0	0	97.7	98.9	0	0	0	0	0	98.2	97	0	0	0	0	97.3
Single Unit	6	0	0		0	53	5		0	0	0		2	54	0		0	0	120
% Single Unit	1.6	0	0	0	0	2.2	1.1	0	0	0	0	0	1.8	2.7	0	0	0	0	2.2
TTST	0	0	0		0	2	0		0	0	0		0	6	0		0	0	8
% TTST	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0.3	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0		0	0	0		0	0	0		0	0	0		0	0	2
% Bicycles on Crosswalk	0	0	0	14.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	0	17
% Pedestrians	0	0	0	85.7	0	0	0	100	0	0	0	100	0	0	0	0	0	0	0.3

VHB Engineering NC, P.C.

Venture I
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File Name : Estes@Kangaroo
Site Code :
Start Date : 11/21/2019
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	Kangaroo Southbound				Estes Drive Westbound				No Approach Northbound				Estes Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 08:00 AM																	
08:00 AM	15	0	2	17	0	71	25	96	0	0	0	0	1	58	0	59	172
08:15 AM	17	0	9	26	0	69	15	84	0	0	0	0	4	70	0	74	184
08:30 AM	18	0	7	25	0	81	25	106	0	0	0	0	5	57	0	62	193
08:45 AM	17	0	5	22	0	95	22	117	0	0	0	0	5	63	0	68	207
Total Volume	67	0	23	90	0	316	87	403	0	0	0	0	15	248	0	263	756
% App. Total	74.4	0	25.6		0	78.4	21.6		0	0	0		5.7	94.3	0		
PHF	.931	.000	.639	.865	.000	.832	.870	.861	.000	.000	.000	.000	.750	.886	.000	.889	.913
Passenger Vehicles	63	0	23	86	0	304	85	389	0	0	0	0	15	236	0	251	726
% Passenger Vehicles	94.0	0	100	95.6	0	96.2	97.7	96.5	0	0	0	0	100	95.2	0	95.4	96.0
Single Unit	4	0	0	4	0	12	2	14	0	0	0	0	0	10	0	10	28
% Single Unit	6.0	0	0	4.4	0	3.8	2.3	3.5	0	0	0	0	0	4.0	0	3.8	3.7
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	2	2
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0	0.8	0.3
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

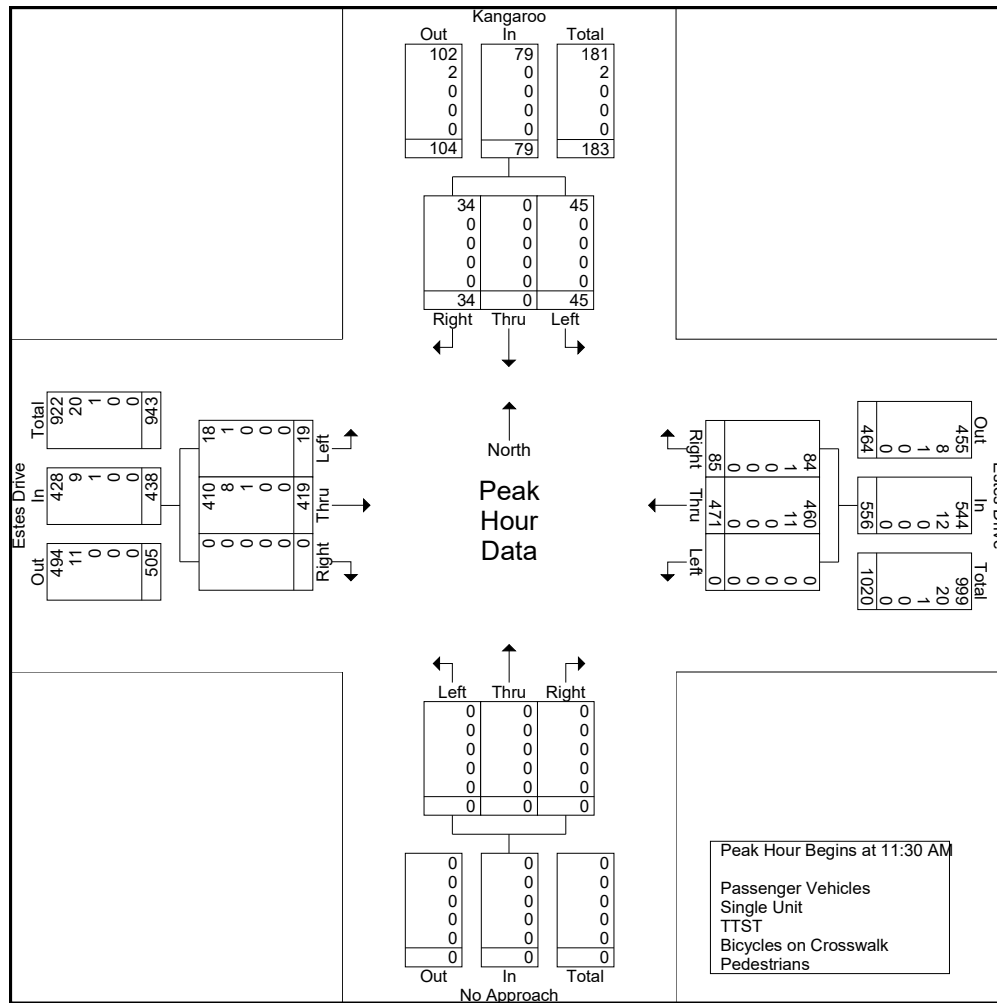
File Name : Estes@Kangaroo

Site Code :

Start Date : 11/21/2019

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	Kangaroo Southbound				Estes Drive Westbound				No Approach Northbound				Estes Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30 AM																	
11:30 AM	8	0	8	16	0	116	23	139	0	0	0	0	2	100	0	102	257
11:45 AM	7	0	10	17	0	141	12	153	0	0	0	0	5	101	0	106	276
12:00 PM	14	0	8	22	0	106	32	138	0	0	0	0	3	110	0	113	273
12:15 PM	16	0	8	24	0	108	18	126	0	0	0	0	9	108	0	117	267
Total Volume	45	0	34	79	0	471	85	556	0	0	0	0	19	419	0	438	1073
% App. Total	57	0	43		0	84.7	15.3		0	0	0		4.3	95.7	0		
PHF	.703	.000	.850	.823	.000	.835	.664	.908	.000	.000	.000	.000	.528	.952	.000	.936	.972
Passenger Vehicles	45	0	34	79	0	460	84	544	0	0	0	0	18	410	0	428	1051
% Passenger Vehicles	100	0	100	100	0	97.7	98.8	97.8	0	0	0	0	94.7	97.9	0	97.7	97.9
Single Unit	0	0	0	0	0	11	1	12	0	0	0	0	1	8	0	9	21
% Single Unit	0	0	0	0	0	2.3	1.2	2.2	0	0	0	0	5.3	1.9	0	2.1	2.0
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0.2	0	0.2	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

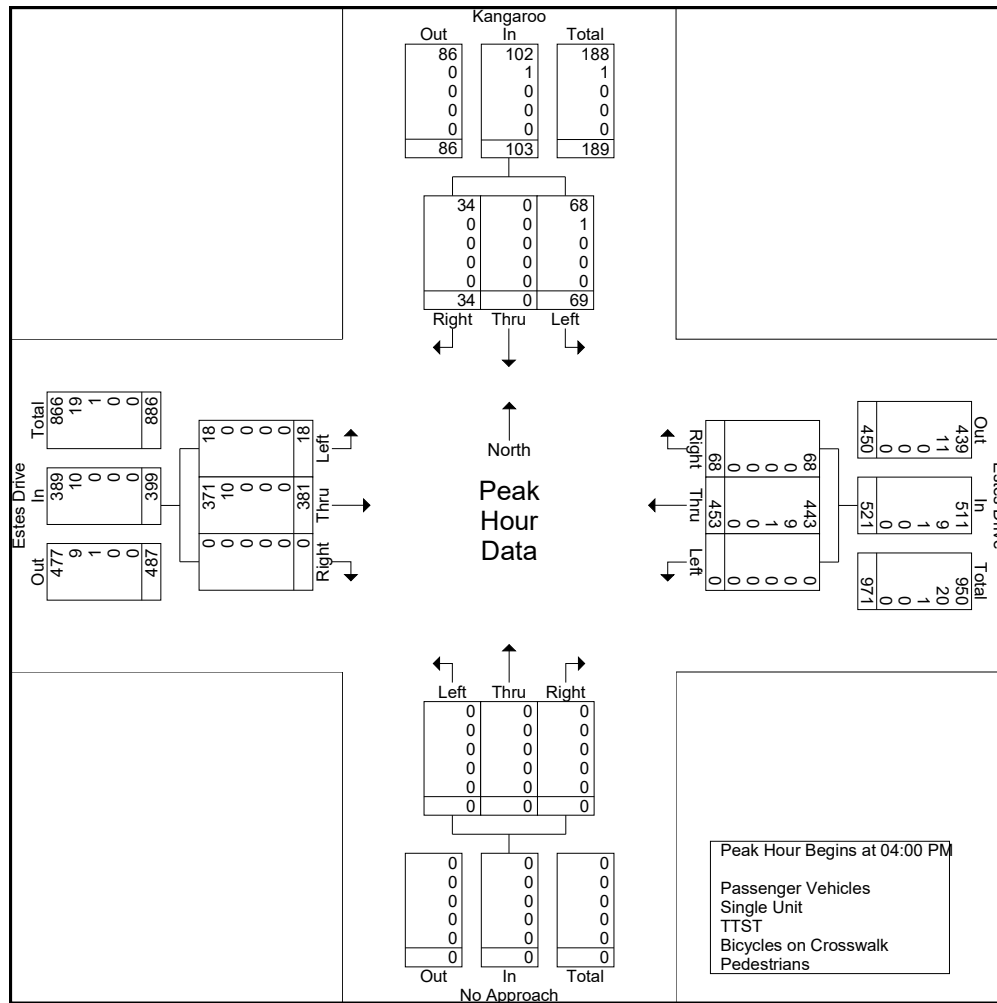
File Name : Estes@Kangaroo

Site Code :

Start Date : 11/21/2019

Page No : 4

	Kangaroo Southbound				Estes Drive Westbound				No Approach Northbound				Estes Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	21	0	12	33	0	116	18	134	0	0	0	0	4	104	0	108	275
04:15 PM	19	0	8	27	0	118	17	135	0	0	0	0	9	88	0	97	259
04:30 PM	15	0	7	22	0	93	16	109	0	0	0	0	2	97	0	99	230
04:45 PM	14	0	7	21	0	126	17	143	0	0	0	0	3	92	0	95	259
Total Volume	69	0	34	103	0	453	68	521	0	0	0	0	18	381	0	399	1023
% App. Total	67	0	33		0	86.9	13.1		0	0	0		4.5	95.5	0		
PHF	.821	.000	.708	.780	.000	.899	.944	.911	.000	.000	.000	.000	.500	.916	.000	.924	.930
Passenger Vehicles	68	0	34	102	0	443	68	511	0	0	0	0	18	371	0	389	1002
% Passenger Vehicles	98.6	0	100	99.0	0	97.8	100	98.1	0	0	0	0	100	97.4	0	97.5	97.9
Single Unit	1	0	0	1	0	9	0	9	0	0	0	0	0	10	0	10	20
% Single Unit	1.4	0	0	1.0	0	2.0	0	1.7	0	0	0	0	0	2.6	0	2.5	2.0
TTST	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% TTST	0	0	0	0	0	0.2	0	0.2	0	0	0	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Estes@University-Brookwood
Site Code :
Start Date : 11/21/2019
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Groups Printed- Passenger Vehicles - Single Unit - TTST - Bicycles on Crosswalk - Pedestrians

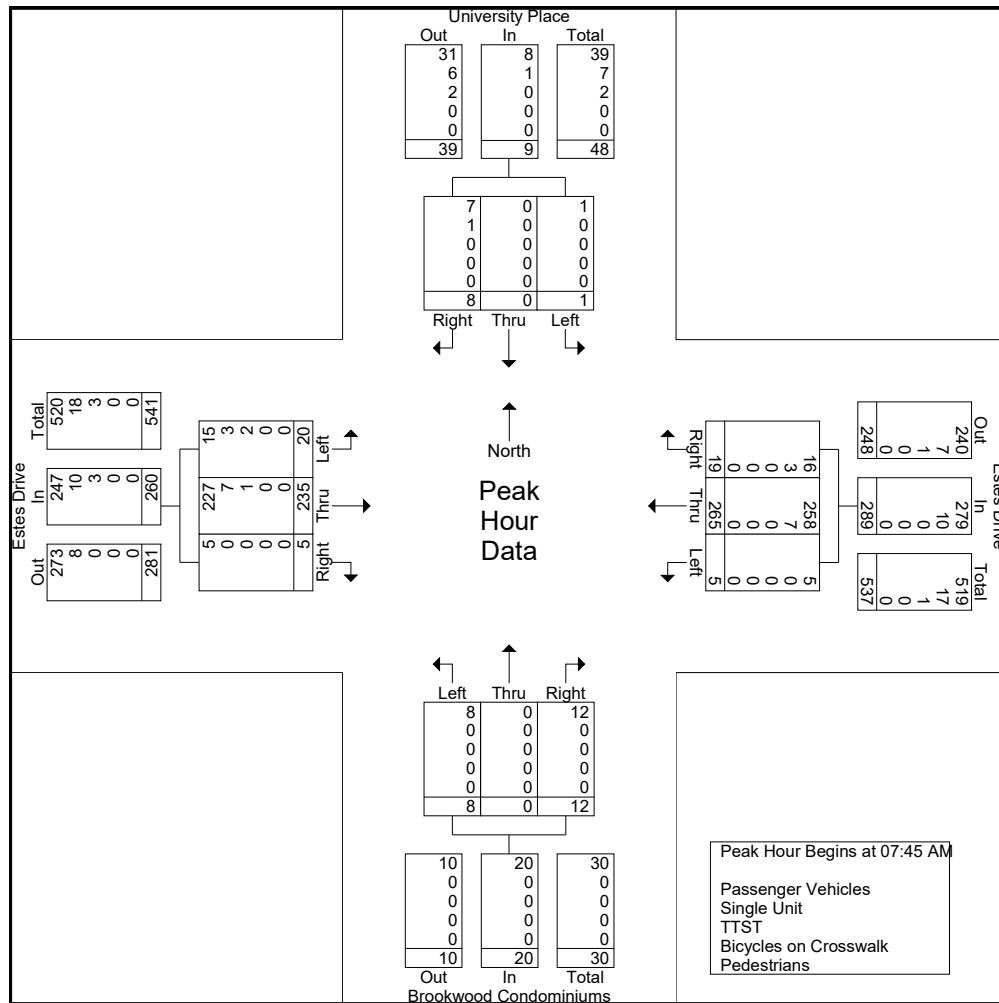
	University Place Southbound				Estes Drive Westbound				Brookwood Condominiums Northbound				Estes Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	0	0	5	1	0	32	2	0	0	0	3	1	3	44	0	1	3	89	92
07:15 AM	0	0	1	0	1	51	3	0	0	0	0	1	0	44	0	0	1	100	101
07:30 AM	2	0	0	0	0	57	1	0	1	0	1	0	3	73	0	0	0	138	138
07:45 AM	0	0	4	0	1	81	5	0	4	0	2	0	5	61	0	0	0	163	163
Total	2	0	10	1	2	221	11	0	5	0	6	2	11	222	0	1	4	490	494
08:00 AM	0	0	1	0	0	55	4	0	1	0	3	0	6	54	2	0	0	126	126
08:15 AM	1	0	1	0	0	58	4	0	2	0	4	0	6	64	1	0	0	141	141
08:30 AM	0	0	2	1	4	71	6	0	1	0	3	2	3	56	2	1	4	148	152
08:45 AM	1	0	3	0	1	73	3	0	1	0	2	0	7	64	1	1	1	156	157
Total	2	0	7	1	5	257	17	0	5	0	12	2	22	238	6	2	5	571	576
*** BREAK ***																			
11:00 AM	7	0	11	0	3	66	10	0	1	0	2	0	12	73	1	0	0	186	186
11:15 AM	10	0	10	0	0	86	13	0	0	1	1	0	17	78	0	0	0	216	216
11:30 AM	9	0	7	0	0	74	22	0	0	0	0	0	16	75	1	0	0	204	204
11:45 AM	6	0	11	0	2	91	22	0	3	0	2	0	22	80	2	0	0	241	241
Total	32	0	39	0	5	317	67	0	4	1	5	0	67	306	4	0	0	847	847
12:00 PM	11	0	7	1	2	69	15	0	0	0	0	1	17	74	1	0	2	196	198
12:15 PM	18	0	17	1	2	81	17	0	0	0	0	0	14	77	1	0	1	227	228
12:30 PM	9	2	16	0	3	70	10	1	2	0	3	0	16	67	1	0	1	199	200
12:45 PM	11	0	8	0	0	90	17	0	3	0	2	0	16	76	2	0	0	225	225
Total	49	2	48	2	7	310	59	1	5	0	5	1	63	294	5	0	4	847	851
*** BREAK ***																			
04:00 PM	9	0	8	1	1	93	11	0	0	0	2	0	9	84	0	0	1	217	218
04:15 PM	10	0	7	1	2	86	20	0	1	0	1	1	10	73	1	0	2	211	213
04:30 PM	9	0	10	3	2	79	7	0	1	0	2	0	10	85	0	0	3	205	208
04:45 PM	10	0	13	1	2	82	21	1	0	0	2	1	14	72	0	0	3	216	219
Total	38	0	38	6	7	340	59	1	2	0	7	2	43	314	1	0	9	849	858
05:00 PM	9	0	13	4	3	78	13	1	1	0	2	0	16	82	1	0	5	218	223
05:15 PM	7	0	10	1	0	103	20	0	0	0	0	4	15	73	0	2	7	228	235
05:30 PM	7	0	12	0	0	76	20	0	2	1	1	0	14	60	2	0	0	195	195
05:45 PM	12	0	9	3	3	94	20	0	0	0	1	0	12	51	0	0	3	202	205
Total	35	0	44	8	6	351	73	1	3	1	4	4	57	266	3	2	15	843	858
Grand Total	158	2	186	18	32	1796	286	3	24	2	39	11	263	1640	19	5	37	4447	4484
Apprch %	45.7	0.6	53.8		1.5	85	13.5		36.9	3.1	60		13.7	85.3	1				
Total %	3.6	0	4.2		0.7	40.4	6.4		0.5	0	0.9		5.9	36.9	0.4		0.8	99.2	
Passenger Vehicles	156	1	180		32	1758	275		24	2	37		241	1585	17		0	0	4308
% Passenger Vehicles	98.7	50	96.8	0	100	97.9	96.2	0	100	100	94.9	0	91.6	96.6	89.5	0	0	0	96.1
Single Unit	2	1	6		0	36	11		0	0	2		20	50	2		0	0	130
% Single Unit	1.3	50	3.2	0	0	2	3.8	0	0	0	5.1	0	7.6	3	10.5	0	0	0	2.9
TTST	0	0	0		0	2	0		0	0	0		2	5	0		0	0	9
% TTST	0	0	0	0	0	0.1	0	0	0	0	0	0	0.8	0.3	0	0	0	0	0.2
Bicycles on Crosswalk	0	0	0		0	0	0		0	0	0		0	0	0		0	0	2
% Bicycles on Crosswalk	0	0	0	11.1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	0	35
% Pedestrians	0	0	0	88.9	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0.8

VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Estes@University-Brookwood
Site Code :
Start Date : 11/21/2019
Page No : 2

	University Place Southbound				Estes Drive Westbound				Brookwood Condominiums Northbound				Estes Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	4	4	1	81	5	87	4	0	2	6	5	61	0	66	163
08:00 AM	0	0	1	1	0	55	4	59	1	0	3	4	6	54	2	62	126
08:15 AM	1	0	1	2	0	58	4	62	2	0	4	6	6	64	1	71	141
08:30 AM	0	0	2	2	4	71	6	81	1	0	3	4	3	56	2	61	148
Total Volume	1	0	8	9	5	265	19	289	8	0	12	20	20	235	5	260	578
% App. Total	11.1	0	88.9		1.7	91.7	6.6		40	0	60		7.7	90.4	1.9		
PHF	.250	.000	.500	.563	.313	.818	.792	.830	.500	.000	.750	.833	.833	.918	.625	.915	.887
Passenger Vehicles	1	0	7	8	5	258	16	279	8	0	12	20	15	227	5	247	554
% Passenger Vehicles	100	0	87.5	88.9	100	97.4	84.2	96.5	100	0	100	100	75.0	96.6	100	95.0	95.8
Single Unit	0	0	1	1	0	7	3	10	0	0	0	0	3	7	0	10	21
% Single Unit	0	0	12.5	11.1	0	2.6	15.8	3.5	0	0	0	0	15.0	3.0	0	3.8	3.6
TTST	0	0	0	0	0	0	0	0	0	0	0	0	2	1	0	3	3
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	10.0	0.4	0	1.2	0.5
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

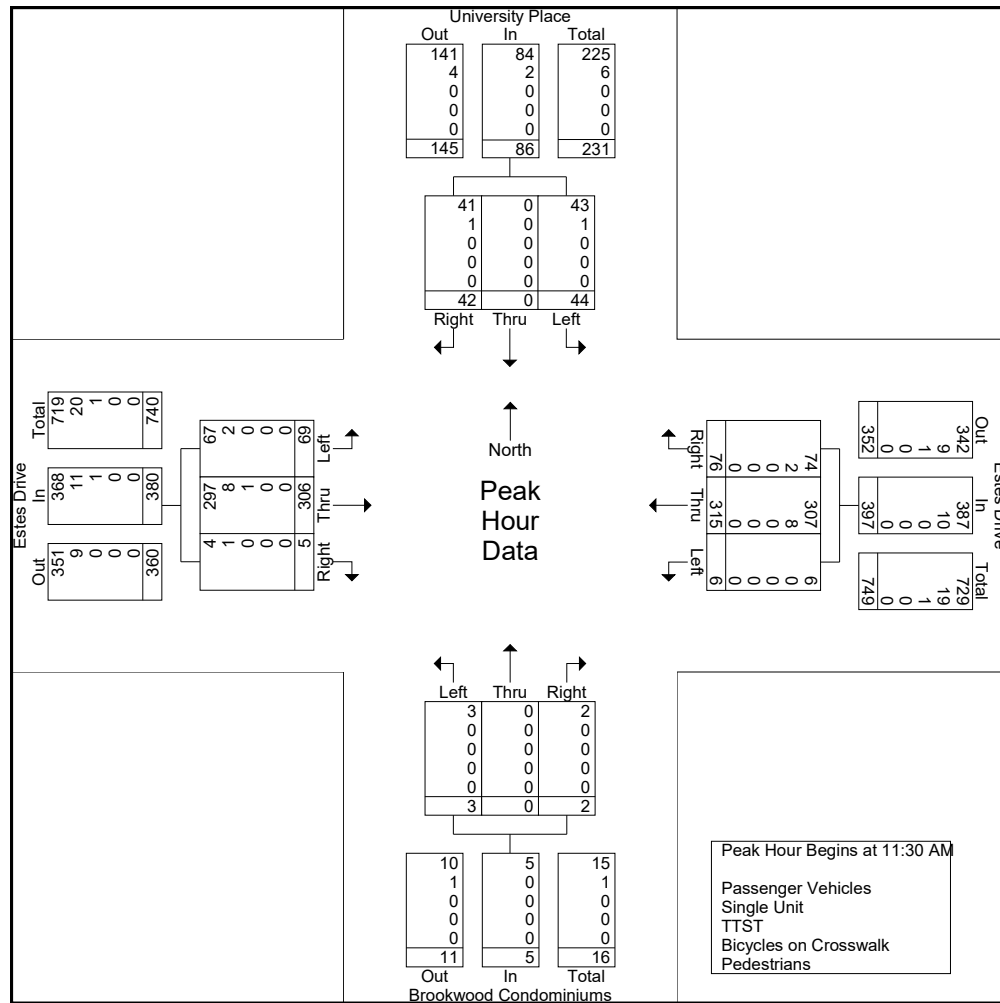
File Name : Estes@University-Brookwood

Site Code :

Start Date : 11/21/2019

Page No : 3

	University Place Southbound				Estes Drive Westbound				Brookwood Condominiums Northbound				Estes Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30 AM																	
11:30 AM	9	0	7	16	0	74	22	96	0	0	0	0	16	75	1	92	204
11:45 AM	6	0	11	17	2	91	22	115	3	0	2	5	22	80	2	104	241
12:00 PM	11	0	7	18	2	69	15	86	0	0	0	0	17	74	1	92	196
12:15 PM	18	0	17	35	2	81	17	100	0	0	0	0	14	77	1	92	227
Total Volume	44	0	42	86	6	315	76	397	3	0	2	5	69	306	5	380	868
% App. Total	51.2	0	48.8		1.5	79.3	19.1		60	0	40		18.2	80.5	1.3		
PHF	.611	.000	.618	.614	.750	.865	.864	.863	.250	.000	.250	.250	.784	.956	.625	.913	.900
Passenger Vehicles	43	0	41	84	6	307	74	387	3	0	2	5	67	297	4	368	844
% Passenger Vehicles	97.7	0	97.6	97.7	100	97.5	97.4	97.5	100	0	100	100	97.1	97.1	80.0	96.8	97.2
Single Unit	1	0	1	2	0	8	2	10	0	0	0	0	2	8	1	11	23
% Single Unit	2.3	0	2.4	2.3	0	2.5	2.6	2.5	0	0	0	0	2.9	2.6	20.0	2.9	2.6
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0.3	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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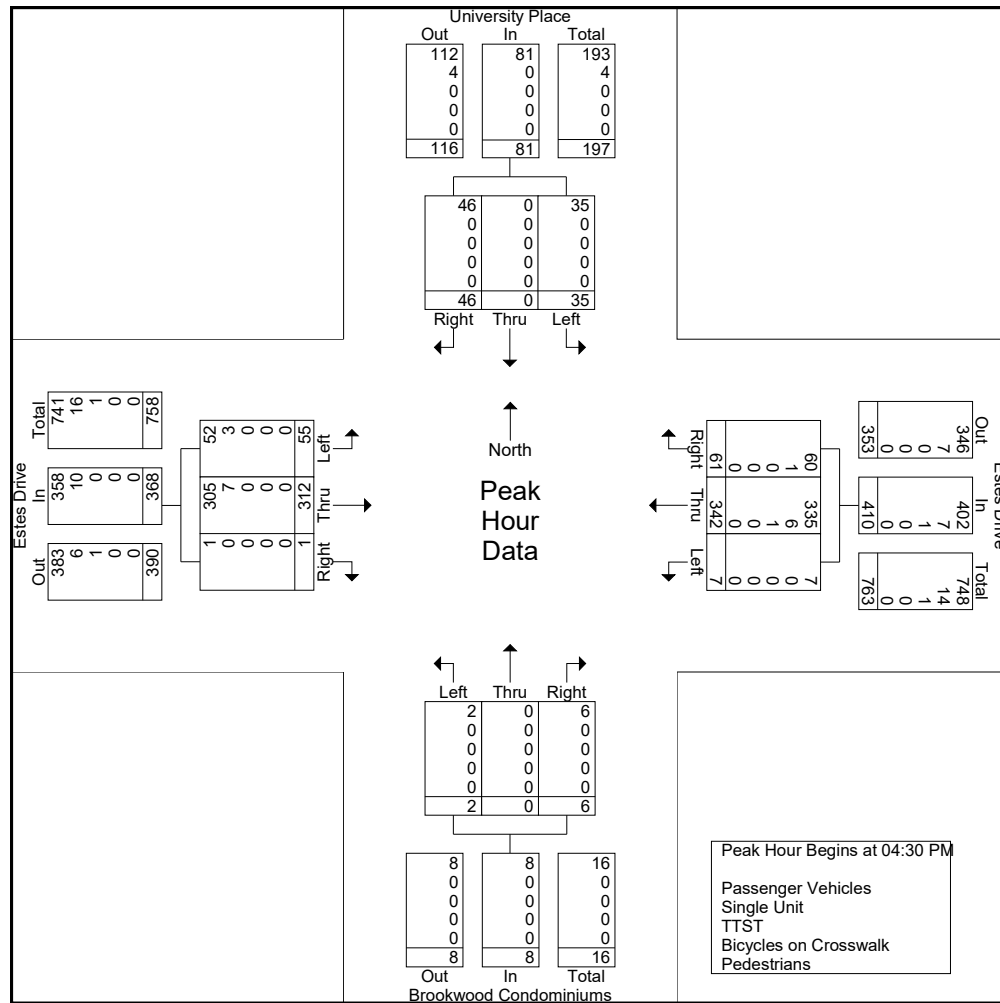
File Name : Estes@University-Brookwood

Site Code :

Start Date : 11/21/2019

Page No : 4

	University Place Southbound				Estes Drive Westbound				Brookwood Condominiums Northbound				Estes Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	9	0	10	19	2	79	7	88	1	0	2	3	10	85	0	95	205
04:45 PM	10	0	13	23	2	82	21	105	0	0	2	2	14	72	0	86	216
05:00 PM	9	0	13	22	3	78	13	94	1	0	2	3	16	82	1	99	218
05:15 PM	7	0	10	17	0	103	20	123	0	0	0	0	15	73	0	88	228
Total Volume	35	0	46	81	7	342	61	410	2	0	6	8	55	312	1	368	867
% App. Total	43.2	0	56.8		1.7	83.4	14.9		25	0	75		14.9	84.8	0.3		
PHF	.875	.000	.885	.880	.583	.830	.726	.833	.500	.000	.750	.667	.859	.918	.250	.929	.951
Passenger Vehicles	35	0	46	81	7	335	60	402	2	0	6	8	52	305	1	358	849
% Passenger Vehicles	100	0	100	100	100	98.0	98.4	98.0	100	0	100	100	94.5	97.8	100	97.3	97.9
Single Unit	0	0	0	0	0	6	1	7	0	0	0	0	3	7	0	10	17
% Single Unit	0	0	0	0	0	1.8	1.6	1.7	0	0	0	0	5.5	2.2	0	2.7	2.0
TTST	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% TTST	0	0	0	0	0	0.3	0	0.2	0	0	0	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Estes@UniversityPlace
Site Code :
Start Date : 11/21/2019
Page No : 1

Groups Printed- Passenger Vehicles - Single Unit - TTST - Bicycles on Crosswalk - Pedestrians

	University Place Southbound				Estes Drive Westbound				No Approach Northbound				Estes Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	3	0	1	1	0	33	10	0	0	0	0	1	2	48	0	0	2	97	99
07:15 AM	3	0	1	0	0	56	4	0	0	0	0	1	0	44	0	0	1	108	109
07:30 AM	1	0	0	0	0	57	7	0	0	0	0	0	0	75	0	0	0	140	140
07:45 AM	0	0	2	1	0	84	17	0	0	0	0	0	0	63	0	0	1	166	167
Total	7	0	4	2	0	230	38	0	0	0	0	2	2	230	0	0	4	511	515
08:00 AM	2	0	1	0	0	57	17	0	0	0	0	0	2	58	0	0	0	137	137
08:15 AM	4	0	0	0	0	69	12	0	0	0	0	0	1	69	0	0	0	155	155
08:30 AM	5	0	1	1	0	72	17	0	0	0	0	0	2	57	0	0	1	154	155
08:45 AM	4	0	1	0	0	77	18	0	0	0	0	0	3	64	0	0	0	167	167
Total	15	0	3	1	0	275	64	0	0	0	0	0	8	248	0	0	1	613	614
*** BREAK ***																			
11:00 AM	24	0	10	0	0	63	30	0	0	0	0	0	6	79	0	0	0	212	212
11:15 AM	21	0	11	0	0	88	23	0	0	0	0	0	4	82	0	0	0	229	229
11:30 AM	18	0	8	0	0	91	33	0	0	0	0	0	2	83	0	0	0	235	235
11:45 AM	25	0	12	0	0	101	48	0	0	0	0	0	6	84	0	0	0	276	276
Total	88	0	41	0	0	343	134	0	0	0	0	0	18	328	0	0	0	952	952
12:00 PM	32	0	6	1	0	80	36	0	0	0	0	0	3	81	0	0	1	238	239
12:15 PM	20	0	13	0	0	85	32	0	0	0	0	0	2	97	0	0	0	249	249
12:30 PM	19	0	3	0	0	80	27	0	0	0	0	0	5	76	0	0	0	210	210
12:45 PM	21	0	14	0	0	92	29	0	0	0	0	0	5	91	0	0	0	252	252
Total	92	0	36	1	0	337	124	0	0	0	0	0	15	345	0	0	1	949	950
*** BREAK ***																			
04:00 PM	11	0	11	1	0	96	30	0	0	0	0	0	9	94	0	0	1	251	252
04:15 PM	18	0	9	1	0	102	25	0	0	0	0	0	6	81	0	0	1	241	242
04:30 PM	12	0	8	3	0	79	22	0	0	0	0	0	4	87	0	0	3	212	215
04:45 PM	15	0	4	2	0	99	33	0	0	0	0	0	5	81	0	0	2	237	239
Total	56	0	32	7	0	376	110	0	0	0	0	0	24	343	0	0	7	941	948
05:00 PM	18	0	1	2	0	97	28	0	0	0	0	0	9	81	0	0	2	234	236
05:15 PM	20	0	10	1	0	114	34	0	0	0	0	0	3	80	0	1	2	261	263
05:30 PM	7	0	7	1	0	88	24	0	0	0	0	0	3	65	0	0	1	194	195
05:45 PM	12	0	9	3	0	109	28	0	0	0	0	0	1	63	0	0	3	222	225
Total	57	0	27	7	0	408	114	0	0	0	0	0	16	289	0	1	8	911	919
Grand Total	315	0	143	18	0	1969	584	0	0	0	0	2	83	1783	0	1	21	4877	4898
Apprch %	68.8	0	31.2		0	77.1	22.9		0	0	0		4.4	95.6	0				
Total %	6.5	0	2.9		0	40.4	12		0	0	0		1.7	36.6	0		0.4	99.6	
Passenger Vehicles	310	0	140		0	1926	575		0	0	0		82	1726	0		0	0	4759
% Passenger Vehicles	98.4	0	97.9	0	0	97.8	98.5	0	0	0	0	0	98.8	96.8	0	0	0	0	97.2
Single Unit	4	0	3		0	41	9		0	0	0		1	52	0		0	0	110
% Single Unit	1.3	0	2.1	0	0	2.1	1.5	0	0	0	0	0	1.2	2.9	0	0	0	0	2.2
TTST	1	0	0		0	2	0		0	0	0		0	5	0		0	0	8
% TTST	0.3	0	0	0	0	0.1	0	0	0	0	0	0	0	0.3	0	0	0	0	0.2
Bicycles on Crosswalk	0	0	0		0	0	0		0	0	0		0	0	0		0	0	3
% Bicycles on Crosswalk	0	0	0	16.7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	0	18
% Pedestrians	0	0	0	83.3	0	0	0	0	0	0	0	100	0	0	0	100	0	0	0.4

File Name : Estes@UniversityPlace
Site Code :
Start Date : 11/21/2019
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University Place

Out	In	Total
70	17	87
2	0	2
0	1	1
0	0	0
0	0	0
0	0	0
72	18	90

Estes Drive

Out	In	Total
269	245	514
9	11	20
0	0	0
0	0	0
0	0	0
278	256	534

University Place

Right	Thru	Left
3	0	14
0	0	0
0	0	1
0	0	0
0	0	0
3	0	15

Estes Drive

Right	Thru	Left
64	275	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

University Place

Out	In	Total
251	328	579
11	11	22
1	0	1
0	0	0
0	0	0
263	339	602

University Place

Left	Thru	Right
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Estes Drive

Out	In	Total
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0
0	0	0

Peak Hour Data

North

Peak Hour Begins at 08:00 AM

Passenger Vehicles
Single Unit
TTST
Bicycles on Crosswalk
Pedestrians

VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

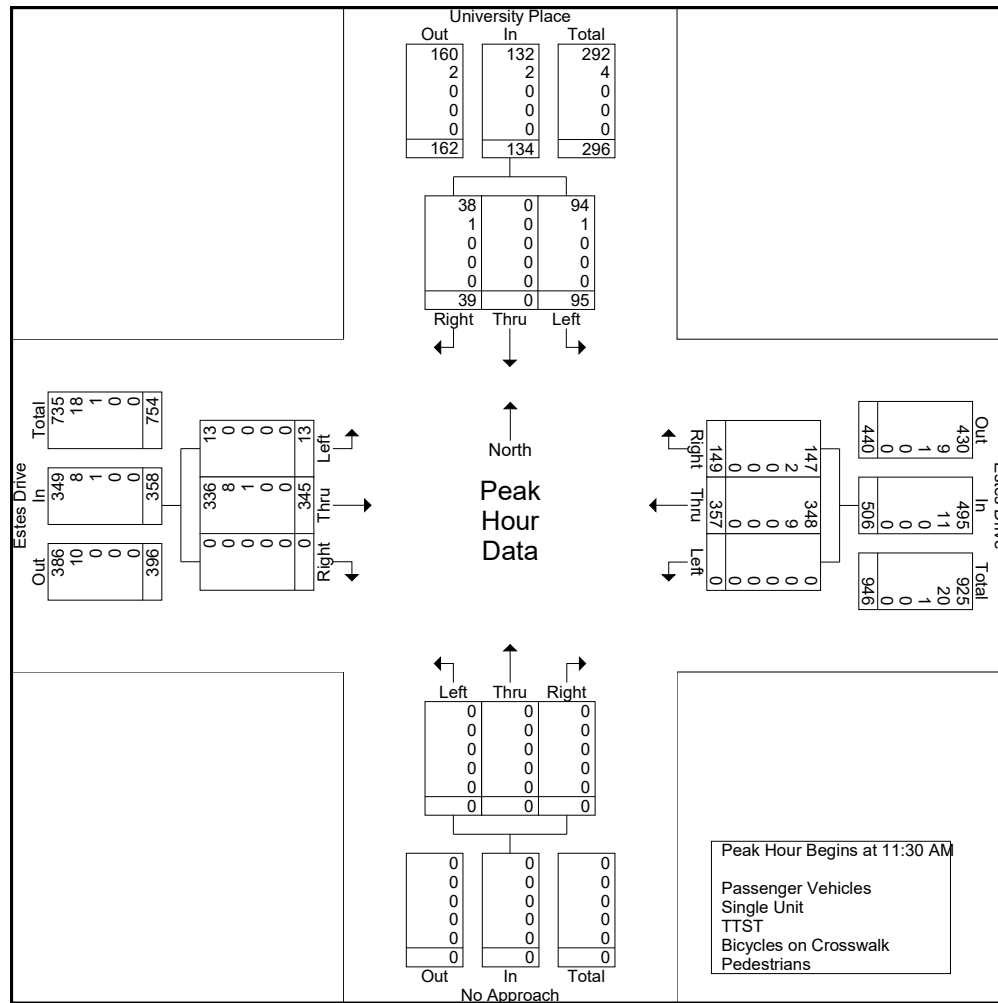
File Name : Estes@UniversityPlace

Site Code :

Start Date : 11/21/2019

Page No : 3

	University Place Southbound				Estes Drive Westbound				No Approach Northbound				Estes Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:30 AM																	
11:30 AM	18	0	8	26	0	91	33	124	0	0	0	0	2	83	0	85	235
11:45 AM	25	0	12	37	0	101	48	149	0	0	0	0	6	84	0	90	276
12:00 PM	32	0	6	38	0	80	36	116	0	0	0	0	3	81	0	84	238
12:15 PM	20	0	13	33	0	85	32	117	0	0	0	0	2	97	0	99	249
Total Volume	95	0	39	134	0	357	149	506	0	0	0	0	13	345	0	358	998
% App. Total	70.9	0	29.1		0	70.6	29.4		0	0	0		3.6	96.4	0		
PHF	.742	.000	.750	.882	.000	.884	.776	.849	.000	.000	.000	.000	.542	.889	.000	.904	.904
Passenger Vehicles	94	0	38	132	0	348	147	495	0	0	0	0	13	336	0	349	976
% Passenger Vehicles	98.9	0	97.4	98.5	0	97.5	98.7	97.8	0	0	0	0	100	97.4	0	97.5	97.8
Single Unit	1	0	1	2	0	9	2	11	0	0	0	0	0	8	0	8	21
% Single Unit	1.1	0	2.6	1.5	0	2.5	1.3	2.2	0	0	0	0	0	2.3	0	2.2	2.1
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	1
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0.3	0	0.3	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



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Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

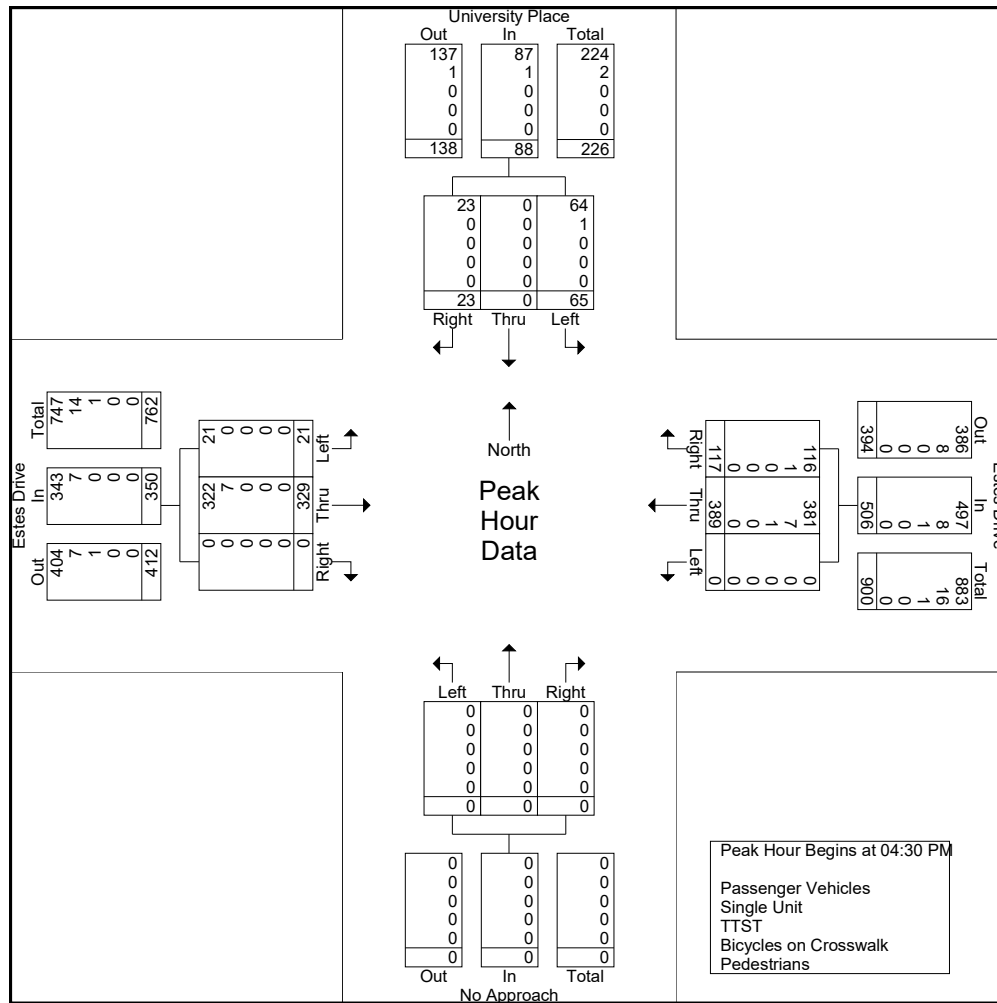
File Name : Estes@UniversityPlace

Site Code :

Start Date : 11/21/2019

Page No : 4

	University Place Southbound				Estes Drive Westbound				No Approach Northbound				Estes Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:30 PM																	
04:30 PM	12	0	8	20	0	79	22	101	0	0	0	0	4	87	0	91	212
04:45 PM	15	0	4	19	0	99	33	132	0	0	0	0	5	81	0	86	237
05:00 PM	18	0	1	19	0	97	28	125	0	0	0	0	9	81	0	90	234
05:15 PM	20	0	10	30	0	114	34	148	0	0	0	0	3	80	0	83	261
Total Volume	65	0	23	88	0	389	117	506	0	0	0	0	21	329	0	350	944
% App. Total	73.9	0	26.1		0	76.9	23.1		0	0	0		6	94	0		
PHF	.813	.000	.575	.733	.000	.853	.860	.855	.000	.000	.000	.000	.583	.945	.000	.962	.904
Passenger Vehicles	64	0	23	87	0	381	116	497	0	0	0	0	21	322	0	343	927
% Passenger Vehicles	98.5	0	100	98.9	0	97.9	99.1	98.2	0	0	0	0	100	97.9	0	98.0	98.2
Single Unit	1	0	0	1	0	7	1	8	0	0	0	0	0	7	0	7	16
% Single Unit	1.5	0	0	1.1	0	1.8	0.9	1.6	0	0	0	0	0	2.1	0	2.0	1.7
TTST	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
% TTST	0	0	0	0	0	0.3	0	0.2	0	0	0	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Estes@Willow-Shepherd
Site Code :
Start Date : 11/21/2019
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Groups Printed- Passenger Vehicles - Single Unit - TTST - Bicycles on Crosswalk - Pedestrians

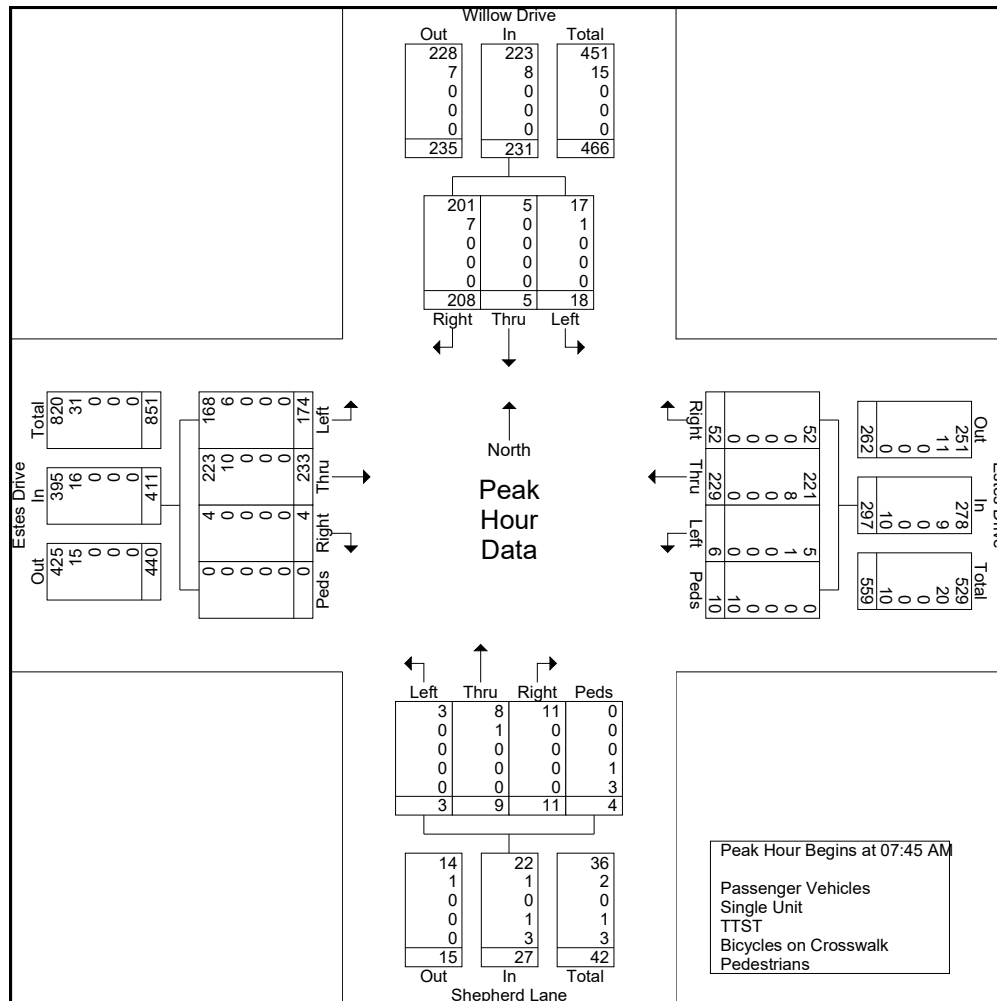
	Willow Drive Southbound				Estes Drive Westbound				Shepherd Lane Northbound				Estes Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	6	1	21	0	4	30	3	2	2	2	3	1	20	40	0	0	0	135	135
07:15 AM	6	1	22	0	0	47	6	1	1	2	4	1	20	35	2	0	0	148	148
07:30 AM	7	0	46	1	0	44	6	0	0	3	4	0	28	63	0	0	1	201	202
07:45 AM	4	0	52	2	1	77	15	2	1	4	3	0	41	64	0	0	2	264	266
Total	23	2	141	3	5	198	30	5	4	11	14	2	109	202	2	0	3	748	751
08:00 AM	3	2	57	1	3	47	10	5	1	3	2	4	45	53	1	0	1	236	237
08:15 AM	5	1	55	0	1	42	12	2	1	2	3	0	52	63	2	0	0	241	241
08:30 AM	6	2	44	1	1	63	15	1	0	0	3	0	36	53	1	0	1	225	226
08:45 AM	5	0	45	2	0	66	10	7	3	3	4	0	44	60	3	0	2	250	252
Total	19	5	201	4	5	218	47	15	5	8	12	4	177	229	7	0	4	952	956
*** BREAK ***																			
11:00 AM	8	4	54	1	3	67	9	3	3	1	5	2	59	73	2	0	1	293	294
11:15 AM	15	1	61	0	1	80	16	2	2	0	6	1	48	76	2	0	0	311	311
11:30 AM	10	3	58	0	3	65	15	1	3	3	4	0	56	78	2	0	0	301	301
11:45 AM	15	1	82	0	2	85	13	0	1	2	1	0	69	88	0	0	0	359	359
Total	48	9	255	1	9	297	53	6	9	6	16	3	232	315	6	0	1	1264	1265
12:00 PM	25	4	73	3	0	64	11	4	0	0	0	0	59	65	2	0	3	307	310
12:15 PM	14	1	57	2	1	83	11	5	1	2	2	2	50	79	2	0	2	310	312
12:30 PM	12	2	76	0	3	62	15	1	3	5	1	0	45	78	5	0	0	308	308
12:45 PM	10	4	74	1	1	78	21	1	2	1	3	2	47	82	0	0	1	326	327
Total	61	11	280	6	5	287	58	11	6	8	6	4	201	304	9	0	6	1251	1257
*** BREAK ***																			
04:00 PM	15	2	89	0	4	86	9	6	1	1	3	5	57	74	1	0	0	353	353
04:15 PM	10	2	89	0	5	85	6	2	5	2	0	2	71	79	1	0	0	359	359
04:30 PM	20	5	93	0	0	86	8	1	2	1	4	0	65	68	5	0	0	358	358
04:45 PM	10	3	80	0	4	80	6	4	2	3	1	4	58	75	0	0	0	330	330
Total	55	12	351	0	13	337	29	13	10	7	8	11	251	296	7	0	0	1400	1400
05:00 PM	22	0	94	0	2	83	7	5	0	1	1	2	67	81	2	0	0	367	367
05:15 PM	16	4	81	2	1	109	9	6	2	1	4	5	78	67	0	0	2	383	385
05:30 PM	17	1	97	2	5	79	8	2	2	3	1	2	90	55	1	0	2	363	365
05:45 PM	6	2	69	3	4	87	12	6	4	0	1	1	76	55	2	0	3	325	328
Total	61	7	341	7	12	358	36	19	8	5	7	10	311	258	5	0	7	1438	1445
Grand Total	267	46	1569	21	49	1695	253	69	42	45	63	34	1281	1604	36	0	21	7053	7074
Apprch %	14.2	2.4	83.4		2.4	82	12.2	3.3	22.8	24.5	34.2	18.5	43.9	54.9	1.2	0			
Total %	3.8	0.7	22.2		0.7	24	3.6	1	0.6	0.6	0.9	0.5	18.2	22.7	0.5	0	0.3	99.7	
Passenger Vehicles	249	45	1516		46	1655	251	0	41	44	62	0	1258	1549	36	0	0	0	6752
% Passenger Vehicles	93.3	97.8	96.6	0	93.9	97.6	99.2	0	97.6	97.8	98.4	0	98.2	96.6	100	0	0	0	95.4
Single Unit	17	1	51		3	40	2	0	1	1	1	0	22	51	0	0	0	0	190
% Single Unit	6.4	2.2	3.3	0	6.1	2.4	0.8	0	2.4	2.2	1.6	0	1.7	3.2	0	0	0	0	2.7
TTST	1	0	2		0	0	0	0	0	0	0	0	1	4	0	0	0	0	8
% TTST	0.4	0	0.1	0	0	0	0	0	0	0	0	0	0.1	0.2	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0		0	0	0	7	0	0	0	2	0	0	0	0	0	0	10
% Bicycles on Crosswalk	0	0	0	4.8	0	0	0	10.1	0	0	0	5.9	0	0	0	0	0	0	0.1
Pedestrians	0	0	0		0	0	0	62	0	0	0	32	0	0	0	0	0	0	114
% Pedestrians	0	0	0	95.2	0	0	0	89.9	0	0	0	94.1	0	0	0	0	0	0	1.6

VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
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File Name : Estes@Willow-Shepherd
Site Code :
Start Date : 11/21/2019
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	Willow Drive Southbound				Estes Drive Westbound					Shepherd Lane Northbound					Estes Drive Eastbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 07:45 AM																				
07:45 AM	4	0	52	56	1	77	15	2	95	1	4	3	0	8	41	64	0	0	105	264
08:00 AM	3	2	57	62	3	47	10	5	65	1	3	2	4	10	45	53	1	0	99	236
08:15 AM	5	1	55	61	1	42	12	2	57	1	2	3	0	6	52	63	2	0	117	241
08:30 AM	6	2	44	52	1	63	15	1	80	0	0	3	0	3	36	53	1	0	90	225
Total Volume	18	5	208	231	6	229	52	10	297	3	9	11	4	27	174	233	4	0	411	966
% App. Total	7.8	2.2	90		2	77.1	17.5	3.4		11.1	33.3	40.7	14.8		42.3	56.7	1	0		
PHF	.750	.625	.912	.931	.500	.744	.867	.500	.782	.750	.563	.917	.250	.675	.837	.910	.500	.000	.878	.915
Passenger Vehicles	17	5	201	223	5	221	52	0	278	3	8	11	0	22	168	223	4	0	395	918
% Passenger Vehicles																				
Single Unit	1	0	7	8	1	8	0	0	9	0	1	0	0	1	6	10	0	0	16	34
% Single Unit	5.6	0	3.4	3.5	16.7	3.5	0	0	3.0	0	11.1	0	0	3.7	3.4	4.3	0	0	3.9	3.5
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	25.0	3.7	0	0	0	0	0	0.1
Pedestrians	0	0	0	0	0	0	0	10	10	0	0	0	3	3	0	0	0	0	0	13
% Pedestrians	0	0	0	0	0	0	0	100	3.4	0	0	0	75.0	11.1	0	0	0	0	0	1.3



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

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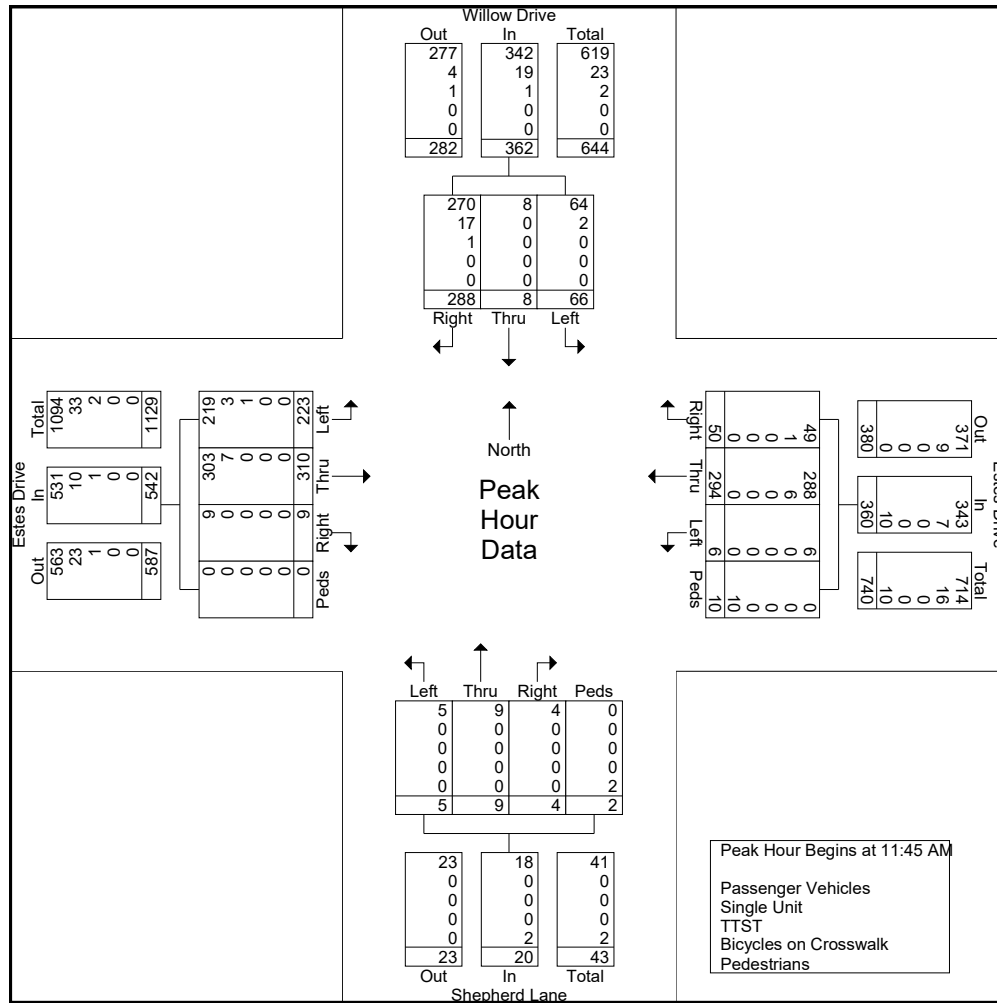
File Name : Estes@Willow-Shepherd

Site Code :

Start Date : 11/21/2019

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	Willow Drive Southbound				Estes Drive Westbound					Shepherd Lane Northbound					Estes Drive Eastbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 11:45 AM																				
11:45 AM	15	1	82	98	2	85	13	0	100	1	2	1	0	4	69	88	0	0	157	359
12:00 PM	25	4	73	102	0	64	11	4	79	0	0	0	0	0	59	65	2	0	126	307
12:15 PM	14	1	57	72	1	83	11	5	100	1	2	2	2	7	50	79	2	0	131	310
12:30 PM	12	2	76	90	3	62	15	1	81	3	5	1	0	9	45	78	5	0	128	308
Total Volume	66	8	288	362	6	294	50	10	360	5	9	4	2	20	223	310	9	0	542	1284
% App. Total	18.2	2.2	79.6		1.7	81.7	13.9	2.8		25	45	20	10		41.1	57.2	1.7	0		
PHF	.660	.500	.878	.887	.500	.865	.833	.500	.900	.417	.450	.500	.250	.556	.808	.881	.450	.000	.863	.894
Passenger Vehicles	64	8	270	342	6	288	49	0	343	5	9	4	0	18	219	303	9	0	531	1234
% Passenger Vehicles																				
Single Unit	2	0	17	19	0	6	1	0	7	0	0	0	0	0	3	7	0	0	10	36
% Single Unit	3.0	0	5.9	5.2	0	2.0	2.0	0	1.9	0	0	0	0	0	1.3	2.3	0	0	1.8	2.8
TTST	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1	0	0	0	1	2
% TTST	0	0	0.3	0.3	0	0	0	0	0	0	0	0	0	0	0.4	0	0	0	0.2	0.2
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	10	10	0	0	0	2	2	0	0	0	0	0	12
% Pedestrians	0	0	0	0	0	0	0	100	2.8	0	0	0	100	10.0	0	0	0	0	0	0.9



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Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

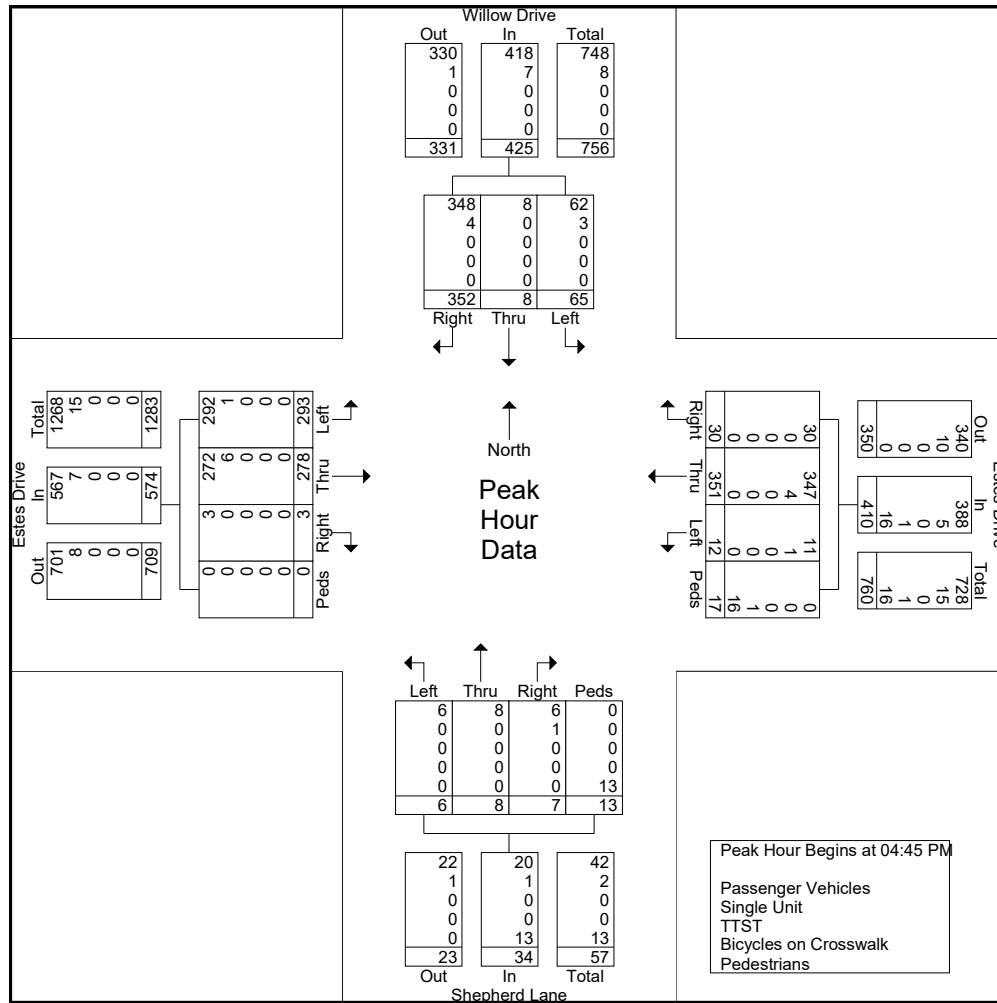
File Name : Estes@Willow-Shepherd

Site Code :

Start Date : 11/21/2019

Page No : 4

	Willow Drive Southbound				Estes Drive Westbound					Shepherd Lane Northbound					Estes Drive Eastbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 04:45 PM																				
04:45 PM	10	3	80	93	4	80	6	4	94	2	3	1	4	10	58	75	0	0	133	330
05:00 PM	22	0	94	116	2	83	7	5	97	0	1	1	2	4	67	81	2	0	150	367
05:15 PM	16	4	81	101	1	109	9	6	125	2	1	4	5	12	78	67	0	0	145	383
05:30 PM	17	1	97	115	5	79	8	2	94	2	3	1	2	8	90	55	1	0	146	363
Total Volume	65	8	352	425	12	351	30	17	410	6	8	7	13	34	293	278	3	0	574	1443
% App. Total	15.3	1.9	82.8		2.9	85.6	7.3	4.1		17.6	23.5	20.6	38.2		51	48.4	0.5	0		
PHF	.739	.500	.907	.916	.600	.805	.833	.708	.820	.750	.667	.438	.650	.708	.814	.858	.375	.000	.957	.942
Passenger Vehicles	62	8	348	418	11	347	30	0	388	6	8	6	0	20	292	272	3	0	567	1393
% Passenger Vehicles																				
Single Unit	3	0	4	7	1	4	0	0	5	0	0	1	0	1	1	6	0	0	7	20
% Single Unit	4.6	0	1.1	1.6	8.3	1.1	0	0	1.2	0	0	14.3	0	2.9	0.3	2.2	0	0	1.2	1.4
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	1
% Bicycles on Crosswalk	0	0	0	0	0	0	0	5.9	0.2	0	0	0	0	0	0	0	0	0	0	0.1
Pedestrians	0	0	0	0	0	0	0	16	16	0	0	0	13	13	0	0	0	0	0	29
% Pedestrians	0	0	0	0	0	0	0	94.1	3.9	0	0	0	100	38.2	0	0	0	0	0	2.0



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Fordham@UniversityPlace
Site Code :
Start Date : 11/21/2019
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Groups Printed- Passenger Vehicles - Single Unit - TTST - Bicycles on Crosswalk - Pedestrians

	Fordham Boulevard Southbound				No Approach Westbound				Fordham Boulevard Northbound				University Place Eastbound				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	0	258	6	0	0	0	0	0	0	266	0	0	0	0	3	0	0	533	533
07:15 AM	0	302	6	0	0	0	0	0	0	311	0	0	0	0	4	0	0	623	623
07:30 AM	0	397	5	0	0	0	0	0	0	337	0	0	0	0	2	0	0	741	741
07:45 AM	0	346	11	0	0	0	0	0	0	365	0	0	0	0	9	1	1	731	732
Total	0	1303	28	0	0	0	0	0	0	1279	0	0	0	0	18	1	1	2628	2629
08:00 AM	0	325	11	0	0	0	0	0	0	350	0	0	0	0	8	0	0	694	694
08:15 AM	0	320	13	0	0	0	0	0	0	346	0	0	0	0	3	0	0	682	682
08:30 AM	0	340	13	0	0	0	0	0	0	394	0	0	0	0	11	0	0	758	758
08:45 AM	0	366	15	0	0	0	0	0	0	323	0	0	0	0	8	0	0	712	712
Total	0	1351	52	0	0	0	0	0	0	1413	0	0	0	0	30	0	0	2846	2846
*** BREAK ***																			
11:00 AM	0	277	14	0	0	0	0	0	0	254	0	0	0	0	9	0	0	554	554
11:15 AM	0	247	20	0	0	0	0	0	0	285	0	0	0	0	20	0	0	572	572
11:30 AM	0	246	13	0	0	0	0	0	0	305	0	0	0	0	24	0	0	588	588
11:45 AM	0	263	24	0	0	0	0	0	0	349	0	0	0	0	27	0	0	663	663
Total	0	1033	71	0	0	0	0	0	0	1193	0	0	0	0	80	0	0	2377	2377
12:00 PM	0	271	18	0	0	0	0	0	0	319	0	0	0	0	17	0	0	625	625
12:15 PM	0	282	22	0	0	0	0	0	0	286	0	0	0	0	26	1	1	616	617
12:30 PM	0	298	34	0	0	0	0	0	0	277	0	0	0	0	20	0	0	629	629
12:45 PM	0	306	14	0	0	0	0	0	0	321	0	0	0	0	39	0	0	680	680
Total	0	1157	88	0	0	0	0	0	0	1203	0	0	0	0	102	1	1	2550	2551
*** BREAK ***																			
04:00 PM	0	324	23	0	0	0	0	0	0	337	0	0	0	0	19	0	0	703	703
04:15 PM	0	360	23	0	0	0	0	0	0	373	0	0	0	0	19	0	0	775	775
04:30 PM	0	289	15	0	0	0	0	0	0	371	0	0	0	0	33	0	0	708	708
04:45 PM	0	303	23	0	0	0	0	0	0	414	0	0	0	0	26	0	0	766	766
Total	0	1276	84	0	0	0	0	0	0	1495	0	0	0	0	97	0	0	2952	2952
05:00 PM	0	280	20	0	0	0	0	0	0	377	0	0	0	0	22	0	0	699	699
05:15 PM	0	279	21	0	0	0	0	0	0	372	0	0	0	0	21	1	1	693	694
05:30 PM	0	316	21	0	0	0	0	1	0	333	0	0	0	0	19	0	1	689	690
05:45 PM	0	271	22	0	0	0	0	0	0	373	0	0	0	0	27	0	0	693	693
Total	0	1146	84	0	0	0	0	1	0	1455	0	0	0	0	89	1	2	2774	2776
Grand Total	0	7266	407	0	0	0	0	1	0	8038	0	0	0	0	416	3	4	16127	16131
Apprch %	0	94.7	5.3		0	0	0		0	100	0		0	0	100				
Total %	0	45.1	2.5		0	0	0		0	49.8	0		0	0	2.6		0	100	
Passenger Vehicles	0	7106	406		0	0	0		0	7875	0		0	0	409		0	0	15796
% Passenger Vehicles	0	97.8	99.8	0	0	0	0	0	0	98	0	0	0	0	98.3	0	0	0	97.9
Single Unit	0	132	1		0	0	0		0	118	0		0	0	7		0	0	258
% Single Unit	0	1.8	0.2	0	0	0	0	0	0	1.5	0	0	0	0	1.7	0	0	0	1.6
TTST	0	28	0		0	0	0		0	45	0		0	0	0		0	0	73
% TTST	0	0.4	0	0	0	0	0	0	0	0.6	0	0	0	0	0	0	0	0	0.5
Bicycles on Crosswalk	0	0	0		0	0	0		0	0	0		0	0	0		0	0	1
% Bicycles on Crosswalk	0	0	0	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	0	3
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	100	0	0	0

File Name : Fordham@UniversityPlace
Site Code :
Start Date : 11/21/2019
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University Place

Out	In	Total
48	30	78
0	1	1
0	0	0
0	0	0
0	0	0
0	31	31
48		79

Fordham Boulevard

Out	In	Total
1421	1352	2773
23	19	42
11	8	19
0	0	0
0	0	0
0	0	0
1455	1379	2834

Peak Hour Data

North

Right Thru Left

Left Thru Right

Legend:

- Peak Hour Begins at 07:45 AM
- Passenger Vehicles
- Single Unit
- TTST
- Bicycles on Crosswalk
- Pedestrians

VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

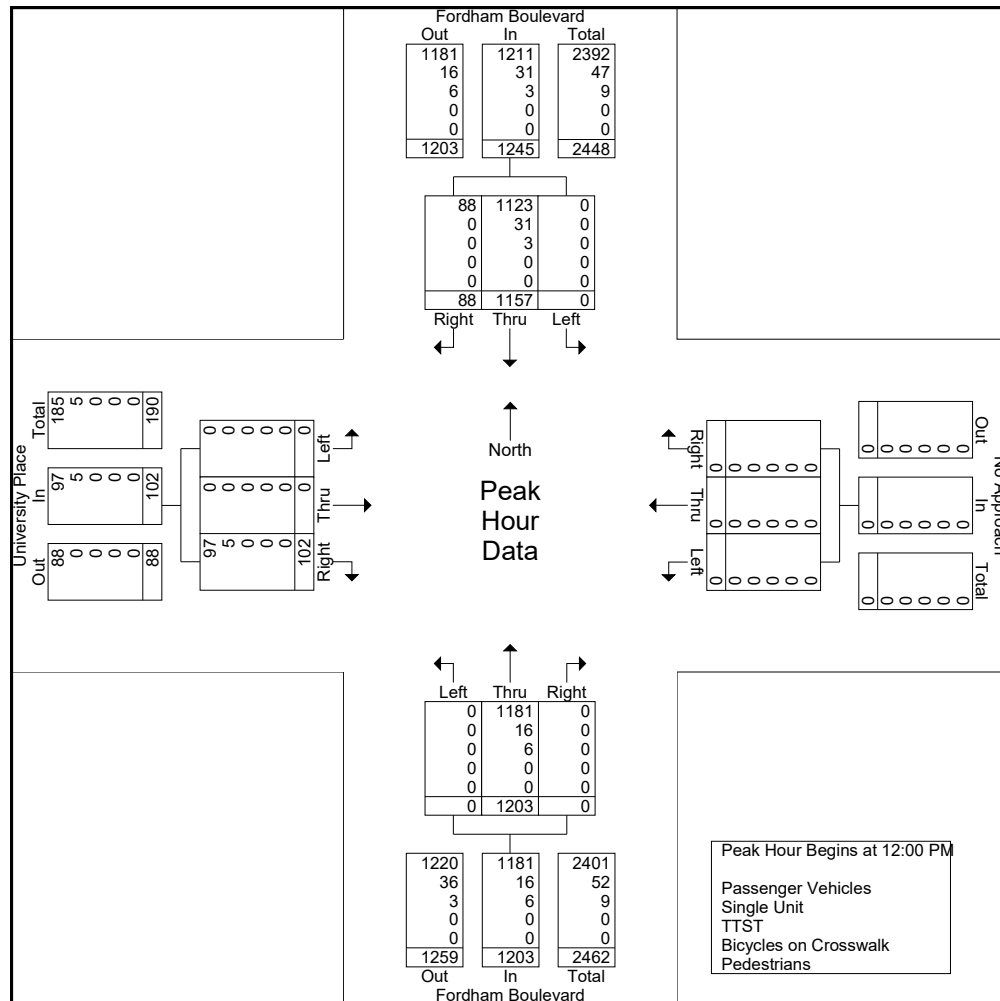
File Name : Fordham@UniversityPlace

Site Code :

Start Date : 11/21/2019

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	Fordham Boulevard Southbound				No Approach Westbound				Fordham Boulevard Northbound				University Place Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 12:00 PM																	
12:00 PM	0	271	18	289	0	0	0	0	0	319	0	319	0	0	17	17	625
12:15 PM	0	282	22	304	0	0	0	0	0	286	0	286	0	0	26	26	616
12:30 PM	0	298	34	332	0	0	0	0	0	277	0	277	0	0	20	20	629
12:45 PM	0	306	14	320	0	0	0	0	0	321	0	321	0	0	39	39	680
Total Volume	0	1157	88	1245	0	0	0	0	0	1203	0	1203	0	0	102	102	2550
% App. Total	0	92.9	7.1		0	0	0		0	100	0		0	0	100		
PHF	.000	.945	.647	.938	.000	.000	.000	.000	.000	.937	.000	.937	.000	.000	.654	.654	.938
Passenger Vehicles	0	1123	88	1211	0	0	0	0	0	1181	0	1181	0	0	97	97	2489
% Passenger Vehicles	0	97.1	100	97.3	0	0	0	0	0	98.2	0	98.2	0	0	95.1	95.1	97.6
Single Unit	0	31	0	31	0	0	0	0	0	16	0	16	0	0	5	5	52
% Single Unit	0	2.7	0	2.5	0	0	0	0	0	1.3	0	1.3	0	0	4.9	4.9	2.0
TTST	0	3	0	3	0	0	0	0	0	6	0	6	0	0	0	0	9
% TTST	0	0.3	0	0.2	0	0	0	0	0	0.5	0	0.5	0	0	0	0	0.4
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

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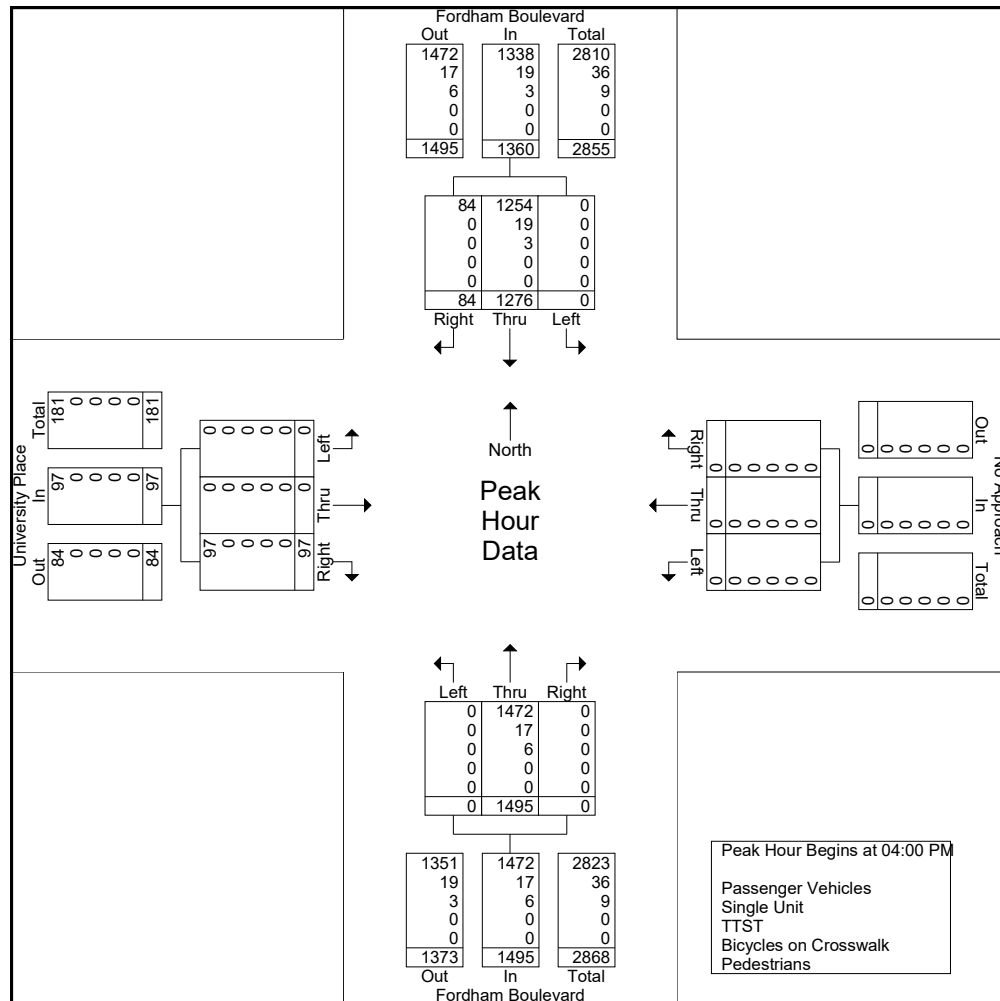
File Name : Fordham@UniversityPlace

Site Code :

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	Fordham Boulevard Southbound				No Approach Westbound				Fordham Boulevard Northbound				University Place Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:00 PM																	
04:00 PM	0	324	23	347	0	0	0	0	0	337	0	337	0	0	19	19	703
04:15 PM	0	360	23	383	0	0	0	0	0	373	0	373	0	0	19	19	775
04:30 PM	0	289	15	304	0	0	0	0	0	371	0	371	0	0	33	33	708
04:45 PM	0	303	23	326	0	0	0	0	0	414	0	414	0	0	26	26	766
Total Volume	0	1276	84	1360	0	0	0	0	0	1495	0	1495	0	0	97	97	2952
% App. Total	0	93.8	6.2		0	0	0		0	100	0		0	0	100		
PHF	.000	.886	.913	.888	.000	.000	.000	.000	.000	.903	.000	.903	.000	.000	.735	.735	.952
Passenger Vehicles	0	1254	84	1338	0	0	0	0	0	1472	0	1472	0	0	97	97	2907
% Passenger Vehicles	0	98.3	100	98.4	0	0	0	0	0	98.5	0	98.5	0	0	100	100	98.5
Single Unit	0	19	0	19	0	0	0	0	0	17	0	17	0	0	0	0	36
% Single Unit	0	1.5	0	1.4	0	0	0	0	0	1.1	0	1.1	0	0	0	0	1.2
TTST	0	3	0	3	0	0	0	0	0	6	0	6	0	0	0	0	9
% TTST	0	0.2	0	0.2	0	0	0	0	0	0.4	0	0.4	0	0	0	0	0.3
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Franklin@Estes
Site Code :
Start Date : 11/21/2019
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Groups Printed- Passenger Vehicles - Single Unit - TTST - Bicycles on Crosswalk - Pedestrians

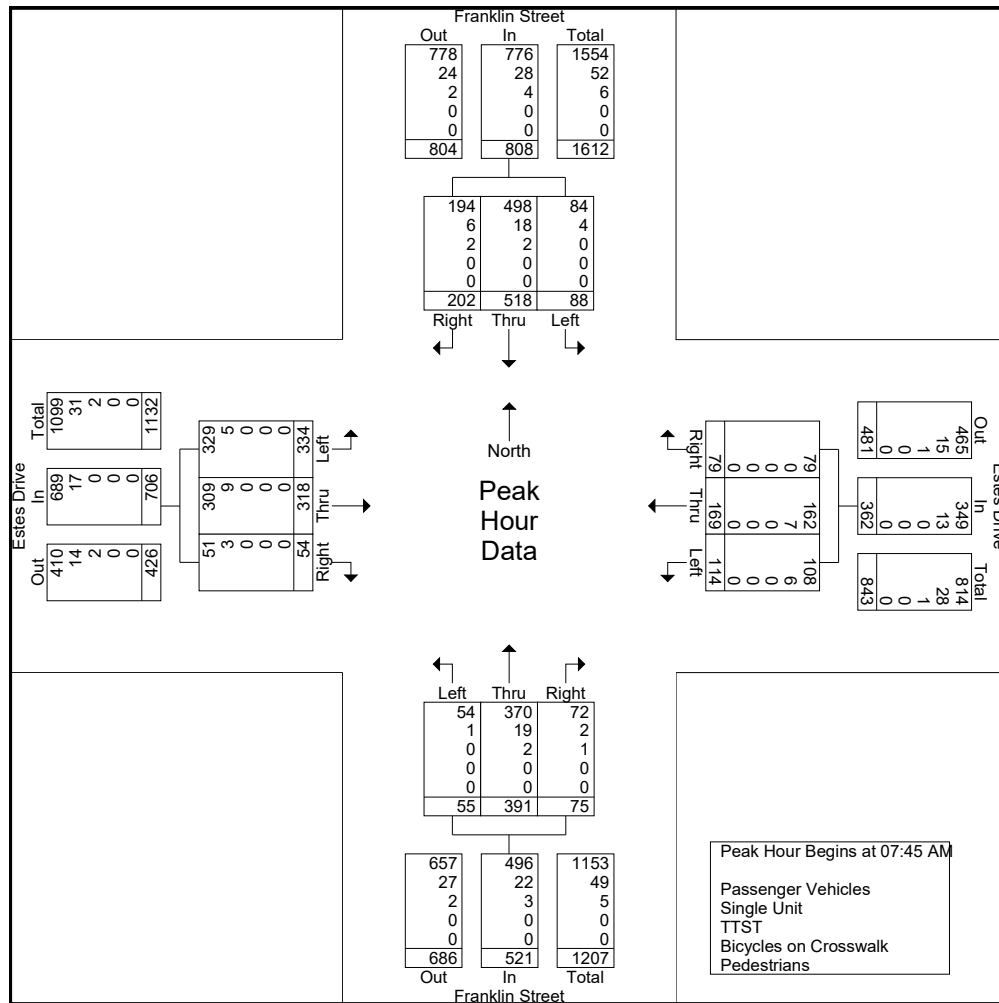
	Franklin Street Southbound				Estes Drive Westbound				Franklin Street Northbound				Estes Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	9	49	31	0	11	25	13	0	7	51	7	0	32	43	5	0	0	283	283
07:15 AM	11	77	49	3	12	29	7	2	9	76	10	0	35	42	5	2	7	362	369
07:30 AM	26	102	38	1	24	41	16	1	8	95	15	0	71	72	12	0	2	520	522
07:45 AM	20	123	63	0	31	53	25	3	17	97	20	1	77	80	15	1	5	621	626
Total	66	351	181	4	78	148	61	6	41	319	52	1	215	237	37	3	14	1786	1800
08:00 AM	15	126	44	1	28	42	15	1	15	93	17	1	94	77	13	2	5	579	584
08:15 AM	35	143	57	0	27	39	17	1	16	101	20	0	86	95	12	0	1	648	649
08:30 AM	18	126	38	1	28	35	22	1	7	100	18	1	77	66	14	2	5	549	554
08:45 AM	19	126	55	1	22	40	29	0	17	100	17	2	86	82	15	0	3	608	611
Total	87	521	194	3	105	156	83	3	55	394	72	4	343	320	54	4	14	2384	2398
*** BREAK ***																			
11:00 AM	32	70	48	1	30	55	58	4	14	86	33	0	68	64	14	1	6	572	578
11:15 AM	31	102	56	1	40	63	51	1	8	116	31	0	57	51	18	0	2	624	626
11:30 AM	23	100	50	0	28	48	51	1	12	96	25	0	102	92	9	2	3	636	639
11:45 AM	27	129	57	0	36	60	51	5	4	117	38	1	57	61	6	2	8	643	651
Total	113	401	211	2	134	226	211	11	38	415	127	1	284	268	47	5	19	2475	2494
12:00 PM	30	100	71	2	36	76	45	1	14	86	22	1	97	66	6	1	5	649	654
12:15 PM	35	118	65	1	43	46	40	1	20	111	39	2	48	60	5	2	6	630	636
12:30 PM	26	106	63	0	40	67	40	0	13	116	32	1	76	60	5	1	2	644	646
12:45 PM	34	97	68	1	28	56	46	0	19	96	24	1	69	66	15	0	2	618	620
Total	125	421	267	4	147	245	171	2	66	409	117	5	290	252	31	4	15	2541	2556
*** BREAK ***																			
04:00 PM	29	101	69	1	44	81	61	4	14	134	45	0	59	55	3	0	5	695	700
04:15 PM	34	136	84	0	51	71	59	1	7	128	33	1	83	74	7	0	2	767	769
04:30 PM	28	129	72	3	47	74	62	4	10	148	30	0	80	60	17	3	10	757	767
04:45 PM	14	136	86	2	48	71	58	6	14	182	21	0	75	79	8	2	10	792	802
Total	105	502	311	6	190	297	240	15	45	592	129	1	297	268	35	5	27	3011	3038
05:00 PM	31	158	84	3	48	77	54	7	11	192	39	3	84	74	15	2	15	867	882
05:15 PM	25	139	97	3	49	82	57	1	16	220	44	3	64	67	22	0	7	882	889
05:30 PM	22	179	82	2	56	67	61	5	14	143	50	3	69	79	25	0	10	847	857
05:45 PM	19	156	96	0	43	70	49	6	20	177	30	1	82	64	32	0	7	838	845
Total	97	632	359	8	196	296	221	19	61	732	163	10	299	284	94	2	39	3434	3473
Grand Total	593	2828	1523	27	850	1368	987	56	306	2861	660	22	1728	1629	298	23	128	15631	15759
Apprch %	12	57.2	30.8		26.5	42.7	30.8		8	74.8	17.2		47.3	44.6	8.2				
Total %	3.8	18.1	9.7		5.4	8.8	6.3		2	18.3	4.2		11.1	10.4	1.9		0.8	99.2	
Passenger Vehicles	571	2744	1496		821	1322	971		297	2765	639		1703	1595	292		0	0	15216
% Passenger Vehicles	96.3	97	98.2	0	96.6	96.6	98.4	0	97.1	96.6	96.8	0	98.6	97.9	98	0	0	0	96.6
Single Unit	20	77	24		28	46	16		8	89	20		22	32	6		0	0	388
% Single Unit	3.4	2.7	1.6	0	3.3	3.4	1.6	0	2.6	3.1	3	0	1.3	2	2	0	0	0	2.5
TTST	2	7	3		1	0	0		1	7	1		3	2	0		0	0	27
% TTST	0.3	0.2	0.2	0	0.1	0	0	0	0.3	0.2	0.2	0	0.2	0.1	0	0	0	0	0.2
Bicycles on Crosswalk	0	0	0		0	0	0		0	0	0		0	0	0		0	0	9
% Bicycles on Crosswalk	0	0	0	3.7	0	0	0	10.7	0	0	0	9.1	0	0	0	0	0	0	0.1
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	0	119
% Pedestrians	0	0	0	96.3	0	0	0	89.3	0	0	0	90.9	0	0	0	100	0	0	0.8

VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
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p: 919.829.0328 f: 919.833.0034

File Name : Franklin@Estes
Site Code :
Start Date : 11/21/2019
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	Franklin Street Southbound				Estes Drive Westbound				Franklin Street Northbound				Estes Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	20	123	63	206	31	53	25	109	17	97	20	134	77	80	15	172	621
08:00 AM	15	126	44	185	28	42	15	85	15	93	17	125	94	77	13	184	579
08:15 AM	35	143	57	235	27	39	17	83	16	101	20	137	86	95	12	193	648
08:30 AM	18	126	38	182	28	35	22	85	7	100	18	125	77	66	14	157	549
Total Volume	88	518	202	808	114	169	79	362	55	391	75	521	334	318	54	706	2397
% App. Total	10.9	64.1	25		31.5	46.7	21.8		10.6	75	14.4		47.3	45	7.6		
PHF	.629	.906	.802	.860	.919	.797	.790	.830	.809	.968	.938	.951	.888	.837	.900	.915	.925
Passenger Vehicles	84	498	194	776	108	162	79	349	54	370	72	496	329	309	51	689	2310
% Passenger Vehicles	95.5	96.1	96.0	96.0	94.7	95.9	100	96.4	98.2	94.6	96.0	95.2	98.5	97.2	94.4	97.6	96.4
Single Unit	4	18	6	28	6	7	0	13	1	19	2	22	5	9	3	17	80
% Single Unit	4.5	3.5	3.0	3.5	5.3	4.1	0	3.6	1.8	4.9	2.7	4.2	1.5	2.8	5.6	2.4	3.3
TTST	0	2	2	4	0	0	0	0	0	2	1	3	0	0	0	0	7
% TTST	0	0.4	1.0	0.5	0	0	0	0	0	0.5	1.3	0.6	0	0	0	0	0.3
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

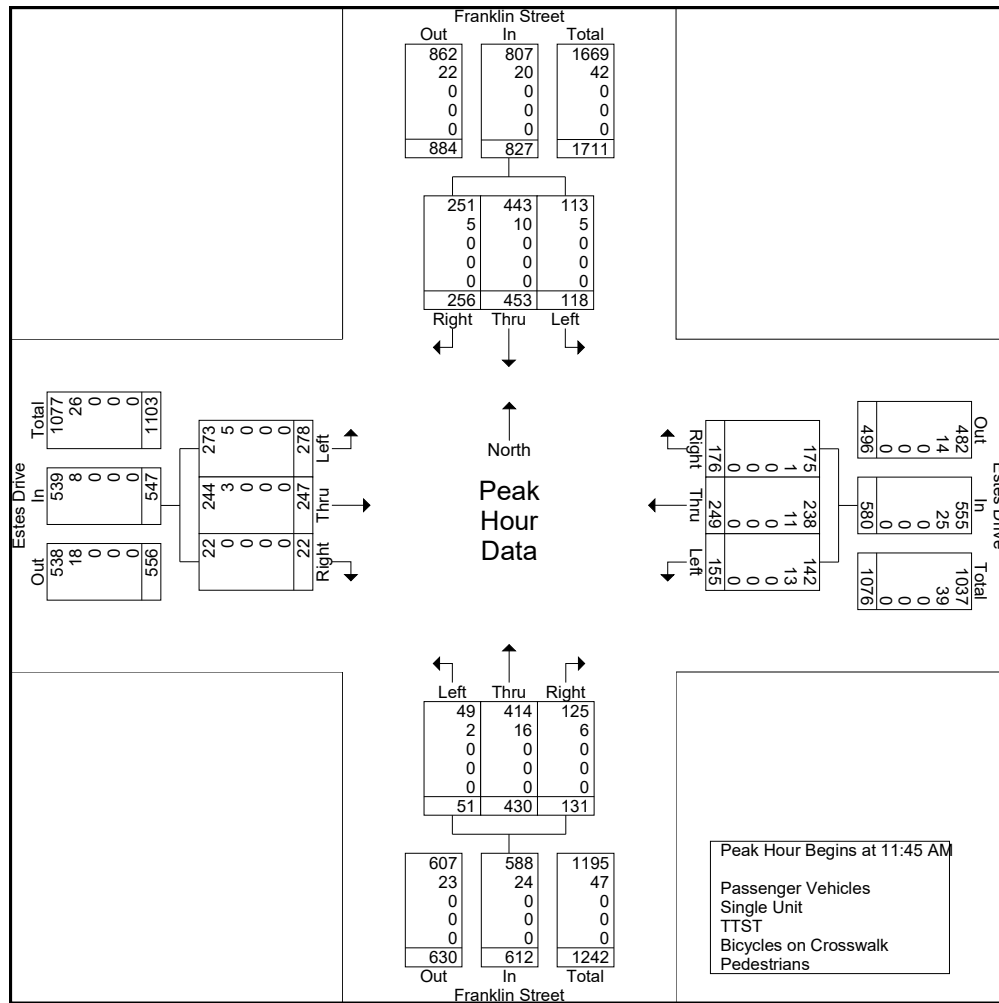


VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Franklin@Estes
Site Code :
Start Date : 11/21/2019
Page No : 3

	Franklin Street Southbound				Estes Drive Westbound				Franklin Street Northbound				Estes Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45 AM																	
11:45 AM	27	129	57	213	36	60	51	147	4	117	38	159	57	61	6	124	643
12:00 PM	30	100	71	201	36	76	45	157	14	86	22	122	97	66	6	169	649
12:15 PM	35	118	65	218	43	46	40	129	20	111	39	170	48	60	5	113	630
12:30 PM	26	106	63	195	40	67	40	147	13	116	32	161	76	60	5	141	644
Total Volume	118	453	256	827	155	249	176	580	51	430	131	612	278	247	22	547	2566
% App. Total	14.3	54.8	31		26.7	42.9	30.3		8.3	70.3	21.4		50.8	45.2	4		
PHF	.843	.878	.901	.948	.901	.819	.863	.924	.638	.919	.840	.900	.716	.936	.917	.809	.988
Passenger Vehicles	113	443	251	807	142	238	175	555	49	414	125	588	273	244	22	539	2489
% Passenger Vehicles	95.8	97.8	98.0	97.6	91.6	95.6	99.4	95.7	96.1	96.3	95.4	96.1	98.2	98.8	100	98.5	97.0
Single Unit	5	10	5	20	13	11	1	25	2	16	6	24	5	3	0	8	77
% Single Unit	4.2	2.2	2.0	2.4	8.4	4.4	0.6	4.3	3.9	3.7	4.6	3.9	1.8	1.2	0	1.5	3.0
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

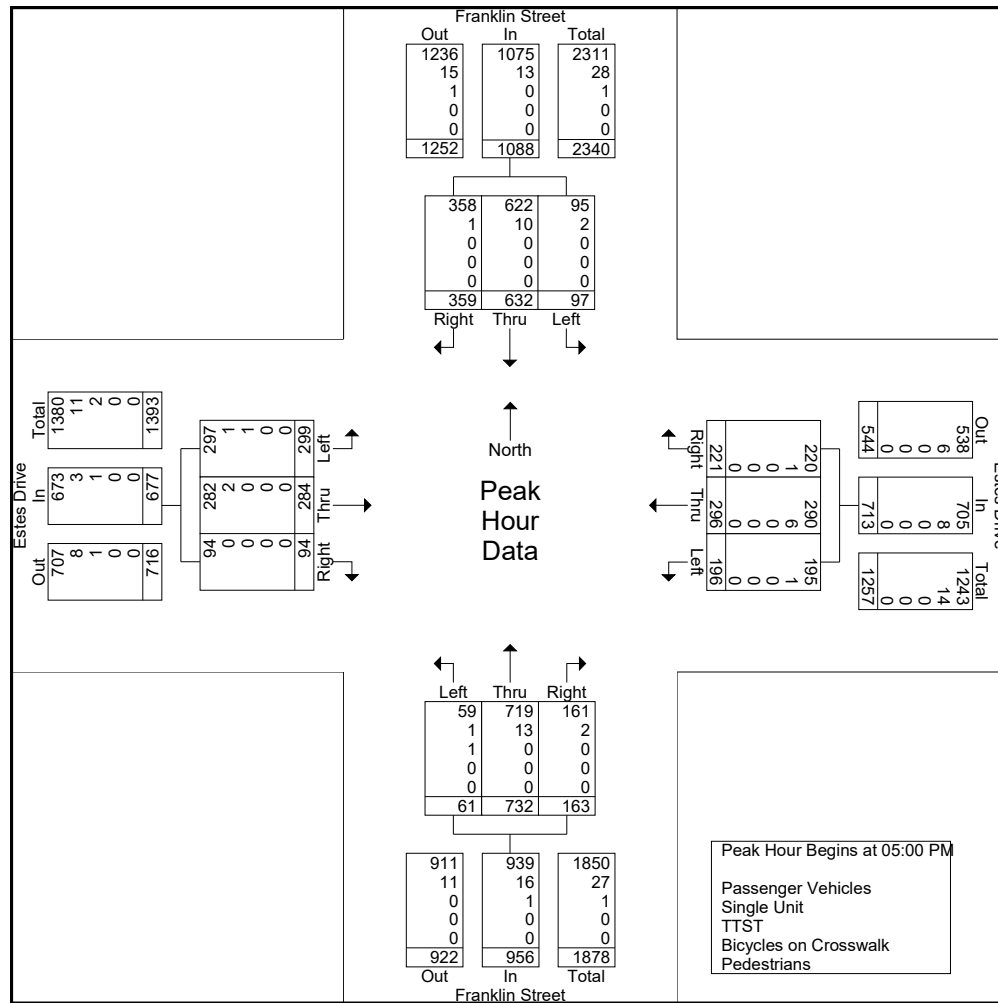
File Name : Franklin@Estes

Site Code :

Start Date : 11/21/2019

Page No : 4

	Franklin Street Southbound				Estes Drive Westbound				Franklin Street Northbound				Estes Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	31	158	84	273	48	77	54	179	11	192	39	242	84	74	15	173	867
05:15 PM	25	139	97	261	49	82	57	188	16	220	44	280	64	67	22	153	882
05:30 PM	22	179	82	283	56	67	61	184	14	143	50	207	69	79	25	173	847
05:45 PM	19	156	96	271	43	70	49	162	20	177	30	227	82	64	32	178	838
Total Volume	97	632	359	1088	196	296	221	713	61	732	163	956	299	284	94	677	3434
% App. Total	8.9	58.1	33		27.5	41.5	31		6.4	76.6	17.1		44.2	41.9	13.9		
PHF	.782	.883	.925	.961	.875	.902	.906	.948	.763	.832	.815	.854	.890	.899	.734	.951	.973
Passenger Vehicles	95	622	358	1075	195	290	220	705	59	719	161	939	297	282	94	673	3392
% Passenger Vehicles	97.9	98.4	99.7	98.8	99.5	98.0	99.5	98.9	96.7	98.2	98.8	98.2	99.3	99.3	100	99.4	98.8
Single Unit	2	10	1	13	1	6	1	8	1	13	2	16	1	2	0	3	40
% Single Unit	2.1	1.6	0.3	1.2	0.5	2.0	0.5	1.1	1.6	1.8	1.2	1.7	0.3	0.7	0	0.4	1.2
TTST	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	1	2
% TTST	0	0	0	0	0	0	0	0	1.6	0	0	0.1	0.3	0	0	0.1	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Willow@Bank
Site Code :
Start Date : 11/21/2019
Page No : 1

Groups Printed- Passenger Vehicles - Single Unit - TTST - Bicycles on Crosswalk - Pedestrians

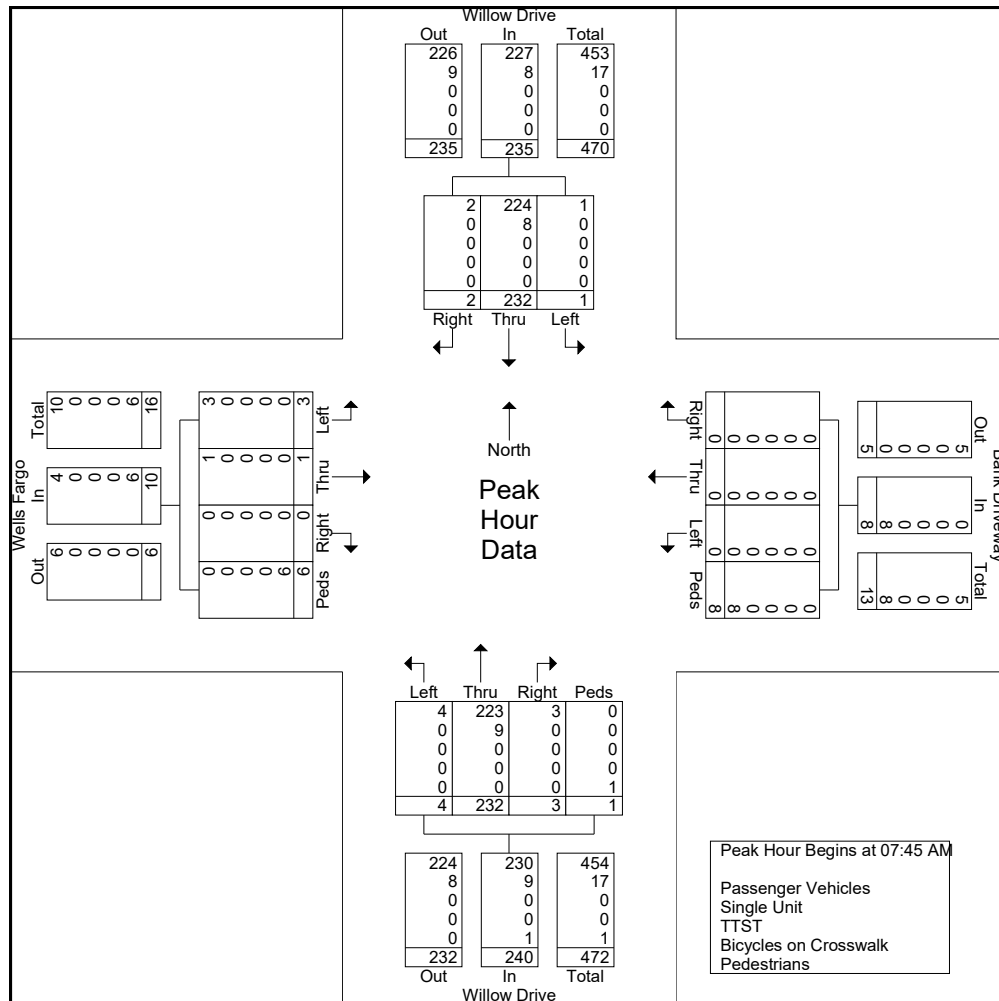
	Willow Drive Southbound				Bank Driveway Westbound				Willow Drive Northbound				Wells Fargo Eastbound				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	0	30	1	0	0	0	0	2	0	25	0	0	1	0	0	0	0	59	59
07:15 AM	0	28	0	0	1	0	0	0	0	28	0	0	0	0	0	0	0	57	57
07:30 AM	0	53	1	1	0	0	0	1	0	37	1	0	0	0	0	3	1	96	97
07:45 AM	0	57	0	0	0	0	0	1	1	60	1	0	1	0	0	1	0	122	122
Total	0	168	2	1	1	0	0	4	1	150	2	0	2	0	0	4	1	334	335
08:00 AM	0	63	1	1	0	0	0	3	1	59	0	0	0	0	0	1	1	128	129
08:15 AM	0	61	0	0	0	0	0	2	1	65	0	0	1	0	0	0	0	130	130
08:30 AM	1	51	1	2	0	0	0	2	1	48	2	1	1	1	0	4	2	113	115
08:45 AM	0	48	2	2	0	0	0	6	2	55	0	0	1	0	2	4	2	120	122
Total	1	223	4	5	0	0	0	13	5	227	2	1	3	1	2	9	5	491	496
*** BREAK ***																			
11:00 AM	0	62	3	1	0	0	1	2	4	63	3	0	1	0	2	0	1	141	142
11:15 AM	0	76	3	0	0	0	0	2	0	65	1	0	0	0	2	2	0	151	151
11:30 AM	0	74	2	1	0	0	0	1	4	69	3	0	1	1	1	4	1	160	161
11:45 AM	0	96	6	0	0	0	0	0	4	81	3	0	4	1	2	0	0	197	197
Total	0	308	14	2	0	0	1	5	12	278	10	0	6	2	7	6	2	649	651
12:00 PM	1	93	6	0	0	0	0	2	3	69	0	0	1	0	6	1	0	182	182
12:15 PM	0	71	1	0	0	0	0	2	1	60	2	0	1	0	0	7	0	145	145
12:30 PM	0	88	1	0	0	0	0	0	3	61	1	0	6	0	2	2	0	164	164
12:45 PM	0	87	2	0	0	0	0	2	1	67	1	0	1	0	2	2	0	165	165
Total	1	339	10	0	0	0	0	6	8	257	4	0	9	0	10	12	0	656	656
*** BREAK ***																			
04:00 PM	0	104	4	0	0	0	0	0	3	61	4	0	1	0	2	2	0	181	181
04:15 PM	0	104	1	0	0	0	0	0	3	77	1	0	1	0	1	3	0	191	191
04:30 PM	0	116	1	0	0	0	0	0	2	69	1	0	2	0	4	0	0	195	195
04:45 PM	0	95	1	0	0	0	0	2	3	64	1	0	3	0	0	1	0	170	170
Total	0	419	7	0	0	0	0	2	11	271	7	0	7	0	7	6	0	737	737
05:00 PM	0	119	1	0	0	0	0	2	0	74	4	0	0	0	2	0	0	202	202
05:15 PM	0	97	1	2	1	0	0	1	1	89	0	0	2	0	1	3	2	196	198
05:30 PM	0	111	1	0	0	0	0	2	4	97	3	0	1	0	3	1	0	223	223
05:45 PM	0	82	0	0	0	0	0	4	1	88	2	0	0	0	0	1	0	178	178
Total	0	409	3	2	1	0	0	9	6	348	9	0	3	0	6	5	2	799	801
Grand Total	2	1866	40	10	2	0	1	39	43	1531	34	1	30	3	32	42	10	3666	3676
Apprch %	0.1	97.8	2.1		4.8	0	2.4	92.9	2.7	95.2	2.1	0.1	28	2.8	29.9	39.3			
Total %	0.1	50.9	1.1		0.1	0	0	1.1	1.2	41.8	0.9	0	0.8	0.1	0.9	1.1	0.3	99.7	
Passenger Vehicles	2	1793	40		1	0	1	0	43	1503	34	0	29	3	32	0	0	0	3481
% Passenger Vehicles	100	96.1	100	0	50	0	100	0	100	98.2	100	0	96.7	100	100	0	0	0	94.7
Single Unit	0	71	0		1	0	0	0	0	27	0	0	1	0	0	0	0	0	100
% Single Unit	0	3.8	0	0	50	0	0	0	0	1.8	0	0	3.3	0	0	0	0	0	2.7
TTST	0	2	0		0	0	0	0	0	1	0	0	0	0	0	0	0	0	3
% TTST	0	0.1	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0		0	0	0	1	0	0	0	0	0	0	0	2	0	0	3
% Bicycles on Crosswalk	0	0	0	0	0	0	0	2.6	0	0	0	0	0	0	0	4.8	0	0	0.1
Pedestrians	0	0	0		0	0	0	38	0	0	0	1	0	0	0	40	0	0	89
% Pedestrians	0	0	0	100	0	0	0	97.4	0	0	0	100	0	0	0	95.2	0	0	2.4

VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Willow@Bank
Site Code :
Start Date : 11/21/2019
Page No : 2

	Willow Drive Southbound					Bank Driveway Westbound					Willow Drive Northbound					Wells Fargo Eastbound					
Start Time	Left	Thru	Right	App. Total		Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	57	0	57		0	0	0	1	1	1	60	1	0	62	1	0	0	1	2	122
08:00 AM	0	63	1	64		0	0	0	3	3	1	59	0	0	60	0	0	0	1	1	128
08:15 AM	0	61	0	61		0	0	0	2	2	1	65	0	0	66	1	0	0	0	1	130
08:30 AM	1	51	1	53		0	0	0	2	2	1	48	2	1	52	1	1	0	4	6	113
Total Volume	1	232	2	235		0	0	0	8	8	4	232	3	1	240	3	1	0	6	10	493
% App. Total	0.4	98.7	0.9			0	0	0	100		1.7	96.7	1.2	0.4		30	10	0	60		
PHF	.250	.921	.500	.918		.000	.000	.000	.667	.667	1.00	.892	.375	.250	.909	.750	.250	.000	.375	.417	.948
Passenger Vehicles	1	224	2	227		0	0	0	0	0	4	223	3	0	230	3	1	0	0	4	461
% Passenger Vehicles																					
Single Unit	0	8	0	8		0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	17
% Single Unit	0	3.4	0	3.4		0	0	0	0	0	0	3.9	0	0	3.8	0	0	0	0	0	3.4
TTST	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0		0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0		0	0	0	8	8	0	0	0	1	1	0	0	0	6	6	15
% Pedestrians	0	0	0	0		0	0	0	100	100	0	0	0	100	0.4	0	0	0	100	60.0	3.0



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

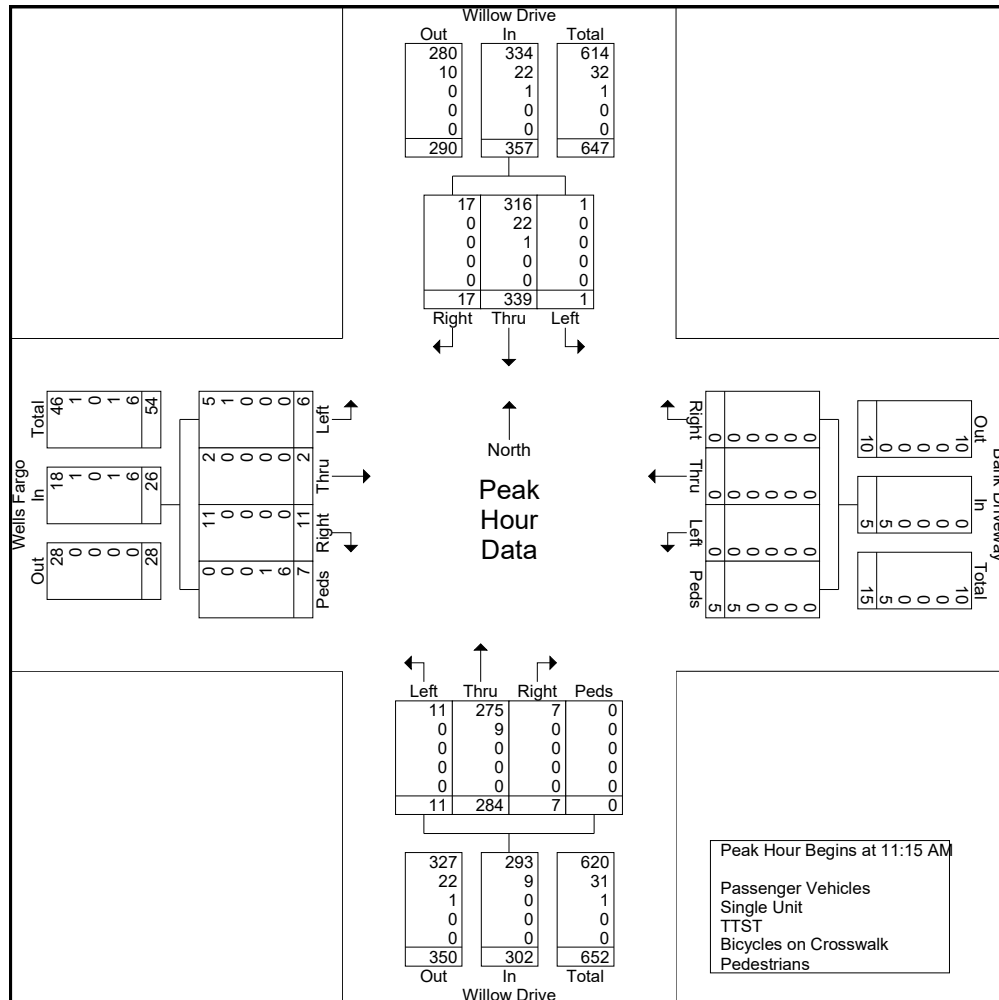
File Name : Willow@Bank

Site Code :

Start Date : 11/21/2019

Page No : 3

	Willow Drive Southbound				Bank Driveway Westbound					Willow Drive Northbound					Wells Fargo Eastbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 11:15 AM																				
11:15 AM	0	76	3	79	0	0	0	2	2	0	65	1	0	66	0	0	2	2	4	151
11:30 AM	0	74	2	76	0	0	0	1	1	4	69	3	0	76	1	1	1	4	7	160
11:45 AM	0	96	6	102	0	0	0	0	0	4	81	3	0	88	4	1	2	0	7	197
12:00 PM	1	93	6	100	0	0	0	2	2	3	69	0	0	72	1	0	6	1	8	182
Total Volume	1	339	17	357	0	0	0	5	5	11	284	7	0	302	6	2	11	7	26	690
% App. Total	0.3	95	4.8		0	0	0	100		3.6	94	2.3	0		23.1	7.7	42.3	26.9		
PHF	.250	.883	.708	.875	.000	.000	.000	.625	.625	.688	.877	.583	.000	.858	.375	.500	.458	.438	.813	.876
Passenger Vehicles	1	316	17	334	0	0	0	0	0	11	275	7	0	293	5	2	11	0	18	645
% Passenger Vehicles																				
Single Unit	0	22	0	22	0	0	0	0	0	0	9	0	0	9	1	0	0	0	1	32
% Single Unit	0	6.5	0	6.2	0	0	0	0	0	0	3.2	0	0	3.0	16.7	0	0	0	3.8	4.6
TTST	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% TTST	0	0.3	0	0.3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	14.3	3.8	0.1
Pedestrians	0	0	0	0	0	0	0	5	5	0	0	0	0	0	0	0	0	6	6	11
% Pedestrians	0	0	0	0	0	0	0	100	100	0	0	0	0	0	0	0	0	85.7	23.1	1.6



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

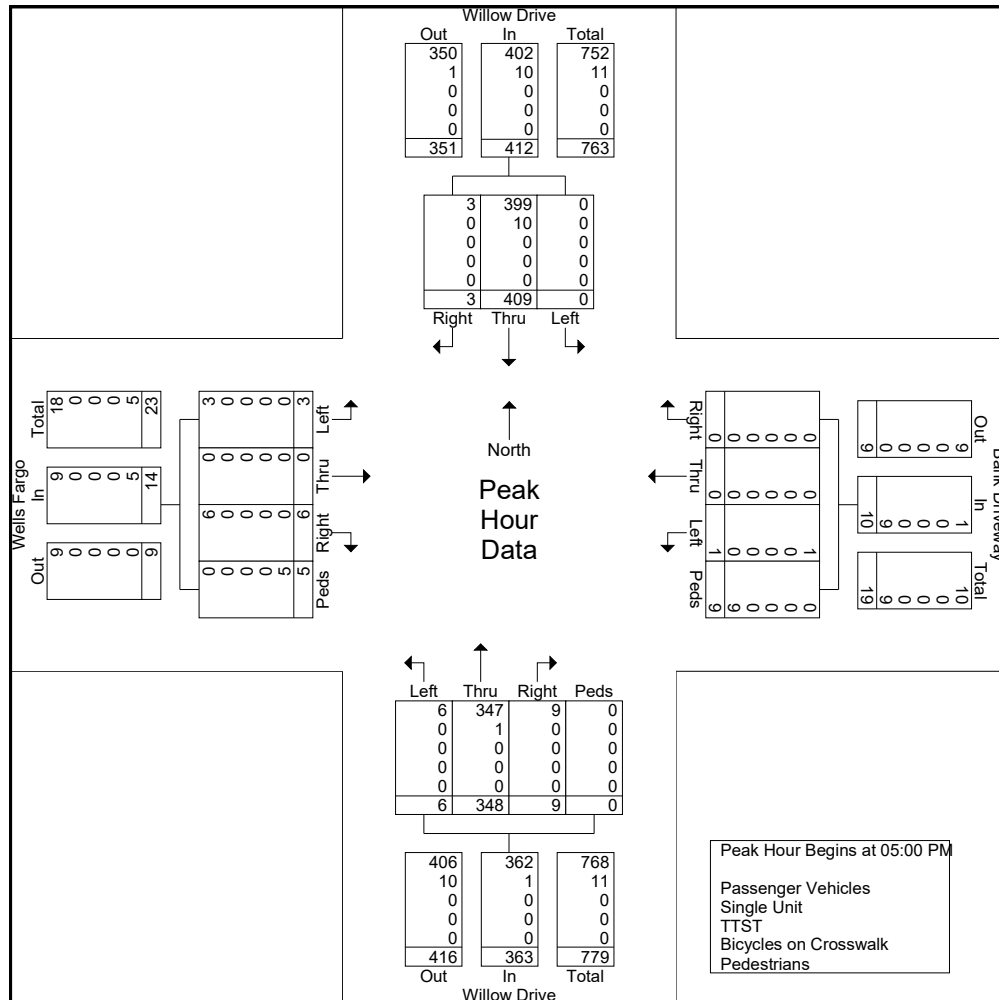
File Name : Willow@Bank

Site Code :

Start Date : 11/21/2019

Page No : 4

	Willow Drive Southbound				Bank Driveway Westbound					Willow Drive Northbound					Wells Fargo Eastbound					
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																				
Peak Hour for Entire Intersection Begins at 05:00 PM																				
05:00 PM	0	119	1	120	0	0	0	2	2	0	74	4	0	78	0	0	2	0	2	202
05:15 PM	0	97	1	98	1	0	0	1	2	1	89	0	0	90	2	0	1	3	6	196
05:30 PM	0	111	1	112	0	0	0	2	2	4	97	3	0	104	1	0	3	1	5	223
05:45 PM	0	82	0	82	0	0	0	4	4	1	88	2	0	91	0	0	0	1	1	178
Total Volume	0	409	3	412	1	0	0	9	10	6	348	9	0	363	3	0	6	5	14	799
% App. Total	0	99.3	0.7		10	0	0	90		1.7	95.9	2.5	0		21.4	0	42.9	35.7		
PHF	.000	.859	.750	.858	.250	.000	.000	.563	.625	.375	.897	.563	.000	.873	.375	.000	.500	.417	.583	.896
Passenger Vehicles	0	399	3	402	1	0	0	0	1	6	347	9	0	362	3	0	6	0	9	774
% Passenger Vehicles																				
Single Unit	0	10	0	10	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	11
% Single Unit	0	2.4	0	2.4	0	0	0	0	0	0	0.3	0	0	0.3	0	0	0	0	0	1.4
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	9	9	0	0	0	0	0	0	0	0	5	5	14
% Pedestrians	0	0	0	0	0	0	0	100	90.0	0	0	0	0	0	0	0	0	100	35.7	1.8



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Willow@Conner
Site Code :
Start Date : 11/21/2019
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Groups Printed- Passenger Vehicles - Single Unit - TTST - Bicycles on Crosswalk - Pedestrians

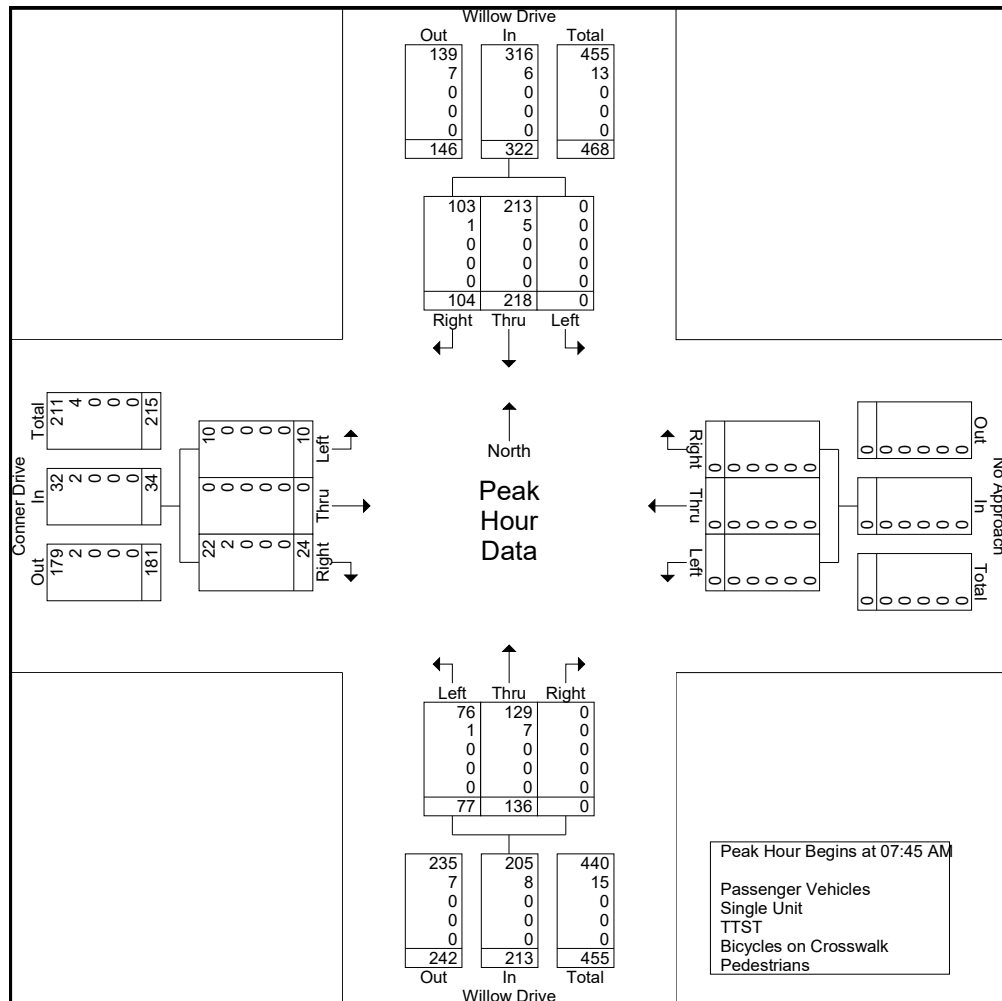
	Willow Drive Southbound				No Approach Westbound				Willow Drive Northbound				Conner Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	0	23	1	0	0	0	0	0	4	17	0	0	3	0	0	7	7	48	55
07:15 AM	0	28	10	0	0	0	0	0	4	23	0	0	0	0	3	0	0	68	68
07:30 AM	0	46	21	0	0	0	0	0	15	20	0	0	5	0	7	2	2	114	116
07:45 AM	0	50	26	0	0	0	0	0	26	32	0	1	1	0	3	3	4	138	142
Total	0	147	58	0	0	0	0	0	49	92	0	1	9	0	13	12	13	368	381
08:00 AM	0	61	32	0	0	0	0	0	17	38	0	1	1	0	6	2	3	155	158
08:15 AM	0	54	26	0	0	0	0	0	19	40	0	0	3	0	8	1	1	150	151
08:30 AM	0	53	20	2	0	0	0	2	15	26	0	0	5	0	7	0	4	126	130
08:45 AM	0	42	23	0	0	0	0	0	11	39	0	0	8	0	8	1	1	131	132
Total	0	210	101	2	0	0	0	2	62	143	0	1	17	0	29	4	9	562	571
*** BREAK ***																			
11:00 AM	0	48	14	0	0	0	0	0	18	42	0	0	15	0	20	0	0	157	157
11:15 AM	0	54	10	0	0	0	0	0	9	48	0	0	12	0	14	0	0	147	147
11:30 AM	0	50	13	0	0	0	0	0	9	54	0	0	17	0	16	1	1	159	160
11:45 AM	0	74	17	0	0	0	0	0	13	69	0	0	18	0	24	0	0	215	215
Total	0	226	54	0	0	0	0	0	49	213	0	0	62	0	74	1	1	678	679
12:00 PM	0	65	12	0	0	0	0	0	9	46	0	0	25	0	19	1	1	176	177
12:15 PM	0	55	14	0	0	0	0	0	9	42	0	0	19	0	15	0	0	154	154
12:30 PM	0	65	20	0	0	0	0	0	6	61	0	0	13	0	11	1	1	176	177
12:45 PM	0	67	17	0	0	0	0	0	12	48	0	0	16	0	12	3	3	172	175
Total	0	252	63	0	0	0	0	0	36	197	0	0	73	0	57	5	5	678	683
*** BREAK ***																			
04:00 PM	0	80	12	0	0	0	0	0	4	60	0	0	18	0	18	3	3	192	195
04:15 PM	0	82	10	2	0	0	0	0	9	68	0	0	12	0	9	2	4	190	194
04:30 PM	0	82	8	1	0	0	0	0	12	56	0	0	21	0	20	2	3	199	202
04:45 PM	0	66	9	0	0	0	0	0	9	57	0	0	19	0	15	1	1	175	176
Total	0	310	39	3	0	0	0	0	34	241	0	0	70	0	62	8	11	756	767
05:00 PM	0	74	13	0	0	0	0	0	7	63	0	0	28	0	47	0	0	232	232
05:15 PM	0	66	8	0	0	0	0	0	11	76	0	1	21	0	19	1	2	201	203
05:30 PM	0	74	6	0	0	0	0	0	8	82	0	0	14	0	31	3	3	215	218
05:45 PM	0	57	8	0	0	0	0	0	9	62	0	1	6	0	13	4	5	155	160
Total	0	271	35	0	0	0	0	0	35	283	0	2	69	0	110	8	10	803	813
Grand Total	0	1416	350	5	0	0	0	2	265	1169	0	4	300	0	345	38	49	3845	3894
Apprch %	0	80.2	19.8		0	0	0		18.5	81.5	0		46.5	0	53.5				
Total %	0	36.8	9.1		0	0	0		6.9	30.4	0		7.8	0	9		1.3	98.7	
Passenger Vehicles	0	1380	344		0	0	0		260	1148	0		297	0	339		0	0	3768
% Passenger Vehicles	0	97.5	98.3	0	0	0	0	0	98.1	98.2	0	0	99	0	98.3	0	0	0	96.8
Single Unit	0	33	6		0	0	0		5	20	0		3	0	6		0	0	73
% Single Unit	0	2.3	1.7	0	0	0	0	0	1.9	1.7	0	0	1	0	1.7	0	0	0	1.9
TTST	0	3	0		0	0	0		0	1	0		0	0	0		0	0	4
% TTST	0	0.2	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0		0	0	0		0	0	0		0	0	0		0	0	2
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5.3	0	0	0.1
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	0	47
% Pedestrians	0	0	0	100	0	0	0	100	0	0	0	100	0	0	0	94.7	0	0	1.2

VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Willow@Conner
Site Code :
Start Date : 11/21/2019
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	Willow Drive Southbound				No Approach Westbound				Willow Drive Northbound				Conner Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	50	26	76	0	0	0	0	26	32	0	58	1	0	3	4	138
08:00 AM	0	61	32	93	0	0	0	0	17	38	0	55	1	0	6	7	155
08:15 AM	0	54	26	80	0	0	0	0	19	40	0	59	3	0	8	11	150
08:30 AM	0	53	20	73	0	0	0	0	15	26	0	41	5	0	7	12	126
Total Volume	0	218	104	322	0	0	0	0	77	136	0	213	10	0	24	34	569
% App. Total	0	67.7	32.3		0	0	0		36.2	63.8	0		29.4	0	70.6		
PHF	.000	.893	.813	.866	.000	.000	.000	.000	.740	.850	.000	.903	.500	.000	.750	.708	.918
Passenger Vehicles	0	213	103	316	0	0	0	0	76	129	0	205	10	0	22	32	553
% Passenger Vehicles	0	97.7	99.0	98.1	0	0	0	0	98.7	94.9	0	96.2	100	0	91.7	94.1	97.2
Single Unit	0	5	1	6	0	0	0	0	1	7	0	8	0	0	2	2	16
% Single Unit	0	2.3	1.0	1.9	0	0	0	0	1.3	5.1	0	3.8	0	0	8.3	5.9	2.8
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

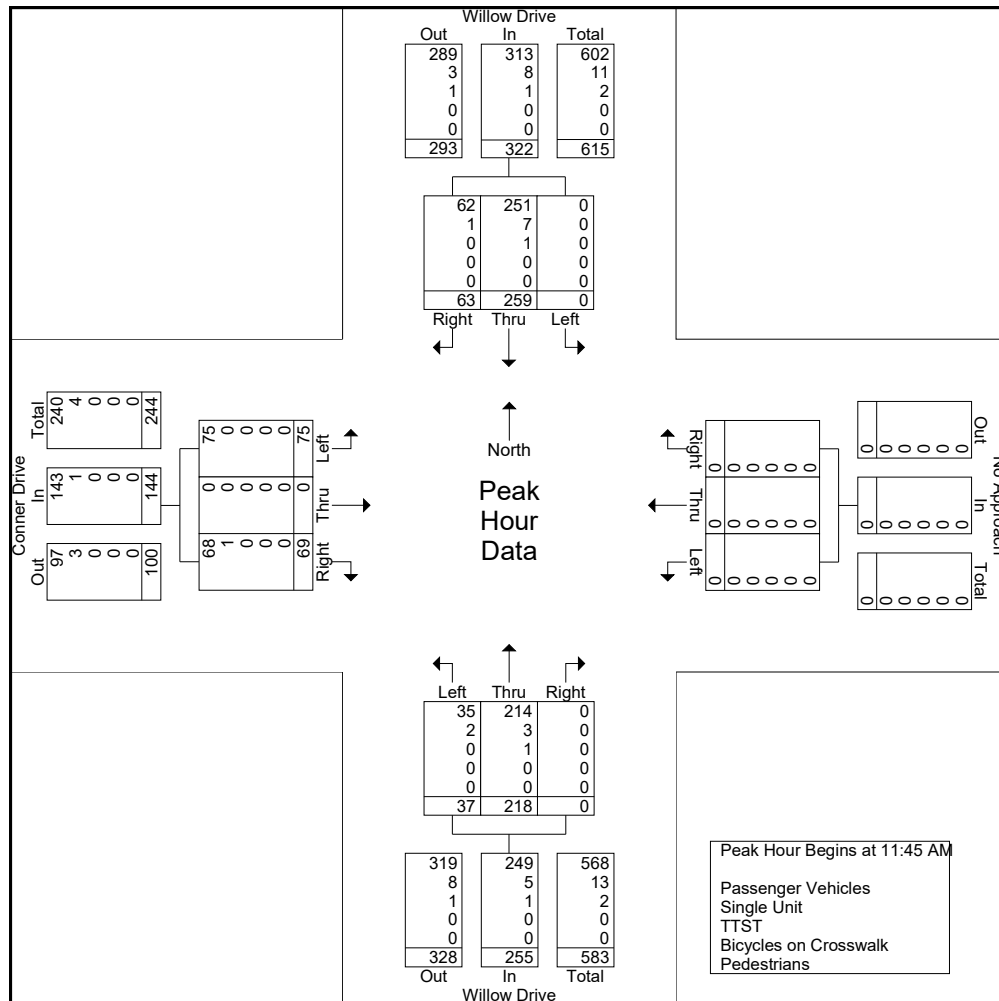
File Name : Willow@Conner

Site Code :

Start Date : 11/21/2019

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	Willow Drive Southbound				No Approach Westbound				Willow Drive Northbound				Conner Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45 AM																	
11:45 AM	0	74	17	91	0	0	0	0	13	69	0	82	18	0	24	42	215
12:00 PM	0	65	12	77	0	0	0	0	9	46	0	55	25	0	19	44	176
12:15 PM	0	55	14	69	0	0	0	0	9	42	0	51	19	0	15	34	154
12:30 PM	0	65	20	85	0	0	0	0	6	61	0	67	13	0	11	24	176
Total Volume	0	259	63	322	0	0	0	0	37	218	0	255	75	0	69	144	721
% App. Total	0	80.4	19.6		0	0	0		14.5	85.5	0		52.1	0	47.9		
PHF	.000	.875	.788	.885	.000	.000	.000	.000	.712	.790	.000	.777	.750	.000	.719	.818	.838
Passenger Vehicles	0	251	62	313	0	0	0	0	35	214	0	249	75	0	68	143	705
% Passenger Vehicles	0	96.9	98.4	97.2	0	0	0	0	94.6	98.2	0	97.6	100	0	98.6	99.3	97.8
Single Unit	0	7	1	8	0	0	0	0	2	3	0	5	0	0	1	1	14
% Single Unit	0	2.7	1.6	2.5	0	0	0	0	5.4	1.4	0	2.0	0	0	1.4	0.7	1.9
TTST	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
% TTST	0	0.4	0	0.3	0	0	0	0	0	0.5	0	0.4	0	0	0	0	0.3
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

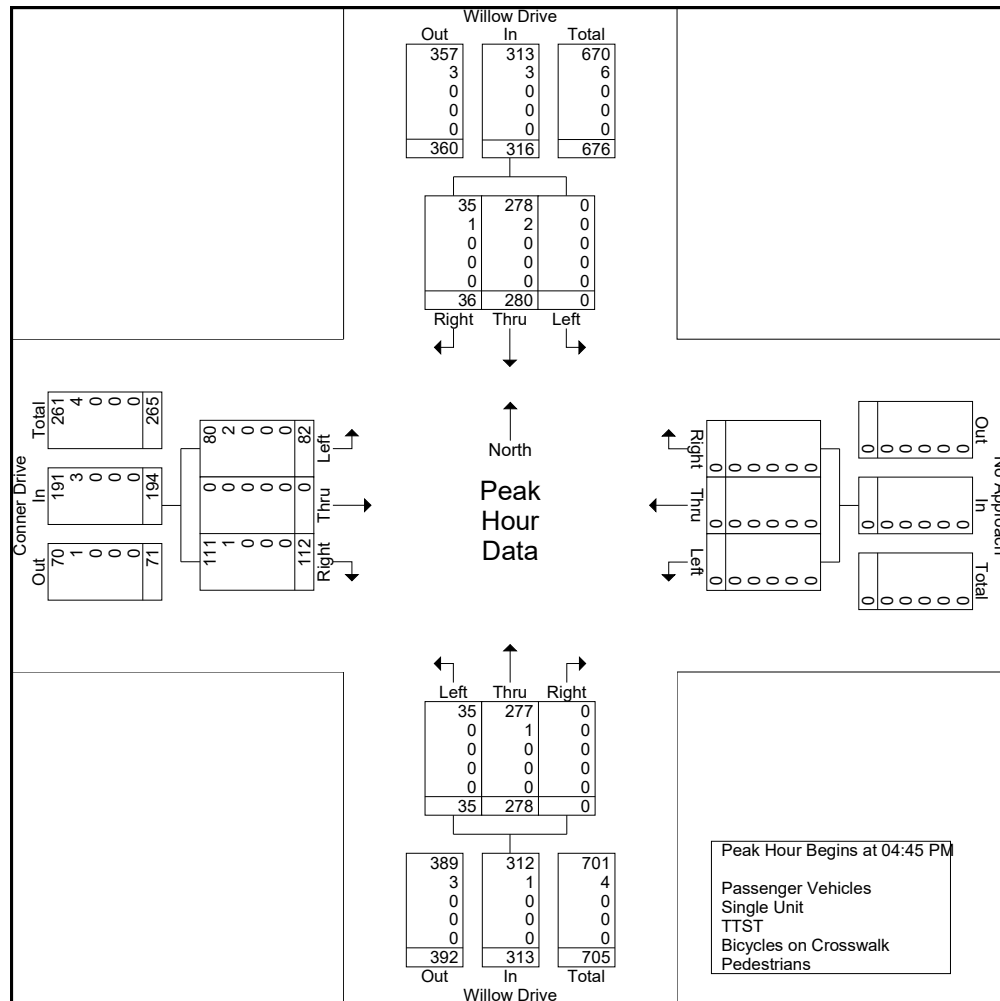
File Name : Willow@Conner

Site Code :

Start Date : 11/21/2019

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	Willow Drive Southbound				No Approach Westbound				Willow Drive Northbound				Conner Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:45 PM																	
04:45 PM	0	66	9	75	0	0	0	0	9	57	0	66	19	0	15	34	175
05:00 PM	0	74	13	87	0	0	0	0	7	63	0	70	28	0	47	75	232
05:15 PM	0	66	8	74	0	0	0	0	11	76	0	87	21	0	19	40	201
05:30 PM	0	74	6	80	0	0	0	0	8	82	0	90	14	0	31	45	215
Total Volume	0	280	36	316	0	0	0	0	35	278	0	313	82	0	112	194	823
% App. Total	0	88.6	11.4		0	0	0		11.2	88.8	0		42.3	0	57.7		
PHF	.000	.946	.692	.908	.000	.000	.000	.000	.795	.848	.000	.869	.732	.000	.596	.647	.887
Passenger Vehicles	0	278	35	313	0	0	0	0	35	277	0	312	80	0	111	191	816
% Passenger Vehicles	0	99.3	97.2	99.1	0	0	0	0	100	99.6	0	99.7	97.6	0	99.1	98.5	99.1
Single Unit	0	2	1	3	0	0	0	0	0	1	0	1	2	0	1	3	7
% Single Unit	0	0.7	2.8	0.9	0	0	0	0	0	0.4	0	0.3	2.4	0	0.9	1.5	0.9
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Willow@HarrisTeeter
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Start Date : 11/21/2019
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Groups Printed- Passenger Vehicles - Single Unit - TTST - Bicycles on Crosswalk - Pedestrians

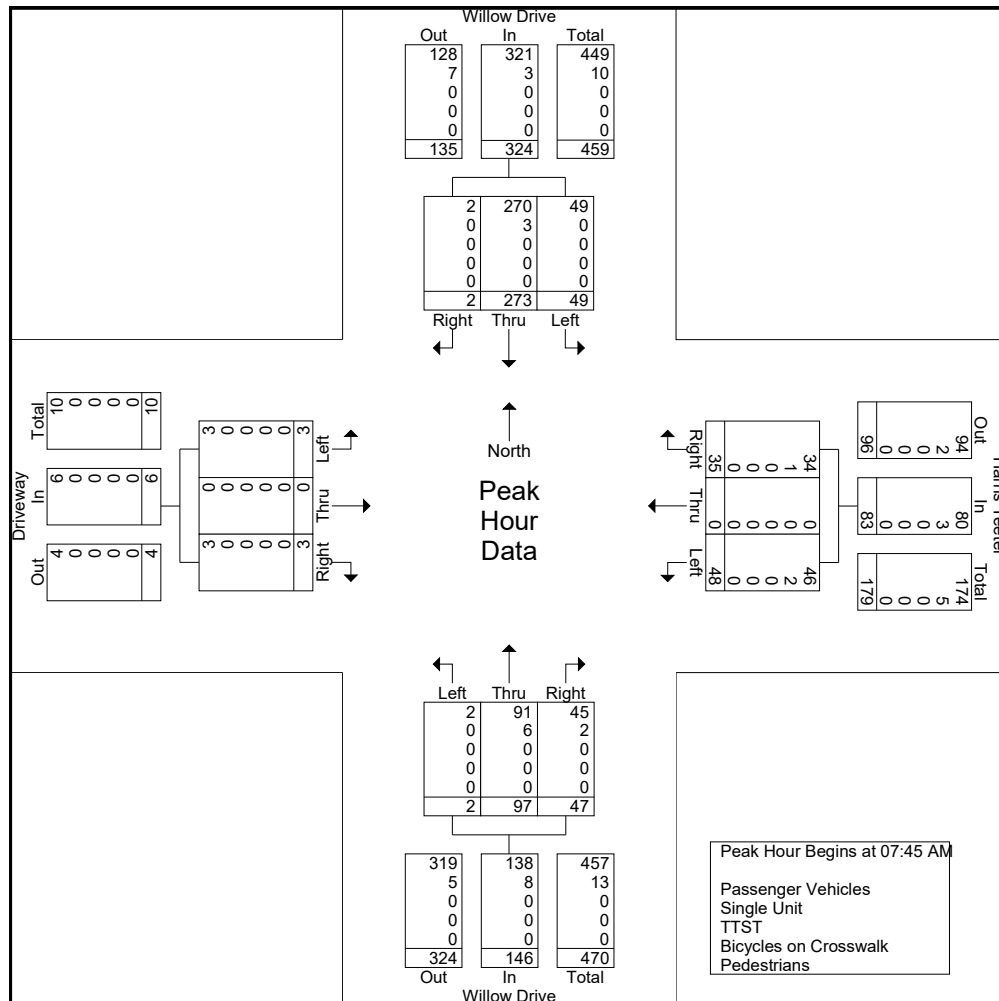
	Willow Drive Southbound				Harris Teeter Westbound				Willow Drive Northbound				Driveway Eastbound				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	7	19	0	0	5	0	5	1	1	11	8	0	0	0	0	16	17	56	73
07:15 AM	9	30	0	0	7	0	2	2	0	12	11	0	0	0	2	0	2	73	75
07:30 AM	5	60	1	0	8	0	0	2	0	13	12	0	1	0	1	10	12	101	113
07:45 AM	11	68	1	0	8	0	6	6	1	21	12	0	1	0	0	3	9	129	138
Total	32	177	2	0	28	0	13	11	2	57	43	0	2	0	3	29	40	359	399
08:00 AM	7	80	0	0	13	0	10	1	0	32	7	0	1	0	1	1	2	151	153
08:15 AM	15	62	1	0	17	0	6	1	0	28	14	0	0	0	1	1	2	144	146
08:30 AM	16	63	0	0	10	0	13	3	1	16	14	0	1	0	1	1	4	135	139
08:45 AM	10	51	0	0	10	0	4	0	1	31	16	0	0	1	0	2	2	124	126
Total	48	256	1	0	50	0	33	5	2	107	51	0	2	1	3	5	10	554	564
*** BREAK ***																			
11:00 AM	17	38	2	0	25	0	15	1	0	40	18	1	0	0	0	2	4	155	159
11:15 AM	10	45	1	0	21	0	14	2	0	32	28	0	1	0	0	0	2	152	154
11:30 AM	14	30	2	0	32	0	16	0	0	36	35	0	0	0	0	8	8	165	173
11:45 AM	15	69	1	0	27	0	24	0	0	42	43	0	1	1	3	2	2	226	228
Total	56	182	6	0	105	0	69	3	0	150	124	1	2	1	3	12	16	698	714
12:00 PM	16	48	2	0	27	0	14	1	0	38	33	0	1	1	0	1	2	180	182
12:15 PM	11	39	1	0	31	0	19	2	1	32	27	0	2	0	0	3	5	163	168
12:30 PM	15	47	1	0	36	0	22	0	0	44	30	0	1	0	2	1	1	198	199
12:45 PM	16	57	0	0	26	0	17	1	0	38	25	1	0	0	0	4	6	179	185
Total	58	191	4	0	120	0	72	4	1	152	115	1	4	1	2	9	14	720	734
*** BREAK ***																			
04:00 PM	12	46	1	0	45	0	26	0	1	40	34	0	0	0	1	3	3	206	209
04:15 PM	9	55	1	0	36	0	20	2	2	42	38	0	1	0	0	1	3	204	207
04:30 PM	16	51	0	0	38	0	26	2	0	45	32	0	1	0	0	1	3	209	212
04:45 PM	22	43	1	0	33	0	34	0	0	50	25	0	0	0	0	4	4	208	212
Total	59	195	3	0	152	0	106	4	3	177	129	0	2	0	1	9	13	827	840
05:00 PM	13	55	0	0	34	0	26	2	0	61	29	0	2	0	1	4	6	221	227
05:15 PM	15	38	0	0	32	0	13	2	0	62	34	0	0	0	1	2	4	195	199
05:30 PM	13	38	1	0	40	0	21	4	0	57	38	0	0	0	1	2	6	209	215
05:45 PM	15	39	0	0	26	0	15	0	0	47	22	0	0	0	0	1	1	164	165
Total	56	170	1	0	132	0	75	8	0	227	123	0	2	0	3	9	17	789	806
Grand Total	309	1171	17	0	587	0	368	35	8	870	585	2	14	3	15	73	110	3947	4057
Apprch %	20.6	78.2	1.1		61.5	0	38.5		0.5	59.5	40		43.8	9.4	46.9				
Total %	7.8	29.7	0.4		14.9	0	9.3		0.2	22	14.8		0.4	0.1	0.4		2.7	97.3	
Passenger Vehicles	307	1144	16		575	0	365		8	850	579		14	3	14		0	0	3875
% Passenger Vehicles	99.4	97.7	94.1	0	98	0	99.2	0	100	97.7	99	0	100	100	93.3	0	0	0	95.5
Single Unit	2	25	1		11	0	3		0	19	6		0	0	1		0	0	68
% Single Unit	0.6	2.1	5.9	0	1.9	0	0.8	0	0	2.2	1	0	0	0	6.7	0	0	0	1.7
TTST	0	2	0		1	0	0		0	1	0		0	0	0		0	0	4
% TTST	0	0.2	0	0	0.2	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0		0	0	0		0	0	0		0	0	0		0	0	2
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.7	0	0	0
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	0	108
% Pedestrians	0	0	0	0	0	0	0	100	0	0	0	100	0	0	0	97.3	0	0	2.7

VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
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p: 919.829.0328 f: 919.833.0034

File Name : Willow@HarrisTeeter
Site Code :
Start Date : 11/21/2019
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	Willow Drive Southbound				Harris Teeter Westbound				Willow Drive Northbound				Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	11	68	1	80	8	0	6	14	1	21	12	34	1	0	0	1	129
08:00 AM	7	80	0	87	13	0	10	23	0	32	7	39	1	0	1	2	151
08:15 AM	15	62	1	78	17	0	6	23	0	28	14	42	0	0	1	1	144
08:30 AM	16	63	0	79	10	0	13	23	1	16	14	31	1	0	1	2	135
Total Volume	49	273	2	324	48	0	35	83	2	97	47	146	3	0	3	6	559
% App. Total	15.1	84.3	0.6		57.8	0	42.2		1.4	66.4	32.2		50	0	50		
PHF	.766	.853	.500	.931	.706	.000	.673	.902	.500	.758	.839	.869	.750	.000	.750	.750	.925
Passenger Vehicles	49	270	2	321	46	0	34	80	2	91	45	138	3	0	3	6	545
% Passenger Vehicles	100	98.9	100	99.1	95.8	0	97.1	96.4	100	93.8	95.7	94.5	100	0	100	100	97.5
Single Unit	0	3	0	3	2	0	1	3	0	6	2	8	0	0	0	0	14
% Single Unit	0	1.1	0	0.9	4.2	0	2.9	3.6	0	6.2	4.3	5.5	0	0	0	0	2.5
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

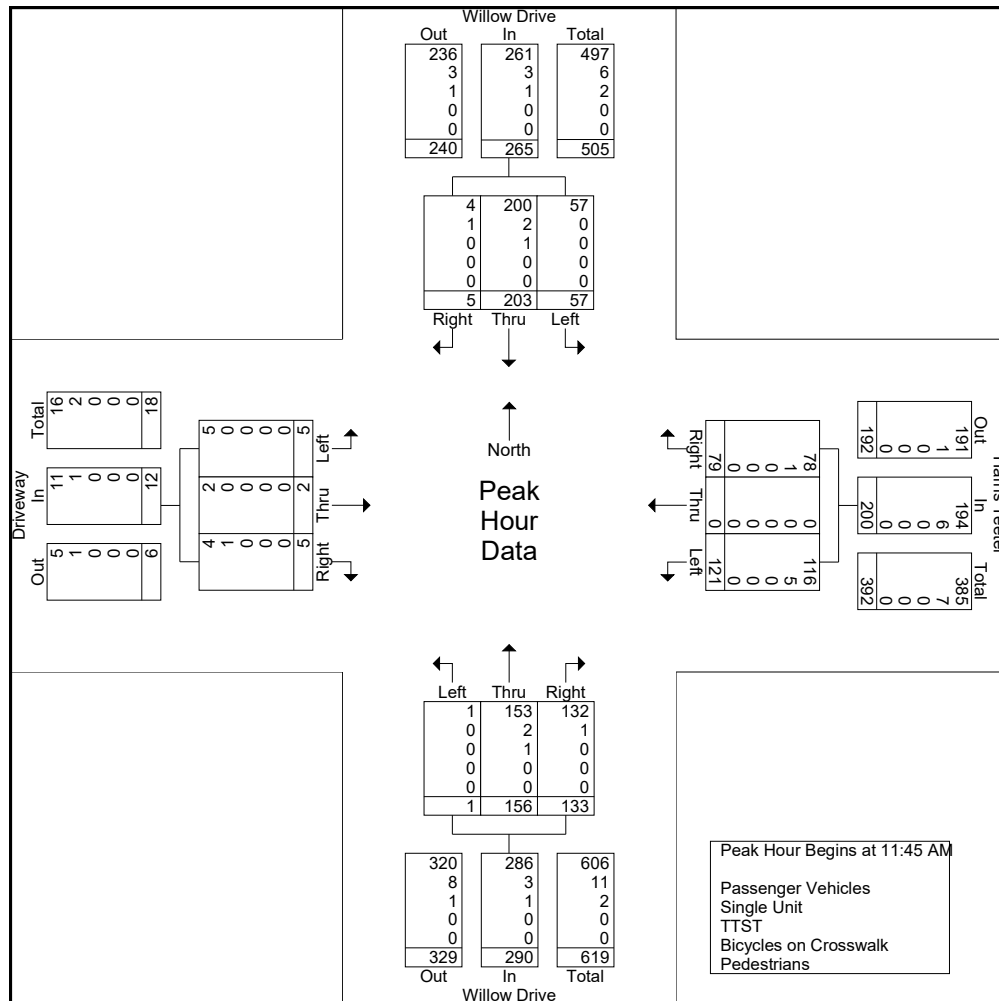


VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Willow@HarrisTeeter
Site Code :
Start Date : 11/21/2019
Page No : 3

	Willow Drive Southbound				Harris Teeter Westbound				Willow Drive Northbound				Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45 AM																	
11:45 AM	15	69	1	85	27	0	24	51	0	42	43	85	1	1	3	5	226
12:00 PM	16	48	2	66	27	0	14	41	0	38	33	71	1	1	0	2	180
12:15 PM	11	39	1	51	31	0	19	50	1	32	27	60	2	0	0	2	163
12:30 PM	15	47	1	63	36	0	22	58	0	44	30	74	1	0	2	3	198
Total Volume	57	203	5	265	121	0	79	200	1	156	133	290	5	2	5	12	767
% App. Total	21.5	76.6	1.9		60.5	0	39.5		0.3	53.8	45.9		41.7	16.7	41.7		
PHF	.891	.736	.625	.779	.840	.000	.823	.862	.250	.886	.773	.853	.625	.500	.417	.600	.848
Passenger Vehicles	57	200	4	261	116	0	78	194	1	153	132	286	5	2	4	11	752
% Passenger Vehicles	100	98.5	80.0	98.5	95.9	0	98.7	97.0	100	98.1	99.2	98.6	100	100	80.0	91.7	98.0
Single Unit	0	2	1	3	5	0	1	6	0	2	1	3	0	0	1	1	13
% Single Unit	0	1.0	20.0	1.1	4.1	0	1.3	3.0	0	1.3	0.8	1.0	0	0	20.0	8.3	1.7
TTST	0	1	0	1	0	0	0	0	0	1	0	1	0	0	0	0	2
% TTST	0	0.5	0	0.4	0	0	0	0	0	0.6	0	0.3	0	0	0	0	0.3
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

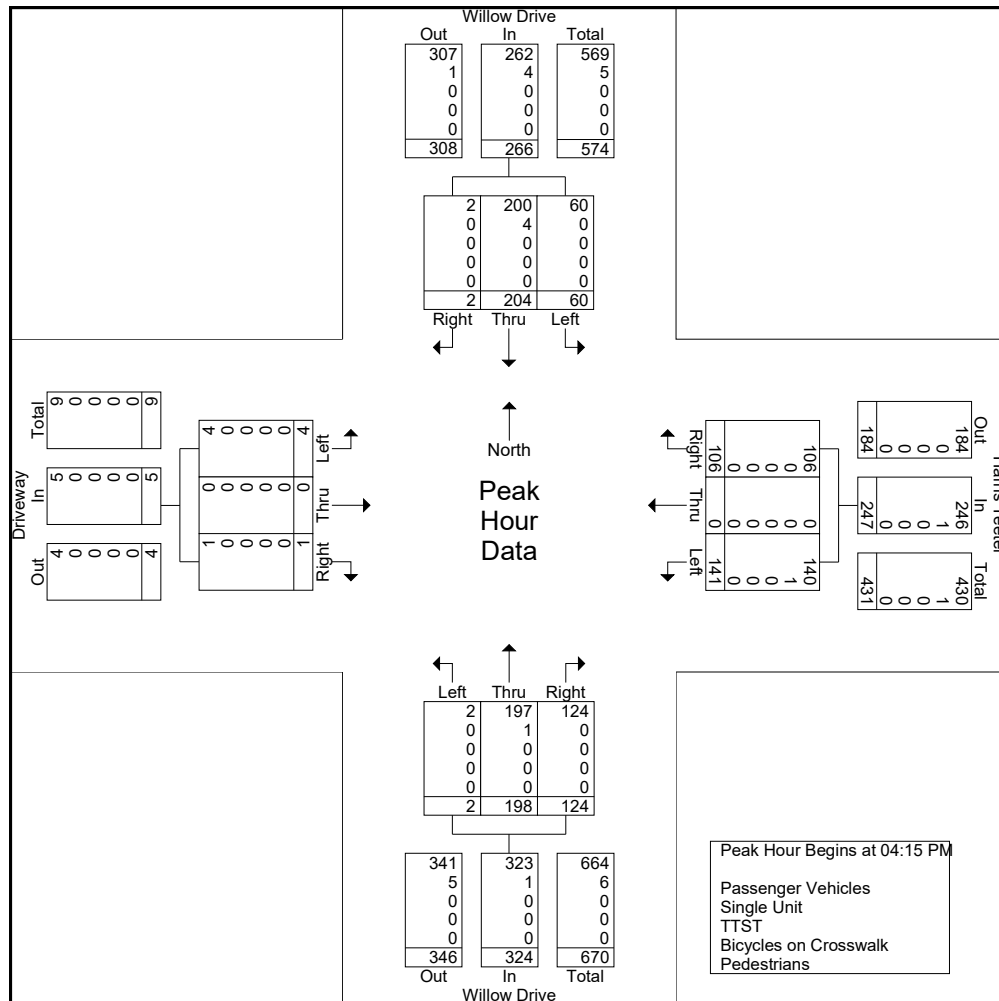


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Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Willow@HarrisTeeter
Site Code :
Start Date : 11/21/2019
Page No : 4

	Willow Drive Southbound				Harris Teeter Westbound				Willow Drive Northbound				Driveway Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	9	55	1	65	36	0	20	56	2	42	38	82	1	0	0	1	204
04:30 PM	16	51	0	67	38	0	26	64	0	45	32	77	1	0	0	1	209
04:45 PM	22	43	1	66	33	0	34	67	0	50	25	75	0	0	0	0	208
05:00 PM	13	55	0	68	34	0	26	60	0	61	29	90	2	0	1	3	221
Total Volume	60	204	2	266	141	0	106	247	2	198	124	324	4	0	1	5	842
% App. Total	22.6	76.7	0.8		57.1	0	42.9		0.6	61.1	38.3		80	0	20		
PHF	.682	.927	.500	.978	.928	.000	.779	.922	.250	.811	.816	.900	.500	.000	.250	.417	.952
Passenger Vehicles	60	200	2	262	140	0	106	246	2	197	124	323	4	0	1	5	836
% Passenger Vehicles	100	98.0	100	98.5	99.3	0	100	99.6	100	99.5	100	99.7	100	0	100	100	99.3
Single Unit	0	4	0	4	1	0	0	1	0	1	0	1	0	0	0	0	6
% Single Unit	0	2.0	0	1.5	0.7	0	0	0.4	0	0.5	0	0.3	0	0	0	0	0.7
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Willow@HarrisTeeter-Rear
Site Code :
Start Date : 11/21/2019
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Groups Printed- Passenger Vehicles - Single Unit - TTST - Bicycles on Crosswalk - Pedestrians

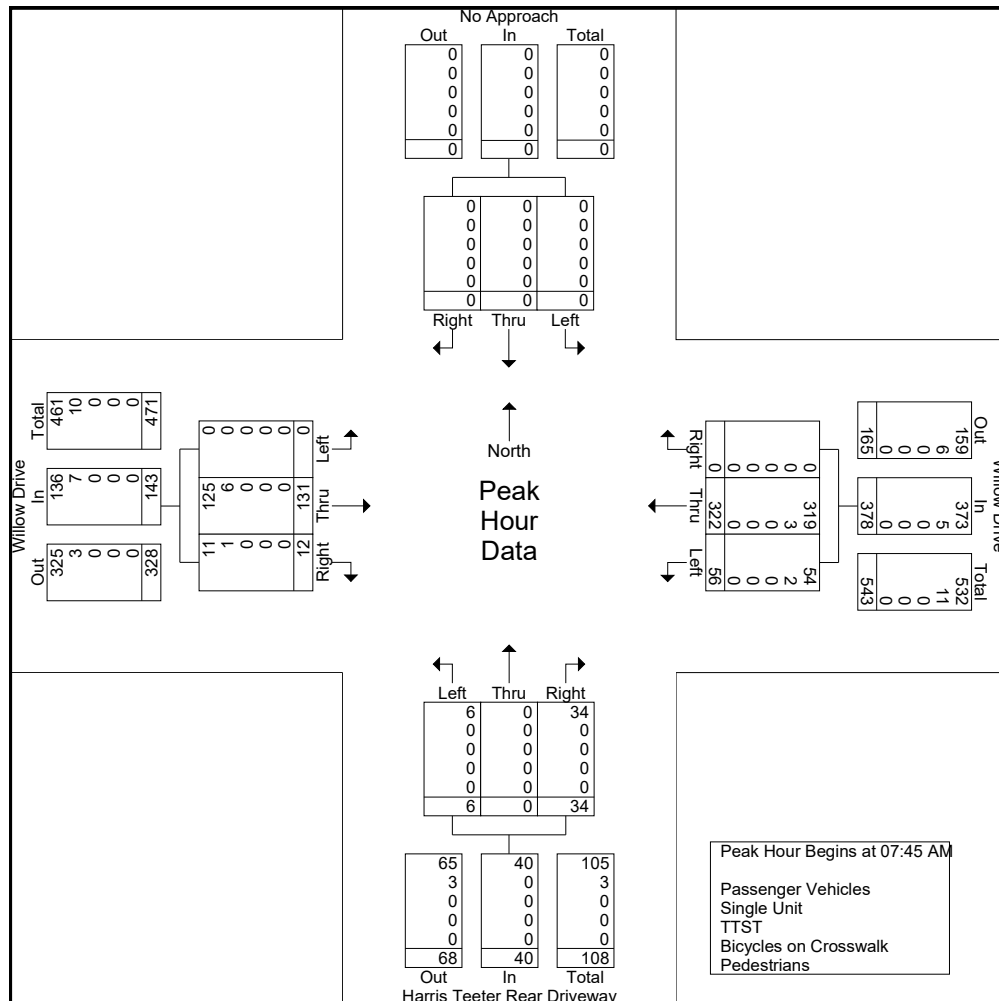
	No Approach Southbound				Willow Drive Westbound				Harris Teeter Rear Driveway Northbound				Willow Drive Eastbound				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	0	0	0	3	9	25	0	0	0	0	9	2	0	15	1	0	5	59	64
07:15 AM	0	0	0	0	9	36	0	1	0	0	3	0	0	15	1	0	1	64	65
07:30 AM	0	0	0	1	6	67	0	0	0	0	9	1	0	17	0	0	2	99	101
07:45 AM	0	0	0	5	17	80	0	0	0	0	2	0	0	24	1	0	5	124	129
Total	0	0	0	9	41	208	0	1	0	0	23	3	0	71	3	0	13	346	359
08:00 AM	0	0	0	0	8	87	0	2	1	0	9	0	0	42	4	0	2	151	153
08:15 AM	0	0	0	0	15	77	0	0	3	0	11	0	0	36	6	0	0	148	148
08:30 AM	0	0	0	1	16	78	0	0	2	0	12	0	0	29	1	0	1	138	139
08:45 AM	0	0	0	1	18	63	0	1	2	0	8	0	0	30	2	0	2	123	125
Total	0	0	0	2	57	305	0	3	8	0	40	0	0	137	13	0	5	560	565
*** BREAK ***																			
11:00 AM	0	0	0	0	18	52	0	0	2	0	22	1	0	54	1	0	1	149	150
11:15 AM	0	0	0	0	20	56	0	0	0	0	19	0	0	49	1	0	0	145	145
11:30 AM	0	0	0	1	19	46	0	0	0	0	14	0	0	44	1	1	2	124	126
11:45 AM	0	0	0	0	23	79	0	0	6	0	20	3	0	68	1	0	3	197	200
Total	0	0	0	1	80	233	0	0	8	0	75	4	0	215	4	1	6	615	621
12:00 PM	0	0	0	0	28	61	0	0	3	0	31	1	0	54	1	0	1	178	179
12:15 PM	0	0	0	2	29	48	0	0	3	0	19	4	0	52	0	1	7	151	158
12:30 PM	0	0	0	0	22	61	0	0	0	0	18	0	0	66	1	0	0	168	168
12:45 PM	0	0	0	1	21	73	0	0	2	0	22	0	0	53	1	0	1	172	173
Total	0	0	0	3	100	243	0	0	8	0	90	5	0	225	3	1	9	669	678
*** BREAK ***																			
04:00 PM	0	0	0	0	21	56	0	3	1	0	24	1	0	63	3	0	4	168	172
04:15 PM	0	0	0	0	32	65	0	0	1	0	20	0	0	65	0	0	0	183	183
04:30 PM	0	0	0	1	20	63	0	0	3	0	21	3	0	73	0	1	5	180	185
04:45 PM	0	0	0	0	18	63	0	0	3	0	13	0	0	88	0	0	0	185	185
Total	0	0	0	1	91	247	0	3	8	0	78	4	0	289	3	1	9	716	725
05:00 PM	0	0	0	0	27	70	0	0	3	0	20	4	0	90	1	0	4	211	215
05:15 PM	0	0	0	2	19	51	0	0	1	0	17	1	0	74	1	0	3	163	166
05:30 PM	0	0	0	1	20	51	0	0	5	0	26	0	0	78	2	0	1	182	183
05:45 PM	0	0	0	0	19	53	0	0	0	0	23	0	0	60	0	0	0	155	155
Total	0	0	0	3	85	225	0	0	9	0	86	5	0	302	4	0	8	711	719
Grand Total	0	0	0	19	454	1461	0	7	41	0	392	21	0	1239	30	3	50	3617	3667
Apprch %	0	0	0		23.7	76.3	0		9.5	0	90.5		0	97.6	2.4				
Total %	0	0	0		12.6	40.4	0		1.1	0	10.8		0	34.3	0.8		1.4	98.6	
Passenger Vehicles	0	0	0		443	1432	0		40	0	389		0	1218	28		0	0	3550
% Passenger Vehicles	0	0	0	0	97.6	98	0	0	97.6	0	99.2	0	0	98.3	93.3	0	0	0	96.8
Single Unit	0	0	0		10	27	0		1	0	3		0	20	2		0	0	63
% Single Unit	0	0	0	0	2.2	1.8	0	0	2.4	0	0.8	0	0	1.6	6.7	0	0	0	1.7
TTST	0	0	0		1	2	0		0	0	0		0	1	0		0	0	4
% TTST	0	0	0	0	0.2	0.1	0	0	0	0	0	0	0	0.1	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0		0	0	0		0	0	0		0	0	0		0	0	3
% Bicycles on Crosswalk	0	0	0	15.8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	0	47
% Pedestrians	0	0	0	84.2	0	0	0	100	0	0	0	100	0	0	0	100	0	0	1.3

VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Willow@HarrisTeeter-Rear
Site Code :
Start Date : 11/21/2019
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	No Approach Southbound				Willow Drive Westbound				Harris Teeter Rear Driveway Northbound				Willow Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	0	0	0	0	17	80	0	97	0	0	2	2	0	24	1	25	124
08:00 AM	0	0	0	0	8	87	0	95	1	0	9	10	0	42	4	46	151
08:15 AM	0	0	0	0	15	77	0	92	3	0	11	14	0	36	6	42	148
08:30 AM	0	0	0	0	16	78	0	94	2	0	12	14	0	29	1	30	138
Total Volume	0	0	0	0	56	322	0	378	6	0	34	40	0	131	12	143	561
% App. Total	0	0	0	0	14.8	85.2	0		15	0	85		0	91.6	8.4		
PHF	.000	.000	.000	.000	.824	.925	.000	.974	.500	.000	.708	.714	.000	.780	.500	.777	.929
Passenger Vehicles	0	0	0	0	54	319	0	373	6	0	34	40	0	125	11	136	549
% Passenger Vehicles	0	0	0	0	96.4	99.1	0	98.7	100	0	100	100	0	95.4	91.7	95.1	97.9
Single Unit	0	0	0	0	2	3	0	5	0	0	0	0	0	6	1	7	12
% Single Unit	0	0	0	0	3.6	0.9	0	1.3	0	0	0	0	0	4.6	8.3	4.9	2.1
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

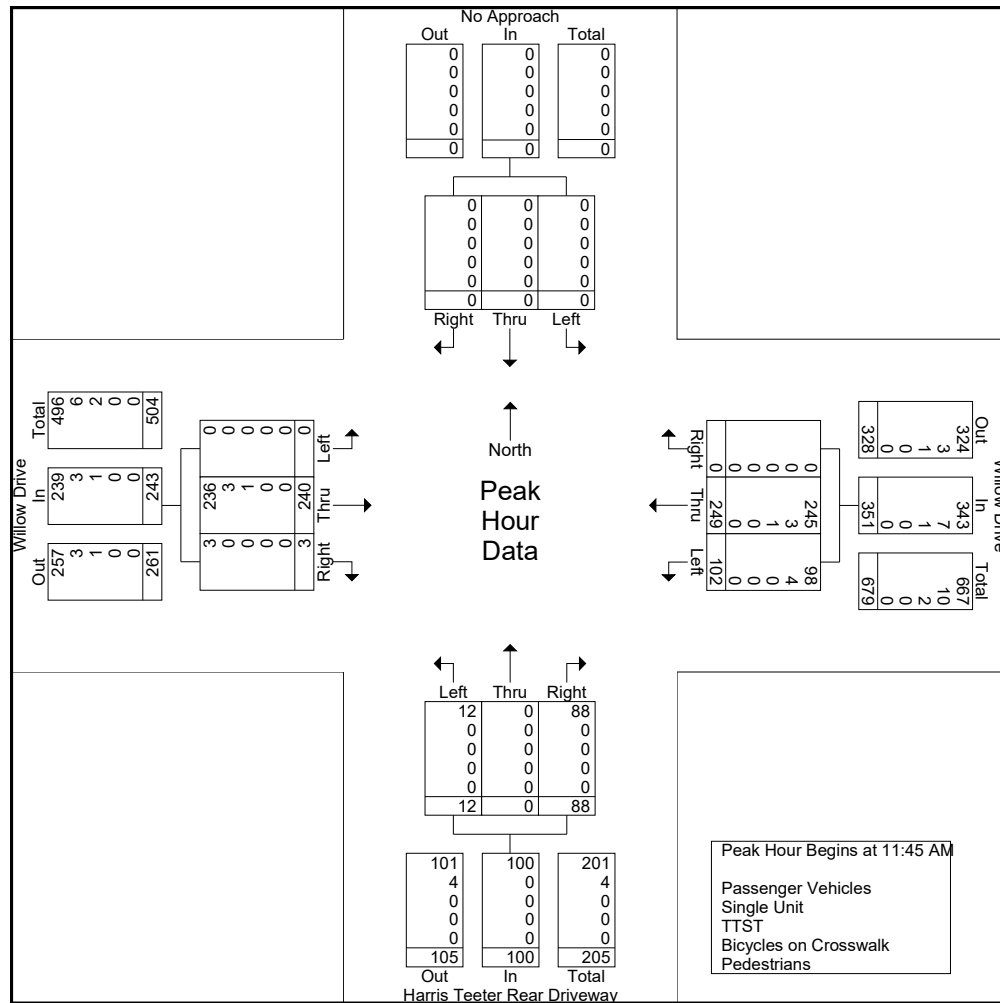
File Name : Willow@HarrisTeeter-Rear

Site Code :

Start Date : 11/21/2019

Page No : 3

	No Approach Southbound				Willow Drive Westbound				Harris Teeter Rear Driveway Northbound				Willow Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:45 AM																	
11:45 AM	0	0	0	0	23	79	0	102	6	0	20	26	0	68	1	69	197
12:00 PM	0	0	0	0	28	61	0	89	3	0	31	34	0	54	1	55	178
12:15 PM	0	0	0	0	29	48	0	77	3	0	19	22	0	52	0	52	151
12:30 PM	0	0	0	0	22	61	0	83	0	0	18	18	0	66	1	67	168
Total Volume	0	0	0	0	102	249	0	351	12	0	88	100	0	240	3	243	694
% App. Total	0	0	0	0	29.1	70.9	0		12	0	88		0	98.8	1.2		
PHF	.000	.000	.000	.000	.879	.788	.000	.860	.500	.000	.710	.735	.000	.882	.750	.880	.881
Passenger Vehicles	0	0	0	0	98	245	0	343	12	0	88	100	0	236	3	239	682
% Passenger Vehicles	0	0	0	0	96.1	98.4	0	97.7	100	0	100	100	0	98.3	100	98.4	98.3
Single Unit	0	0	0	0	4	3	0	7	0	0	0	0	0	3	0	3	10
% Single Unit	0	0	0	0	3.9	1.2	0	2.0	0	0	0	0	0	1.3	0	1.2	1.4
TTST	0	0	0	0	0	1	0	1	0	0	0	0	0	1	0	1	2
% TTST	0	0	0	0	0	0.4	0	0.3	0	0	0	0	0	0.4	0	0.4	0.3
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

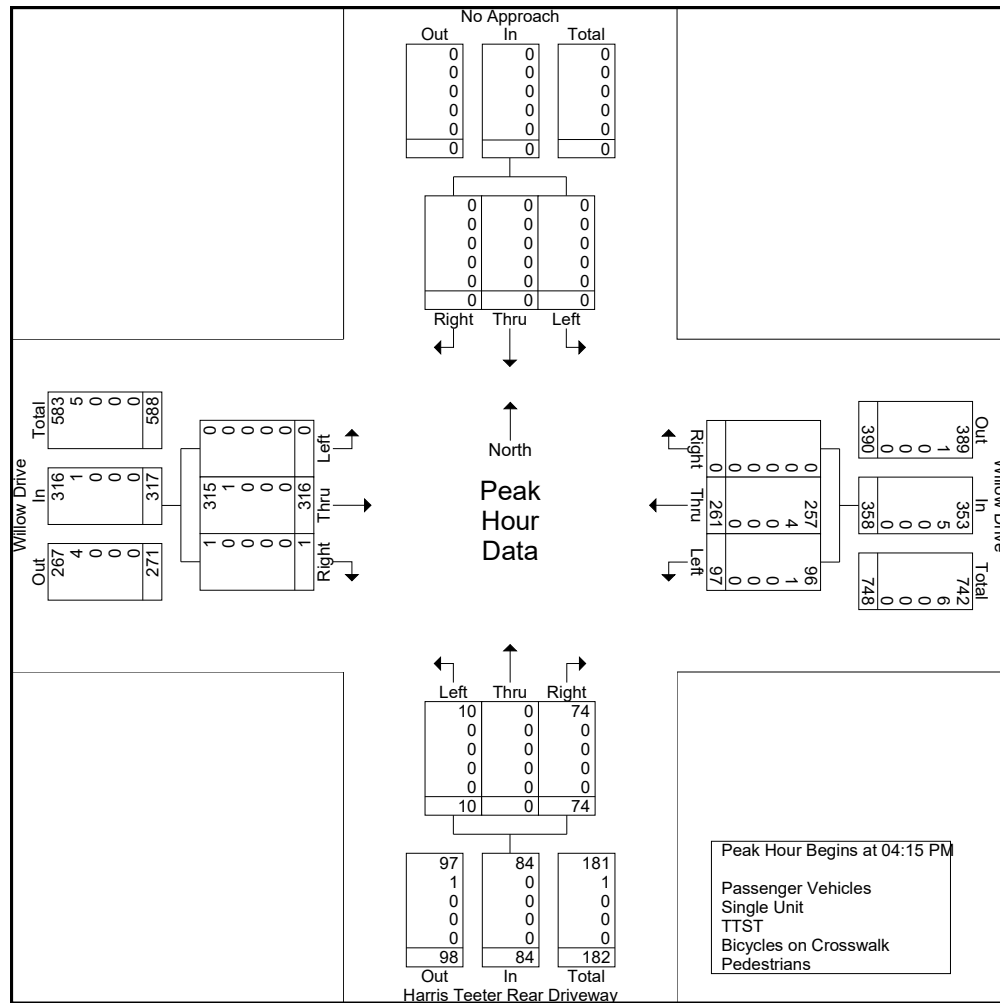
File Name : Willow@HarrisTeeter-Rear

Site Code :

Start Date : 11/21/2019

Page No : 4

	No Approach Southbound				Willow Drive Westbound				Harris Teeter Rear Driveway Northbound				Willow Drive Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 04:15 PM																	
04:15 PM	0	0	0	0	32	65	0	97	1	0	20	21	0	65	0	65	183
04:30 PM	0	0	0	0	20	63	0	83	3	0	21	24	0	73	0	73	180
04:45 PM	0	0	0	0	18	63	0	81	3	0	13	16	0	88	0	88	185
05:00 PM	0	0	0	0	27	70	0	97	3	0	20	23	0	90	1	91	211
Total Volume	0	0	0	0	97	261	0	358	10	0	74	84	0	316	1	317	759
% App. Total	0	0	0	0	27.1	72.9	0		11.9	0	88.1		0	99.7	0.3		
PHF	.000	.000	.000	.000	.758	.932	.000	.923	.833	.000	.881	.875	.000	.878	.250	.871	.899
Passenger Vehicles	0	0	0	0	96	257	0	353	10	0	74	84	0	315	1	316	753
% Passenger Vehicles	0	0	0	0	99.0	98.5	0	98.6	100	0	100	100	0	99.7	100	99.7	99.2
Single Unit	0	0	0	0	1	4	0	5	0	0	0	0	0	1	0	1	6
% Single Unit	0	0	0	0	1.0	1.5	0	1.4	0	0	0	0	0	0.3	0	0.3	0.8
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Willow@UniversityPlace
Site Code :
Start Date : 11/21/2019
Page No : 1

Groups Printed- Passenger Vehicles - Single Unit - TTST - Bicycles on Crosswalk - Pedestrians

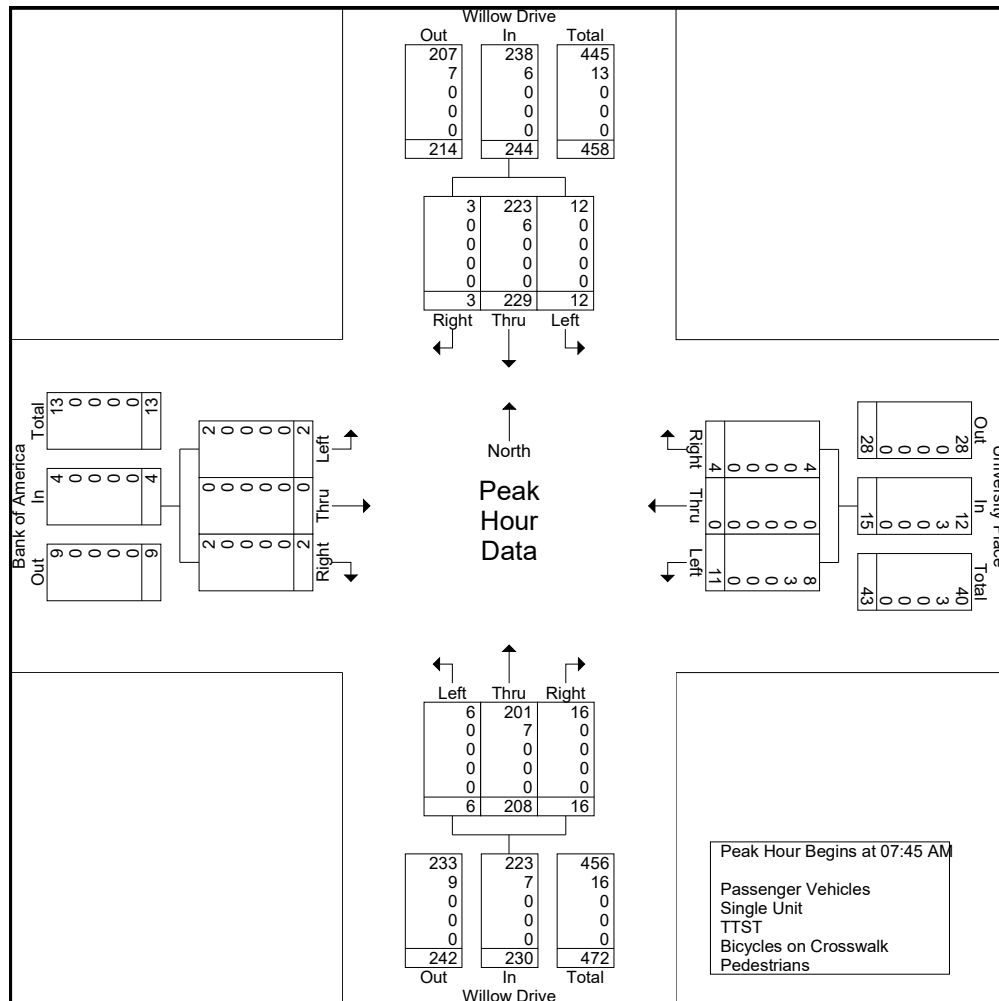
	Willow Drive Southbound				University Place Westbound				Willow Drive Northbound				Bank of America Eastbound				Exclu. Total	Inclu. Total	Int. Total
Start Time	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds	Left	Thru	Right	Peds			
07:00 AM	2	24	0	0	5	0	0	3	0	21	5	1	0	0	0	1	5	57	62
07:15 AM	4	25	1	0	4	0	5	0	0	23	5	0	1	0	0	0	0	68	68
07:30 AM	2	50	0	0	1	0	0	1	1	36	1	1	0	0	1	2	4	92	96
07:45 AM	2	52	0	0	4	0	1	1	1	54	3	2	1	0	0	1	4	118	122
Total	10	151	1	0	14	0	6	5	2	134	14	4	2	0	1	4	13	335	348
08:00 AM	2	65	2	0	2	0	1	2	0	55	6	0	1	0	0	0	2	134	136
08:15 AM	2	59	1	0	4	0	1	0	5	57	4	0	0	0	2	0	0	135	135
08:30 AM	6	53	0	0	1	0	1	1	0	42	3	3	0	0	0	1	5	106	111
08:45 AM	5	45	0	0	3	0	2	2	2	46	3	4	0	0	0	4	10	106	116
Total	15	222	3	0	10	0	5	5	7	200	16	7	1	0	2	5	17	481	498
*** BREAK ***																			
11:00 AM	10	55	5	0	7	0	7	1	5	48	9	1	3	0	5	0	2	154	156
11:15 AM	8	63	5	0	10	0	4	2	10	52	7	0	2	0	6	3	5	167	172
11:30 AM	9	53	3	0	10	0	6	1	4	52	12	2	4	0	7	2	5	160	165
11:45 AM	10	79	5	0	15	0	9	0	4	68	15	0	5	1	5	0	0	216	216
Total	37	250	18	0	42	0	26	4	23	220	43	3	14	1	23	5	12	697	709
12:00 PM	10	80	2	0	14	1	5	1	3	49	13	4	2	0	10	1	6	189	195
12:15 PM	7	63	2	0	5	1	2	3	4	47	11	5	0	3	3	3	11	148	159
12:30 PM	2	76	0	0	11	0	4	2	2	61	5	5	1	0	2	3	10	164	174
12:45 PM	4	66	6	1	12	0	7	3	6	50	7	6	3	0	6	1	11	167	178
Total	23	285	10	1	42	2	18	9	15	207	36	20	6	3	21	8	38	668	706
*** BREAK ***																			
04:00 PM	5	91	1	0	13	1	9	0	3	49	11	0	3	1	3	3	3	190	193
04:15 PM	4	85	3	0	12	0	5	0	3	75	6	0	3	0	5	2	2	201	203
04:30 PM	11	99	0	0	13	0	4	1	1	62	7	1	0	0	5	1	3	202	205
04:45 PM	2	79	0	1	13	0	5	2	2	59	7	0	2	0	1	3	6	170	176
Total	22	354	4	1	51	1	23	3	9	245	31	1	8	1	14	9	14	763	777
05:00 PM	9	113	2	0	7	0	3	2	3	60	7	2	3	0	1	1	5	208	213
05:15 PM	9	80	1	0	15	0	9	0	0	74	14	4	1	0	1	0	4	204	208
05:30 PM	5	98	1	0	14	0	6	1	0	84	13	0	0	0	1	1	2	222	224
05:45 PM	6	67	1	0	14	0	3	4	1	63	19	2	0	1	1	3	9	176	185
Total	29	358	5	0	50	0	21	7	4	281	53	8	4	1	4	5	20	810	830
Grand Total	136	1620	41	2	209	3	99	33	60	1287	193	43	35	6	65	36	114	3754	3868
Apprch %	7.6	90.2	2.3		67.2	1	31.8		3.9	83.6	12.5		33	5.7	61.3				
Total %	3.6	43.2	1.1		5.6	0.1	2.6		1.6	34.3	5.1		0.9	0.2	1.7		2.9	97.1	
Passenger Vehicles	133	1583	40		173	3	95		59	1267	188		35	5	64		0	0	3645
% Passenger Vehicles	97.8	97.7	97.6	0	82.8	100	96	0	98.3	98.4	97.4	0	100	83.3	98.5	0	0	0	94.2
Single Unit	3	34	1		36	0	4		1	19	5		0	1	1		0	0	105
% Single Unit	2.2	2.1	2.4	0	17.2	0	4	0	1.7	1.5	2.6	0	0	16.7	1.5	0	0	0	2.7
TTST	0	3	0		0	0	0		0	1	0		0	0	0		0	0	4
% TTST	0	0.2	0	0	0	0	0	0	0	0.1	0	0	0	0	0	0	0	0	0.1
Bicycles on Crosswalk	0	0	0		0	0	0		0	0	0		0	0	0		0	0	2
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	2.3	0	0	0	2.8	0	0	0.1
Pedestrians	0	0	0		0	0	0		0	0	0		0	0	0		0	0	112
% Pedestrians	0	0	0	100	0	0	0	100	0	0	0	97.7	0	0	0	97.2	0	0	2.9

VHB Engineering NC, P.C.

Venture I
940 Main Campus Drive, Suite 500
Raleigh, NC 27606
p: 919.829.0328 f: 919.833.0034

File Name : Willow@UniversityPlace
Site Code :
Start Date : 11/21/2019
Page No : 2

	Willow Drive Southbound				University Place Westbound				Willow Drive Northbound				Bank of America Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 07:45 AM																	
07:45 AM	2	52	0	54	4	0	1	5	1	54	3	58	1	0	0	1	118
08:00 AM	2	65	2	69	2	0	1	3	0	55	6	61	1	0	0	1	134
08:15 AM	2	59	1	62	4	0	1	5	5	57	4	66	0	0	2	2	135
08:30 AM	6	53	0	59	1	0	1	2	0	42	3	45	0	0	0	0	106
Total Volume	12	229	3	244	11	0	4	15	6	208	16	230	2	0	2	4	493
% App. Total	4.9	93.9	1.2		73.3	0	26.7		2.6	90.4	7		50	0	50		
PHF	.500	.881	.375	.884	.688	.000	1.00	.750	.300	.912	.667	.871	.500	.000	.250	.500	.913
Passenger Vehicles	12	223	3	238	8	0	4	12	6	201	16	223	2	0	2	4	477
% Passenger Vehicles	100	97.4	100	97.5	72.7	0	100	80.0	100	96.6	100	97.0	100	0	100	100	96.8
Single Unit	0	6	0	6	3	0	0	3	0	7	0	7	0	0	0	0	16
% Single Unit	0	2.6	0	2.5	27.3	0	0	20.0	0	3.4	0	3.0	0	0	0	0	3.2
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

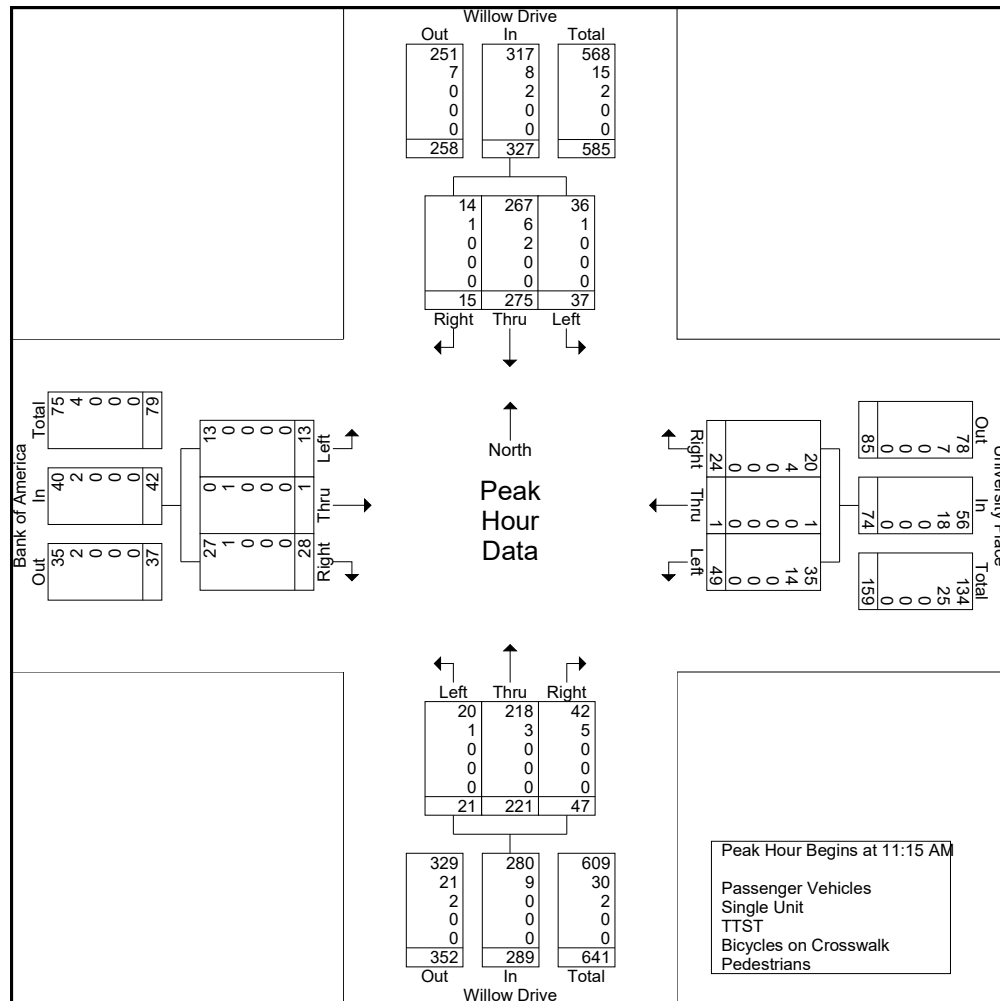
File Name : Willow@UniversityPlace

Site Code :

Start Date : 11/21/2019

Page No : 3

	Willow Drive Southbound				University Place Westbound				Willow Drive Northbound				Bank of America Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 11:15 AM																	
11:15 AM	8	63	5	76	10	0	4	14	10	52	7	69	2	0	6	8	167
11:30 AM	9	53	3	65	10	0	6	16	4	52	12	68	4	0	7	11	160
11:45 AM	10	79	5	94	15	0	9	24	4	68	15	87	5	1	5	11	216
12:00 PM	10	80	2	92	14	1	5	20	3	49	13	65	2	0	10	12	189
Total Volume	37	275	15	327	49	1	24	74	21	221	47	289	13	1	28	42	732
% App. Total	11.3	84.1	4.6		66.2	1.4	32.4		7.3	76.5	16.3		31	2.4	66.7		
PHF	.925	.859	.750	.870	.817	.250	.667	.771	.525	.813	.783	.830	.650	.250	.700	.875	.847
Passenger Vehicles	36	267	14	317	35	1	20	56	20	218	42	280	13	0	27	40	693
% Passenger Vehicles	97.3	97.1	93.3	96.9	71.4	100	83.3	75.7	95.2	98.6	89.4	96.9	100	0	96.4	95.2	94.7
Single Unit	1	6	1	8	14	0	4	18	1	3	5	9	0	1	1	2	37
% Single Unit	2.7	2.2	6.7	2.4	28.6	0	16.7	24.3	4.8	1.4	10.6	3.1	0	100	3.6	4.8	5.1
TTST	0	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
% TTST	0	0.7	0	0.6	0	0	0	0	0	0	0	0	0	0	0	0	0.3
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



VHB Engineering NC, P.C.

Venture I

940 Main Campus Drive, Suite 500

Raleigh, NC 27606

p: 919.829.0328 f: 919.833.0034

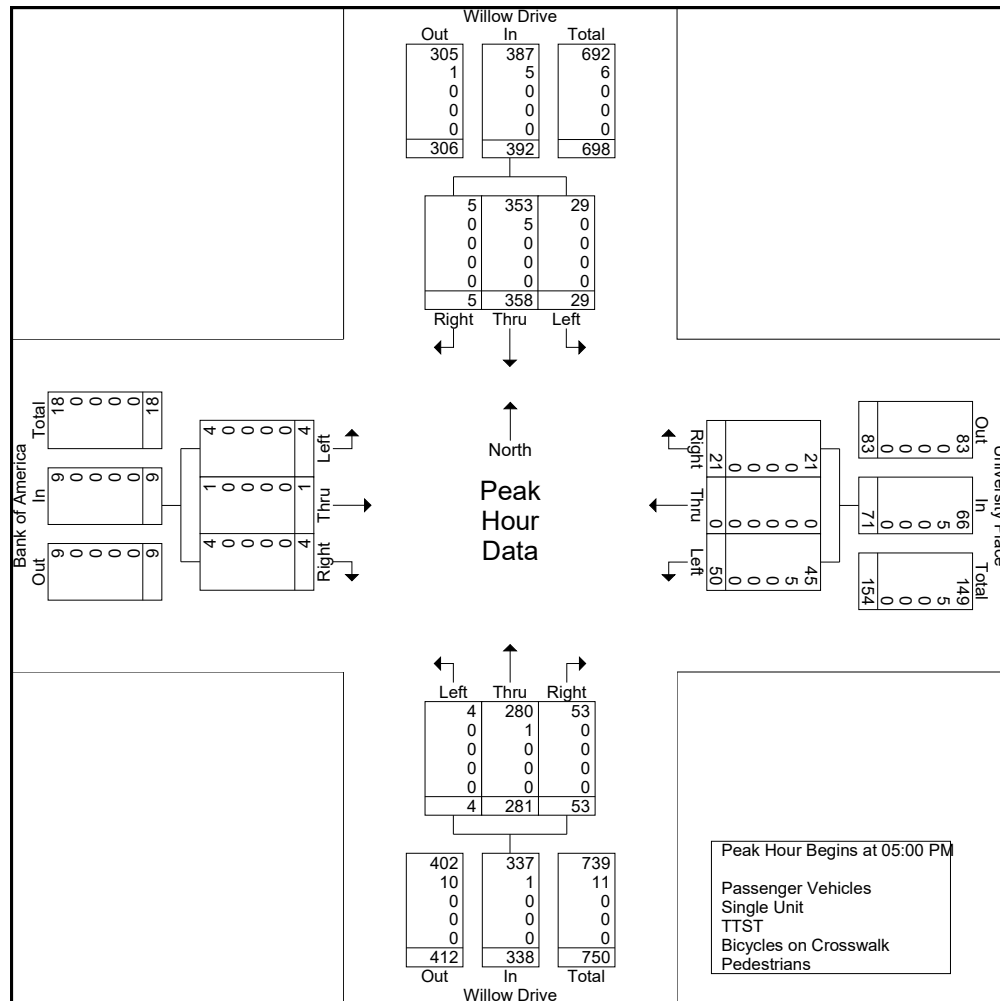
File Name : Willow@UniversityPlace

Site Code :

Start Date : 11/21/2019

Page No : 4

	Willow Drive Southbound				University Place Westbound				Willow Drive Northbound				Bank of America Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 05:00 PM																	
05:00 PM	9	113	2	124	7	0	3	10	3	60	7	70	3	0	1	4	208
05:15 PM	9	80	1	90	15	0	9	24	0	74	14	88	1	0	1	2	204
05:30 PM	5	98	1	104	14	0	6	20	0	84	13	97	0	0	1	1	222
05:45 PM	6	67	1	74	14	0	3	17	1	63	19	83	0	1	1	2	176
Total Volume	29	358	5	392	50	0	21	71	4	281	53	338	4	1	4	9	810
% App. Total	7.4	91.3	1.3		70.4	0	29.6		1.2	83.1	15.7		44.4	11.1	44.4		
PHF	.806	.792	.625	.790	.833	.000	.583	.740	.333	.836	.697	.871	.333	.250	1.00	.563	.912
Passenger Vehicles	29	353	5	387	45	0	21	66	4	280	53	337	4	1	4	9	799
% Passenger Vehicles	100	98.6	100	98.7	90.0	0	100	93.0	100	99.6	100	99.7	100	100	100	100	98.6
Single Unit	0	5	0	5	5	0	0	5	0	1	0	1	0	0	0	0	11
% Single Unit	0	1.4	0	1.3	10.0	0	0	7.0	0	0.4	0	0.3	0	0	0	0	1.4
TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% TTST	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bicycles on Crosswalk	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Pedestrians	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0



C

Crash Data

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Study Criteria Summary

County: ORANGE **City:** All and Rural
Date: 12/01/2014 to 11/30/2019 **Study:** 41000059409
Location: Willow Dr from SR 1750 (Estes Dr) to US 15/US 501 (Fordham Blvd)

Report Details

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
1	104770021	0.000	06/01/2016 17:14	LEFT TURN, SAME ROADWAY	\$ 9000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 30 MPH Dir: NW		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: SE		Veh Mnvr/Ped Actn:				8	Obj Strk:					
2	104931395	0.000	11/09/2016 08:49	PEDESTRIAN	\$ 0	0	0	1	0	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:		14			
Unit	2 : 24	Alchl/Drugs:	0	Speed: 0 MPH Dir:		Veh Mnvr/Ped Actn:					Obj Strk:		14			
3	105539548	0.000	07/06/2018 12:53	RIGHT TURN, DIFFERENT ROADWAYS	\$ 2500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				7	Obj Strk:					
4	105629524	0.000	10/03/2018 08:43	ANGLE	\$ 5500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
5	106024205	0.000	09/27/2019 16:42	LEFT TURN, SAME ROADWAY	\$ 1500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 15 MPH Dir: SE		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 35 MPH Dir: NW		Veh Mnvr/Ped Actn:				4	Obj Strk:					
6	106042067	0.000	10/21/2019 21:41	PEDESTRIAN	\$ 0	0	0	0	1	1	4	2	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 10 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:		14			
Unit	2 : 24	Alchl/Drugs:	0	Speed: 0 MPH Dir:		Veh Mnvr/Ped Actn:					Obj Strk:		14			
7	105636954	0.034	10/11/2018 12:23	LEFT TURN, SAME ROADWAY	\$ 4000	0	0	1	0	2	1	3	1	0	1	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
8	104868320	0.036	09/17/2016 13:31	LEFT TURN, SAME ROADWAY	\$ 4000	0	0	0	1	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drugs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 3	Alchl/Drugs:	0	Speed: 25 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
9	104732524	0.060	05/05/2016 22:57	ANGLE	\$ 3000	0	0	0	0	2	4	3	1	0		
Unit	1 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
10	105146549	0.060	06/20/2017 13:03	LEFT TURN, DIFFERENT ROADWAYS	\$ 5400	0	0	0	0	1	1	1	1	0	1	2
Unit	1 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: SE		Veh Mnvr/Ped Actn:				8	Obj Strk:					
11	105001614	0.130	01/16/2017 09:59	OTHER NON-COLLISION	\$ 2100	0	0	0	0	1	1	2	1	0	0	
Unit	1 : 32	Alchl/Drugs:	0	Speed: 7 MPH Dir: SW		Veh Mnvr/Ped Actn:				4	Obj Strk: 33					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 0 MPH Dir: NE		Veh Mnvr/Ped Actn:				1	Obj Strk: 33					
12	105656667	0.130	10/24/2018 12:59	LEFT TURN, DIFFERENT ROADWAYS	\$ 7750	0	0	0	2	1	1	1	1	0	1	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: SE		Veh Mnvr/Ped Actn:				8	Obj Strk:					
13	105035356	0.147	03/07/2017 14:55	RAN OFF ROAD - LEFT	\$ 1000	0	0	0	0	1	1	1	3	0	0	2
Unit	1 : 1	Alchl/Drugs:	0	Speed: 25 MPH Dir: NE		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 25 MPH Dir: NW		Veh Mnvr/Ped Actn:				4	Obj Strk:					
14	104955143	0.188	12/17/2016 15:25	RAN OFF ROAD - LEFT	\$ 2300	0	0	0	0	1	1	2	3	0	1	1
Unit	1 : 3	Alchl/Drugs:	0	Speed: 25 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
15	105046445	0.188	03/21/2017 13:08	HEAD ON	\$ 7000	0	0	0	2	1	1	2	3	0	1	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
16	105498704	0.188	05/21/2018 17:44	LEFT TURN, SAME ROADWAY	\$ 650	0	0	1	0	1	1	1	1	0	0	
Unit	1 : 4	Alchl/Drugs:	0	Speed: 20 MPH Dir: SW		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 21	Alchl/Drugs:	0	Speed: 20 MPH Dir: NE		Veh Mnvr/Ped Actn:				4	Obj Strk:					
17	106051625	0.188	10/25/2019 11:52	LEFT TURN, DIFFERENT ROADWAYS	\$ 26000	0	0	0	0	1	1	1	1	0	1	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 5 MPH Dir: NW		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 35 MPH Dir: NE		Veh Mnvr/Ped Actn:				4	Obj Strk:					

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type			Total Damage	Injuries				Condition			Road		Trfc Ctl	
								F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	3 : 4	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	SW	Veh Mnvr/Ped Actn:				1	Obj Strk:					
18	105934756	0.216	06/14/2019 14:36	PEDALCYCLIST			\$ 350	0	0	1	0	1	1	1	1	0	13	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	15 MPH	Dir:	E	Veh Mnvr/Ped Actn:				4	Obj Strk: 15					
Unit	2 : 23	Alchl/Drgs:	0	Speed:	0 MPH	Dir:		Veh Mnvr/Ped Actn:					Obj Strk: 15					
19	105373717	0.340	01/25/2018 13:00	LEFT TURN, SAME ROADWAY			\$ 4000	0	0	0	0	1	1	1	1	0	0	2
Unit	1 : 4	Alchl/Drgs:	0	Speed:	20 MPH	Dir:	E	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	5 MPH	Dir:	SW	Veh Mnvr/Ped Actn:				8	Obj Strk:					
20	106040392	0.340	10/17/2019 09:23	LEFT TURN, SAME ROADWAY			\$ 11000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed:	15 MPH	Dir:	E	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	10 MPH	Dir:	W	Veh Mnvr/Ped Actn:				8	Obj Strk:					
21	104628348	0.372	01/14/2016 18:03	SIDESWIPE, OPPOSITE DIRECTION			\$ 3500	0	0	0	0	1	5	1	1	0	0	2
Unit	1 : 1	Alchl/Drgs:	0	Speed:	10 MPH	Dir:	W	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	10 MPH	Dir:	E	Veh Mnvr/Ped Actn:				4	Obj Strk:					
22	105576529	0.396	08/12/2018 19:37	REAR END, SLOW OR STOP			\$ 2000	0	0	0	1	3	2	3	5	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	15 MPH	Dir:	W	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	W	Veh Mnvr/Ped Actn:				11	Obj Strk:					
23	106042058	0.398	10/19/2019 14:32	REAR END, SLOW OR STOP			\$ 100	0	0	0	1	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	E	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	5 MPH	Dir:	E	Veh Mnvr/Ped Actn:				4	Obj Strk:					
24	104534861	0.415	10/19/2015 15:51	REAR END, SLOW OR STOP			\$ 4800	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	E	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	25 MPH	Dir:	E	Veh Mnvr/Ped Actn:				4	Obj Strk:					
25	104355627	0.420	03/06/2015 15:30	ANGLE			\$ 20000	0	0	1	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	45 MPH	Dir:	S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	10 MPH	Dir:	W	Veh Mnvr/Ped Actn:				8	Obj Strk:					
26	104355636	0.420	03/10/2015 09:29	LEFT TURN, DIFFERENT ROADWAYS			\$ 1500	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed:	5 MPH	Dir:	E	Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	35 MPH	Dir:	S	Veh Mnvr/Ped Actn:				4	Obj Strk:					

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
27	104471804	0.420	08/14/2015 15:51	LEFT TURN, SAME ROADWAY	\$ 9500	0	0	0	3	1	1	1	1	0	3	1
Unit	1 : 2	Alchl/Drugs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 3	Alchl/Drugs:	0	Speed: 15 MPH Dir: NW		Veh Mnvr/Ped Actn:				8	Obj Strk:					
28	104548780	0.420	11/03/2015 17:45	ANGLE	\$ 13500	0	0	0	0	2	4	3	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
29	104780820	0.420	06/08/2016 08:37	LEFT TURN, SAME ROADWAY	\$ 9700	0	0	0	2	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 1	Alchl/Drugs:	0	Speed: 30 MPH Dir: W		Veh Mnvr/Ped Actn:				1	Obj Strk:					
30	104920651	0.420	10/23/2016 13:55	LEFT TURN, SAME ROADWAY	\$ 20000	0	0	2	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 55 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
31	104924603	0.420	10/25/2016 14:00	LEFT TURN, SAME ROADWAY	\$ 18500	0	0	0	2	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 20 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk: 35					
32	104953108	0.420	11/28/2016 19:00	SIDESWIPE, SAME DIRECTION	\$ 5000	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 7 MPH Dir: N		Veh Mnvr/Ped Actn:				9	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
33	104991429	0.420	01/04/2017 09:32	RAN OFF ROAD - LEFT	\$ 9350	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 2	Alchl/Drugs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
34	105011789	0.420	02/11/2017 10:55	LEFT TURN, SAME ROADWAY	\$ 12000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 3	Alchl/Drugs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 50 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
35	105036228	0.420	03/08/2017 15:10	LEFT TURN, SAME ROADWAY	\$ 10000	0	0	1	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 40 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
36	105039656	0.420	03/12/2017 18:18	RAN OFF ROAD - STRAIGHT	\$ 1200	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 5	Alchl/Drgs:	0	Speed: 5 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
37	105184364	0.420	08/02/2017 19:54	LEFT TURN, SAME ROADWAY	\$ 12000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
38	105307183	0.420	11/30/2017 17:30	LEFT TURN, DIFFERENT ROADWAYS	\$ 5800	0	0	0	0	1	2	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
39	105319154	0.420	12/01/2017 07:17	REAR END, SLOW OR STOP	\$ 101	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 5 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: E		Veh Mnvr/Ped Actn:				1	Obj Strk:					
40	105524308	0.420	06/24/2018 17:58	LEFT TURN, SAME ROADWAY	\$ 5000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 5	Alchl/Drgs:	0	Speed: 25 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
41	105638263	0.420	10/05/2018 13:04	LEFT TURN, DIFFERENT ROADWAYS	\$ 4000	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 10	Alchl/Drgs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
42	105645184	0.420	10/14/2018 12:05	ANGLE	\$ 8000	0	1	0	0	2	1	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 25 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
43	105792783	0.420	02/20/2019 09:40	LEFT TURN, SAME ROADWAY	\$ 23000	0	0	0	2	2	1	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				1	Obj Strk:					
44	105792952	0.420	02/20/2019 17:33	LEFT TURN, SAME ROADWAY	\$ 25000	0	0	1	2	2	2	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:				58	

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 2	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
45	105807814	0.420	03/15/2019 19:01	LEFT TURN, DIFFERENT ROADWAYS	\$ 3300	0	0	0	0	2	1	1	1	1	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: SE		Veh Mnvr/Ped Actn:				8	Obj Strk:					

**Legend for
Report Details:**

Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Ci - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	45	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	22	48.89
Total Injury Crashes	22	48.89
Property Damage Only Crashes	23	51.11
Night Crashes	5	11.11
Wet Crashes	8	17.78
Alcohol/Drugs Involvement Crashes	0	0.00

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	45	100.00
Fatal Crashes	0	0.00
Class A Crashes	1	2.22
Class B Crashes	8	17.78
Class C Crashes	13	28.89
Property Damage Only Crashes	23	51.11

Vehicle Exposure Statistics

Annual ADT = 5000

Total Length = 0.42 (Miles) 0.676 (Kilometers)

Total Vehicle Exposure = 3.83 (MVMT) 6.17 (MVKMT)

Crash Rate	Crashes Per 100 Million Vehicle Miles	Crashes Per 100 Million Vehicle Kilometers
Total Crash Rate	1173.53	729.19
Fatal Crash Rate	0.00	0.00
Non Fatal Crash Rate	573.72	356.50
Night Crash Rate	130.39	81.02
Wet Crash Rate	208.63	129.63
EPDO Rate	7202.84	4475.64

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Miscellaneous Statistics

Severity Index =	6.14
EPDO Crash Index =	276.20
Estimated Property Damage Total = \$	323901.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
ANGLE	5	11.11
HEAD ON	1	2.22
LEFT TURN, DIFFERENT ROADWAYS	7	15.56
LEFT TURN, SAME ROADWAY	17	37.78
OTHER NON-COLLISION	1	2.22
PEDALCYCLIST	1	2.22
PEDESTRIAN	2	4.44
RAN OFF ROAD - LEFT	3	6.67
RAN OFF ROAD - STRAIGHT	1	2.22
REAR END, SLOW OR STOP	4	8.89
RIGHT TURN, DIFFERENT ROADWAYS	1	2.22
SIDESWIPE, OPPOSITE DIRECTION	1	2.22
SIDESWIPE, SAME DIRECTION	1	2.22

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	1	2.78
Class B Injuries	9	25.00
Class C Injuries	26	72.22
Total Non-Fatal Injuries	36	100.00
Total Injuries	36	100.00

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	4	8.89
Feb	3	6.67
Mar	7	15.56
Apr	0	0.00
May	2	4.44
Jun	5	11.11
Jul	1	2.22
Aug	3	6.67
Sep	2	4.44
Oct	12	26.67
Nov	4	8.89
Dec	2	4.44

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	5	11.11
Tue	6	13.33
Wed	10	22.22
Thu	6	13.33
Fri	9	20.00
Sat	4	8.89
Sun	5	11.11

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	1	2.22
0800-0859	3	6.67
0900-0959	5	11.11
1000-1059	1	2.22
1100-1159	1	2.22
1200-1259	4	8.89
1300-1359	6	13.33
1400-1459	4	8.89
1500-1559	5	11.11
1600-1659	1	2.22
1700-1759	6	13.33
1800-1859	2	4.44
1900-1959	4	8.89
2000-2059	0	0.00
2100-2159	1	2.22
2200-2259	1	2.22
2300-2359	0	0.00

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	33	4	0	37
Dark	3	2	0	5
Other	1	2	0	3
Total	37	8	0	45

Object Struck Summary

Object Type	Times Struck	Percent of Total
DITCH	1	10.00
LUMINAIRE POLE NON-BREAKAWAY	1	10.00
PEDALCYCLIST	2	20.00
PEDESTRIAN	4	40.00
TREE	2	20.00

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
LIGHT TRUCK (MINI-VAN, PANEL)	4	4.26
MOPED	1	1.06
PASSENGER CAR	56	59.57
PEDALCYCLE	1	1.06
PEDESTRIAN	2	2.13
PICKUP	3	3.19
SINGLE UNIT TRUCK (2-AXLE, 6-TIRE)	1	1.06
SPORT UTILITY	23	24.47
UNKNOWN	1	1.06
VAN	2	2.13

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2014	0	0	0	0
2015	5	0	2	3
2016	10	0	6	4
2017	11	0	3	8
2018	10	0	6	4
2019	9	0	5	4
Total	45	0	22	23

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2014	0	0
2015	0	5
2016	0	10
2017	0	6
2018	0	7
2019	0	8
Total	0	36

Miscellaneous Totals

Year	Property Damage	EPDO Index
2014	\$ 0	0.00
2015	\$ 49300	19.80
2016	\$ 75000	54.40
2017	\$ 65951	33.20
2018	\$ 43400	122.80
2019	\$ 90250	46.00
Total	\$ 323901	276.20

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2014	0	0	0	0	0	0	0
2015	2	0	1	0	2	0	0

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Year	Left Turn	Right Turn	Rear End	Run Off Road &		Angle	Side Swipe	Other
				Fixed Object				
2016	5	0	0	1		1	2	1
2017	5	0	1	3		0	0	2
2018	6	1	1	0		2	0	0
2019	6	0	1	0		0	0	2
Total	24	1	4	4		5	2	5

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Strip Diagram

Features	Milepost	Crash IDs
SR 1750 ESTES	0.00	104770021 104931395 105539548 105629524 106024205 106042067
	0.01	
	0.02	
	0.03	105636954
	0.04	104868320
	0.05	
	0.06	104732524 105146549
	0.07	
	0.08	
	0.09	
	0.10	
	0.11	
	0.12	
	0.13	105001614 105656667
	0.14	
	0.15	105035356
	0.16	
	0.17	
	0.18	
	0.19	104955143 105046445 105498704 106051625
	0.20	
	0.21	
	0.22	105934756
	0.23	
	0.24	
	0.25	
	0.26	
	0.27	
	0.28	
	0.29	
	0.30	
	0.31	
	0.32	
	0.33	
	0.34	105373717 106040392
	0.35	
	0.36	
	0.37	104628348
	0.38	
	0.39	
	0.40	105576529 106042058

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Features	Milepost	Crash IDs
US 15 US 501	0.41	104534861
	0.42	104355627 104355636 104471804 104548780
		104780820 104920651 104924603 104953108
		104991429 105011789 105036228 105039656
		105184364 105307183 105319154 105524308
		105638263 105645184 105792783 105792952
		105807814

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Study Criteria Summary

County: ORANGE **City:** All and Rural
Date: 12/01/2014 to 11/30/2019 **Study:** 41000059410
Location: SR 1750 (Estes Dr) from SR 1010 (Franklin St) to US 15/US 501 (Fordham Blvd)

Report Details

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
1	104475212	1.360	08/16/2015 13:20	LEFT TURN, SAME ROADWAY	\$ 23000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 30 MPH Dir: SE		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 15 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: NW		Veh Mnvr/Ped Actn:				1	Obj Strk:					
2	104475196	1.360	08/17/2015 16:58	REAR END, SLOW OR STOP	\$ 4100	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 5	Alchl/Drgs:	0	Speed: 5 MPH Dir: W		Veh Mnvr/Ped Actn:				12	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				1	Obj Strk:					
3	104711051	1.360	03/26/2016 08:57	ANGLE	\$ 2400	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 7 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 5 MPH Dir: W		Veh Mnvr/Ped Actn:				7	Obj Strk:					
4	104734717	1.360	04/27/2016 15:45	LEFT TURN, SAME ROADWAY	\$ 5200	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 3	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 15 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
5	104892385	1.360	09/22/2016 16:23	ANGLE	\$ 8000	0	0	0	4	2	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 25 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
6	104927904	1.360	10/31/2016 10:04	ANGLE	\$ 5000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 8 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
7	105078976	1.360	04/24/2017 09:30	SIDESWIPE, OPPOSITE DIRECTION	\$ 4500	0	0	0	0	3	1	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
8	105167677	1.360	07/13/2017 18:12	ANGLE	\$ 6000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 10 MPH Dir: N	Veh Mnvr/Ped Actn: 8				Obj Strk:								
Unit	2 : 1	Alchl/Drugs: 0	Speed: 25 MPH Dir: S	Veh Mnvr/Ped Actn: 4				Obj Strk:								
9	105210030	1.360	08/27/2017 15:19	REAR END, SLOW OR STOP	\$ 2800	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 4	Alchl/Drugs: 0	Speed: 30 MPH Dir: N	Veh Mnvr/Ped Actn: 1				Obj Strk:								
Unit	2 : 1	Alchl/Drugs: 0	Speed: 30 MPH Dir: N	Veh Mnvr/Ped Actn: 4				Obj Strk:								
10	105450170	1.360	04/10/2018 13:27	PEDESTRIAN	\$ 50	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 5 MPH Dir: E	Veh Mnvr/Ped Actn: 7				Obj Strk:			14					
Unit	2 : 24	Alchl/Drugs: 0	Speed: 0 MPH Dir:	Veh Mnvr/Ped Actn:				Obj Strk:			14					
11	105522989	1.360	06/21/2018 10:59	LEFT TURN, SAME ROADWAY	\$ 4000	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 4	Alchl/Drugs: 0	Speed: 30 MPH Dir: E	Veh Mnvr/Ped Actn: 4				Obj Strk:								
Unit	2 : 1	Alchl/Drugs: 0	Speed: 35 MPH Dir: W	Veh Mnvr/Ped Actn: 8				Obj Strk:								
12	105762500	1.360	01/13/2019 00:29	ANGLE	\$ 4000	0	0	0	0	2	4	3	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 30 MPH Dir: W	Veh Mnvr/Ped Actn: 4				Obj Strk:								
Unit	2 : 1	Alchl/Drugs: 0	Speed: 35 MPH Dir: N	Veh Mnvr/Ped Actn: 4				Obj Strk:								
13	106031653	1.360	09/28/2019 13:15	LEFT TURN, DIFFERENT ROADWAYS	\$ 4500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 0 MPH Dir: E	Veh Mnvr/Ped Actn: 1				Obj Strk:								
Unit	2 : 2	Alchl/Drugs: 0	Speed: 15 MPH Dir: N	Veh Mnvr/Ped Actn: 8				Obj Strk:								
14	105593564	1.366	08/16/2018 07:03	PEDESTRIAN	\$ 0	0	0	1	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 10 MPH Dir: E	Veh Mnvr/Ped Actn: 7				Obj Strk:			14					
Unit	2 : 24	Alchl/Drugs: 0	Speed: 0 MPH Dir:	Veh Mnvr/Ped Actn:				Obj Strk:			14					
15	106018431	1.368	09/27/2019 22:00	SIDESWIPE, SAME DIRECTION	\$ 2000	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 32	Alchl/Drugs: 7	Speed: 15 MPH Dir: NW	Veh Mnvr/Ped Actn: 4				Obj Strk:								
Unit	2 : 4	Alchl/Drugs: 0	Speed: 0 MPH Dir: NW	Veh Mnvr/Ped Actn: 1				Obj Strk:								
16	106042063	1.368	10/18/2019 23:33	SIDESWIPE, SAME DIRECTION	\$ 3000	0	0	0	0	1	4	1	1	0	0	
Unit	1 : 1	Alchl/Drugs: 0	Speed: 10 MPH Dir: E	Veh Mnvr/Ped Actn: 8				Obj Strk:								
Unit	2 : 1	Alchl/Drugs: 0	Speed: 25 MPH Dir: E	Veh Mnvr/Ped Actn: 4				Obj Strk:								

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
17	104409759	1.369	06/11/2015 16:40	REAR END, TURN	\$ 1400	0	0	0	0	1	1	1	3	0	13	2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: NW		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: NW		Veh Mnvr/Ped Actn:				12	Obj Strk:					
18	105696138	1.369	10/31/2018 16:42	HEAD ON	\$ 3500	0	0	0	0	1	1	1	1	0		2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
19	104576034	1.372	11/13/2015 20:13	SIDESWIPE, OPPOSITE DIRECTION	\$ 5000	0	0	0	1	1	4	1	1	0	12	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: NW		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 25 MPH Dir: SE		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 4	Alchl/Drgs:	0	Speed: 25 MPH Dir: SE		Veh Mnvr/Ped Actn:				4	Obj Strk:					
20	105338601	1.372	12/17/2017 15:39	REAR END, SLOW OR STOP	\$ 3700	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 30 MPH Dir: NW		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: NW		Veh Mnvr/Ped Actn:				4	Obj Strk:					
21	105748688	1.388	12/19/2018 09:19	SIDESWIPE, SAME DIRECTION	\$ 4425	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 3	Alchl/Drgs:	0	Speed: 15 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: W		Veh Mnvr/Ped Actn:				5	Obj Strk:					
22	104775959	1.390	06/09/2016 17:57	LEFT TURN, SAME ROADWAY	\$ 3300	0	0	0	1	1	1	1	1	0	0	2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
23	105341822	1.390	12/18/2017 19:03	HEAD ON	\$ 16000	0	0	0	0	1	4	1		0		
Unit	1 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
24	104355754	1.392	02/10/2015 14:30	LEFT TURN, SAME ROADWAY	\$ 1100	0	0	0	0	1	1	2	3	0		
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
25	104369935	1.394	05/05/2015 17:03	ANGLE	\$ 5500	0	0	0	1	1	1	1	3	0		
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
26	105868425	1.394	05/07/2019 17:43	LEFT TURN, SAME ROADWAY	\$ 8000	0	0	0	0	1	1	1	1	0	0	2
Unit	1 : 4	Alchl/Drugs: 0	Speed: 10 MPH	Dir: E	Veh Mnvr/Ped Actn: 8		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 20 MPH	Dir: N	Veh Mnvr/Ped Actn: 4		Obj Strk:									
27	105035350	1.395	03/04/2017 10:38	REAR END, SLOW OR STOP	\$ 5000	0	0	0	0	1	1	1	2	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: N	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 15 MPH	Dir: N	Veh Mnvr/Ped Actn: 4		Obj Strk:									
28	105912169	1.397	06/03/2019 16:38	LEFT TURN, SAME ROADWAY	\$ 4000	0	0	0	1	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drugs: 0	Speed: 10 MPH	Dir: SW	Veh Mnvr/Ped Actn: 8		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 20 MPH	Dir: NW	Veh Mnvr/Ped Actn: 4		Obj Strk:									
29	104333755	1.398	01/08/2015 15:45	SIDESWIPE, SAME DIRECTION	\$ 2300	0	0	0	0	1	1	1	1	0	0	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 35 MPH	Dir: NW	Veh Mnvr/Ped Actn: 5		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 35 MPH	Dir: NW	Veh Mnvr/Ped Actn: 4		Obj Strk:									
30	104988224	1.398	01/05/2017 16:20	LEFT TURN, SAME ROADWAY	\$ 4500	0	0	0	0	1	1	2	3	0	3	1
Unit	1 : 4	Alchl/Drugs: 0	Speed: 30 MPH	Dir: W	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 4	Alchl/Drugs: 0	Speed: 30 MPH	Dir: NE	Veh Mnvr/Ped Actn: 4		Obj Strk:									
31	104693052	1.400	03/11/2016 16:59	LEFT TURN, SAME ROADWAY	\$ 700	0	0	0	0	1	1	2	1	0	0	
Unit	1 : 1	Alchl/Drugs: 0	Speed: 15 MPH	Dir: S	Veh Mnvr/Ped Actn: 8		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 25 MPH	Dir: NW	Veh Mnvr/Ped Actn: 4		Obj Strk:									
32	105585216	1.403	08/20/2018 15:35	LEFT TURN, DIFFERENT ROADWAYS	\$ 4500	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 35 MPH	Dir: NW	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 4	Alchl/Drugs: 0	Speed: 35 MPH	Dir: SW	Veh Mnvr/Ped Actn: 8		Obj Strk:									
33	105156727	1.404	06/28/2017 17:29	OTHER NON-COLLISION	\$ 1950	0	0	0	1	1	1	1	1	2	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 15 MPH	Dir: NW	Veh Mnvr/Ped Actn: 6		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 10 MPH	Dir: SE	Veh Mnvr/Ped Actn: 8		Obj Strk:									
34	105171861	1.404	07/20/2017 17:08	LEFT TURN, SAME ROADWAY	\$ 5000	0	0	0	1	1	1	1	3	0	0	
Unit	1 : 4	Alchl/Drugs: 0	Speed: 15 MPH	Dir: SE	Veh Mnvr/Ped Actn: 8		Obj Strk:									
Unit	2 : 4	Alchl/Drugs: 0	Speed: 30 MPH	Dir: NW	Veh Mnvr/Ped Actn: 4		Obj Strk:									

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
35	104453338	1.407	08/03/2015 12:44	ANGLE	\$ 2200	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 5	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 4	Alchl/Drgs:	0	Speed: 20 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
36	104568327	1.407	11/06/2015 10:05	ANGLE	\$ 12000	0	0	1	0	1	1	1	3	0		
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
37	104889317	1.407	09/30/2016 17:14	LEFT TURN, DIFFERENT ROADWAYS	\$ 1000	0	0	0	0	1	1	1	1	0	1	2
Unit	1 : 2	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 5	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
38	104940314	1.407	11/18/2016 13:35	LEFT TURN, DIFFERENT ROADWAYS	\$ 3500	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 25 MPH Dir: NW		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 4	Alchl/Drgs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn: 8				Obj Strk:						
39	105001612	1.407	01/14/2017 11:30	LEFT TURN, DIFFERENT ROADWAYS	\$ 4000	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 3	Alchl/Drgs:	0	Speed: 30 MPH Dir: NW		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn: 8				Obj Strk:						
40	104924598	1.408	10/25/2016 12:39	ANGLE	\$ 1500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
41	104547033	1.409	10/28/2015 12:45	REAR END, SLOW OR STOP	\$ 2600	0	0	0	0	2	1	3	1	0		2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: E		Veh Mnvr/Ped Actn: 1				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
42	105628657	1.409	09/26/2018 17:25	ANGLE	\$ 8000	0	0	0	1	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: SE		Veh Mnvr/Ped Actn: 4				Obj Strk:						
43	105294544	1.410	11/09/2017 17:10	LEFT TURN, SAME ROADWAY	\$ 1400	0	0	0	0	2	2	3	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: NW		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 5	Alchl/Drgs:	0	Speed: 5 MPH Dir: SE		Veh Mnvr/Ped Actn: 8				Obj Strk:						

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
44	105413119	1.410	02/27/2018 12:17	LEFT TURN, SAME ROADWAY	\$ 4500	0	0	0	0	1	1	1	3	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 25 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
45	104547048	1.411	11/02/2015 13:56	LEFT TURN, SAME ROADWAY	\$ 4950	0	0	0	0	2	1	3	3	0		
Unit	1 : 2	Alchl/Drgs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
46	104889168	1.411	09/25/2016 14:24	ANGLE	\$ 8000	0	0	0	1	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 25 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
47	105255096	1.411	10/11/2017 14:42	LEFT TURN, DIFFERENT ROADWAYS	\$ 10250	0	0	0	0	1	1	1	3	0		
Unit	1 : 4	Alchl/Drgs:	0	Speed: 25 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
48	105296251	1.411	11/16/2017 09:04	LEFT TURN, SAME ROADWAY	\$ 15000	0	0	0	2	1	1	1	3	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 30 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
49	104413612	1.412	06/17/2015 15:45	LEFT TURN, SAME ROADWAY	\$ 7000	0	0	0	0	1	1	1	3	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed: 30 MPH Dir: NW		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: SE		Veh Mnvr/Ped Actn:				8	Obj Strk:					
50	105166014	1.412	07/14/2017 13:12	LEFT TURN, SAME ROADWAY	\$ 7100	0	0	0	1	1	1	1	3	0		
Unit	1 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
51	105173161	1.426	07/25/2017 16:08	REAR END, SLOW OR STOP	\$ 2000	0	0	0	1	1	1	1	3	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: NW		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: NW		Veh Mnvr/Ped Actn:				4	Obj Strk:					
52	104453339	1.446	08/03/2015 12:28	REAR END, SLOW OR STOP	\$ 500	0	0	0	1	1	1	1	3	0	3	1
Unit	1 : 32	Alchl/Drgs:	7	Speed: 30 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 2	Alchl/Drgs:	0	Speed: 5 MPH Dir: W		Veh Mnvr/Ped Actn:				1	Obj Strk:					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
53	105137202	1.468	06/15/2017 10:46	ANGLE	\$ 7000	0	0	0	0	1	1	1	1	0	3	2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: NW		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: NW		Veh Mnvr/Ped Actn:				8	Obj Strk:			60		
54	105076520	1.490	04/11/2017 17:18	LEFT TURN, SAME ROADWAY	\$ 6000	0	0	0	2	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
55	105680527	1.520	11/07/2018 09:41	RIGHT TURN, SAME ROADWAY	\$ 1000	0	0	0	0	1	1	1	3	0	0	2
Unit	1 : 23	Alchl/Drgs:	0	Speed: 0 MPH Dir:		Veh Mnvr/Ped Actn:					Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: E		Veh Mnvr/Ped Actn:				7	Obj Strk:					
56	104407374	1.570	06/10/2015 08:36	REAR END, SLOW OR STOP	\$ 2500	0	0	0	0	1	1	1	1	0		2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: W		Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				11	Obj Strk:					
57	105109115	1.570	05/16/2017 17:29	LEFT TURN, SAME ROADWAY	\$ 3200	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: NE		Veh Mnvr/Ped Actn:				8	Obj Strk:					
58	105294537	1.570	11/08/2017 12:34	ANGLE	\$ 3300	0	0	0	0	2	1	3	1	0	13	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: SW		Veh Mnvr/Ped Actn:				8	Obj Strk:					
59	105726083	1.577	12/11/2018 21:22	RAN OFF ROAD - RIGHT	\$ 1500	0	0	0	0	4	4	2	3	1	0	2
Unit	1 : 4	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:			56		
60	105217646	1.581	09/05/2017 16:58	ANGLE	\$ 4000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
61	104975854	1.595	12/10/2016 11:05	REAR END, SLOW OR STOP	\$ 2800	0	0	0	0	1	1	1	3	0		
Unit	1 : 2	Alchl/Drgs:	0	Speed: 20 MPH Dir: E		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				11	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
62	105040050	1.604	03/14/2017 08:28	SIDESWIPE, SAME DIRECTION	\$ 1400	0	0	0	0	2	1	2	1	0	13	2
Unit	1 : 4	Alchl/Drgs:	0	Speed: 25 MPH Dir: W		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: W		Veh Mnvr/Ped Actn: 3				Obj Strk:						
63	104441056	1.610	07/17/2015 13:22	SIDESWIPE, SAME DIRECTION	\$ 1300	0	0	0	0	1	1	1	3	0		
Unit	1 : 4	Alchl/Drgs:	0	Speed: 25 MPH Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 25 MPH Dir: N		Veh Mnvr/Ped Actn: 5				Obj Strk:						
64	104333748	1.619	01/05/2015 16:35	REAR END, SLOW OR STOP	\$ 5000	0	0	0	0	1	1	1	1	0	0	2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn: 11				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn: 11				Obj Strk:						
65	104572974	1.625	11/05/2015 10:12	LEFT TURN, DIFFERENT ROADWAYS	\$ 16000	0	0	1	0	1	1	1	3	0		2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 20	Alchl/Drgs:	0	Speed: 35 MPH Dir: W		Veh Mnvr/Ped Actn: 4				Obj Strk:						
66	104262217	1.633	12/19/2014 22:39	LEFT TURN, DIFFERENT ROADWAYS	\$ 1650	0	0	0	0	1	4	2	1	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 15 MPH Dir: SW		Veh Mnvr/Ped Actn: 7				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: NW		Veh Mnvr/Ped Actn: 8				Obj Strk:						
67	104770021	1.638	06/01/2016 17:14	LEFT TURN, SAME ROADWAY	\$ 9000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 30 MPH Dir: NW		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: SE		Veh Mnvr/Ped Actn: 8				Obj Strk:						
68	104931395	1.638	11/09/2016 08:49	PEDESTRIAN	\$ 0	0	0	1	0	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: E		Veh Mnvr/Ped Actn: 8				Obj Strk:			14			
Unit	2 : 24	Alchl/Drgs:	0	Speed: 0 MPH Dir:		Veh Mnvr/Ped Actn:				Obj Strk:			14			
69	105539548	1.638	07/06/2018 12:53	RIGHT TURN, DIFFERENT ROADWAYS	\$ 2500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn: 7				Obj Strk:						
70	105629524	1.638	10/03/2018 08:43	ANGLE	\$ 5500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
71	106024205	1.638	09/27/2019 16:42	LEFT TURN, SAME ROADWAY	\$ 1500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 15 MPH	Dir: SE	Veh Mnvr/Ped Actn: 8		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 35 MPH	Dir: NW	Veh Mnvr/Ped Actn: 4		Obj Strk:									
72	106042067	1.638	10/21/2019 21:41	PEDESTRIAN	\$ 0	0	0	0	1	1	4	2	1	0	3	1
Unit	1 : 4	Alchl/Drugs: 0	Speed: 10 MPH	Dir: E	Veh Mnvr/Ped Actn: 8		Obj Strk: 14									
Unit	2 : 24	Alchl/Drugs: 0	Speed: 0 MPH	Dir:	Veh Mnvr/Ped Actn:		Obj Strk: 14									
73	104356976	1.639	03/06/2015 21:26	PEDESTRIAN	\$ 0	0	1	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 35 MPH	Dir: E	Veh Mnvr/Ped Actn: 4		Obj Strk: 14									
Unit	2 : 24	Alchl/Drugs: 1	Speed: 0 MPH	Dir:	Veh Mnvr/Ped Actn:		Obj Strk: 14									
74	105260335	1.669	10/17/2017 19:58	ANGLE	\$ 10000	0	0	0	1	1	4	1	1	0		
Unit	1 : 5	Alchl/Drugs: 0	Speed: 10 MPH	Dir: SE	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 15 MPH	Dir: NE	Veh Mnvr/Ped Actn: 4		Obj Strk:									
75	105359911	1.670	01/04/2018 10:45	ANGLE	\$ 3000	0	0	0	0	5	1	1	3	0	1	2
Unit	1 : 4	Alchl/Drugs: 0	Speed: 10 MPH	Dir: NW	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 10 MPH	Dir: NE	Veh Mnvr/Ped Actn: 4		Obj Strk:									
76	105904049	1.768	05/21/2019 15:25	LEFT TURN, SAME ROADWAY	\$ 2800	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drugs: 0	Speed: 10 MPH	Dir: E	Veh Mnvr/Ped Actn: 8		Obj Strk:									
Unit	2 : 4	Alchl/Drugs: 0	Speed: 30 MPH	Dir: W	Veh Mnvr/Ped Actn: 4		Obj Strk:									
77	104369933	1.770	05/05/2015 15:41	LEFT TURN, DIFFERENT ROADWAYS	\$ 1100	0	0	0	0	1	1	1	1	0	1	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 10 MPH	Dir: E	Veh Mnvr/Ped Actn: 8		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 10 MPH	Dir: E	Veh Mnvr/Ped Actn: 8		Obj Strk:									
78	105932890	1.820	06/28/2019 17:26	SIDESWIPE, SAME DIRECTION	\$ 3750	0	0	0	0	1	1	1	1	0		1
Unit	1 : 10	Alchl/Drugs: 0	Speed: 10 MPH	Dir: E	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 20 MPH	Dir: E	Veh Mnvr/Ped Actn: 5		Obj Strk:									
79	105807803	1.880	03/17/2019 22:26	OVERTURN/ROLLOVER	\$ 1200	0	0	1	0	1	4	1	1	0	0	
Unit	1 : 20	Alchl/Drugs: 0	Speed: 20 MPH	Dir: W	Veh Mnvr/Ped Actn: 7		Obj Strk:									

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
80	105532143	1.918	06/29/2018 13:10	LEFT TURN, DIFFERENT ROADWAYS	\$ 2875	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 12	Alchl/Drugs: 0	Speed: 25 MPH	Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 4	Alchl/Drugs: 0	Speed: 10 MPH	Dir: SE		Veh Mnvr/Ped Actn: 8				Obj Strk:						
81	104409756	1.923	06/11/2015 21:58	LEFT TURN, SAME ROADWAY	\$ 4000	0	0	0	1	1	4	1	1	0	0	2
Unit	1 : 20	Alchl/Drugs: 7	Speed: 35 MPH	Dir: W		Veh Mnvr/Ped Actn: 16				Obj Strk:						
Unit	2 : 4	Alchl/Drugs: 0	Speed: 10 MPH	Dir: E		Veh Mnvr/Ped Actn: 8				Obj Strk:						
82	105800705	1.923	03/03/2019 18:44	LEFT TURN, DIFFERENT ROADWAYS	\$ 1200	0	0	0	0	2	4	3	1	0	0	
Unit	1 : 1	Alchl/Drugs: 0	Speed: 20 MPH	Dir: E		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 4	Alchl/Drugs: 0	Speed: 30 MPH	Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
83	104531431	1.944	10/11/2015 15:24	LEFT TURN, SAME ROADWAY	\$ 2800	0	0	0	0	1	1	1	3	0	0	2
Unit	1 : 1	Alchl/Drugs: 0	Speed: 20 MPH	Dir: W		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drugs: 0	Speed: 20 MPH	Dir: W		Veh Mnvr/Ped Actn: 9				Obj Strk:						
84	105102307	1.950	05/11/2017 16:03	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 30 MPH	Dir: E		Veh Mnvr/Ped Actn: 1				Obj Strk:						
Unit	2 : 1	Alchl/Drugs: 0	Speed: 30 MPH	Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
85	106089966	1.952	11/06/2019 11:20	REAR END, SLOW OR STOP	\$ 400	0	0	0	1	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: W		Veh Mnvr/Ped Actn: 1				Obj Strk:						
Unit	2 : 1	Alchl/Drugs: 0	Speed: 15 MPH	Dir: W		Veh Mnvr/Ped Actn: 4				Obj Strk:						
86	105169584	1.961	07/16/2017 13:16	REAR END, SLOW OR STOP	\$ 1000	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 4	Alchl/Drugs: 0	Speed: 0 MPH	Dir: E		Veh Mnvr/Ped Actn: 1				Obj Strk:						
Unit	2 : 4	Alchl/Drugs: 7	Speed: 10 MPH	Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
87	106036815	1.966	10/10/2019 16:27	REAR END, TURN	\$ 100	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: SE		Veh Mnvr/Ped Actn: 1				Obj Strk:						
Unit	2 : 1	Alchl/Drugs: 0	Speed: 5 MPH	Dir: SE		Veh Mnvr/Ped Actn: 7				Obj Strk:						
88	104420363	1.971	06/25/2015 13:06	REAR END, TURN	\$ 4250	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: SE		Veh Mnvr/Ped Actn: 1				Obj Strk:						
Unit	2 : 5	Alchl/Drugs: 0	Speed: 10 MPH	Dir: SE		Veh Mnvr/Ped Actn: 7				Obj Strk:						

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
89	105039660	1.974	03/10/2017 15:25	RAN OFF ROAD - LEFT	\$ 1600	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 30 MPH Dir: E	Veh Mnvr/Ped Actn: 1				Obj Strk:								
Unit	2 : 5	Alchl/Drugs: 0	Speed: 30 MPH Dir: E	Veh Mnvr/Ped Actn: 4				Obj Strk:								
90	105015202	1.975	02/01/2017 15:37	REAR END, SLOW OR STOP	\$ 1600	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 30 MPH Dir: E	Veh Mnvr/Ped Actn: 1				Obj Strk:								
Unit	2 : 4	Alchl/Drugs: 0	Speed: 30 MPH Dir: E	Veh Mnvr/Ped Actn: 4				Obj Strk:								
91	105784518	1.976	02/16/2019 13:40	SIDESWIPE, SAME DIRECTION	\$ 4000	0	0	0	0	2	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 10 MPH Dir: E	Veh Mnvr/Ped Actn: 12				Obj Strk:								
Unit	2 : 1	Alchl/Drugs: 0	Speed: 0 MPH Dir: E	Veh Mnvr/Ped Actn: 11				Obj Strk:								
92	105005913	1.977	01/19/2017 08:47	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 35 MPH Dir: E	Veh Mnvr/Ped Actn: 1				Obj Strk:								
Unit	2 : 3	Alchl/Drugs: 0	Speed: 30 MPH Dir: E	Veh Mnvr/Ped Actn: 4				Obj Strk:								
93	104268472	1.980	12/30/2014 18:27	RIGHT TURN, DIFFERENT ROADWAYS	\$ 3000	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 10 MPH Dir: S	Veh Mnvr/Ped Actn: 7				Obj Strk:								
Unit	2 : 1	Alchl/Drugs: 0	Speed: 10 MPH Dir: S	Veh Mnvr/Ped Actn: 8				Obj Strk:								
94	104333758	1.980	01/08/2015 10:59	REAR END, TURN	\$ 10000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs: 0	Speed: 10 MPH Dir: S	Veh Mnvr/Ped Actn: 7				Obj Strk:								
Unit	2 : 2	Alchl/Drugs: 0	Speed: 0 MPH Dir: S	Veh Mnvr/Ped Actn: 7				Obj Strk:								
95	104576498	1.980	11/11/2015 18:24	PEDALCYCLIST	\$ 450	0	0	0	1	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 45 MPH Dir: N	Veh Mnvr/Ped Actn: 4				Obj Strk:			15					
Unit	2 : 23	Alchl/Drugs: 0	Speed: 0 MPH Dir:	Veh Mnvr/Ped Actn:				Obj Strk:			15					
96	104880143	1.980	09/19/2016 16:54	RIGHT TURN, DIFFERENT ROADWAYS	\$ 3750	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 2	Alchl/Drugs: 0	Speed: 5 MPH Dir: S	Veh Mnvr/Ped Actn: 7				Obj Strk:								
Unit	2 : 1	Alchl/Drugs: 0	Speed: 40 MPH Dir: S	Veh Mnvr/Ped Actn: 4				Obj Strk:								
97	105076514	1.980	04/16/2017 21:02	RAN OFF ROAD - LEFT	\$ 5000	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 1	Speed: 10 MPH Dir: N	Veh Mnvr/Ped Actn: 4				Obj Strk:			58					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
98	105137201	1.980	06/15/2017 20:27	SIDESWIPE, SAME DIRECTION	\$ 4000	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	3	Speed: 15 MPH Dir: S		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 4	Alchl/Drgs:	0	Speed: 15 MPH Dir: S		Veh Mnvr/Ped Actn: 7				Obj Strk:						
99	105163266	1.980	07/11/2017 09:59	RAN OFF ROAD - LEFT	\$ 6000	0	0	0	1	1	1	1	1	0	3	2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn: 1				Obj Strk:						
Unit	2 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn: 7				Obj Strk:						
100	105258270	1.980	10/07/2017 19:59	LEFT TURN, DIFFERENT ROADWAYS	\$ 20000	0	0	0	1	2	4	3	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: NW		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn: 4				Obj Strk:						
101	105550729	1.980	07/22/2018 20:56	RIGHT TURN, DIFFERENT ROADWAYS	\$ 600	0	0	0	2	3	4	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: SW		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 2	Alchl/Drgs:	0	Speed: 10 MPH Dir: SE		Veh Mnvr/Ped Actn: 7				Obj Strk:						
102	105638233	1.980	10/10/2018 19:12	REAR END, SLOW OR STOP	\$ 2500	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn: 11				Obj Strk:						
Unit	2 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn: 11				Obj Strk:						
103	105762302	1.980	01/16/2019 18:36	RIGHT TURN, SAME ROADWAY	\$ 2000	0	1	0	1	1	4	1	1	0	3	1
Unit	1 : 5	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 4	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn: 7				Obj Strk:						
104	105936044	1.980	06/29/2019 09:32	ANGLE	\$ 6000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: E		Veh Mnvr/Ped Actn: 4				Obj Strk:						
105	105956960	1.980	08/06/2019 11:16	LEFT TURN, DIFFERENT ROADWAYS	\$ 4500	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn: 8				Obj Strk:						
Unit	2 : 3	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn: 12				Obj Strk:						
106	105987479	1.980	08/18/2019 15:06	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn: 7				Obj Strk:						
Unit	2 : 4	Alchl/Drgs:	0	Speed: 2 MPH Dir: S		Veh Mnvr/Ped Actn: 7				Obj Strk:						

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
107	106031088	1.980	09/19/2019 07:45	ANGLE	\$ 2800	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	30 MPH Dir: S	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	15 MPH Dir: E	Veh Mnvr/Ped Actn:				7	Obj Strk:					
108	106036816	1.980	10/10/2019 19:09	REAR END, SLOW OR STOP	\$ 3000	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	15 MPH Dir: SW	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	0 MPH Dir: SW	Veh Mnvr/Ped Actn:				1	Obj Strk:					

**Legend for
Report Details:**

Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Ci - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

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Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	108	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	33	30.56
Total Injury Crashes	33	30.56
Property Damage Only Crashes	75	69.44
Night Crashes	22	20.37
Wet Crashes	12	11.11
Alcohol/Drugs Involvement Crashes	2	1.85

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	108	100.00
Fatal Crashes	0	0.00
Class A Crashes	2	1.85
Class B Crashes	5	4.63
Class C Crashes	26	24.07
Property Damage Only Crashes	75	69.44

Vehicle Exposure Statistics

Annual ADT = 14200

Total Length = 0.62 (Miles)

0.998 (Kilometers)

Total Vehicle Exposure = 16.08 (MVMT)

25.87 (MVKMT)

Crash Rate	Crashes Per 100 Million Vehicle Miles	Crashes Per 100 Million Vehicle Kilometers
Total Crash Rate	671.80	417.44
Fatal Crash Rate	0.00	0.00
Non Fatal Crash Rate	205.27	127.55
Night Crash Rate	136.85	85.03
Wet Crash Rate	74.64	46.38
EPDO Rate	3041.78	1890.08

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Miscellaneous Statistics

Severity Index =	4.53
EPDO Crash Index =	489.00
Estimated Property Damage Total = \$	454350.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
ANGLE	19	17.59
HEAD ON	2	1.85
LEFT TURN, DIFFERENT ROADWAYS	13	12.04
LEFT TURN, SAME ROADWAY	23	21.30
OTHER NON-COLLISION	1	0.93
OVERTURN/ROLLOVER	1	0.93
PEDALCYCLIST	1	0.93
PEDESTRIAN	5	4.63
RAN OFF ROAD - LEFT	3	2.78
RAN OFF ROAD - RIGHT	1	0.93
REAR END, SLOW OR STOP	18	16.67
REAR END, TURN	4	3.70
RIGHT TURN, DIFFERENT ROADWAYS	4	3.70
RIGHT TURN, SAME ROADWAY	2	1.85
SIDESWIPE, OPPOSITE DIRECTION	2	1.85
SIDESWIPE, SAME DIRECTION	9	8.33

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	2	4.55
Class B Injuries	5	11.36
Class C Injuries	37	84.09
Total Non-Fatal Injuries	44	100.00
Total Injuries	44	100.00

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Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	9	8.33
Feb	4	3.70
Mar	8	7.41
Apr	5	4.63
May	6	5.56
Jun	15	13.89
Jul	9	8.33
Aug	9	8.33
Sep	10	9.26
Oct	14	12.96
Nov	12	11.11
Dec	7	6.48

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	12	11.11
Tue	18	16.67
Wed	19	17.59
Thu	23	21.30
Fri	16	14.81
Sat	8	7.41
Sun	12	11.11

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Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	1	0.93
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	2	1.85
0800-0859	6	5.56
0900-0959	6	5.56
1000-1059	8	7.41
1100-1159	4	3.70
1200-1259	7	6.48
1300-1359	11	10.19
1400-1459	3	2.78
1500-1559	12	11.11
1600-1659	14	12.96
1700-1759	12	11.11
1800-1859	5	4.63
1900-1959	5	4.63
2000-2059	3	2.78
2100-2159	5	4.63
2200-2259	3	2.78
2300-2359	1	0.93

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Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	77	7	1	85
Dark	17	4	1	22
Other	0	1	0	1
Total	94	12	2	108

Object Struck Summary

Object Type	Times Struck	Percent of Total
CATCH BASIN OR CULVERT ON SHOULDER	1	6.67
DITCH	1	6.67
MAILBOX	1	6.67
PEDALCYCLIST	2	13.33
PEDESTRIAN	10	66.67

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
LIGHT TRUCK (MINI-VAN, PANEL)	5	2.30
MOTORCYCLE	3	1.38
PASSENGER CAR	130	59.91
PEDALCYCLE	2	0.92
PEDESTRIAN	5	2.30
PICKUP	10	4.61
SINGLE UNIT TRUCK (2-AXLE, 6-TIRE)	1	0.46
SPORT UTILITY	50	23.04
TRUCK/TRAILER	1	0.46
UNKNOWN	2	0.92
VAN	8	3.69

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Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2014	2	0	0	2
2015	24	0	9	15
2016	14	0	5	9
2017	31	0	9	22
2018	16	0	3	13
2019	21	0	7	14
Total	108	0	33	75

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2014	0	0
2015	0	10
2016	0	9
2017	0	11
2018	0	4
2019	0	10
Total	0	44

Miscellaneous Totals

Year	Property Damage	EPDO Index
2014	\$ 4650	2.00
2015	\$ 119050	159.00
2016	\$ 54150	51.00
2017	\$ 167300	97.60
2018	\$ 48450	38.20
2019	\$ 60750	141.20
Total	\$ 454350	489.00

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2014	1	1	0	0	0	0	0
2015	8	0	8	0	3	3	2

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Run Off Road &							
Year	Left Turn	Right Turn	Rear End	Fixed Object	Angle	Side Swipe	Other
2016	6	1	1	0	5	0	1
2017	10	0	8	3	5	3	2
2018	4	3	1	1	3	1	3
2019	7	1	4	0	3	4	2
Total	36	6	22	4	19	11	10

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Strip Diagram

Features	Milepost	Crash IDs
SR 1010 FRANKLIN	1.36	104475212 104475196 104711051 104734717 104892385 104927904 105078976 105167677 105210030 105450170 105522989 105762500 106031653
	1.37	105593564 106018431 106042063 104409759 105696138 104576034 105338601
	1.38	
	1.39	105748688 104775959 105341822 104355754 104369935 105868425 105035350
	1.40	105912169 104333755 104988224 104693052 105585216 105156727 105171861
	1.41	104453338 104568327 104889317 104940314 105001612 104924598 104547033 105628657 105294544 105413119 104547048 104889168 105255096 105296251 104413612 105166014
	1.42	
	1.43	105173161
	1.44	
	1.45	104453339
	1.46	
	1.47	105137202
	1.48	
	1.49	105076520
	1.50	
	1.51	
	1.52	105680527
	1.53	
	1.54	
	1.55	
	1.56	
	1.57	104407374 105109115 105294537
	1.58	105726083 105217646
	1.59	
	1.60	104975854 105040050
	1.61	104441056
	1.62	104333748 104572974
	1.63	104262217
CAMELOT WILLOW	1.64	104770021 104931395 105539548 105629524 106024205 106042067 104356976
	1.65	
	1.66	

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Features	Milepost	Crash IDs
	1.67	105260335 105359911
	1.68	
	1.69	
	1.70	
	1.71	
	1.72	
	1.73	
	1.74	
	1.75	
	1.76	
	1.77	105904049 104369933
	1.78	
	1.79	
	1.80	
	1.81	
	1.82	105932890
	1.83	
	1.84	
	1.85	
	1.86	
	1.87	
	1.88	105807803
	1.89	
	1.90	
	1.91	
	1.92	105532143 104409756 105800705
	1.93	
	1.94	104531431
	1.95	105102307 106089966
	1.96	105169584
US 15 SB COUPLET	1.97	106036815 104420363 105039660
US 15 US 501 FORDHAM	1.98	105015202 105784518 105005913 104268472 104333758 104576498 104880143 105076514 105137201 105163266 105258270 105550729 105638233 105762302 105936044 105956960 105987479 106031088 106036816

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Study Criteria Summary

County: ORANGE **City:** All and Rural
Date: 12/01/2014 to 11/30/2019 **Study:** 41000059411
Location: US 15/US 501 (Fordham Blvd) from SR 1750 (Estes Dr) to SR 1742 (Ephesus Church Rd) Eastgate Shopping Center Rd

Report Details

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
1	104268472	6.089	12/30/2014 18:27	RIGHT TURN, DIFFERENT ROADWAYS	\$ 3000	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				7	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
2	104333758	6.089	01/08/2015 10:59	REAR END, TURN	\$ 10000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				7	Obj Strk:					
Unit	2 : 2	Alchl/Drugs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				7	Obj Strk:					
3	104356979	6.089	03/17/2015 19:22	REAR END, SLOW OR STOP	\$ 1300	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				12	Obj Strk:					
4	104441034	6.089	07/16/2015 22:26	REAR END, SLOW OR STOP	\$ 15000	0	0	1	0	1	5	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	1	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
5	104441042	6.089	07/21/2015 15:00	REAR END, SLOW OR STOP	\$ 2000	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				12	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				12	Obj Strk:					
6	104576498	6.089	11/11/2015 18:24	PEDALCYCLIST	\$ 450	0	0	0	1	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:				15	
Unit	2 : 23	Alchl/Drugs:	0	Speed: 0 MPH Dir:		Veh Mnvr/Ped Actn:					Obj Strk:				15	
7	104880143	6.089	09/19/2016 16:54	RIGHT TURN, DIFFERENT ROADWAYS	\$ 3750	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 2	Alchl/Drugs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				7	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
8	104966690	6.089	12/01/2016 19:05	SIDESWIPE, SAME DIRECTION	\$ 2000	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				7	Obj Strk:					

**North Carolina Department of Transportation
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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 1	Alchl/Drgs:	0	Speed:	2 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
9	105076514	6.089	04/16/2017 21:02	RAN OFF ROAD - LEFT	\$ 5000	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	1	Speed:	10 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk: 58					
10	105078978	6.089	04/23/2017 18:18	REAR END, SLOW OR STOP	\$ 3000	0	0	0	0	2	1	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	45 MPH Dir: N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
11	105137201	6.089	06/15/2017 20:27	SIDESWIPE, SAME DIRECTION	\$ 4000	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	3	Speed:	15 MPH Dir: S	Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	15 MPH Dir: S	Veh Mnvr/Ped Actn:				7	Obj Strk:					
12	105176794	6.089	07/24/2017 11:31	SIDESWIPE, SAME DIRECTION	\$ 1000	0	0	0	0	1	1	1	1	0	3	2
Unit	1 : 32	Alchl/Drgs:	7	Speed:	35 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 5	Alchl/Drgs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
13	105235917	6.089	09/25/2017 13:42	REAR END, SLOW OR STOP	\$ 1200	0	0	0	1	1	1	2	1	0	3	1
Unit	1 : 3	Alchl/Drgs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 2	Alchl/Drgs:	0	Speed:	5 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
14	105258270	6.089	10/07/2017 19:59	LEFT TURN, DIFFERENT ROADWAYS	\$ 20000	0	0	0	1	2	4	3	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed:	10 MPH Dir: NW	Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	45 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
15	105302109	6.089	11/20/2017 11:26	RIGHT TURN, DIFFERENT ROADWAYS	\$ 15000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed:	30 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk: 42					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	15 MPH Dir: S	Veh Mnvr/Ped Actn:				7	Obj Strk:					
16	105465102	6.089	04/28/2018 10:09	REAR END, SLOW OR STOP	\$ 1300	0	0	0	0	1	1	1		0		
Unit	1 : 1	Alchl/Drgs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				12	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
17	105550729	6.089	07/22/2018 20:56	RIGHT TURN, DIFFERENT ROADWAYS	\$ 600	0	0	0	2	3	4	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed:	10 MPH Dir: SW	Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 2	Alchl/Drgs:	0	Speed:	10 MPH Dir: SE	Veh Mnvr/Ped Actn:				7	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
18	105638233	6.089	10/10/2018 19:12	REAR END, SLOW OR STOP	\$ 2500	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
19	105762302	6.089	01/16/2019 18:36	RIGHT TURN, SAME ROADWAY	\$ 2000	0	1	0	1	1	4	1	1	0	3	1
Unit	1 : 5	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				7	Obj Strk:					
20	105936044	6.089	06/29/2019 09:32	ANGLE	\$ 6000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					
21	105956960	6.089	08/06/2019 11:16	LEFT TURN, DIFFERENT ROADWAYS	\$ 4500	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 3	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				12	Obj Strk:					
22	106031088	6.089	09/19/2019 07:45	ANGLE	\$ 2800	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				7	Obj Strk:					
23	106036816	6.089	10/10/2019 19:09	REAR END, SLOW OR STOP	\$ 3000	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: SW		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: SW		Veh Mnvr/Ped Actn:				1	Obj Strk:					
24	105903983	6.093	05/17/2019 22:58	REAR END, SLOW OR STOP	\$ 3000	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
25	105204496	6.094	08/17/2017 17:24	REAR END, SLOW OR STOP	\$ 9130	0	0	0	1	1	1	2	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 50 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
26	105652892	6.094	10/19/2018 09:41	REAR END, SLOW OR STOP	\$ 7000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
27	105904042	6.100	05/31/2019 18:23	REAR END, SLOW OR STOP	\$ 1000	0	0	0	0	2	1	3	1	0	3	1
Unit	1 : 3	Alchl/Drugs: 0	Speed: 30 MPH	Dir: SW	Veh Mnvr/Ped Actn: 11		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 10 MPH	Dir: SW	Veh Mnvr/Ped Actn: 11		Obj Strk:									
28	105260299	6.102	10/19/2017 19:40	REAR END, SLOW OR STOP	\$ 1500	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 5 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 2	Alchl/Drugs: 0	Speed: 4 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk:									
29	105109122	6.104	05/16/2017 11:30	REAR END, SLOW OR STOP	\$ 1600	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 40 MPH	Dir: S	Veh Mnvr/Ped Actn: 1		Obj Strk:									
Unit	2 : 4	Alchl/Drugs: 0	Speed: 40 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk:									
30	104868324	6.105	09/26/2016 19:36	REAR END, SLOW OR STOP	\$ 6000	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 50 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: S	Veh Mnvr/Ped Actn: 3		Obj Strk:									
31	105221699	6.117	09/07/2017 22:14	REAR END, SLOW OR STOP	\$ 9600	0	0	0	1	1	5	1	1	0	0	
Unit	1 : 4	Alchl/Drugs: 0	Speed: 40 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: S	Veh Mnvr/Ped Actn: 1		Obj Strk:									
Unit	3 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: S	Veh Mnvr/Ped Actn: 1		Obj Strk:									
32	104788831	6.118	06/23/2016 09:53	REAR END, SLOW OR STOP	\$ 4500	0	0	0	0	1	1	2	1	0	0	
Unit	1 : 4	Alchl/Drugs: 0	Speed: 45 MPH	Dir: N	Veh Mnvr/Ped Actn: 11		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 45 MPH	Dir: N	Veh Mnvr/Ped Actn: 4		Obj Strk:									
33	106041934	6.168	10/16/2019 07:08	REAR END, SLOW OR STOP	\$ 11000	0	0	0	1	2	3	2	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: S	Veh Mnvr/Ped Actn: 1		Obj Strk:									
Unit	2 : 4	Alchl/Drugs: 0	Speed: 0 MPH	Dir: S	Veh Mnvr/Ped Actn: 1		Obj Strk:									
Unit	3 : 1	Alchl/Drugs: 0	Speed: 35 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk:									
34	104333646	6.189	01/15/2015 16:37	REAR END, SLOW OR STOP	\$ 9000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 5	Alchl/Drugs: 0	Speed: 0 MPH	Dir: S	Veh Mnvr/Ped Actn: 1		Obj Strk:									
Unit	2 : 5	Alchl/Drugs: 0	Speed: 5 MPH	Dir: S	Veh Mnvr/Ped Actn: 12		Obj Strk:									
Unit	3 : 4	Alchl/Drugs: 0	Speed: 35 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk:									
35	104355629	6.189	03/06/2015 18:53	REAR END, SLOW OR STOP	\$ 9000	0	0	1	3	1	4	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs: 0	Speed: 0 MPH	Dir: S	Veh Mnvr/Ped Actn: 1		Obj Strk:									

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
36	104433252	6.201	07/07/2015 11:34	RAN OFF ROAD - LEFT	\$ 8500	0	0	1	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				15	Obj Strk: 33					
37	105030094	6.237	02/21/2017 18:27	REAR END, SLOW OR STOP	\$ 5000	0	0	0	0	1	4	2	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
38	105217651	6.246	09/05/2017 18:34	REAR END, SLOW OR STOP	\$ 5500	0	0	0	0	1	1	1	1	0		
Unit	1 : 2	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 5	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
39	105204488	6.262	08/16/2017 16:40	REAR END, SLOW OR STOP	\$ 7070	0	0	0	0	1	1	1	1	0		
Unit	1 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
40	105662619	6.280	10/30/2018 19:50	ANGLE	\$ 25000	0	0	0	0	1	4	1	1	0	1	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				7	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 50 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
41	105904014	6.302	05/23/2019 14:19	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 5	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
42	105992101	6.307	08/22/2019 15:37	REAR END, SLOW OR STOP	\$ 3000	0	0	0	0	2	1	2	1	0	0	2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 32	Alchl/Drgs:	7	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
43	104788834	6.309	06/22/2016 15:36	REAR END, SLOW OR STOP	\$ 4000	0	0	0	0	1	1	1	1	0	0	2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
44	105106317	6.320	05/13/2017 12:16	REAR END, SLOW OR STOP	\$ 4700	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 25 MPH Dir: N		Veh Mnvr/Ped Actn:				5	Obj Strk:					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
45	105304062	6.337	11/20/2017 15:04	REAR END, SLOW OR STOP	\$ 2100	0	0	0	0	1	1	1		0		
Unit	1 : 10	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
46	105820239	6.352	03/21/2019 13:16	REAR END, SLOW OR STOP	\$ 7000	0	0	0	0	1	1	2	1	0	0	
Unit	1 : 4	Alchl/Drugs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
47	105657447	6.370	10/23/2018 14:49	REAR END, SLOW OR STOP	\$ 14000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	1	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
48	105079535	6.380	04/21/2017 15:23	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	1	1	1	0		
Unit	1 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 25 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
49	105296205	6.380	11/16/2017 19:13	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	4	1	1	0	0	
Unit	1 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 3 MPH Dir: N		Veh Mnvr/Ped Actn:				12	Obj Strk:					
50	105631334	6.380	10/02/2018 19:53	SIDESWIPE, SAME DIRECTION	\$ 1000	0	0	0	0	1	2	1	1	0	0	2
Unit	1 : 1	Alchl/Drugs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				12	Obj Strk:					
51	105647296	6.381	10/05/2018 16:03	REAR END, SLOW OR STOP	\$ 4500	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 3	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
52	104255875	6.384	12/08/2014 17:21	REAR END, SLOW OR STOP	\$ 6000	0	0	0	1	1	2	2	1	0		2
Unit	1 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 4	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
53	105904036	6.387	05/29/2019 14:51	REAR END, SLOW OR STOP	\$ 3000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
54	104992339	6.388	01/03/2017 17:59	REAR END, SLOW OR STOP	\$ 10000	0	0	0	0	2	4	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
55	105925465	6.392	06/26/2019 13:11	REAR END, SLOW OR STOP	\$ 9000	0	0	0	1	1	1	2	1	0	0	2
Unit	1 : 2	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	3 : 3	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
56	106090050	6.393	11/15/2019 16:48	REAR END, SLOW OR STOP	\$ 4200	0	0	0	0	2	4	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
57	105647325	6.399	10/05/2018 13:16	SIDESWIPE, SAME DIRECTION	\$ 6000	0	0	0	0	1	1	1	1	0		
Unit	1 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 15 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	3 : 4	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
58	105001872	6.403	01/25/2017 14:36	SIDESWIPE, SAME DIRECTION	\$ 4500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
59	105029678	6.407	02/18/2017 15:31	REAR END, SLOW OR STOP	\$ 3400	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 3	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
60	104667239	6.408	02/17/2016 10:05	REAR END, SLOW OR STOP	\$ 4800	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
61	104496289	6.411	09/19/2015 16:30	REAR END, SLOW OR STOP	\$ 3000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
62	104812583	6.412	07/16/2016 07:48	REAR END, SLOW OR STOP	\$ 19000	0	0	0	1	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
63	105304184	6.413	11/20/2017 15:05	REAR END, SLOW OR STOP	\$ 16001	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	4 : 2	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
64	104991433	6.415	01/04/2017 19:50	RAN OFF ROAD - LEFT	\$ 5000	0	0	0	1	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: W		Veh Mnvr/Ped Actn:				9	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
65	104297732	6.418	01/04/2015 15:39	REAR END, SLOW OR STOP	\$ 3200	0	0	0	0	2	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
66	104439976	6.418	07/15/2015 16:24	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 5	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
67	106040391	6.418	10/16/2019 14:45	REAR END, SLOW OR STOP	\$ 650	0	0	0	1	2	1	2	1	0	3	1
Unit	1 : 5	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				12	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
68	104355627	6.422	03/06/2015 15:30	ANGLE	\$ 20000	0	0	1	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
69	104355636	6.422	03/10/2015 09:29	LEFT TURN, DIFFERENT ROADWAYS	\$ 1500	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 5 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
70	104471804	6.422	08/14/2015 15:51	LEFT TURN, SAME ROADWAY	\$ 9500	0	0	0	3	1	1	1	1	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 3	Alchl/Drgs:	0	Speed: 15 MPH Dir: NW		Veh Mnvr/Ped Actn:				8	Obj Strk:					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
71	104496285	6.422	09/18/2015 18:59	REAR END, SLOW OR STOP	\$ 1100	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
72	104500791	6.422	09/19/2015 22:56	SIDESWIPE, SAME DIRECTION	\$ 1100	0	0	1	0	1	4	1	1	0	3	1
Unit	1 : 20	Alchl/Drugs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 20	Alchl/Drugs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
73	104548780	6.422	11/03/2015 17:45	ANGLE	\$ 13500	0	0	0	0	2	4	3	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
74	104780820	6.422	06/08/2016 08:37	LEFT TURN, SAME ROADWAY	\$ 9700	0	0	0	2	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 1	Alchl/Drugs:	0	Speed: 30 MPH Dir: W		Veh Mnvr/Ped Actn:				1	Obj Strk:					
75	104868346	6.422	09/08/2016 16:28	ANGLE	\$ 4000	0	0	0	0	1	1	1	1	0	3	2
Unit	1 : 1	Alchl/Drugs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				15	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
76	104920651	6.422	10/23/2016 13:55	LEFT TURN, SAME ROADWAY	\$ 20000	0	0	2	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 55 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
77	104924603	6.422	10/25/2016 14:00	LEFT TURN, SAME ROADWAY	\$ 18500	0	0	0	2	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 20 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk: 35					
78	104924605	6.422	10/25/2016 14:24	REAR END, SLOW OR STOP	\$ 1700	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
79	104953108	6.422	11/28/2016 19:00	SIDESWIPE, SAME DIRECTION	\$ 5000	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 7 MPH Dir: N		Veh Mnvr/Ped Actn:				9	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
80	104991429	6.422	01/04/2017 09:32	RAN OFF ROAD - LEFT	\$ 9350	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
81	105011789	6.422	02/11/2017 10:55	LEFT TURN, SAME ROADWAY	\$ 12000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 3	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 50 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
82	105036228	6.422	03/08/2017 15:10	LEFT TURN, SAME ROADWAY	\$ 10000	0	0	1	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 40 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
83	105039656	6.422	03/12/2017 18:18	RAN OFF ROAD - STRAIGHT	\$ 1200	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 5	Alchl/Drgs:	0	Speed: 5 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
84	105184364	6.422	08/02/2017 19:54	LEFT TURN, SAME ROADWAY	\$ 12000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
85	105307183	6.422	11/30/2017 17:30	LEFT TURN, DIFFERENT ROADWAYS	\$ 5800	0	0	0	0	1	2	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
86	105375490	6.422	01/20/2018 01:52	RAN OFF ROAD - LEFT	\$ 2500	0	0	0	0	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: NE		Veh Mnvr/Ped Actn:				8	Obj Strk: 37					
87	105524308	6.422	06/24/2018 17:58	LEFT TURN, SAME ROADWAY	\$ 5000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 5	Alchl/Drgs:	0	Speed: 25 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
88	105607958	6.422	09/11/2018 12:34	REAR END, SLOW OR STOP	\$ 3300	0	0	1	0	1	1	1		0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 20	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
89	105638263	6.422	10/05/2018 13:04	LEFT TURN, DIFFERENT ROADWAYS	\$ 4000	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 10	Alchl/Drgs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
90	105638232	6.422	10/10/2018 20:40	REAR END, SLOW OR STOP	\$ 900	0	0	0	1	2	4	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
91	105645184	6.422	10/14/2018 12:05	ANGLE	\$ 8000	0	1	0	0	2	1	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 25 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
92	105697894	6.422	11/16/2018 17:11	REAR END, SLOW OR STOP	\$ 1500	0	0	0	0	1	2	1	1	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
93	105792783	6.422	02/20/2019 09:40	LEFT TURN, SAME ROADWAY	\$ 23000	0	0	0	2	2	1	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				1	Obj Strk:					
94	105792952	6.422	02/20/2019 17:33	LEFT TURN, SAME ROADWAY	\$ 25000	0	0	1	2	2	2	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:				58	
Unit	2 : 2	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
95	105807814	6.422	03/15/2019 19:01	LEFT TURN, DIFFERENT ROADWAYS	\$ 3300	0	0	0	0	2	1	1	1	1	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: SE		Veh Mnvr/Ped Actn:				8	Obj Strk:					
96	106090051	6.422	11/15/2019 17:25	REAR END, SLOW OR STOP	\$ 7800	0	0	0	2	2	4	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 3	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
97	105434912	6.424	03/12/2018 12:22	ANGLE	\$ 7000	0	0	1	1	2	1	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 8 MPH Dir: E		Veh Mnvr/Ped Actn:				9	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
98	105924168	6.427	06/20/2019 16:40	REAR END, SLOW OR STOP	\$ 5000	0	0	0	1	2	1	2	1	0	0	
Unit	1 : 2	Alchl/Drugs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 2	Alchl/Drugs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
99	105784566	6.429	02/14/2019 07:33	REAR END, SLOW OR STOP	\$ 2000	0	0	0	2	1	1	1	1	0	0	2
Unit	1 : 1	Alchl/Drugs:	0	Speed: 25 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
100	104770026	6.430	06/01/2016 11:00	REAR END, SLOW OR STOP	\$ 5400	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	3 : 2	Alchl/Drugs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
101	104761771	6.431	05/25/2016 21:49	ANIMAL	\$ 1500	0	0	0	0	1	1	1	1	0		
Unit	1 : 2	Alchl/Drugs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:		17			
102	105431683	6.437	03/15/2018 14:29	REAR END, SLOW OR STOP	\$ 4200	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 5	Alchl/Drugs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
103	105214439	6.441	09/01/2017 21:27	RAN OFF ROAD - RIGHT	\$ 6000	0	0	0	0	2	5	1	1	0	0	
Unit	1 : 2	Alchl/Drugs:	0	Speed: 40 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:		33			
104	104271905	6.450	12/30/2014 18:08	REAR END, SLOW OR STOP	\$ 2500	0	0	0	0	1	4	1	1	0		
Unit	1 : 4	Alchl/Drugs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 1	Alchl/Drugs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
105	105364846	6.450	01/11/2018 17:52	REAR END, SLOW OR STOP	\$ 1750	0	0	0	3	2	1	3	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	3 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	4 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
106	104619164	6.482	12/15/2015 16:10	REAR END, SLOW OR STOP	\$ 2520	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 10	Alchl/Drugs:	0	Speed: 40 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 2	Alchl/Drgs:	0	Speed:	40 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
107	104756719	6.492	05/26/2016 12:22	REAR END, SLOW OR STOP	\$ 1500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				12	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	5 MPH Dir: S	Veh Mnvr/Ped Actn:				12	Obj Strk:					
108	104628337	6.525	01/16/2016 15:31	REAR END, SLOW OR STOP	\$ 6850	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	40 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
109	104355757	6.558	02/10/2015 14:05	REAR END, SLOW OR STOP	\$ 2700	0	0	0	0	1	1	2	1	0		
Unit	1 : 2	Alchl/Drgs:	0	Speed:	20 MPH Dir: S	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	25 MPH Dir: S	Veh Mnvr/Ped Actn:				5	Obj Strk:					
110	104599118	6.559	12/05/2015 15:21	REAR END, SLOW OR STOP	\$ 9500	0	0	0	3	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	25 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
111	105304183	6.559	11/21/2017 16:52	REAR END, SLOW OR STOP	\$ 1400	0	0	0	0	1	2	1	1	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed:	25 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	25 MPH Dir: S	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				1	Obj Strk:					
112	105328911	6.568	12/09/2017 12:56	REAR END, SLOW OR STOP	\$ 11000	0	0	0	3	2	1	3	1	0	3	2
Unit	1 : 4	Alchl/Drgs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	15 MPH Dir: S	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed:	35 MPH Dir: S	Veh Mnvr/Ped Actn:				11	Obj Strk:					
113	104582822	6.572	11/24/2015 13:09	SIDESWIPE, SAME DIRECTION	\$ 7050	0	0	0	2	1	1	1	1	0		
Unit	1 : 1	Alchl/Drgs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 4	Alchl/Drgs:	0	Speed:	20 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
114	104393121	6.576	05/21/2015 16:43	ANGLE	\$ 5500	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	45 MPH Dir: S	Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	5 MPH Dir: E	Veh Mnvr/Ped Actn:				7	Obj Strk:					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
115	105800725	6.577	03/06/2019 12:46	REAR END, SLOW OR STOP	\$ 8000	0	0	0	3	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
116	104494541	6.585	08/26/2015 08:40	REAR END, SLOW OR STOP	\$ 2400	0	0	0	0	1	1	2	1	0	0	2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
117	105652902	6.592	10/20/2018 15:00	REAR END, SLOW OR STOP	\$ 5500	0	0	0	0	2	1	2	3	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
118	105117125	6.594	05/22/2017 16:07	SIDESWIPE, SAME DIRECTION	\$ 2800	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 3	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 2	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				5	Obj Strk:					
119	104623222	6.596	12/21/2015 14:20	REAR END, SLOW OR STOP	\$ 8000	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 5	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
120	105672987	6.598	10/27/2018 17:30	REAR END, SLOW OR STOP	\$ 14500	0	0	0	0	1	1	1	1	0		
Unit	1 : 2	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
121	105195886	6.599	08/13/2017 16:48	REAR END, SLOW OR STOP	\$ 7500	0	0	0	6	1	1	1	1	0	0	2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 4	Alchl/Drgs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
122	105800726	6.599	03/06/2019 13:12	REAR END, SLOW OR STOP	\$ 6000	0	0	0	1	1	1	1	1	0	0	2
Unit	1 : 4	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					
123	104761766	6.602	05/22/2016 13:47	REAR END, SLOW OR STOP	\$ 4500	0	0	0	0	1	1	2		0	3	1
Unit	1 : 3	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 1	Alchl/Drugs:	0	Speed:	40 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
124	105621592	6.602	09/28/2018 16:30	REAR END, SLOW OR STOP	\$ 2300	0	0	0	1	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
125	105652890	6.604	10/19/2018 12:21	REAR END, SLOW OR STOP	\$ 2000	0	0	0	1	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed:	45 MPH Dir: N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed:	45 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
126	104761764	6.605	05/22/2016 13:47	REAR END, SLOW OR STOP	\$ 4000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed:	15 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed:	3 MPH Dir: N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
127	104567824	6.608	11/07/2015 17:24	REAR END, SLOW OR STOP	\$ 3350	0	0	0	0	2	4	2	1	0		
Unit	1 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed:	25 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
128	104262216	6.609	12/19/2014 19:14	REAR END, SLOW OR STOP	\$ 3000	0	0	0	0	1	4	2	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed:	40 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
129	105652901	6.609	10/20/2018 16:15	REAR END, SLOW OR STOP	\$ 1800	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 3	Alchl/Drugs:	0	Speed:	45 MPH Dir: N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed:	45 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
130	105301229	6.610	11/17/2017 17:32	REAR END, SLOW OR STOP	\$ 3900	0	0	0	1	1	2	1	1	0	3	1
Unit	1 : 2	Alchl/Drugs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drugs:	0	Speed:	10 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
131	104706675	6.611	03/31/2016 17:01	REAR END, SLOW OR STOP	\$ 3500	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed:	40 MPH Dir: N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed:	40 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
132	104527753	6.612	10/14/2015 08:49	REAR END, SLOW OR STOP	\$ 6000	0	0	0	0	1	1	1	1	0	0	2
Unit	1 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				1	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drugs:	0	Speed:	25 MPH Dir: S	Veh Mnvr/Ped Actn:				11	Obj Strk:					
133	104355744	6.613	02/05/2015 17:10	REAR END, SLOW OR STOP	\$ 5000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drugs:	0	Speed:	15 MPH Dir: E	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 32	Alchl/Drugs:	7	Speed:	5 MPH Dir: E	Veh Mnvr/Ped Actn:				4	Obj Strk:					
134	104865414	6.613	09/09/2016 11:36	REAR END, SLOW OR STOP	\$ 7750	0	0	0	1	1	1	1	1	0	0	
Unit	1 : 3	Alchl/Drugs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drugs:	0	Speed:	40 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
135	105618749	6.613	09/21/2018 15:56	REAR END, SLOW OR STOP	\$ 11000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drugs:	0	Speed:	25 MPH Dir: N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
136	104409748	6.614	06/15/2015 15:47	RIGHT TURN, DIFFERENT ROADWAYS	\$ 6000	0	0	0	2	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed:	40 MPH Dir: S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed:	25 MPH Dir: E	Veh Mnvr/Ped Actn:				7	Obj Strk:					
137	105122225	6.615	05/30/2017 15:44	REAR END, SLOW OR STOP	\$ 3500	0	0	0	2	2	1	2	1	0	3	1
Unit	1 : 2	Alchl/Drugs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed:	30 MPH Dir: N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
138	104599089	6.616	12/07/2015 17:42	REAR END, SLOW OR STOP	\$ 6000	0	0	0	1	1	4	1	1	0	0	
Unit	1 : 1	Alchl/Drugs:	0	Speed:	40 MPH Dir: S	Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 2	Alchl/Drugs:	0	Speed:	0 MPH Dir: S	Veh Mnvr/Ped Actn:				1	Obj Strk:					
139	105578071	6.620	08/08/2018 22:16	REAR END, SLOW OR STOP	\$ 5000	0	0	1	0	2	4	2	1	0	3	2
Unit	1 : 1	Alchl/Drugs:	0	Speed:	45 MPH Dir: N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
140	105576522	6.620	08/13/2018 09:08	REAR END, SLOW OR STOP	\$ 7200	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed:	20 MPH Dir: N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed:	0 MPH Dir: N	Veh Mnvr/Ped Actn:				11	Obj Strk:					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
141	105762486	6.620	01/11/2019 16:14	REAR END, SLOW OR STOP	\$ 3500	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 4	Alchl/Drugs: 0	Speed: 0 MPH	Dir: N	Veh Mnvr/Ped Actn: 1		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 40 MPH	Dir: N	Veh Mnvr/Ped Actn: 4		Obj Strk:									
142	105931060	6.620	06/25/2019 13:57	LEFT TURN, DIFFERENT ROADWAYS	\$ 1000	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs: 0	Speed: 20 MPH	Dir: NW	Veh Mnvr/Ped Actn: 8		Obj Strk:									
Unit	2 : 4	Alchl/Drugs: 0	Speed: 45 MPH	Dir: SW	Veh Mnvr/Ped Actn: 4		Obj Strk:									
143	104965982	6.621	12/09/2016 16:45	RAN OFF ROAD - LEFT	\$ 29500	0	0	1	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 1	Speed: 50 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk: 37									
Unit	2 : 4	Alchl/Drugs: 0	Speed: 0 MPH	Dir: N	Veh Mnvr/Ped Actn: 1		Obj Strk:									
Unit	3 : 4	Alchl/Drugs: 0	Speed: 0 MPH	Dir: N	Veh Mnvr/Ped Actn: 1		Obj Strk:									
Unit	4 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: N	Veh Mnvr/Ped Actn: 1		Obj Strk:									
144	104334312	6.622	01/22/2015 15:01	LEFT TURN, DIFFERENT ROADWAYS	\$ 5000	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 50 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 7	Speed: 5 MPH	Dir: E	Veh Mnvr/Ped Actn: 8		Obj Strk:									
145	104518012	6.622	10/08/2015 12:22	OTHER COLLISION WITH VEHICLE	\$ 9000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 2	Alchl/Drugs: 0	Speed: 40 MPH	Dir: N	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 40 MPH	Dir: N	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	3 : 1	Alchl/Drugs: 0	Speed: 5 MPH	Dir: E	Veh Mnvr/Ped Actn: 9		Obj Strk:									
146	104669008	6.622	02/13/2016 11:20	LEFT TURN, DIFFERENT ROADWAYS	\$ 2000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs: 0	Speed: 35 MPH	Dir: S	Veh Mnvr/Ped Actn: 8		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 40 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk:									
147	104711045	6.622	03/29/2016 14:57	LEFT TURN, SAME ROADWAY	\$ 17500	0	0	0	3	1	1	1	1	0	3	1
Unit	1 : 3	Alchl/Drugs: 0	Speed: 45 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 15 MPH	Dir: W	Veh Mnvr/Ped Actn: 8		Obj Strk:									
148	104756757	6.622	05/27/2016 16:30	LEFT TURN, DIFFERENT ROADWAYS	\$ 5500	0	0	1	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 30 MPH	Dir: S	Veh Mnvr/Ped Actn: 4		Obj Strk:									
Unit	2 : 1	Alchl/Drugs: 0	Speed: 15 MPH	Dir: N	Veh Mnvr/Ped Actn: 8		Obj Strk:									
149	104775971	6.622	06/11/2016 11:00	REAR END, SLOW OR STOP	\$ 1500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: N	Veh Mnvr/Ped Actn: 1		Obj Strk:									

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 2	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				5	Obj Strk:					
150	104811811	6.622	07/09/2016 10:26	ANGLE	\$ 8000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
151	104807472	6.622	07/26/2016 19:14	LEFT TURN, DIFFERENT ROADWAYS	\$ 15000	0	0	1	2	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 2	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
152	105030092	6.622	02/20/2017 15:42	LEFT TURN, SAME ROADWAY	\$ 4600	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 40 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
153	105046016	6.622	03/18/2017 19:29	LEFT TURN, SAME ROADWAY	\$ 4000	0	0	0	0	2	2	2		0		
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				9	Obj Strk:					
154	105053880	6.622	03/27/2017 17:06	RAN OFF ROAD - LEFT	\$ 11000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 3	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: E		Veh Mnvr/Ped Actn:				1	Obj Strk:					
155	105059524	6.622	03/31/2017 09:17	SIDESWIPE, SAME DIRECTION	\$ 4000	0	0	0	0	2	1	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				9	Obj Strk:					
156	105070255	6.622	04/09/2017 16:34	LEFT TURN, SAME ROADWAY	\$ 11500	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 3	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 4	Alchl/Drgs:	0	Speed: 40 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
157	105076523	6.622	04/12/2017 15:12	RIGHT TURN, DIFFERENT ROADWAYS	\$ 3000	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 3	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 3	Alchl/Drgs:	0	Speed: 30 MPH Dir: SE		Veh Mnvr/Ped Actn:				7	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
158	105226740	6.622	09/14/2017 15:49	LEFT TURN, SAME ROADWAY	\$ 13000	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
159	105239065	6.622	09/28/2017 12:52	LEFT TURN, SAME ROADWAY	\$ 11500	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 25 MPH Dir: E		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
160	105277833	6.622	10/28/2017 21:22	REAR END, SLOW OR STOP	\$ 10000	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				12	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 25 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
161	105307179	6.622	11/30/2017 10:08	LEFT TURN, SAME ROADWAY	\$ 5000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 5 MPH Dir: E		Veh Mnvr/Ped Actn:				9	Obj Strk:					
162	105385511	6.622	02/06/2018 11:27	ANGLE	\$ 9000	0	0	0	1	1	1	1		0		
Unit	1 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: W		Veh Mnvr/Ped Actn:				8	Obj Strk:					
163	105487459	6.622	05/10/2018 17:38	ANGLE	\$ 2000	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
164	105927227	6.622	06/18/2018 15:42	REAR END, SLOW OR STOP	\$ 25000	0	0	0	4	1	1	2	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 2	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 4	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
165	105619505	6.622	09/25/2018 10:02	ANGLE	\$ 9000	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: E		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 2	Alchl/Drugs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
166	105653055	6.622	10/12/2018 12:14	REAR END, SLOW OR STOP	\$ 2000	0	0	0	2	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 15 MPH Dir: S		Veh Mnvr/Ped Actn:				11	Obj Strk:					

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						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
167	105688635	6.622	11/05/2018 18:00	REAR END, SLOW OR STOP	\$ 14000	0	0	0	2	1	4	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 50 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	3 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
168	105762551	6.622	01/28/2019 18:54	REAR END, TURN	\$ 2800	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				9	Obj Strk:					
169	105800964	6.622	03/09/2019 18:34	LEFT TURN, SAME ROADWAY	\$ 12500	0	0	0	1	2	5	2	1	0	3	1
Unit	1 : 2	Alchl/Drugs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: S		Veh Mnvr/Ped Actn:				9	Obj Strk:					
170	105826504	6.622	03/22/2019 16:54	LEFT TURN, SAME ROADWAY	\$ 10550	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
171	106090055	6.622	11/16/2019 09:00	LEFT TURN, SAME ROADWAY	\$ 11500	0	0	0	1	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 43 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk: 42					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
172	105485955	6.623	05/13/2018 16:38	REAR END, SLOW OR STOP	\$ 3000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				12	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
173	105266329	6.625	10/16/2017 14:46	REAR END, SLOW OR STOP	\$ 4750	0	0	0	1	2	1	2	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drugs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 3	Alchl/Drugs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
174	105422411	6.626	02/28/2018 17:24	REAR END, SLOW OR STOP	\$ 3500	0	0	0	1	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drugs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
175	104927625	6.630	10/25/2016 11:21	REAR END, SLOW OR STOP	\$ 1800	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 3	Alchl/Drugs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 4	Alchl/Drgs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
176	104807480	6.631	07/26/2016 08:19	ANGLE	\$ 7000	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: S		Veh Mnvr/Ped Actn:				9	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
177	105618678	6.631	09/21/2018 15:56	REAR END, SLOW OR STOP	\$ 1800	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
178	104393126	6.632	05/21/2015 09:45	RAN OFF ROAD - RIGHT	\$ 1000	0	0	0	1	1	1	2	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 35 MPH Dir: S		Veh Mnvr/Ped Actn:				16	Obj Strk: 42					
179	105030085	6.636	02/21/2017 08:38	REAR END, SLOW OR STOP	\$ 5000	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 40 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
180	104471803	6.641	08/14/2015 17:48	REAR END, SLOW OR STOP	\$ 13300	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: S		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	4 : 1	Alchl/Drgs:	0	Speed: 25 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
181	105805627	6.645	03/14/2019 12:06	REAR END, SLOW OR STOP	\$ 1500	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
182	104689206	6.655	03/08/2016 18:35	REAR END, SLOW OR STOP	\$ 1650	0	0	0	1	1	4	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	3 : 2	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
183	105076522	6.655	04/11/2017 17:08	REAR END, SLOW OR STOP	\$ 2500	0	0	0	1	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 25 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 25 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
184	104770014	6.665	05/31/2016 12:06	SIDESWIPE, SAME DIRECTION	\$ 800	0	0	0	0	1	1	2	7	0		2
Unit	1 : 32	Alchl/Drugs: 7	Speed: 20 MPH	Dir: N		Veh Mnvr/Ped Actn: 5				Obj Strk:						
Unit	2 : 4	Alchl/Drugs: 0	Speed: 15 MPH	Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
185	105226733	6.667	09/14/2017 16:05	SIDESWIPE, SAME DIRECTION	\$ 5000	0	0	0	0	1	1	1	1	0	3	2
Unit	1 : 1	Alchl/Drugs: 0	Speed: 20 MPH	Dir: S		Veh Mnvr/Ped Actn: 5				Obj Strk:						
Unit	2 : 4	Alchl/Drugs: 0	Speed: 20 MPH	Dir: S		Veh Mnvr/Ped Actn: 4				Obj Strk:						
186	105359888	6.669	01/01/2018 11:53	SIDESWIPE, SAME DIRECTION	\$ 5500	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drugs: 1	Speed: 45 MPH	Dir: N		Veh Mnvr/Ped Actn: 5				Obj Strk:						
Unit	2 : 1	Alchl/Drugs: 0	Speed: 45 MPH	Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
187	105714330	6.669	12/01/2018 12:52	REAR END, SLOW OR STOP	\$ 5000	0	0	0	0	1	1	2	3	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 45 MPH	Dir: S		Veh Mnvr/Ped Actn: 1				Obj Strk:						
Unit	2 : 1	Alchl/Drugs: 0	Speed: 45 MPH	Dir: S		Veh Mnvr/Ped Actn: 1				Obj Strk:						
Unit	3 : 1	Alchl/Drugs: 0	Speed: 45 MPH	Dir: S		Veh Mnvr/Ped Actn: 4				Obj Strk:						
188	104333702	6.670	01/08/2015 17:53	REAR END, SLOW OR STOP	\$ 1600	0	0	0	0	1	4	1	1	0	0	
Unit	1 : 1	Alchl/Drugs: 0	Speed: 25 MPH	Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drugs: 0	Speed: 10 MPH	Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	3 : 1	Alchl/Drugs: 0	Speed: 5 MPH	Dir: N		Veh Mnvr/Ped Actn: 11				Obj Strk:						
189	104534848	6.670	10/20/2015 16:40	REAR END, SLOW OR STOP	\$ 1000	0	0	0	0	1	1	1	1	0		2
Unit	1 : 1	Alchl/Drugs: 0	Speed: 15 MPH	Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
Unit	2 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: N		Veh Mnvr/Ped Actn: 1				Obj Strk:						
190	104732525	6.670	05/06/2016 16:53	REAR END, SLOW OR STOP	\$ 16600	0	0	0	3	1	1	2	1	0	0	
Unit	1 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: N		Veh Mnvr/Ped Actn: 1				Obj Strk:						
Unit	2 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: N		Veh Mnvr/Ped Actn: 1				Obj Strk:						
Unit	3 : 1	Alchl/Drugs: 0	Speed: 30 MPH	Dir: N		Veh Mnvr/Ped Actn: 4				Obj Strk:						
191	105730376	6.670	12/15/2018 12:10	REAR END, SLOW OR STOP	\$ 13500	0	0	0	0	2	1	2	3	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: S		Veh Mnvr/Ped Actn: 1				Obj Strk:			46			
Unit	2 : 4	Alchl/Drugs: 0	Speed: 35 MPH	Dir: S		Veh Mnvr/Ped Actn: 5				Obj Strk:						
192	105956874	6.670	08/06/2019 16:25	REAR END, SLOW OR STOP	\$ 100	0	0	0	1	2	1	2	1	0		
Unit	1 : 1	Alchl/Drugs: 0	Speed: 30 MPH	Dir: NE		Veh Mnvr/Ped Actn: 4				Obj Strk:						

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 4	Alchl/Drugs:	0	Speed:	0 MPH Dir:	NE	Veh Mnvr/Ped Actn:				1	Obj Strk:				
193	104732522	6.681	05/06/2016 17:49	REAR END, SLOW OR STOP	\$ 1800	0	0	0	0	1	1	2	1	0		
Unit	1 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir:	N	Veh Mnvr/Ped Actn:				1	Obj Strk:				
Unit	2 : 1	Alchl/Drugs:	0	Speed:	20 MPH Dir:	N	Veh Mnvr/Ped Actn:				4	Obj Strk:				
194	104361921	6.685	04/16/2015 10:13	REAR END, SLOW OR STOP	\$ 300	0	0	0	0	2	1	3	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir:	NE	Veh Mnvr/Ped Actn:				1	Obj Strk:				
Unit	2 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir:	NE	Veh Mnvr/Ped Actn:				4	Obj Strk:				
195	104772030	6.688	04/08/2016 15:20	REAR END, SLOW OR STOP	\$ 4500	0	0	0	2	1	1	1	1	0	0	2
Unit	1 : 1	Alchl/Drugs:	0	Speed:	25 MPH Dir:	N	Veh Mnvr/Ped Actn:				4	Obj Strk:				
Unit	2 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir:	N	Veh Mnvr/Ped Actn:				11	Obj Strk:				
196	104334248	6.689	01/17/2015 15:43	REAR END, SLOW OR STOP	\$ 6500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 5	Alchl/Drugs:	0	Speed:	45 MPH Dir:	N	Veh Mnvr/Ped Actn:				4	Obj Strk:				
Unit	2 : 4	Alchl/Drugs:	0	Speed:	0 MPH Dir:	N	Veh Mnvr/Ped Actn:				1	Obj Strk:				
197	105218432	6.692	09/03/2017 13:46	REAR END, SLOW OR STOP	\$ 600	0	0	2	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir:	N	Veh Mnvr/Ped Actn:				1	Obj Strk:				
Unit	2 : 1	Alchl/Drugs:	0	Speed:	5 MPH Dir:	N	Veh Mnvr/Ped Actn:				11	Obj Strk:				
198	104698612	6.697	03/21/2016 12:38	REAR END, SLOW OR STOP	\$ 10500	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed:	40 MPH Dir:	N	Veh Mnvr/Ped Actn:				11	Obj Strk:				
Unit	2 : 4	Alchl/Drugs:	0	Speed:	40 MPH Dir:	N	Veh Mnvr/Ped Actn:				4	Obj Strk:				
199	106031656	6.704	09/29/2019 13:28	REAR END, SLOW OR STOP	\$ 2250	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 4	Alchl/Drugs:	0	Speed:	25 MPH Dir:	N	Veh Mnvr/Ped Actn:				11	Obj Strk:				
Unit	2 : 1	Alchl/Drugs:	0	Speed:	0 MPH Dir:	N	Veh Mnvr/Ped Actn:				1	Obj Strk:				
200	105450118	6.708	04/09/2018 17:00	REAR END, SLOW OR STOP	\$ 7500	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 4	Alchl/Drugs:	0	Speed:	25 MPH Dir:	N	Veh Mnvr/Ped Actn:				11	Obj Strk:				
Unit	2 : 1	Alchl/Drugs:	0	Speed:	2 MPH Dir:	N	Veh Mnvr/Ped Actn:				11	Obj Strk:				
Unit	3 : 4	Alchl/Drugs:	0	Speed:	0 MPH Dir:	N	Veh Mnvr/Ped Actn:				1	Obj Strk:				
201	105713678	6.709	12/03/2018 19:01	REAR END, SLOW OR STOP	\$ 1500	0	0	0	0	1	5	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs:	0	Speed:	10 MPH Dir:	N	Veh Mnvr/Ped Actn:				4	Obj Strk:				

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Acc No	Crash ID	Milepost	Date	Accident Type			Total Damage	Injuries				Condition			Road		Trfc Ctl	
								F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 1	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
202	104333750	6.716	01/06/2015 13:28	REAR END, SLOW OR STOP			\$ 4000	0	0	0	1	1	1	1	3	0	2	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	45 MPH	Dir:	N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	45 MPH	Dir:	N	Veh Mnvr/Ped Actn:				4	Obj Strk:					
203	105762290	6.717	01/17/2019 18:35	REAR END, SLOW OR STOP			\$ 3500	0	0	0	0	2	4	2	1	0	0	
Unit	1 : 4	Alchl/Drgs:	7	Speed:	0 MPH	Dir:	N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	5 MPH	Dir:	N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed:	30 MPH	Dir:	N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
204	105006590	6.722	01/28/2017 15:38	REAR END, SLOW OR STOP			\$ 1325	0	0	0	0	1	1	1	1	0		
Unit	1 : 1	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	S	Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	30 MPH	Dir:	S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
205	104788821	6.742	06/20/2016 12:54	REAR END, SLOW OR STOP			\$ 3000	0	0	0	0	1	1	1	1	0	0 2	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	30 MPH	Dir:	N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	N	Veh Mnvr/Ped Actn:				1	Obj Strk:					
206	105932883	6.757	07/03/2019 16:51	REAR END, SLOW OR STOP			\$ 6000	0	0	0	0	1	1	1	1	0	3 1	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	45 MPH	Dir:	NE	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	10 MPH	Dir:	NE	Veh Mnvr/Ped Actn:				12	Obj Strk:					
207	104377306	6.765	05/08/2015 09:46	REAR END, SLOW OR STOP			\$ 4700	0	0	0	1	1	1	1	1	0		
Unit	1 : 1	Alchl/Drgs:	0	Speed:	30 MPH	Dir:	S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
208	104268441	6.767	12/24/2014 16:43	RIGHT TURN, DIFFERENT ROADWAYS			\$ 1500	0	0	0	0	2	2	3	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	E	Veh Mnvr/Ped Actn:				7	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	S	Veh Mnvr/Ped Actn:				4	Obj Strk:					
209	104868510	6.767	09/05/2016 14:53	REAR END, SLOW OR STOP			\$ 2900	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed:	15 MPH	Dir:	N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	N	Veh Mnvr/Ped Actn:				11	Obj Strk:					
210	104567831	6.771	11/05/2015 18:27	REAR END, SLOW OR STOP			\$ 2000	0	0	0	0	1	4	1	1	0		
Unit	1 : 5	Alchl/Drgs:	0	Speed:	0 MPH	Dir:	N	Veh Mnvr/Ped Actn:				1	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
211	104932294	6.783	11/03/2016 16:03	REAR END, SLOW OR STOP	\$ 10500	0	0	0	1	1	1	1	1	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
212	104262202	6.791	12/16/2014 18:21	REAR END, SLOW OR STOP	\$ 2500	0	0	0	0	2	4	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
213	104333729	6.791	01/02/2015 13:09	REAR END, SLOW OR STOP	\$ 450	0	0	0	1	1	1	2	1	0		1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 3	Alchl/Drgs:	0	Speed: 25 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
214	105411854	6.806	02/22/2018 17:10	RAN OFF ROAD - LEFT	\$ 8500	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 3 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
215	104901652	6.809	10/12/2016 12:57	REAR END, SLOW OR STOP	\$ 3900	0	0	0	0	1	1	1	1	0		
Unit	1 : 2	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	3 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
216	105680567	6.818	11/08/2018 19:32	REAR END, SLOW OR STOP	\$ 12000	0	0	0	0	1	4	2	1	0	0	
Unit	1 : 4	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
217	105568635	6.820	08/06/2018 18:17	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	1	1	1	0	0	
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
218	104393119	6.824	05/21/2015 11:51	REAR END, SLOW OR STOP	\$ 4500	0	0	0	2	2	1	3	1	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 0 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					

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Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
219	105887880	6.826	05/22/2019 11:54	REAR END, SLOW OR STOP	\$ 1200	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 10 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
220	105023151	6.837	01/03/2017 19:36	SIDESWIPE, SAME DIRECTION	\$ 2500	0	0	0	0	2	4	2	1	12	12	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 35 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 32	Alchl/Drgs:	7	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
221	105015289	6.852	02/01/2017 08:04	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 5	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				12	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				12	Obj Strk:					
222	104955159	6.853	12/18/2016 13:18	RAN OFF ROAD - LEFT	\$ 3500	0	0	0	0	1	1	1	3	0	3	1
Unit	1 : 2	Alchl/Drgs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 20 MPH Dir: S		Veh Mnvr/Ped Actn:				5	Obj Strk:					
223	104537970	6.856	10/22/2015 15:57	REAR END, SLOW OR STOP	\$ 400	0	0	0	1	1	1	1	2	0	0	2
Unit	1 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				5	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	3 : 4	Alchl/Drgs:	0	Speed: 30 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk:					
224	105210293	6.858	08/28/2017 20:11	REAR END, SLOW OR STOP	\$ 5000	0	0	0	0	1	4	1	1	0		
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 20 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
225	105359891	6.860	01/01/2018 11:52	REAR END, SLOW OR STOP	\$ 300	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	5	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
226	104297730	6.865	01/03/2015 16:30	REAR END, SLOW OR STOP	\$ 1600	0	0	0	0	2	2	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				1	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 45 MPH Dir: N		Veh Mnvr/Ped Actn:				4	Obj Strk:					
227	105538592	6.865	06/26/2018 17:59	REAR END, SLOW OR STOP	\$ 3500	0	0	0	0	2	1	3	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
228	104436638	6.867	07/14/2015 14:18	SIDESWIPE, SAME DIRECTION	\$ 1900	0	0	0	0	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 5 MPH	Dir: SW	Veh Mnvr/Ped Actn: 8	Obj Strk:										
Unit	2 : 1	Alchl/Drugs: 0	Speed: 5 MPH	Dir: SW	Veh Mnvr/Ped Actn: 8	Obj Strk:										
229	104494082	6.867	09/16/2015 13:10	REAR END, SLOW OR STOP	\$ 1200	0	0	0	0	1	1	1	1	0	3	2
Unit	1 : 2	Alchl/Drugs: 0	Speed: 15 MPH	Dir: S	Veh Mnvr/Ped Actn: 11	Obj Strk:										
Unit	2 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: S	Veh Mnvr/Ped Actn: 1	Obj Strk:										
230	104599114	6.867	12/14/2015 14:05	UNKNOWN	\$ 2200	0	0	0	0	2	1	3	3	0	3	1
Unit	1 : 3	Alchl/Drugs: 0	Speed: 30 MPH	Dir: W	Veh Mnvr/Ped Actn: 8	Obj Strk:										
Unit	2 : 1	Alchl/Drugs: 0	Speed: 30 MPH	Dir: W	Veh Mnvr/Ped Actn: 5	Obj Strk:										
231	104860922	6.867	06/24/2016 11:23	RAN OFF ROAD - LEFT	\$ 3500	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 11	Alchl/Drugs: 0	Speed: 10 MPH	Dir: W	Veh Mnvr/Ped Actn: 8	Obj Strk:										
Unit	2 : 1	Alchl/Drugs: 0	Speed: 10 MPH	Dir: W	Veh Mnvr/Ped Actn: 4	Obj Strk:										
232	104900784	6.867	10/05/2016 16:45	REAR END, SLOW OR STOP	\$ 3000	0	0	0	1	1	1	2	1	0	3	1
Unit	1 : 4	Alchl/Drugs: 0	Speed: 10 MPH	Dir: N	Veh Mnvr/Ped Actn: 4	Obj Strk:										
Unit	2 : 5	Alchl/Drugs: 0	Speed: 0 MPH	Dir: N	Veh Mnvr/Ped Actn: 1	Obj Strk:										
233	104945689	6.867	11/11/2016 15:15	REAR END, SLOW OR STOP	\$ 2300	0	0	0	0	1	1	1	1	0	3	2
Unit	1 : 1	Alchl/Drugs: 0	Speed: 30 MPH	Dir: N	Veh Mnvr/Ped Actn: 4	Obj Strk:										
Unit	2 : 1	Alchl/Drugs: 0	Speed: 30 MPH	Dir: N	Veh Mnvr/Ped Actn: 4	Obj Strk:										
234	105187495	6.867	08/05/2017 17:17	ANGLE	\$ 8500	0	0	0	1	1	1	1	1	0	3	1
Unit	1 : 1	Alchl/Drugs: 0	Speed: 45 MPH	Dir: N	Veh Mnvr/Ped Actn: 4	Obj Strk:										
Unit	2 : 1	Alchl/Drugs: 0	Speed: 15 MPH	Dir: S	Veh Mnvr/Ped Actn: 8	Obj Strk:										
235	105302116	6.867	11/17/2017 15:45	REAR END, SLOW OR STOP	\$ 2000	0	0	0	0	1	1	1		0		
Unit	1 : 1	Alchl/Drugs: 0	Speed: 0 MPH	Dir: N	Veh Mnvr/Ped Actn: 1	Obj Strk:										
Unit	2 : 5	Alchl/Drugs: 0	Speed: 0 MPH	Dir: N	Veh Mnvr/Ped Actn: 4	Obj Strk:										
236	105338569	6.867	12/20/2017 06:30	PEDESTRIAN	\$ 0	0	0	1	0	2	4	3	1	0	3	1
Unit	1 : 32	Alchl/Drugs: 7	Speed: 10 MPH	Dir: SW	Veh Mnvr/Ped Actn: 8	Obj Strk:										
Unit	2 : 24	Alchl/Drugs: 7	Speed: 0 MPH	Dir:	Veh Mnvr/Ped Actn:	Obj Strk:										

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Acc No	Crash ID	Milepost	Date	Accident Type	Total Damage	Injuries				Condition			Road		Trfc Ctl	
						F	A	B	C	R	L	W	Ch	Ci	Dv	Op
237	105792980	6.867	02/26/2019 10:44	LEFT TURN, SAME ROADWAY	\$ 5200	0	0	0	0	1	1	2	1	0	3	1
Unit	1 : 1	Alchl/Drgs:	0	Speed: 15 MPH Dir: N		Veh Mnvr/Ped Actn:				8	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 45 MPH Dir: S		Veh Mnvr/Ped Actn:				4	Obj Strk: 33					
238	105905452	6.867	06/08/2019 21:19	ANGLE	\$ 6500	0	0	0	0	2	4	3	1	0	3	1
Unit	1 : 4	Alchl/Drgs:	0	Speed: 5 MPH Dir: N		Veh Mnvr/Ped Actn:				11	Obj Strk:					
Unit	2 : 4	Alchl/Drgs:	0	Speed: 15 MPH Dir: E		Veh Mnvr/Ped Actn:				4	Obj Strk:					

**Legend for
Report Details:**

Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Ci - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	238	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	89	37.39
Total Injury Crashes	89	37.39
Property Damage Only Crashes	149	62.61
Night Crashes	50	21.01
Wet Crashes	43	18.07
Alcohol/Drugs Involvement Crashes	6	2.52

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	238	100.00
Fatal Crashes	0	0.00
Class A Crashes	2	0.84
Class B Crashes	16	6.72
Class C Crashes	71	29.83
Property Damage Only Crashes	149	62.61

Vehicle Exposure Statistics

Annual ADT = 31000

Total Length = 0.778 (Miles) 1.252 (Kilometers)

Total Vehicle Exposure = 44.04 (MVMT) 70.87 (MVKMT)

Crash Rate	Crashes Per 100 Million Vehicle Miles	Crashes Per 100 Million Vehicle Kilometers
Total Crash Rate	540.42	335.80
Fatal Crash Rate	0.00	0.00
Non Fatal Crash Rate	202.09	125.57
Night Crash Rate	113.53	70.55
Wet Crash Rate	97.64	60.67
EPDO Rate	2346.53	1458.07

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Miscellaneous Statistics

Severity Index = 4.34
EPDO Crash Index = 1033.40
Estimated Property Damage Total = \$ 1377346.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
ANGLE	16	6.72
ANIMAL	1	0.42
LEFT TURN, DIFFERENT ROADWAYS	11	4.62
LEFT TURN, SAME ROADWAY	21	8.82
OTHER COLLISION WITH VEHICLE	1	0.42
PEDALCYCLIST	1	0.42
PEDESTRIAN	1	0.42
RAN OFF ROAD - LEFT	10	4.20
RAN OFF ROAD - RIGHT	2	0.84
RAN OFF ROAD - STRAIGHT	1	0.42
REAR END, SLOW OR STOP	146	61.34
REAR END, TURN	2	0.84
RIGHT TURN, DIFFERENT ROADWAYS	7	2.94
RIGHT TURN, SAME ROADWAY	1	0.42
SIDESWIPE, SAME DIRECTION	16	6.72
UNKNOWN	1	0.42

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	2	1.38
Class B Injuries	18	12.41
Class C Injuries	125	86.21
Total Non-Fatal Injuries	145	100.00
Total Injuries	145	100.00

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	24	10.08
Feb	17	7.14
Mar	22	9.24
Apr	10	4.20
May	23	9.66
Jun	17	7.14
Jul	12	5.04
Aug	15	6.30
Sep	24	10.08
Oct	32	13.45
Nov	23	9.66
Dec	19	7.98

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	31	13.03
Tue	42	17.65
Wed	37	15.55
Thu	43	18.07
Fri	38	15.97
Sat	31	13.03
Sun	16	6.72

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	1	0.42
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	1	0.42
0700-0759	4	1.68
0800-0859	6	2.52
0900-0959	11	4.62
1000-1059	9	3.78
1100-1159	16	6.72
1200-1259	18	7.56
1300-1359	17	7.14
1400-1459	15	6.30
1500-1559	29	12.18
1600-1659	31	13.03
1700-1759	27	11.34
1800-1859	19	7.98
1900-1959	20	8.40
2000-2059	4	1.68
2100-2159	5	2.10
2200-2259	5	2.10
2300-2359	0	0.00

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
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Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	155	22	0	177
Dark	34	16	0	50
Other	6	5	0	11
Total	195	43	0	238

Object Struck Summary

Object Type	Times Struck	Percent of Total
ANIMAL	1	5.88
DITCH	2	11.76
GUARDRAIL FACE ON SHOULDER	3	17.65
LUMINAIRE POLE NON-BREAKAWAY	1	5.88
OFFICIAL HIGHWAY SIGN NON-BREAKAWAY	2	11.76
PEDALCYCLIST	2	11.76
PEDESTRIAN	2	11.76
SHOULDER BARRIER FACE	1	5.88
TREE	3	17.65

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
LIGHT TRUCK (MINI-VAN, PANEL)	22	4.25
MOTORCYCLE	3	0.58
PASSENGER CAR	327	63.13
PEDALCYCLE	1	0.19
PEDESTRIAN	1	0.19
PICKUP	38	7.34
SINGLE UNIT TRUCK (2-AXLE, 6-TIRE)	3	0.58
SINGLE UNIT TRUCK (3 OR MORE AXLES)	1	0.19
SPORT UTILITY	99	19.11
UNKNOWN	6	1.16
VAN	17	3.28

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2014	6	0	1	5
2015	47	0	19	28
2016	44	0	18	26
2017	58	0	18	40
2018	46	0	17	29
2019	37	0	16	21
Total	238	0	89	149

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2014	0	1
2015	0	30
2016	0	31
2017	0	31
2018	0	27
2019	0	25
Total	0	145

Miscellaneous Totals

Year	Property Damage	EPDO Index
2014	\$ 18500	13.40
2015	\$ 234820	187.60
2016	\$ 294200	177.20
2017	\$ 341526	191.20
2018	\$ 277950	240.20
2019	\$ 210350	223.80
Total	\$ 1377346	1033.40

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2014	0	2	4	0	0	0	0
2015	3	1	32	2	3	3	3

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Run Off Road &							
Year	Left Turn	Right Turn	Rear End	Fixed Object	Angle	Side Swipe	Other
2016	7	1	26	3	3	3	1
2017	11	2	30	6	1	7	1
2018	2	1	32	2	6	3	0
2019	9	1	24	0	3	0	0
Total	32	8	148	13	16	16	5

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Strip Diagram

Features	Milepost	Crash IDs
SR 1750 ESTATE ESTES	6.09	104268472 104333758 104356979 104441034 104441042 104576498 104880143 104966690 105076514 105078978 105137201 105176794 105235917 105258270 105302109 105465102 105550729 105638233 105762302 105936044 105956960 106031088 106036816 105903983 105204496 105652892
	6.10	105904042 105260299 105109122
	6.11	104868324
	6.12	105221699 104788831
	6.13	
	6.14	
	6.15	
	6.16	
	6.17	106041934
	6.18	
	6.19	104333646 104355629
	6.20	104433252
	6.21	
	6.22	
	6.23	
	6.24	105030094
	6.25	105217651
	6.26	105204488
	6.27	
	6.28	105662619
	6.29	
RIDGEFIELD	6.30	105904014
	6.31	105992101 104788834
	6.32	105106317
	6.33	
	6.34	105304062
	6.35	105820239
	6.36	
	6.37	105657447
	6.38	105079535 105296205 105631334 105647296 104255875
	6.39	105904036 104992339 105925465 106090050
	6.40	105647325 105001872
	6.41	105029678 104667239 104496289 104812583
WALNUT		

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Features	Milepost	Crash IDs
WILLOW	6.42	105304184 104991433
		104297732 104439976 106040391 104355627
		104355636 104471804 104496285 104500791
		104548780 104780820 104868346 104920651
		104924603 104924605 104953108 104991429
		105011789 105036228 105039656 105184364
		105307183 105375490 105524308 105607958
		105638263 105638232 105645184 105697894
	6.43	105792783 105792952 105807814 106090051
		105434912
		105924168 105784566 104770026 104761771
		105431683 105214439
		104271905 105364846
SR 1815 BYPASS	6.48	104619164
		104756719
	6.50	
	6.52	
Structure:670078	6.53	104628337
	6.56	104355757 104599118 105304183
		105328911 104582822
		104393121 105800725
	6.59	104494541 105652902 105117125
		104623222 105672987 105195886 105800726
		104761766 105621592 105652890
ELLIOT	6.61	104761764 104567824 104262216 105652901
		105301229 104706675 104527753 104355744
		104865414 105618749 104409748 105122225
		104599089 105578071 105576522 105762486
	6.62	105931060 104965982 104334312 104518012
		104669008 104711045 104756757 104775971
		104811811 104807472 105030092 105046016
		105053880 105059524 105070255 105076523
	6.63	105226740 105239065 105277833 105307179
		105385511 105487459 105927227 105619505
		105653055 105688635 105762551 105800964
		105826504 106090055 105485955 105266329

**North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Strip Analysis Report**

Features	Milepost	Crash IDs
		104393126
	6.64	105030085 104471803 105805627
	6.65	
SR 1800	6.66	104689206 105076522 104770014
SR 1814 BYPASS OLD OXFORD	6.67	105226733 105359888 105714330 104333702
		104534848 104732525 105730376 105956874
	6.68	104732522 104361921
	6.69	104772030 104334248 105218432
	6.70	104698612 106031656
	6.71	105450118 105713678
	6.72	104333750 105762290 105006590
	6.73	
	6.74	104788821
EASTGATE	6.75	
	6.76	105932883 104377306
	6.77	104268441 104868510 104567831
	6.78	104932294
	6.79	104262202 104333729
	6.80	
	6.81	105411854 104901652
	6.82	105680567 105568635 104393119
	6.83	105887880
	6.84	105023151
	6.85	105015289 104955159
	6.86	104537970 105210293 105359891 104297730
		105538592
EASTGATE SHOPPING CENTER SR 1742	6.87	104436638 104494082 104599114 104860922
EPHESUS CHURCH		104900784 104945689 105187495 105302116
		105338569 105792980 105905452

D

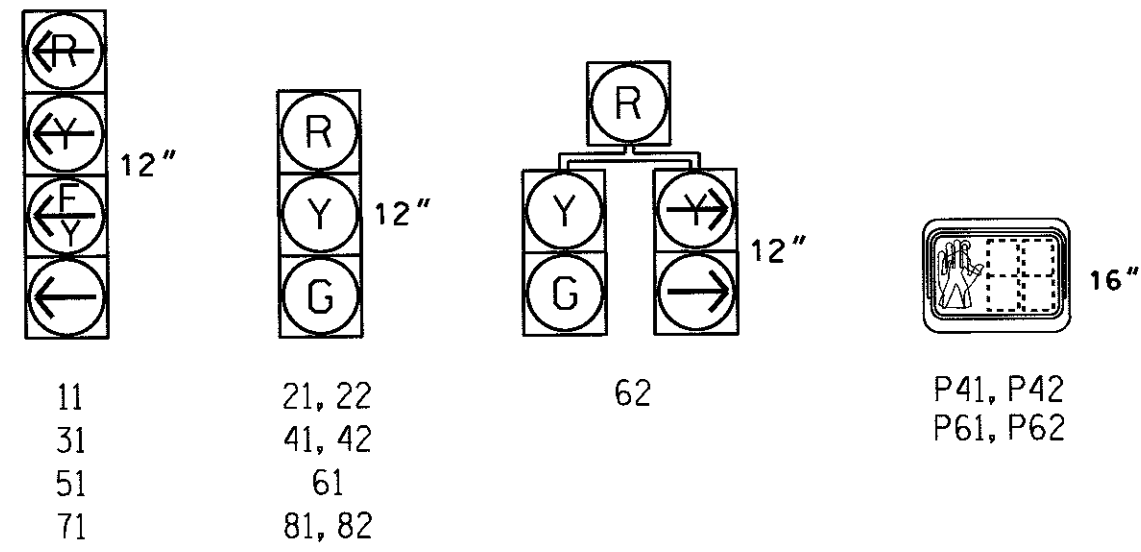
Traffic Signal Plans

OASIS 2070L LOOP & DETECTOR INSTALLATION CHART												
INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	+5	2-4-2	-	1 6**	Y Y	-	-	-	* 15	-	-
2A	6X20	330	EXIST	-	2	Y Y	-	2.1	-	-	-	-
2B	6X20	90	EXIST	-	2	Y Y	-	-	-	-	-	-
3A	6X40	16	2-4-2	-	3 8**	Y Y	-	-	-	# 15 3	-	-
@ 3B	6X6	0	2-4-2 Diagonal	-	3 8**	Y Y	-	-	-	# 15 3	-	-
4A	6X40	16	2-4-2	-	4	Y Y	-	-	-	10	-	-
@ 4B	6X40	0	2-4-2 Diagonal	-	4	Y Y	-	-	-	10	-	-
5A	6X60	+5	2-4-2	-	5 2**	Y Y	-	-	-	* 15	-	-
6A	6X20	330	EXIST	-	6	Y Y	-	2.1	-	-	-	-
6B, 6C	6X6	90	EXIST	-	6	Y Y	-	-	-	-	-	-
7A	6X40	16	2-4-2	-	7 4**	Y Y	-	-	-	# 15 3	-	-
@ 7B	6X6	0	2-4-2 Diagonal	-	7 4**	Y Y	-	-	-	# 15 3	-	-
8A	6X40	16	2-4-2	-	8	Y Y	-	-	-	10	-	-
@ 8B	6X6	0	2-4-2 Diagonal	-	8	Y Y	-	-	-	10	-	-

- * Disable Delay During Alternate 1 and 2 Phasing Operation.
- ** Disable Phase 2/6 Call For Loops 1A and 5A During Alternate 1 and 2 Phasing.
- # Disable Delay During Alternate 2 Phasing Operation.
- ## Disable Phase 4/8 Call For Loops 3A, 3B, 7A and 7B During Alternate 2 Phasing.
- @ Set Sensitivity to appropriate level to detect a bicycle.

SIGNAL FACE I.D.

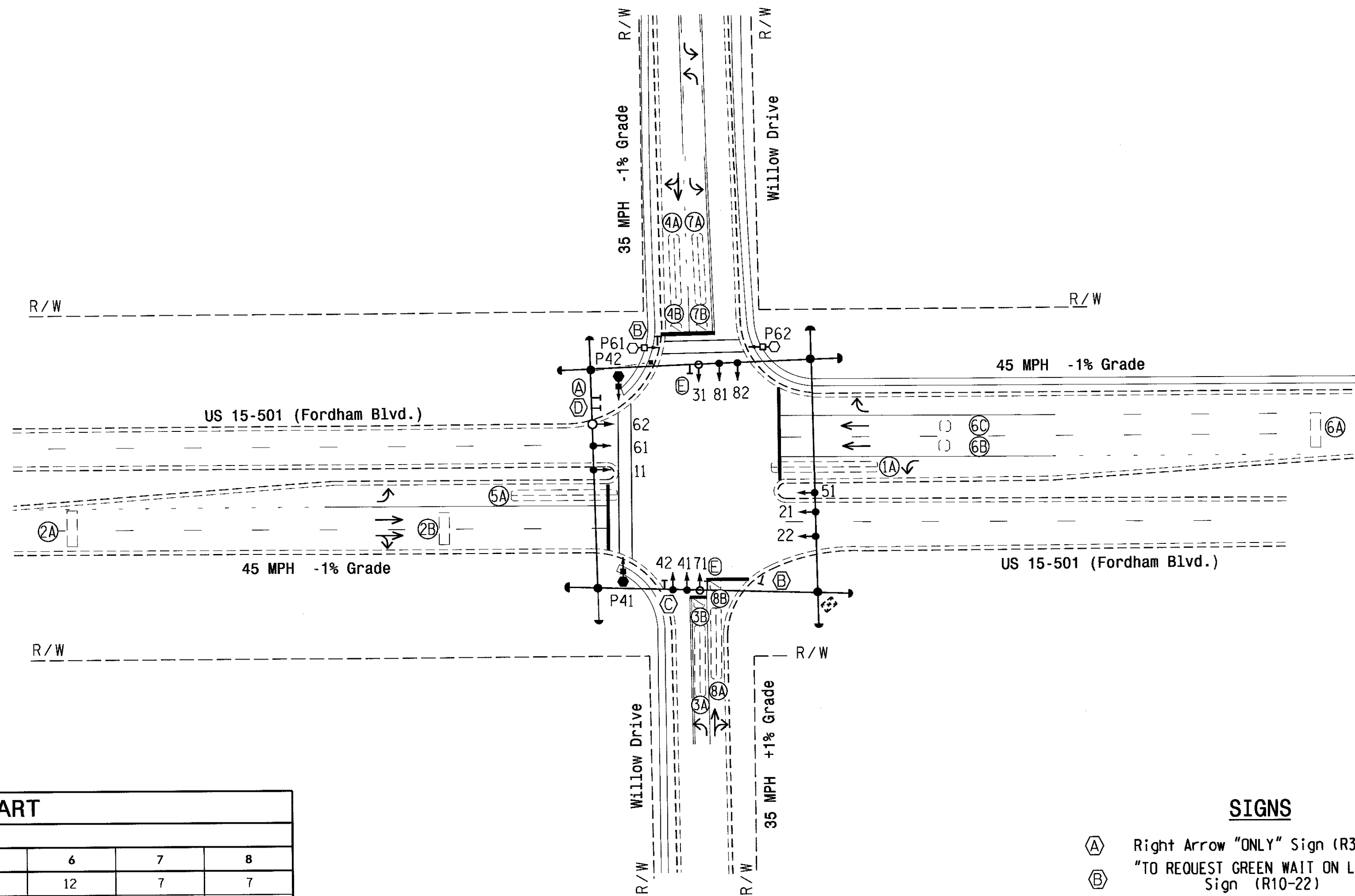
All Heads L.E.D.



5 Phase
Fully Actuated
(Chapel Hill-Carrboro Signal System)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Reposition existing signal heads numbered 41, 42, 81 and 82.
6. Renumber existing loops as shown.
7. Set all detector units to presence mode.
8. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
9. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
10. Pavement markings are existing.
11. The Division Traffic Engineer will determine the hours of use for each phasing plan.
13. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
14. Omit Sign D with no phase 6 pedestrian calls. Sign D shall illuminate during the phase 6 Walk and Flashing "Don't Walk" displays.
15. Existing lane control signs may be removed.



OASIS 2070L TIMING CHART

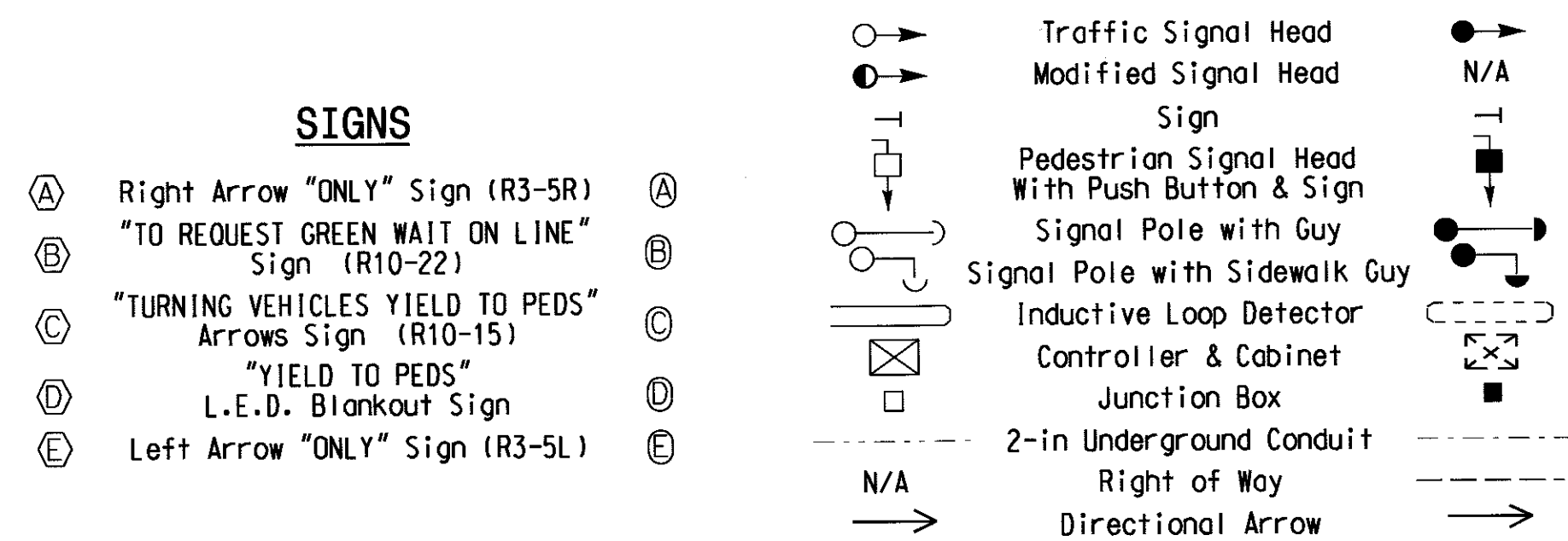
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* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

PROPOSED

EXISTING



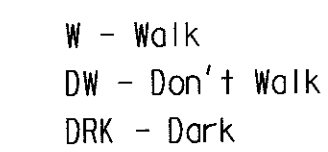
SIGNS

(A)	Right Arrow "ONLY" Sign (R3-5R)	(A)
(B)	"TO REQUEST GREEN WAIT ON LINE" Sign (R10-22)	(B)
(C)	"TURNING VEHICLES YIELD TO PEDS" Arrows Sign (R10-15)	(C)
(D)	"YIELD TO PEDS" L.E.D. Blankout Sign	(D)
(E)	Left Arrow "ONLY" Sign (R3-5L)	(E)

Signal Upgrade (Sheet 1 of 2)

Prepared In The Offices of:  Transportation Mobility and Safety Division DEPARTMENT OF TRANSPORTATION SYMBOL DESIGN SECTION 750 N. Greenfield Pkwy, Garner, NC 27529	US 15-501 (Fordham Blvd.) at Willow Drive	SEAL 																		
<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 33%;">Division 7</td> <td style="width: 33%;">Orange County</td> <td style="width: 33%;">Chapel Hill</td> </tr> <tr> <td>PLAN DATE: October 2012</td> <td colspan="2">REVIEWED BY:</td> </tr> <tr> <td>PREPARED BY: M. Bazzarie</td> <td colspan="2">REVIEWED BY:</td> </tr> </table>			Division 7	Orange County	Chapel Hill	PLAN DATE: October 2012	REVIEWED BY:		PREPARED BY: M. Bazzarie	REVIEWED BY:										
Division 7	Orange County	Chapel Hill																		
PLAN DATE: October 2012	REVIEWED BY:																			
PREPARED BY: M. Bazzarie	REVIEWED BY:																			
 SCALE 0 40 1" = 40'	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">REVISIONS</th> <th style="width: 20%;">INIT.</th> <th style="width: 20%;">DATE</th> </tr> </thead> <tbody> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </tbody> </table>		REVISIONS	INIT.	DATE															
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<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;">SIG. INVENTORY NO.</td> <td style="width: 40%;">07-0508</td> </tr> </table>			SIG. INVENTORY NO.	07-0508																
SIG. INVENTORY NO.	07-0508																			

5 Phase
11y Actuated



1. Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. Phase 3 and/or phase 7 may be lagged.
5. Reposition existing signal heads numbered 41, 42, 81 and 82.
6. Renumber existing loops as shown.
7. Set all detector units to presence mode.
8. In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
9. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
10. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
11. Pavement markings are existing.
12. The Division Traffic Engineer will determine the hours of use for each phasing plan.
13. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
14. Omit Sign D with no phase 6 pedestrian calls. Sign D shall illuminate during the phase 6 Walk and Flashing "Don't Walk" displays.
15. Existing lane control signs may be removed.

 12"

11
 31
 51
 71

 12"

21, 22
 41, 42
 61
 81, 82

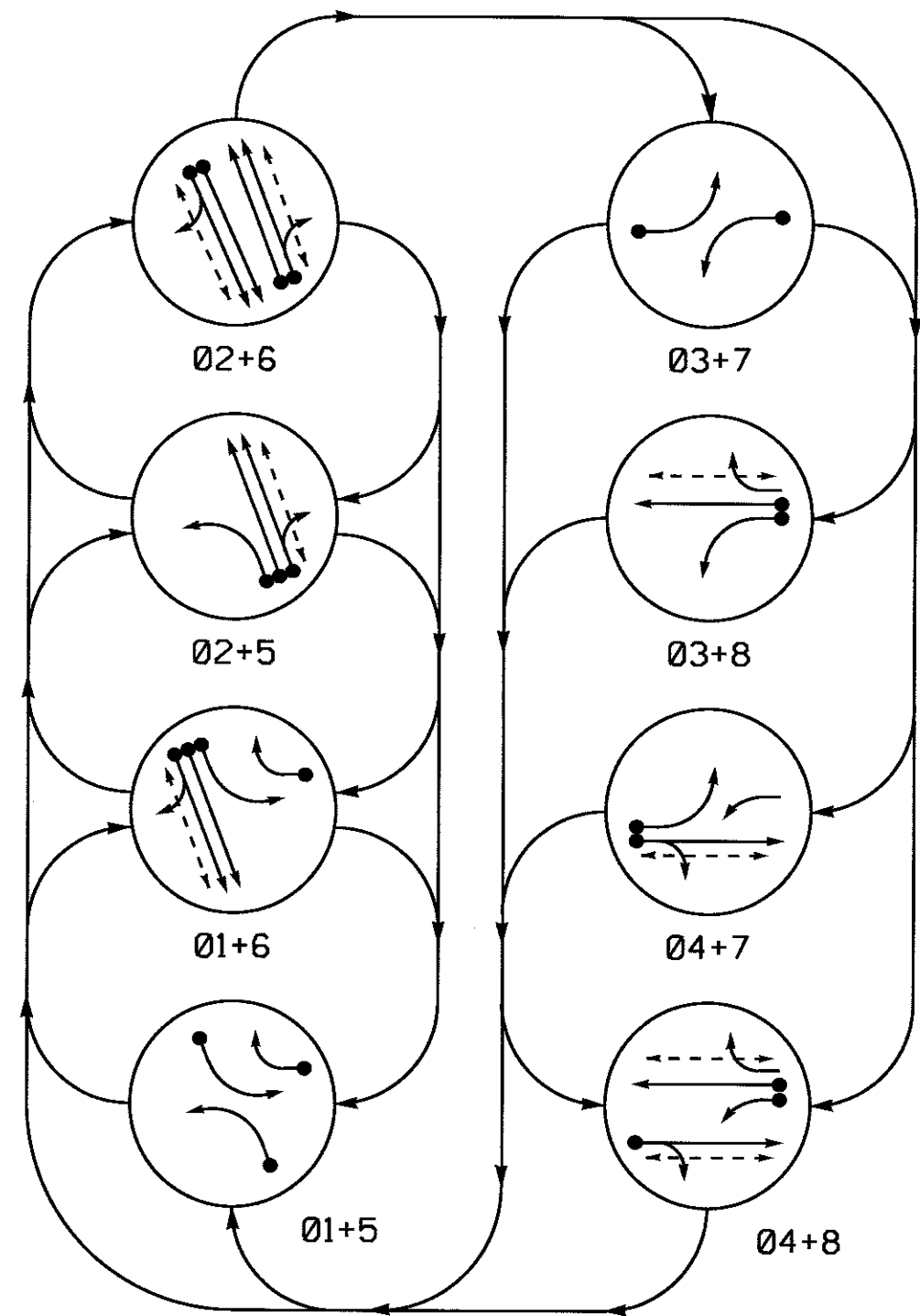
 12"

62

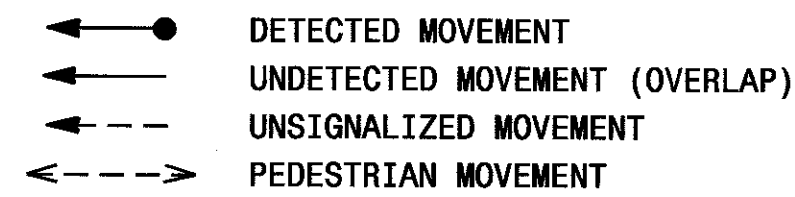
 16"

P41, P42
 P61, P62

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND



SIGNAL FACE I.D.

All Heads L.E.D.

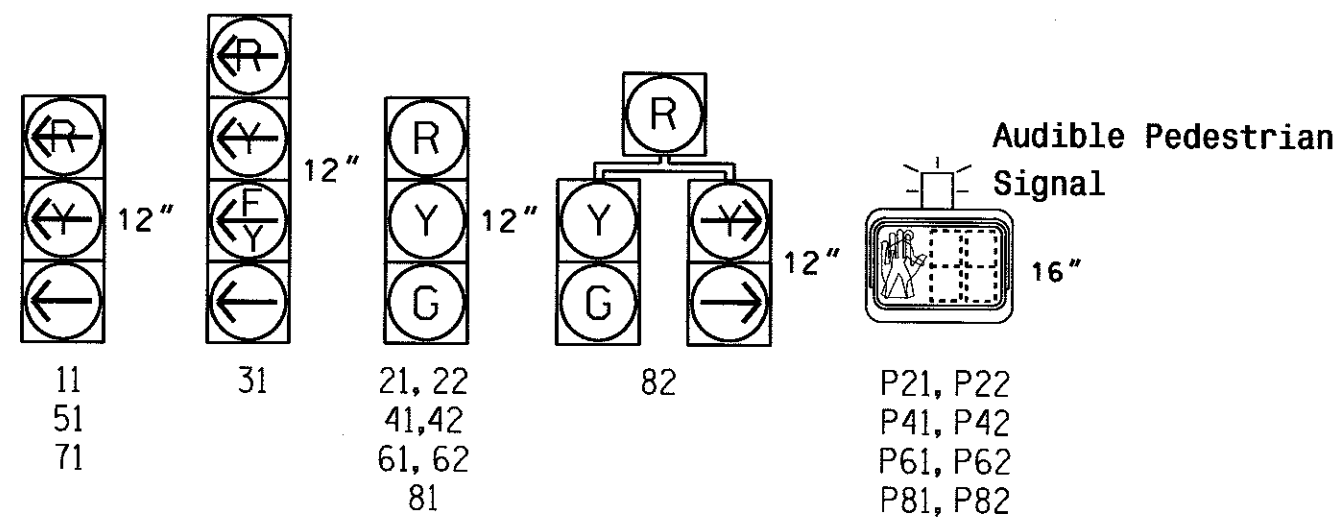


TABLE OF OPERATION

SIGNAL FACE	01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8	FLASH
11									
21, 22	R	R	G	G	R	R	R	R	Y
31	R	R	R	R					R
41, 42	R	R	R	R	R	R	G	G	R
51									R
61, 62	R	G	R	G	R	R	R	R	Y
71	R	R	R	R					R
81	R	R	R	R	R	G	R	G	R
82	R	R	R	R	R	G	R	G	R
P21, P22	DW	DW	W	W	DW	DW	DW	DRK	
P41, P42	DW	DW	DW	DW	DW	DW	W	DRK	
P61, P62	DW	W	DW	W	DW	DW	DW	DRK	
P81, P82	DW	DW	DW	DW	DW	W	DW	DRK	

OASIS 2070L LOOP & DETECTOR INSTALLATION CHART

INDUCTIVE LOOPS				DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP
1A	6X40	0	2-4-2	-	1	Y	Y	-	-	-	-
1B	6X40	16	2-4-2	-	1	Y	Y	-	-	15	-
1C **	6X6	0	2-4-2 Diagonal	-	1	Y	Y	-	-	15	-
2A, 2B	6X60	+10	EXISTING	-	2	Y	Y	-	-	-	-
3A	6X40	16	2-4-2	-	3	Y	Y	-	-	15	-
3B **	6X6	0	2-4-2 Diagonal	-	3	Y	Y	-	-	15	-
4A	6X40	16	2-4-2	-	4	Y	Y	-	-	10	-
4B **	6X6	0	2-4-2 Diagonal	-	4	Y	Y	-	-	10	-
5A	6X60	+5	EXISTING	-	5	Y	Y	-	-	3	-
6A, 6B	6X40	0	EXISTING	-	6	Y	Y	-	-	-	-
7A	6X40	16	2-4-2	-	7	Y	Y	-	-	-	-
7B **	6X6	0	2-4-2 Diagonal	-	7	Y	Y	-	-	3	-
8A	6X40	16	2-4-2	-	8	Y	Y	-	-	-	-
8C **	6X6	0	2-4-2 Diagonal	-	8	Y	Y	-	-	-	-
S1	6X6	+250	EXISTING	-	-	-	-	-	-	-	Y
S2	6X6	+250	EXISTING	-	-	-	-	-	-	-	Y
S3	6X6	290	EXISTING	-	-	-	-	-	-	-	Y
S4	6X6	290	EXISTING	-	-	-	-	-	-	-	Y
S5	6X6	+350	EXISTING	-	-	-	-	-	-	-	Y
S6	6X6	+350	EXISTING	-	-	-	-	-	-	-	Y

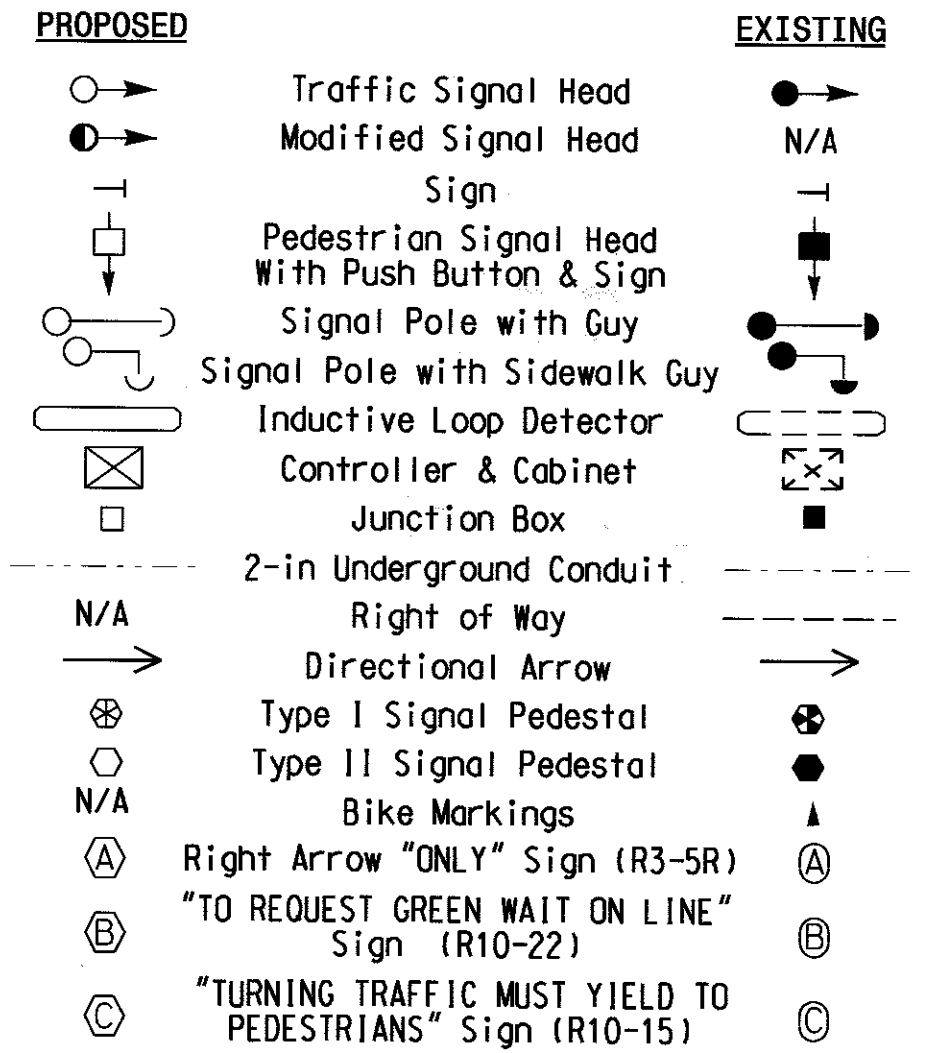
**Set sensitivity to appropriate level to detect a bicycle.

8 Phase Fully Actuated (Chapel Hill-Carrboro Signal System)

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated January 2012 and "Standard Specifications for Roads and Structures" dated January 2012.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 and/or phase 5 may be lagged.
- Phase 3 and/or phase 7 may be lagged.
- Set all detector units to presence mode.
- In the event of loop replacement, refer to the current ITS and Signals Design Manual and submit a Plan of Record to the Signal Design Section.
- Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- Maintain existing audible pedestrian heads.
- Pavement markings are existing.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

LEGEND



OASIS 2070L TIMING CHART

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Min Green 1 *	7	10	7	7	7	10	7	7
Extension 1 *	2.0	2.0	2.0	2.0	1.0	2.0	2.0	2.0
Max Green 1 *	15	60	30	35	35	60	30	35
Yellow Clearance	3.0	3.7	3.0	3.9	3.0	3.9	3.0	3.9
Red Clearance	2.9	2.0	2.6	2.0	3.2	1.6	2.9	2.0
Red Revert	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Walk 1 *	-	7	-	7	-	7	-	7
Don't Walk 1	-	23	-	21	-	9	-	18
Seconds Per Actuation *	-	-	-	-	-	-	-	-
Max Variable Initial *	-	-	-	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-	-	-	-
Time To Reduce *	-	-	-	-	-	-	-	-
Minimum Gap	-	-	-	-	-	-	-	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	-	-	-	-	-	-	-	-
Dual Entry	-	-	-	ON	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade

Prepared in the Office of: Transportation Mobility and Safety Division of North Carolina Department of Transportation Signal Design Section

SR 1010 (E. Franklin Street) at SR 1750 (Estes Drive)

Division 7 Orange County Chapel Hill

PLAN DATE: February 2014 REVIEWED BY: T. L. Averette

PREPARED BY: T. L. Averette REVIEWED BY: T. L. Averette

REVISIONS

SCALE 0 40 1"=40'

SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 026486 ROBERT J. ZIEGLER

SIG. INVENTORY NO. 07-0527

6 Phase
Fully Actuated
(Chapel Hill-Carrboro Signal System)

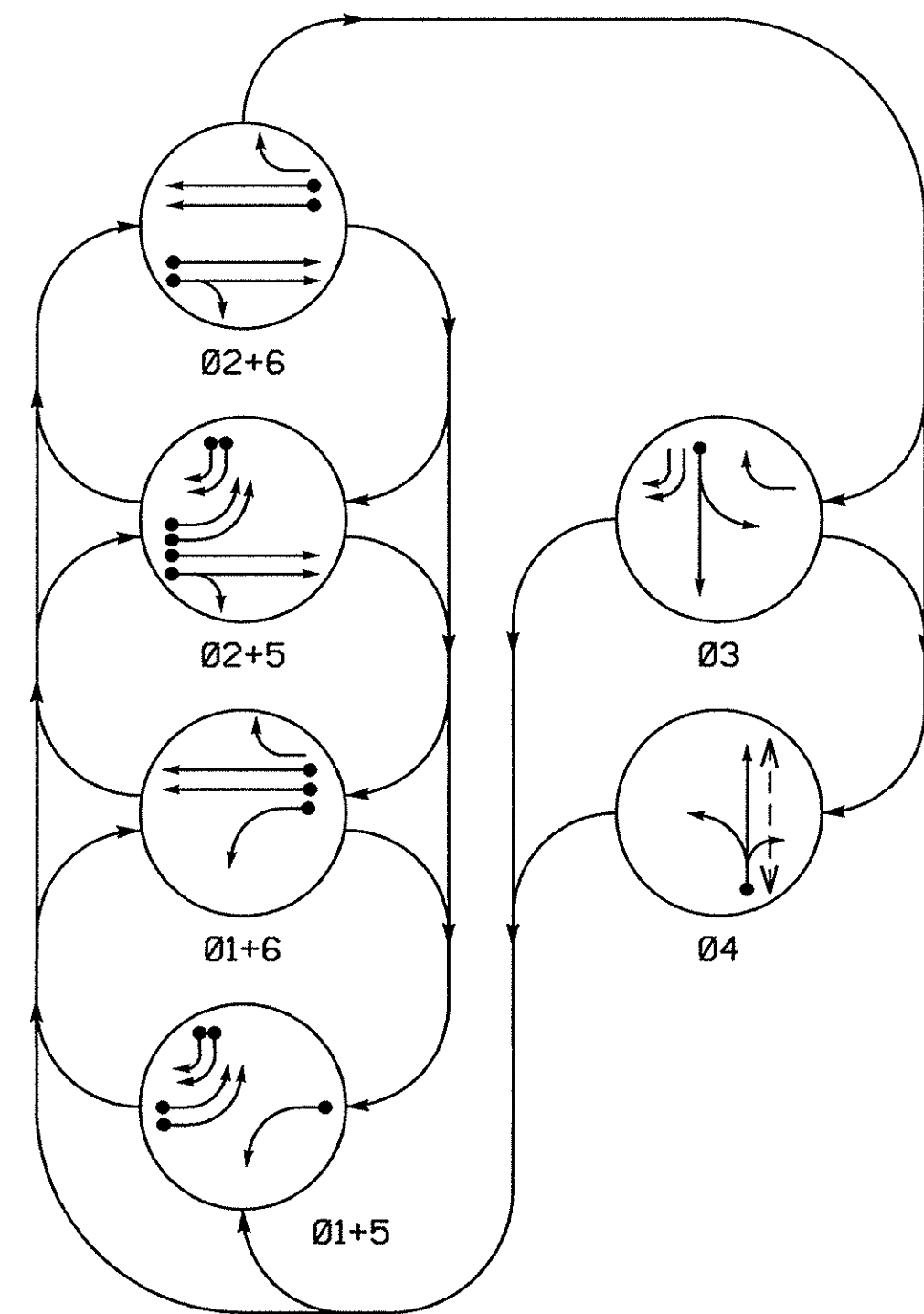
NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Phase 1 and/or phase 5 may be lagged.
4. The order of phase 3 and phase 4 may be reversed.
5. Set all detector units to presence mode.
6. In the event of loop replacement, refer to the current Signals and Geometrics Design Manual and submit a Plan of Record to the Signal Design Section.
7. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
8. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
9. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
10. Remove existing "Left Turn Signal" signs (R10-10L).
11. Pavement markings are existing.
12. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Signal	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector Controller & Cabinet	
	Junction Box	
	2-in Underground Conduct	
N/A	Right of Way	
	Directional Arrow	
N/A	Guardrail	
	Signal Pedestal	
	Combined Through and Left Arrow Sign (R3-6L)	
	Right Arrow "ONLY" Sign (R3-5R)	
	"PUSH BUTTON FOR WALK SIGNAL" Sign (R10-4)	
	Keep Right Sign (R4-7)	
	U-Turn "MUST YIELD" Sign (R3-27)	

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

	DETECTED MOVEMENT
	UNDETECTED MOVEMENT (OVERLAP)
	UNSIGNALIZED MOVEMENT
	PEDESTRIAN MOVEMENT

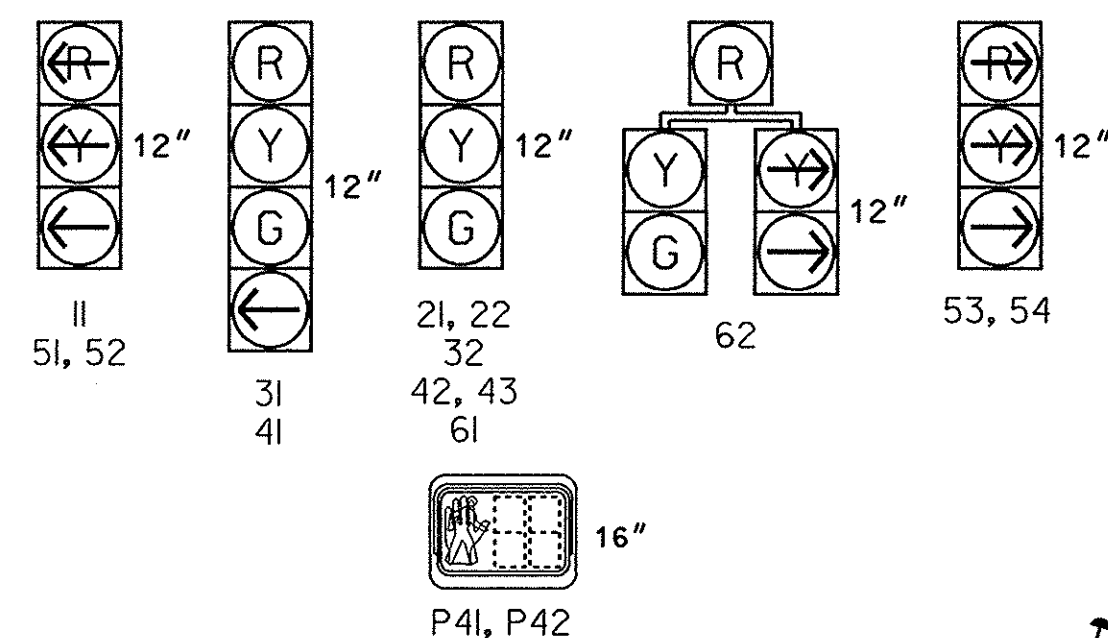
TABLE OF OPERATION

SIGNAL FACE	PHASE						
	0 1 +5	0 1 +6	0 2 +5	0 2 +6	0 3	0 4	FLASH
II	←	←	←	←	←	←	←
2I, 22	R	R	G	G	R	R	Y
3I	R	R	R	R	G	←	←
32	R	R	R	R	G	R	R
4I	R	R	R	R	R	G	←
42, 43	R	R	R	R	R	G	R
5I, 52	←	←	←	←	←	←	←
53, 54	→	→	→	→	→	→	→
6I	R	G	R	G	R	R	Y
62	R	G	R	G	R	Y	Y
P4I, P42	DW	DW	DW	DW	DW	W	DR

W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.

All Heads L.E.D.



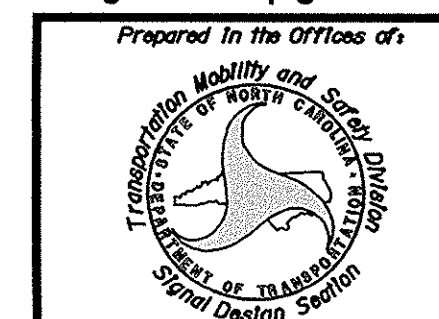
2070L TIMING CHART

2070L TIMING CHART						
FEATURE	PHASE					
	1	2	3	4	5	6
Min Green 1 *	7	12	7	7	7	12
Extension 1 *	2.0	6.0	1.0	1.0	2.0	6.0
Max Green 1 *	15	90	25	25	15	90
Yellow Clearance	3.0	4.4	3.8	3.2	3.0	4.6
Red Clearance	3.5	1.7	2.8	3.5	3.7	1.5
Walk 1 *	-	-	-	7	-	-
Don't Walk 1	-	-	-	27	-	-
Seconds Per Actuation *	-	1.5	-	-	-	1.5
Max Variable Initial *	-	34	-	-	-	34
Time Before Reduction *	-	15	-	-	-	15
Time To Reduce *	-	30	-	-	-	30
Minimum Gap	-	3.0	-	-	-	3.0
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW
Dual Entry	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

This plan supersedes the plan
signed and sealed on 7/9/2008.

Signal Upgrade



US 15-501 (Fordham Boulevard)
at
SR 1750 (S. Estes Drive)

Division 7 Orange County Chapel Hill

PLAN DATE: February 2009	REVIEWED BY:
PREPARED BY: A. E. Gorton	REVIEWED BY:

29	PREPARED BY: C.E. Carter	REVIEWED BY:
	REVISIONS	INIT. DATE

REAL



A0 3/19/10

SIGNATURE _____ DATE _____

INVENTORY NO. 07-0529

8 PHASE
FULLY ACTUATED
(CHAPEL HILL- CARRBORO SIGNAL SYSTEM)

NOTES

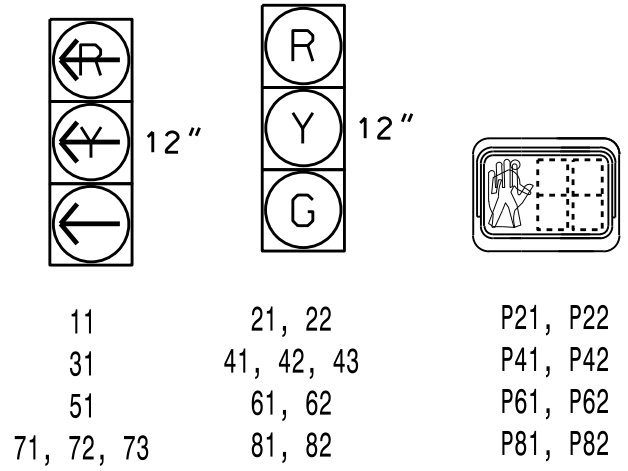
- 1.Refer to "Roadway Standard Drawings NCDOT" dated January 2018 and "Standard Specifications for Roads and Structures" dated January 2018.
- 2.Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- 3.Phase 1 and/or phase 5 may be lagged.
- 4.Phase 3 and/or phase 7 may be lagged.
- 5.Set all detector units to presence mode.
- 6.Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
- 7.Program pedestrian heads to countdown the flashing "Don't Walk" time only.
- 8.Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values shall supersede these values.

OASIS 2070 LOOP & DETECTOR INSTALLATION CHART											
INDUCTIVE LOOPS				DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP NEW CARD
1A	6X40	0	2-4-2	-	1	Y	Y	-	-	-	-
2A/S01	6X6	300	6	-	2	Y	Y	-	-	-	Y
2B/S02	6X6	300	6	-	2	Y	Y	-	-	-	Y
3A	6X40	0	2-4-2	-	3	Y	Y	-	-	-	-
4A	6X40	0	2-4-2	-	4	Y	Y	-	-	10	-
*4B	5X6	0	2-4-2 DIAGONAL	-	4	Y	Y	-	-	10	-
5A	6X40	0	2-4-2	-	5	Y	Y	-	-	-	-
6A/S03	6X6	300	6	-	6	Y	Y	-	-	-	Y
6B/S04	6X6	300	6	-	6	Y	Y	-	-	-	Y
7A	6X40	0	2-4-2	-	7	Y	Y	-	-	-	-
7B	6X40	0	2-4-2	-	7	Y	Y	-	-	-	-
8A	6X40	16	2-4-2	-	8	Y	Y	-	-	10	-
* 8B	5X6	0	2-4-2 DIAGONAL	-	8	Y	Y	-	-	10	-

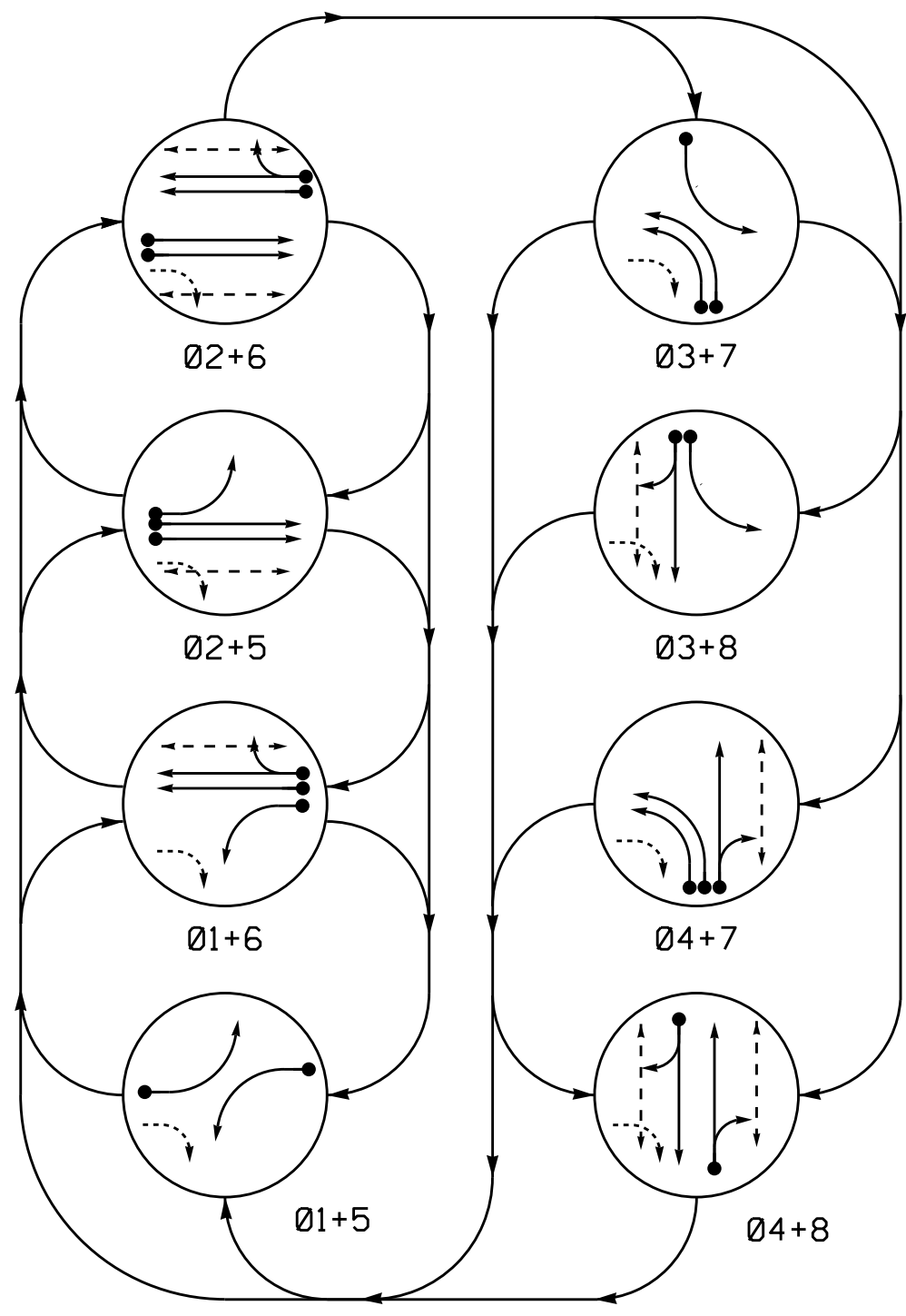
*Set sensitivity to appropriate level to detect bicycles

SIGNAL FACE I.D.

All Heads L.E.D.



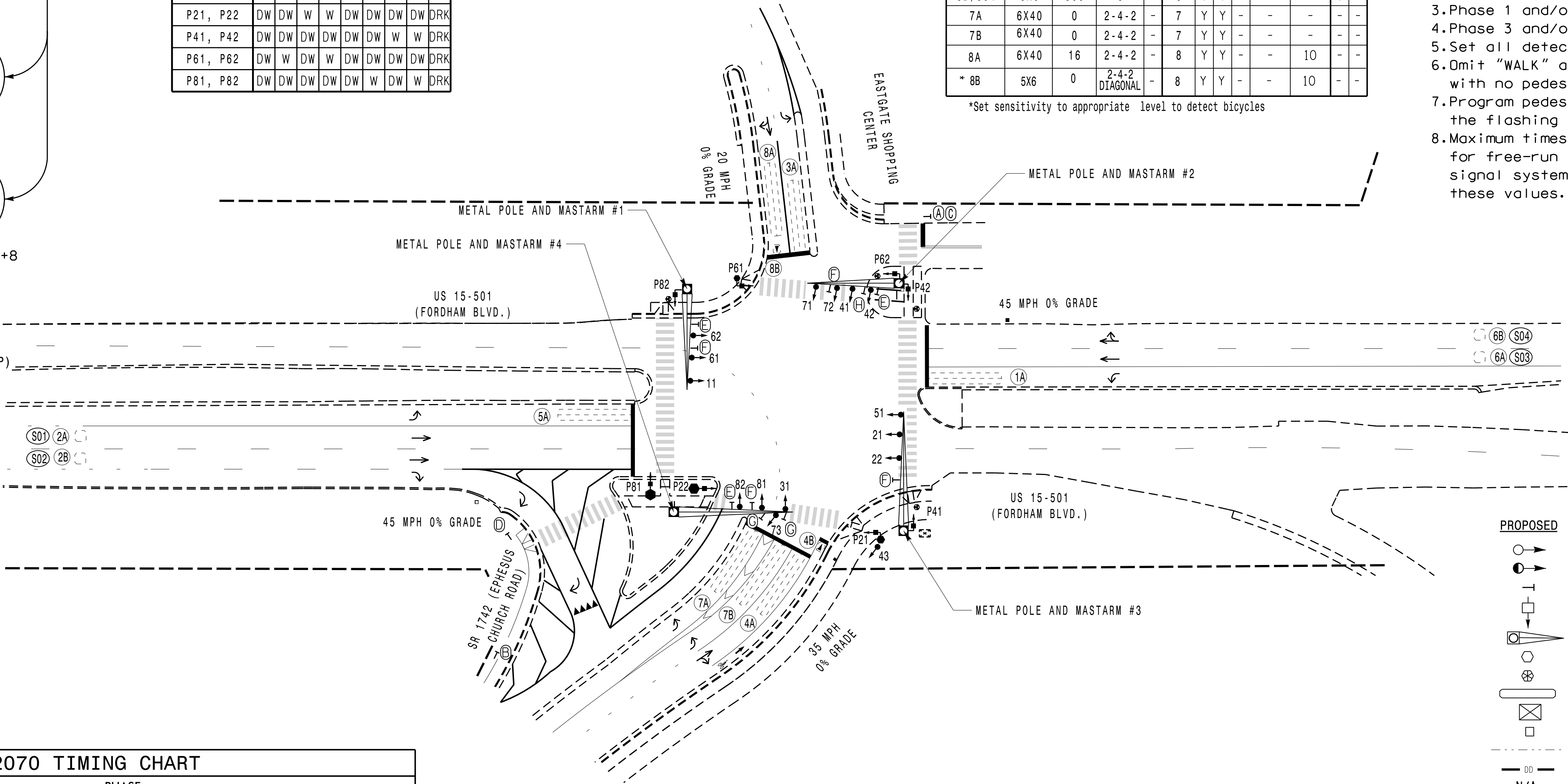
PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

SIGNAL FACE	PHASE							
	01+5	01+6	02+5	02+6	03+7	03+8	04+7	04+8
11	-	-	-	-	-	-	-	-
21, 22	R	R	G	G	R	R	R	Y
31	-	-	-	-	-	-	-	-
41, 42, 43	R	R	R	R	R	R	G	G
51	-	-	-	-	-	-	-	-
61, 62	R	G	R	G	R	R	R	Y
71, 72, 73	-	-	-	-	-	-	-	-
81, 82	R	R	R	R	R	G	R	G
P21, P22	DW	DW	W	W	DW	DW	DW	DRK
P41, P42	DW	DW	DW	DW	DW	DW	W	DRK
P61, P62	DW	W	DW	W	DW	DW	DW	DRK
P81, P82	DW	DW	DW	DW	DW	W	DW	DRK



LEGEND

PROPOSED	EXISTING
Traffic Signal Head	N/A
Modified Signal Head	N/A
Sign	N/A
Pedestrian Signal Head With Push Button & Sign	N/A
Metal Pole with Mastarm	N/A
Type II Signal Pedestal	N/A
Type I Pushbutton Post	N/A
Inductive Loop Detector	N/A
Controller & Cabinet	N/A
Junction Box	N/A
2-in Underground Conduit	N/A
Directional Drill	N/A
Right of Way	N/A
Directional Arrow	N/A
"STOP" Sign (R1-1)	N/A
"YIELD" Sign (R1-2)	N/A
No Left Turn Sign (R3-2)	N/A
"YIELD HERE TO PEDESTRIANS" Sign (R5-1)	N/A
"YIELD TO PEDESTRIAN" Sign (R10-15)	N/A
Street Name Sign (D3-1)	N/A
Left Arrow "ONLY" Sign (R3-5L)	N/A
Combined Through and Right Arrow Sign (R3-6R)	N/A

FEATURE	PHASE							
	1	2	3	4	5	6	7	8
Min Green 1 *	7	12	7	7	7	12	7	7
Extension 1 *	2.0	6.0	2.0	2.0	2.0	6.0	2.0	2.0
Max Green 1 *	15	120	15	25	30	120	15	15
Yellow Clearance	3.0	4.5	3.0	3.8	3.0	4.5	3.0	3.0
Red Clearance	3.7	2.3	3.4	2.9	3.8	2.2	3.8	3.9
Walk 1 *	-	7	-	7	-	7	-	7
Don't Walk 1	-	17	-	24	-	15	-	23
Seconds Per Actuation *	-	1.5	-	-	-	1.5	-	-
Max Variable Initial *	-	34	-	-	-	34	-	-
Time Before Reduction *	-	15	-	-	-	15	-	-
Time To Reduce *	-	15	-	-	-	15	-	-
Minimum Gap	-	3.0	-	-	-	3.0	-	-
Recall Mode	-	MIN RECALL	-	-	-	MIN RECALL	-	-
Vehicle Call Memory	-	YELLOW	-	-	-	YELLOW	-	-
Dual Entry	-	-	-	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Plan of Record

PREPARED BY: A. F. Aslami DATE: July 2017

REVIEWED BY: C. Baek DATE: October 2019

SIGNATURE: *Changed Baek* DATE: 10/31/2019

COMMENTS: Relocated signal head 43; added signal head 73 and signs R3-6R and R3-5L.

This plan of record reflects existing field conditions as submitted by field personnel. This plan may have been modified from its original state.

Plan of Record

Prepared For:

TRANSPORTATION MOBILITY AND SAFETY DIVISION

750 N. Greenfield Pkwy, Garner, NC 27529

SCALE: 0 40 1"=40'

US 15-501 (FORDHAM BLVD.) AT SR 1742 (EPHESUS CHURCH ROAD) / EASTGATE SHOPPING CENTER

DIVISION 7 ORANGE COUNTY CHAPEL HILL

PLAN DATE: DECEMBER 2014 REVIEWED BY: AJ SPACEK

PREPARED BY: SP PENNINGTON REVIEWED BY: SL PHILLIPS

REVISIONS: INIT. DATE

Not a certified document. This document originally issued and sealed by Stacie L. Phillips, #032607 on 09/09/15. This document shall not be considered a certified document.

SIG. INVENTORY NO. 07-0530

5 Phase Fully Actuated Chapel Hill-Carrboro Signal System

NOTES

- Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
- Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
- Phase 1 or phase 5 may be lagged.
- Reposition existing signal head numbered 22.
- Set all detector units to presence mode.
- In the event of loop replacement, refer to the current Signals and Geometrics Design Manual and submit a Plan of Record to the Signals and Geometrics Section.
- Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
- Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
- The Engineer will determine the hours of use for each phasing plan.
- Paint new bicycle markings (as shown on page 9C-9 of the 2003 edition of the MUTCD) in the center of new loops 4B and 5C.
- Use skid resistant materials for all new markings.

STANDARD SIGNAL FACE CLEARANCES FOR 4 SECTION LEFT TURN SIGNAL

		TO					
		1	2	1	2	1	2
FROM	←	←	←	←	←	←	←
	→	→	→	→	→	→	→

F = Flashing Yellow Arrow

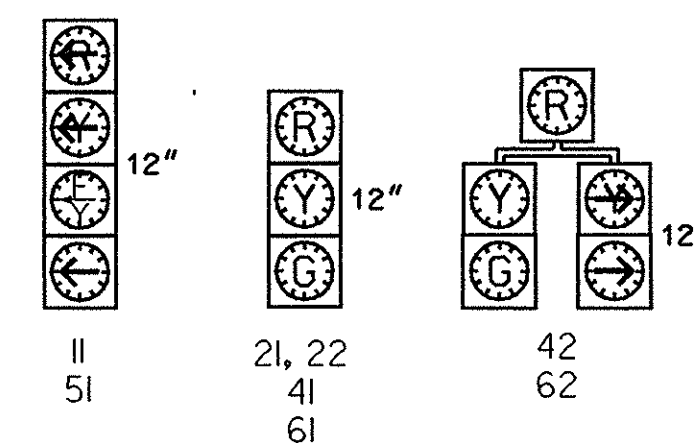
SIGNAL FACE		PHASE					
		Ø 1 + 5	Ø 1 + 6	Ø 2 + 5	Ø 2 + 6	Ø 4	F
11	←	←	←	←	←	←	←
21, 22	R	R	G	G	R	Y	
41	R	R	R	R	G	R	
42	R	R	R	R	G	R	
51	←	←	←	←	←	←	←
61	R	G	R	G	R	Y	
62	R	G	R	G	R	Y	

F = Flashing Yellow Arrow

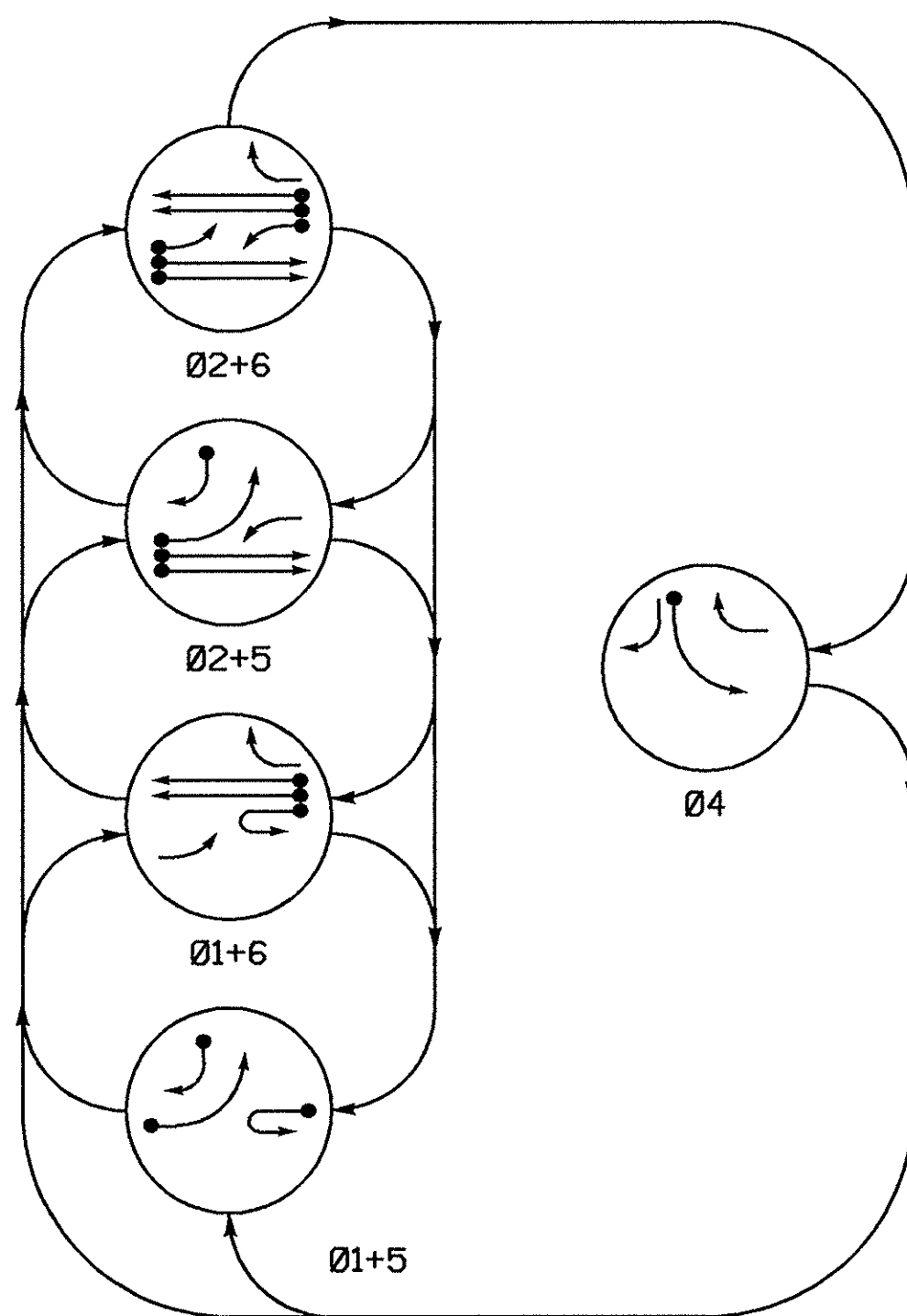
SIGNAL FACE		PHASE					
		Ø 1 + 5	Ø 1 + 6	Ø 2 + 5	Ø 2 + 6	Ø 4	F
11	←	←	←	←	←	←	←
21, 22	R	R	G	G	R	Y	
41	R	R	R	R	G	R	
42	R	R	R	R	G	R	
51	←	←	←	←	←	←	←
61	R	G	R	G	R	Y	
62	R	G	R	G	R	Y	

SIGNAL FACE I.D.

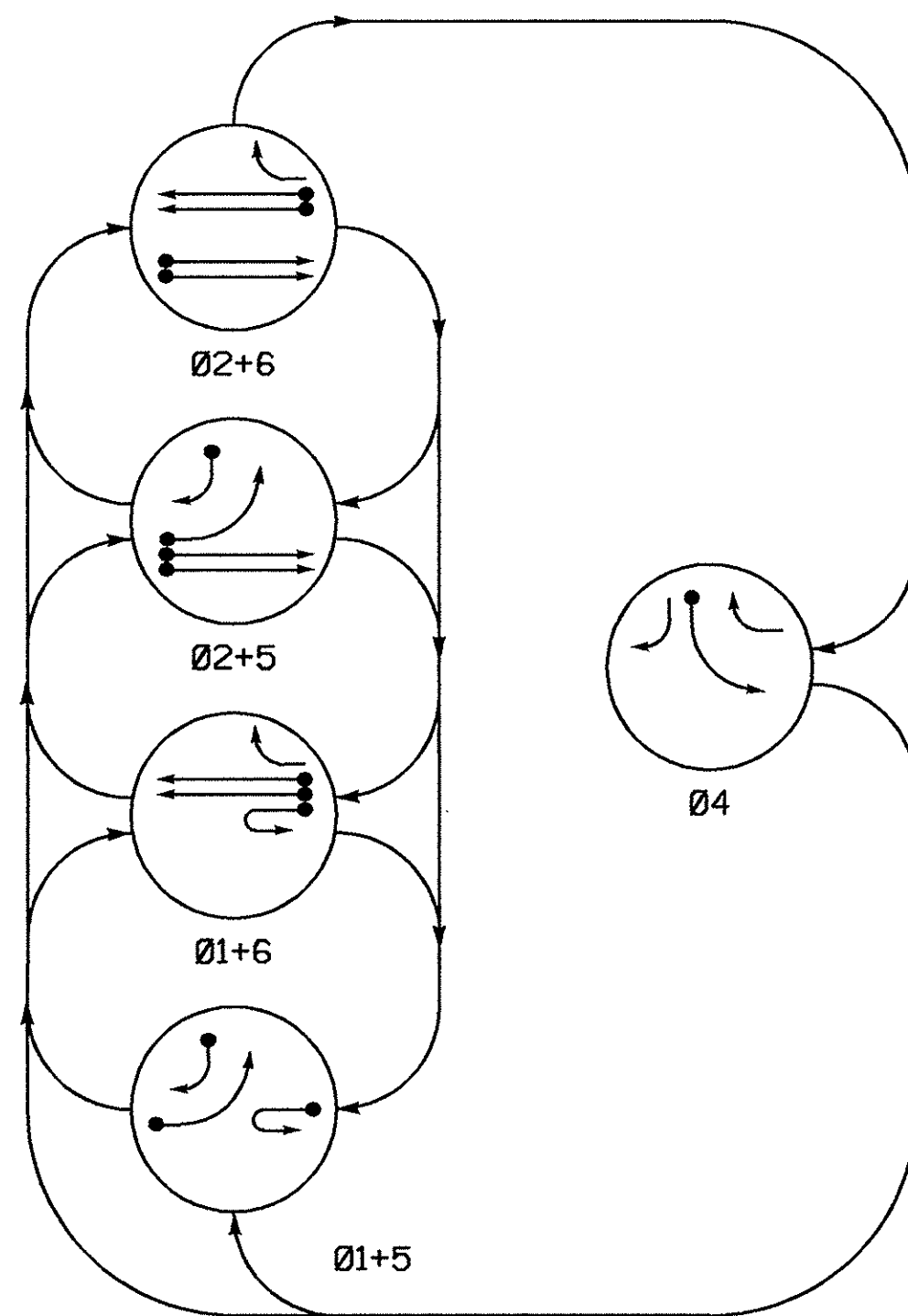
Denotes L.E.D.



NORMAL PHASING DIAGRAM

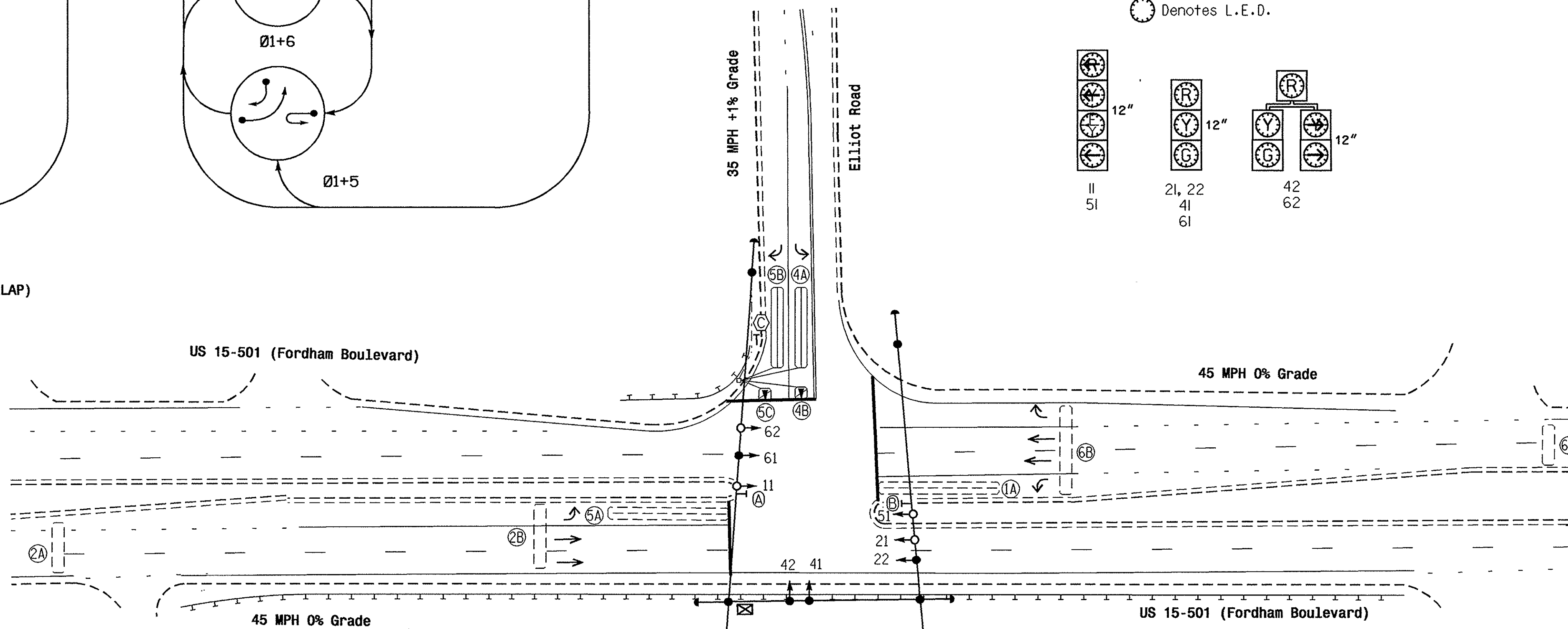


ALTERNATE PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT



2070L TIMING CHART

FEATURE	PHASE					
	1	2	4	5	6	
Min Green 1 *	7	12	7	7	12	
Extension 1 *	1.0	2.0	1.0	1.0	2.0	
Max Green 1 *	25	55	30	25	55	
Yellow Clearance	3.0	4.5	3.0	3.0	4.5	
Red Clearance	2.3	1.4	2.6	2.9	1.4	
Walk 1 *	-	-	-	-	-	
Don't Walk 1	-	-	-	-	-	
Seconds Per Actuation *	-	-	-	-	-	
Max Variable Initial *	-	-	-	-	-	
Time Before Reduction *	-	-	-	-	-	
Time To Reduce *	-	-	-	-	-	
Minimum Gap	-	-	-	-	-	
Recall Mode	-	MIN RECALL	-	-	MIN RECALL	
Vehicle Call Memory	-	YELLOW	-	-	YELLOW	
Dual Entry	-	-	-	-	-	
Simultaneous Gap	ON	ON	ON	ON	ON	

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

2070L LOOP & DETECTOR INSTALLATION

INDUCTIVE LOOPS				DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP NEW CARD
1A	6X60	0	2-4-2	-	1	Y	Y	-	-	**15	- Y
2A	6X25	330	2	-	2	Y	Y	-	2.1	-	- Y
2B	6X32	90	2	-	2	Y	Y	-	-	-	- Y
4A	6X40	16	2-4-2	Y	4	Y	Y	-	-	-	- Y
4B ****	6X6	0	2-4-2 diagonal	Y	4	Y	Y	-	-	3	- Y
5A	6X60	0	2-4-2	-	5	Y	Y	-	-	**15	- Y
5B	6X40	16	2-4-2	Y	5	Y	Y	-	-	15	- Y
5C ****	6X6	0	2-4-2 diagonal	Y	5	Y	Y	-	-	15	- Y
6A	6X20	330	2	-	6	Y	Y	-	2.1	-	- Y
6B	6X44	90	2	-	6	Y	Y	-	-	-	- Y

- ** Disable Delay during Alternate Phasing operation.
- *** Disable Phase Call during Alternate Phasing operation.
- **** Set Sensitivity to appropriate level to detect a bicycle.

LEGEND

- PROPOSED: Traffic Signal Head, Modified Signal Head, Sign, Pedestrian Signal Head With Push Button & Sign, Signal Pole with Guy, Signal Pole with Sidewalk Guy, Inductive Loop Detector, Controller & Cabinet, Junction Box, 2-in Underground Conduit, Right of Way, Directional Arrow, Pavement Marking Arrow, Install Bike Markings (See Note 10 and 11), U-Turn "MUST YIELD" Sign (R3-27), "U-TURN YIELD TO RIGHT TURN" Sign (R10-16), "TO REQUEST GREEN WAIT ON LINE" Sign (R10-22).
- EXISTING: N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A, N/A.

Signal Upgrade

Signal Upgrade information including project details, dates, and signatures.

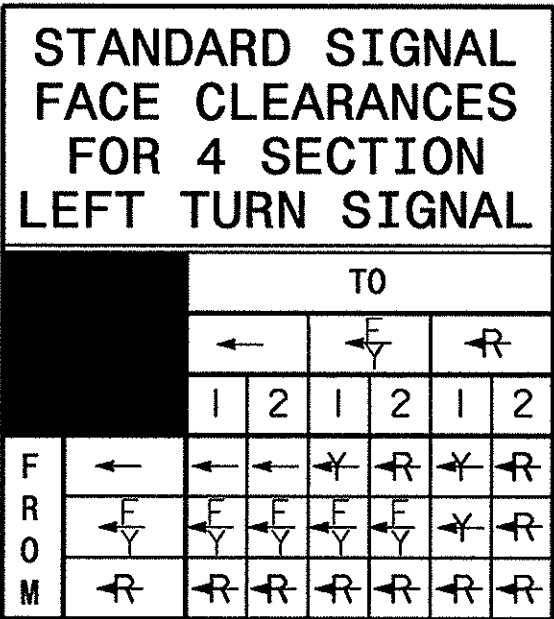
3 Phase Fully Actuated Chapel Hill- Carrboro Signal System

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Reposition existing signal heads numbered 22, 62, and 63.
4. Phase 5 may be lagged.
5. Set all detector units to presence mode.
6. In the event of loop replacement, refer to the current Signals and Geometrics Design Manual and submit a Plan of Record to the Signals and Geometrics Section.
7. Locate new cabinet so as not to obstruct sight distance of vehicles turning right on red.
8. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
9. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
10. Pavement markings are existing.
11. Maintain existing audible pedestrian equipment.
12. Maximum times shown in timing chart are for free-run operation only. Coordinated signal system timing values supersede these values.
13. The Engineer will determine the hours of use for each phasing plan.

2070L LOOP & DETECTOR INSTALLATION											
INDUCTIVE LOOPS						DETECTOR PROGRAMMING					
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP CARD
2A,2B	6X60	+5	2-4-2	-	2	Y	Y	-	-	-	- Y
4A,4B	6X60	+5	2-4-2	-	4	Y	Y	-	-	5	- Y
5A	6X60	+5	2-4-2	-	5	Y	Y	-	-	* 15	- Y
6A,6B	6X60	+5	2-4-2	-	6	Y	Y	-	-	-	- Y
6C	6X60	+5	2-4-2	-	6	Y	Y	-	-	-	- Y
8A	6X55	+10	2-4-2	-	8	Y	Y	-	-	5	- Y

* Disable Delay During Alternate phasing Operation.
* Disable Phase 2 call for Loop 5A During Alternate phasing Operation.



Flashing Yellow Arrow

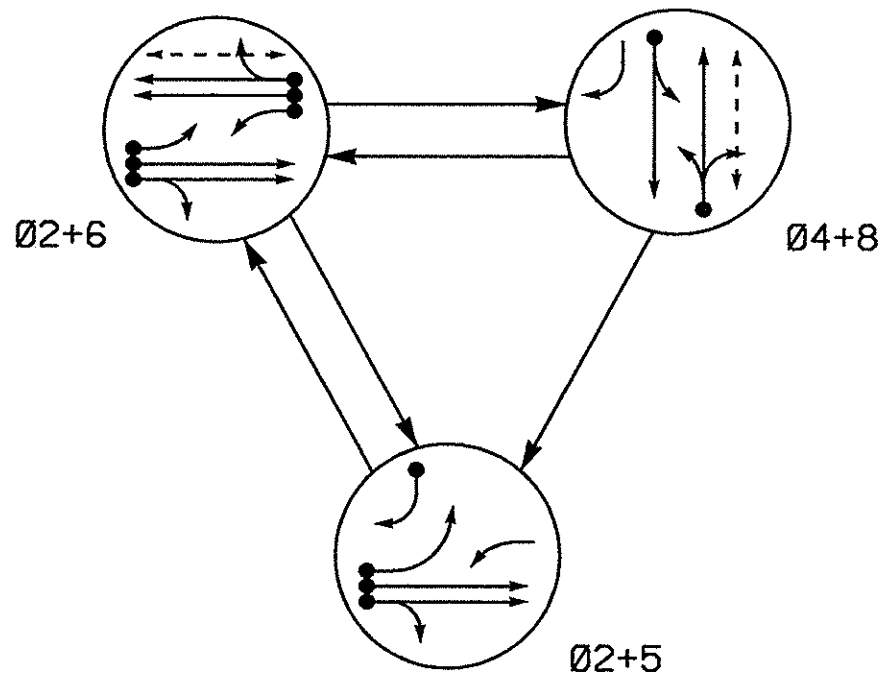
NORMAL PHASING TABLE OF OPERATION					
SIGNAL FACE	PHASE				
	Ø 2 + 5	Ø 2 + 6	Ø 4 + 8	FLASH	
21, 22	G	G	R	Y	
41	R	R	G	R	
42	R	R	G	R	
51	-	F	R	R	
61	F	F	R	R	
62,63	R	G	R	Y	
81, 82	R	R	G	R	
P61, P62	DW	W	DW	DRK	
P81, P82	DW	DW	W	DRK	

ALTERNATE PHASING TABLE OF OPERATION					
SIGNAL FACE	PHASE				
	Ø 2 + 5	Ø 2 + 6	Ø 4 + 8	FLASH	
21, 22	G	G	R	Y	
41	R	R	G	R	
42	R	R	G	R	
51	-	R	R	R	
61	F	F	R	R	
62,63	R	G	R	Y	
81, 82	R	R	G	R	
P61, P62	DW	W	DW	DRK	
P81, P82	DW	DW	W	DRK	

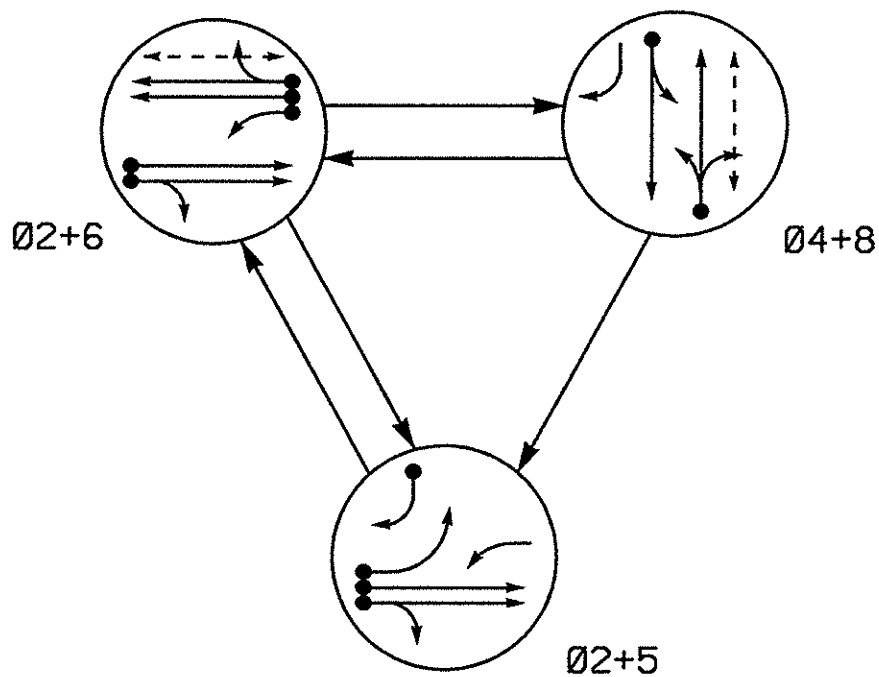
Flashing Yellow Arrow

W- Walk
DW- Don't Walk
DRK- Dark

NORMAL PHASING DIAGRAM

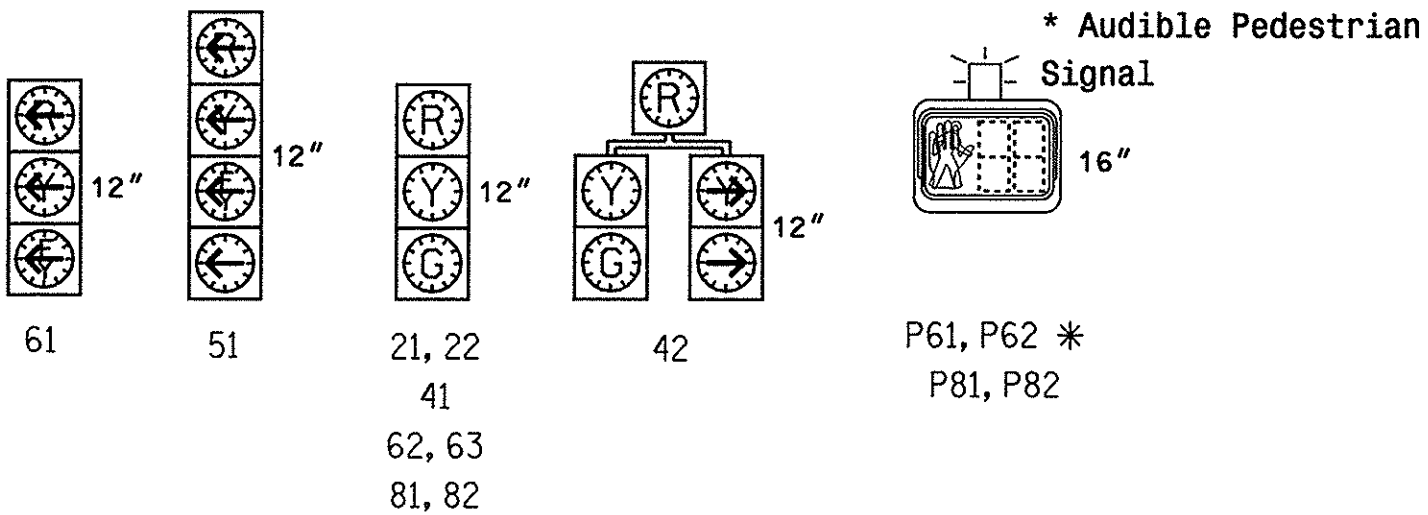


ALTERNATE PHASING DIAGRAM



SIGNAL FACE I.D.

Denotes L.E.D.



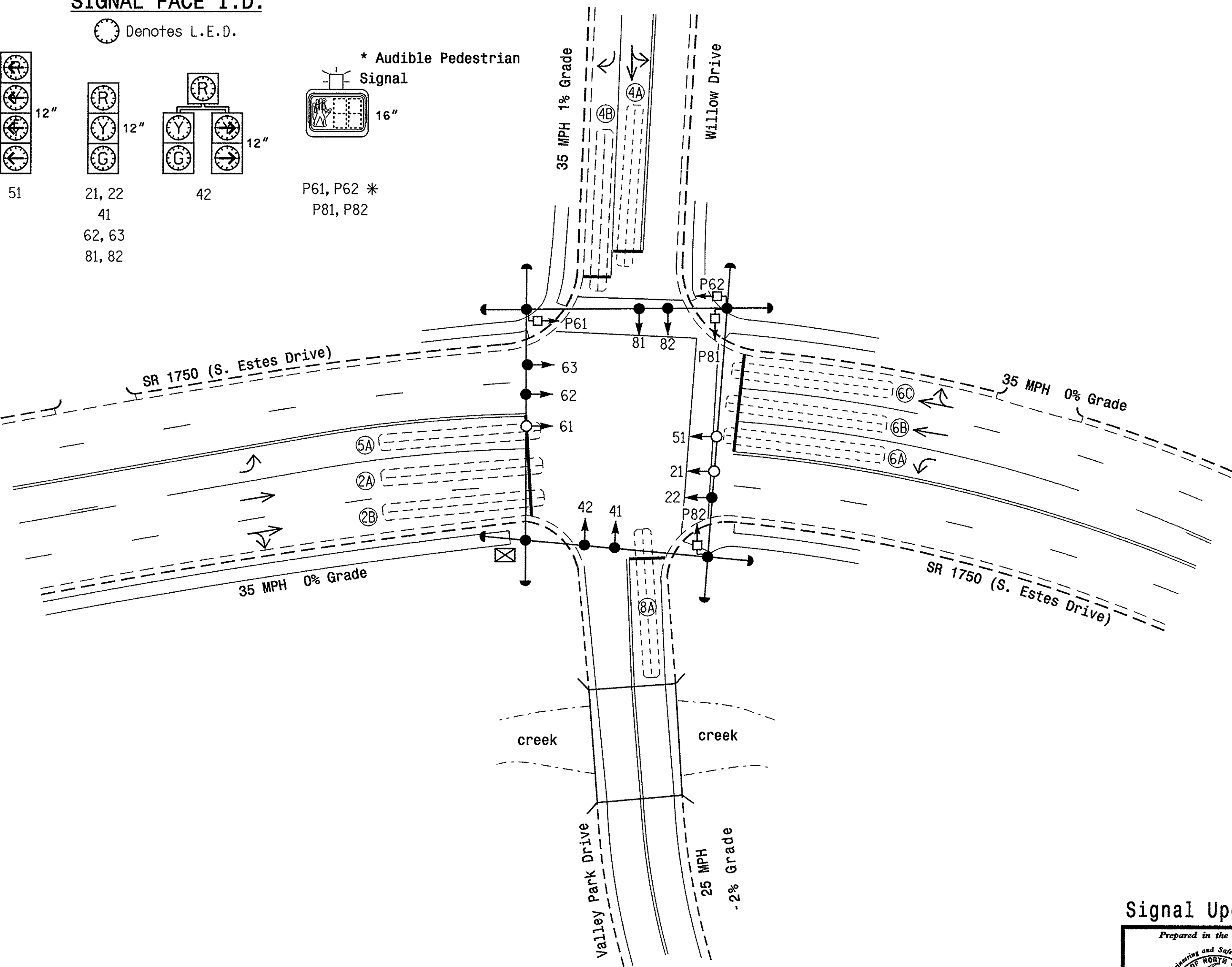
PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

2070L TIMING CHART

FEATURE	PHASE				
	2	4	5	6	8
Min Green 1 *	10	7	7	10	7
Extension 1 *	2.0	1.0	1.0	2.0	1.0
Max Green 1 *	40	40	20	40	40
Yellow Clearance	3.8	3.8	3.0	3.8	3.3
Red Clearance	1.3	2.0	2.1	1.4	2.4
Walk 1 *	-	-	-	7	7
Don't Walk 1	-	-	-	10	16
Seconds Per Actuation *	-	-	-	-	-
Max Variable Initial *	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-
Time To Reduce *	-	-	-	-	-
Minimum Gap	-	-	-	-	-
Recall Mode	MIN RECALL	-	-	MIN RECALL	-
Vehicle Call Memory	YELLOW	-	-	YELLOW	-
Dual Entry	-	ON	-	-	ON
Simultaneous Gap	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.



LEGEND

PROPOSED	EXISTING
Traffic Signal Head	N/A
Modified Signal Head	N/A
Sign	N/A
Pedestrian Signal Head With Push Button & Sign	N/A
Signal Pole with Guy	N/A
Signal Pole with Sidewalk Guy	N/A
Inductive Loop Detector	N/A
Controller & Cabinet	N/A
Junction Box	N/A
2-in Underground Conduit	N/A
Right of Way	N/A
Directional Arrow	N/A
Pavement Marking Arrow	N/A

Signal Upgrade

Prepared in the Offices of: Traffic Engineering and Safety Services SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION 750 N. Greenfield Pkwy, Garner, NC 27529	SR 1750 (S. Estes Drive) at Willow Drive/Valley Park Drive Division 7 Orange County Chapel Hill PLAN DATE: July 2008 REVIEWED BY: M Mahbooba PREPARED BY: Minshew/Carter REVIEWED BY:	SEAL NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29904 P. GALLAGHER 7/10/2008 SIG. INVENTORY NO. 07-0556

E

Intersection Capacity Analysis

Synchro Reports

SimTraffic Reports

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Existing (2019) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	8	257	5	8	9	318	1429	3	7	1355	78
Future Volume (vph)	57	8	257	5	8	9	318	1429	3	7	1355	78
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.946							0.850
Flt Protected		0.958			0.988		0.950			0.950		
Satd. Flow (prot)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Flt Permitted		0.958			0.988		0.950			0.950		
Satd. Flow (perm)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	9%	9%	9%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	63	9	286	6	9	10	353	1588	3	8	1506	87
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	286	0	25	0	353	1591	0	8	1506	87
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	22.0	22.0	37.0	20.0	20.0		37.0	123.0		15.0	101.0	22.0
Total Split (%)	12.2%	12.2%	20.6%	11.1%	11.1%		20.6%	68.3%		8.3%	56.1%	12.2%
Maximum Green (s)	15.4	15.4	30.3	13.3	13.3		30.3	116.9		8.5	94.9	15.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		13.5	44.2		9.3		25.8	141.7		9.1	117.0	132.4
Actuated g/C Ratio		0.08	0.25		0.05		0.14	0.79		0.05	0.65	0.74
v/c Ratio		0.56	0.43		0.30		0.73	0.58		0.09	0.66	0.08
Control Delay		95.7	58.2		91.5		82.4	11.1		72.1	15.4	2.9

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Existing (2019) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		95.7	58.2		91.5		82.4	11.1		72.1	15.4	2.9
LOS		F	E		F		F	B		E	B	A
Approach Delay		65.8			91.5			24.0			15.0	
Approach LOS		E			F			C			B	
Queue Length 50th (ft)		84	164		29		209	331		8	196	7
Queue Length 95th (ft)		141	200		66		258	644		m15	660	25
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		166	758		135		604	2759		97	2277	1186
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.43	0.38		0.19		0.58	0.58		0.08	0.66	0.07

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 90
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.73
 Intersection Signal Delay: 24.6
 Intersection Capacity Utilization 69.3%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
 ICU Level of Service C

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	31	0	1495	1409	48
Future Volume (vph)	0	31	0	1495	1409	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Flt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1596	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1596	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	34	0	1661	1566	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	34	0	1661	1566	53
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.9%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	31	0	1495	1409	48
Future Vol, veh/h	0	31	0	1495	1409	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	34	0	1661	1566	53

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	783	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.96	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.33	-
Pot Cap-1 Maneuver	0	334	0
Stage 1	0	0	0
Stage 2	0	0	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	334	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	17	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 334	-
HCM Lane V/C Ratio	- 0.103	-
HCM Control Delay (s)	- 17	-
HCM Lane LOS	- C	-
HCM 95th %tile Q(veh)	- 0.3	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Existing (2019) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	94	37	9	52	44	28	46	1407	42	13	1396	267
Future Volume (vph)	94	37	9	52	44	28	46	1407	42	13	1396	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.971			0.942			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1783	0	1761	1746	0	1778	3543	0	1778	3557	1591
Flt Permitted	0.567			0.724			0.112			0.106		
Satd. Flow (perm)	1041	1783	0	1342	1746	0	210	3543	0	198	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	104	41	10	58	49	31	51	1563	47	14	1551	297
Shared Lane Traffic (%)												
Lane Group Flow (vph)	104	51	0	58	80	0	51	1610	0	14	1551	297
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	21.0	39.0		15.0	33.0		15.0	111.0		15.0	111.0	21.0
Total Split (%)	11.7%	21.7%		8.3%	18.3%		8.3%	61.7%		8.3%	61.7%	11.7%
Maximum Green (s)	14.7	32.6		9.1	26.6		8.9	104.9		9.4	104.9	14.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	28.1	18.2		25.9	14.0		132.9	131.9		134.9	126.4	145.2
Actuated g/C Ratio	0.16	0.10		0.14	0.08		0.74	0.73		0.75	0.70	0.81
v/c Ratio	0.48	0.28		0.27	0.59		0.23	0.62		0.07	0.62	0.23
Control Delay	70.0	76.5		63.9	96.8		4.6	6.1		3.7	6.7	1.7

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Existing (2019) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.1	0.0
Total Delay	70.0	76.5		63.9	96.8		4.6	6.1		3.7	6.8	1.7
LOS	E	E		E	F		A	A		A	A	A
Approach Delay		72.2			83.0			6.0			6.0	
Approach LOS		E			F			A			A	
Queue Length 50th (ft)	107	56		58	93		8	166		2	247	27
Queue Length 95th (ft)	165	103		102	152		m5	88		m3	151	34
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	234	336		221	271		243	2595		237	2498	1301
Starvation Cap Reductn	0	0		0	0		0	0		0	215	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.44	0.15		0.26	0.30		0.21	0.62		0.06	0.68	0.23

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 177 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 11.5
Intersection Capacity Utilization 60.4%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service B
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	111 s	15 s	39 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	111 s	21 s	33 s

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd

Existing (2019) AM
01/15/2021

							
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	36	123	134	1395	0	1553	88
Future Volume (vph)	36	123	134	1395	0	1553	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	1%			0%		0%	
Storage Length (ft)	160	0	320		160		180
Storage Lanes	1	1	1		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1710	1530	1770	3539	1863	3539	1583
Flt Permitted	0.950		0.103				
Satd. Flow (perm)	1710	1530	192	3539	1863	3539	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	25			45		45	
Link Distance (ft)	967			783		1413	
Travel Time (s)	26.4			11.9		21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%	2%
Adj. Flow (vph)	40	137	149	1550	0	1726	98
Shared Lane Traffic (%)							
Lane Group Flow (vph)	40	137	149	1550	0	1726	98
Turn Type	Prot	pm+ov	pm+pt	NA	D.P+P	NA	pm+ov
Protected Phases	4	5	5	2	1	6	4
Permitted Phases		4	2		2		6
Detector Phase	4	5	5	2	1	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	7.0	12.0	7.0
Minimum Split (s)	12.6	12.9	12.9	17.9	12.3	17.9	12.6
Total Split (s)	27.0	27.0	27.0	138.0	15.0	126.0	27.0
Total Split (%)	15.0%	15.0%	15.0%	76.7%	8.3%	70.0%	15.0%
Maximum Green (s)	21.4	21.1	21.1	132.1	9.7	120.1	21.4
Yellow Time (s)	3.0	3.0	3.0	4.5	3.0	4.5	3.0
All-Red Time (s)	2.6	2.9	2.9	1.4	2.3	1.4	2.6
Lost Time Adjust (s)	-0.6	-0.9	-0.9	-0.9	-0.3	-0.9	-0.6
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead	Lag	Lead	Lag	
Lead-Lag Optimize?							
Vehicle Extension (s)	4.0	1.0	1.0	2.0	1.0	2.0	4.0
Recall Mode	None	None	None	C-Max	None	C-Max	None
Act Effct Green (s)	11.2	26.6	158.8	158.8		143.4	159.6
Actuated g/C Ratio	0.06	0.15	0.88	0.88		0.80	0.89
v/c Ratio	0.38	0.61	0.57	0.50		0.61	0.07
Control Delay	90.2	82.6	28.2	1.3		4.0	2.0
Queue Delay	0.0	0.0	0.0	0.0		0.0	0.0
Total Delay	90.2	82.6	28.2	1.3		4.0	2.0
LOS	F	F	C	A		A	A

							
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Approach Delay	84.3			3.7		3.9	
Approach LOS	F			A		A	
Queue Length 50th (ft)	46	155	24	56		175	17
Queue Length 95th (ft)	90	222	106	57		195	m20
Internal Link Dist (ft)	887			703		1333	
Turn Bay Length (ft)	160		320				180
Base Capacity (vph)	209	324	362	3122		2820	1499
Starvation Cap Reductn	0	0	0	241		0	0
Spillback Cap Reductn	0	0	0	0		0	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	0.19	0.42	0.41	0.54		0.61	0.07

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 175 (97%), Referenced to phase 2:NBSB and 6:SBT, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.61
 Intersection Signal Delay: 7.6
 Intersection Capacity Utilization 68.7%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd

 Ø1	 Ø2 (R)	 Ø4
15 s	138 s	27 s
 Ø5	 Ø6 (R)	
27 s	126 s	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Existing (2019) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	16	52	34	250	92	70	70	1140	221	74	1357	7
Future Volume (vph)	16	52	34	250	92	70	70	1140	221	74	1357	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.941			0.935				0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1753	0	3367	1708	0	1770	3539	1583	1770	3536	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1753	0	3367	1708	0	1770	3539	1583	1770	3536	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	18	58	38	278	102	78	78	1267	246	82	1508	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	18	96	0	278	180	0	78	1267	246	82	1516	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	20.0	20.0		38.0	38.0		20.0	102.0		20.0	102.0	
Total Split (%)	11.1%	11.1%		21.1%	21.1%		11.1%	56.7%		11.1%	56.7%	
Maximum Green (s)	13.6	13.1		31.2	31.3		13.2	95.2		13.3	95.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	8.8	16.8		22.0	35.3		15.0	107.7	180.0	13.5	106.2	
Actuated g/C Ratio	0.05	0.09		0.12	0.20		0.08	0.60	1.00	0.08	0.59	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Existing (2019) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.21	0.59		0.68	0.54		0.53	0.60	0.16	0.62	0.73	
Control Delay	87.9	92.3		83.9	71.6		80.9	15.5	0.2	100.6	30.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	87.9	92.3		83.9	71.6		80.9	15.5	0.2	100.6	30.2	
LOS	F	F		F	E		F	B	A	F	C	
Approach Delay		91.6			79.1			16.4			33.8	
Approach LOS		F			E			B			C	
Queue Length 50th (ft)	21	111		164	200		91	396	0	95	661	
Queue Length 95th (ft)	51	176		212	278		155	245	0	160	843	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	147	170		617	339		147	2118	1583	150	2086	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.12	0.56		0.45	0.53		0.53	0.60	0.16	0.55	0.73	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 8 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.73

Intersection Signal Delay: 33.7

Intersection Capacity Utilization 69.9%

Analysis Period (min) 15

Intersection LOS: C

ICU Level of Service C

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

Existing (2019) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	334	249	54	114	228	79	55	391	75	88	518	202
Future Volume (vph)	334	249	54	114	228	79	55	391	75	88	518	202
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.973				0.850		0.976			0.958	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1804	0	1692	1781	1514	1710	3337	0	1744	3342	0
Flt Permitted	0.950			0.357			0.950			0.950		
Satd. Flow (perm)	1761	1804	0	636	1781	1514	1710	3337	0	1744	3342	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	371	277	60	127	253	88	61	434	83	98	576	224
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	337	0	127	253	88	61	517	0	98	800	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	35.0	35.0		35.0	35.0	20.0	20.0	40.0		20.0	40.0	
Total Split (%)	26.9%	26.9%		26.9%	26.9%	15.4%	15.4%	30.8%		15.4%	30.8%	
Maximum Green (s)	29.1	29.1		29.4	29.1	14.1	13.8	34.3		14.1	34.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	29.7	42.4		53.1	23.4	40.5	10.0	44.8		12.1	49.5	
Actuated g/C Ratio	0.23	0.33		0.41	0.18	0.31	0.08	0.34		0.09	0.38	
v/c Ratio	0.92	0.57		0.37	0.79	0.19	0.47	0.45		0.60	0.63	
Control Delay	78.2	40.2		25.5	71.5	31.9	68.7	36.5		71.8	38.0	

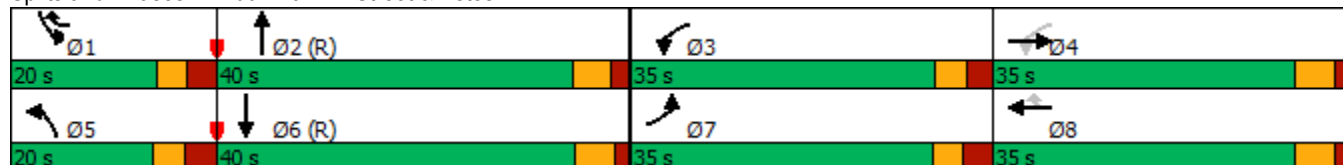
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	78.2	40.2		25.5	71.5	31.9	68.7	36.5		71.8	38.0	
LOS	E	D		C	E	C	E	D		E	D	
Approach Delay		60.1			51.6			39.9			41.7	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	303	230		59	217	53	50	182		80	300	
Queue Length 95th (ft)	#492	321		92	306	80	96	258		139	417	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	413	587		528	411	505	197	1148		201	1273	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.90	0.57		0.24	0.62	0.17	0.31	0.45		0.49	0.63	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 48.0
 Intersection Capacity Utilization 73.8%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Existing (2019) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	160	248	4	6	218	48	3	9	11	16	5	200
Future Volume (vph)	160	248	4	6	218	48	3	9	11	16	5	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.973			0.935				0.850
Flt Protected	0.950			0.950				0.994			0.964	
Satd. Flow (prot)	1736	3464	0	1752	3410	0	0	1715	0	0	1752	1545
Flt Permitted	0.950			0.580				0.953			0.972	
Satd. Flow (perm)	1736	3464	0	1070	3410	0	0	1644	0	0	1767	1545
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	178	276	4	7	242	53	3	10	12	18	6	222
Shared Lane Traffic (%)												
Lane Group Flow (vph)	178	280	0	7	295	0	0	25	0	0	24	222
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	12.1	15.1		22.2	22.2		28.7	28.7		12.8	12.8	12.1
Total Split (s)	18.0	42.0		24.0	24.0		23.0	23.0		23.0	23.0	18.0
Total Split (%)	27.7%	64.6%		36.9%	36.9%		35.4%	35.4%		35.4%	35.4%	27.7%
Maximum Green (s)	12.9	36.9		18.8	18.8		17.3	17.3		17.2	17.2	12.9
Yellow Time (s)	3.0	3.8		3.8	3.8		3.3	3.3		3.8	3.8	3.0
All-Red Time (s)	2.1	1.3		1.4	1.4		2.4	2.4		2.0	2.0	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.2	-0.2			-0.7			-0.8	-0.8
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	4.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				10.0	10.0		16.0	16.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	11.5	57.9		38.3	38.3			7.7			7.8	17.4
Actuated g/C Ratio	0.18	0.89		0.59	0.59			0.12			0.12	0.27
v/c Ratio	0.58	0.09		0.01	0.15			0.13			0.11	0.54
Control Delay	24.5	1.4		9.8	8.3			27.4			27.0	23.4

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	24.5	1.4		9.8	8.3			27.4			27.0	23.4
LOS	C	A		A	A			C			C	C
Approach Delay		10.4			8.3			27.4			23.7	
Approach LOS		B			A			C			C	
Queue Length 50th (ft)	84	0		1	20			9			9	81
Queue Length 95th (ft)	104	25		8	60			29			28	102
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	357	3084		631	2011			455			489	456
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.50	0.09		0.01	0.15			0.05			0.05	0.49

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 65
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.58
 Intersection Signal Delay: 13.4
 Intersection Capacity Utilization 38.5%
 Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	274	271	0	1	1
Future Volume (vph)	1	274	271	0	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt					0.932	
Flt Protected					0.976	
Satd. Flow (prot)	0	3438	3505	0	1694	0
Flt Permitted					0.976	
Satd. Flow (perm)	0	3438	3505	0	1694	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	3%	3%	2%	2%
Adj. Flow (vph)	1	304	301	0	1	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	305	301	0	2	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 18.3%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	1	274	271	0	1	1
Future Vol, veh/h	1	274	271	0	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	3	3	2	2
Mvmt Flow	1	304	301	0	1	1

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	301	0	-	0	455	151
Stage 1	-	-	-	-	301	-
Stage 2	-	-	-	-	154	-
Critical Hdwy	4.2	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.25	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1235	-	-	-	534	868
Stage 1	-	-	-	-	725	-
Stage 2	-	-	-	-	858	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1235	-	-	-	533	868
Mov Cap-2 Maneuver	-	-	-	-	533	-
Stage 1	-	-	-	-	724	-
Stage 2	-	-	-	-	858	-

Approach EB WB SB

HCM Control Delay, s	0	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1235	-	-	-	660
HCM Lane V/C Ratio	0.001	-	-	-	0.003
HCM Control Delay (s)	7.9	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Existing (2019) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	250	5	5	255	19	8	0	12	1	0	8
Future Volume (vph)	20	250	5	5	255	19	8	0	12	1	0	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.990			0.920				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1736	3461	0	1752	3470	0	0	1679	0	0	1719	1538
Flt Permitted	0.950			0.950				0.980			0.950	
Satd. Flow (perm)	1736	3461	0	1752	3470	0	0	1679	0	0	1719	1538
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	22	278	6	6	283	21	9	0	13	1	0	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	284	0	6	304	0	0	22	0	0	1	9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	250	5	5	255	19	8	0	12	1	0	8
Future Vol, veh/h	20	250	5	5	255	19	8	0	12	1	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	4	3	3	3	2	2	2	5	5	5
Mvmt Flow	22	278	6	6	283	21	9	0	13	1	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	304	0	0	284	0	0	479	641	142	489	634	152
Stage 1	-	-	-	-	-	-	325	325	-	306	306	-
Stage 2	-	-	-	-	-	-	154	316	-	183	328	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.54	6.54	6.94	7.6	6.6	7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.52	4.02	3.32	3.55	4.05	3.35
Pot Cap-1 Maneuver	1239	-	-	1268	-	-	470	391	880	455	389	858
Stage 1	-	-	-	-	-	-	661	648	-	670	653	-
Stage 2	-	-	-	-	-	-	833	654	-	792	638	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1239	-	-	1268	-	-	457	382	880	440	380	858
Mov Cap-2 Maneuver	-	-	-	-	-	-	457	382	-	440	380	-
Stage 1	-	-	-	-	-	-	649	636	-	658	650	-
Stage 2	-	-	-	-	-	-	820	651	-	766	627	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	10.8	9.6
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	642	1239	-	-	1268	-	-	440	858
HCM Lane V/C Ratio	0.035	0.018	-	-	0.004	-	-	0.003	0.01
HCM Control Delay (s)	10.8	8	-	-	7.9	-	-	13.2	9.2
HCM Lane LOS	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0	0

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	8	255	276	64	15	3
Future Volume (vph)	8	255	276	64	15	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.972			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1736	3471	3407	0	1719	1538
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1736	3471	3407	0	1719	1538
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	5%	5%
Adj. Flow (vph)	9	283	307	71	17	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	283	378	0	17	3
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 19.7%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	255	276	64	15	3
Future Vol, veh/h	8	255	276	64	15	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	5	5
Mvmt Flow	9	283	307	71	17	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	378	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.18	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.24	-	-
Pot Cap-1 Maneuver	1163	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1163	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1163	-	-	-	487	811
HCM Lane V/C Ratio	0.008	-	-	-	0.034	0.004
HCM Control Delay (s)	8.1	-	-	-	12.7	9.5
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	255	317	87	67	23
Future Volume (vph)	15	255	317	87	67	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.968		0.965	
Flt Protected		0.997			0.964	
Satd. Flow (prot)	0	4925	3360	0	1700	0
Flt Permitted		0.997			0.964	
Satd. Flow (perm)	0	4925	3360	0	1700	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Adj. Flow (vph)	17	283	352	97	74	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	300	449	0	100	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.2%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	15	255	317	87	67	23
Future Vol, veh/h	15	255	317	87	67	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	4	4	4	4
Mvmt Flow	17	283	352	97	74	26

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	449	0	-	0	548	225
Stage 1	-	-	-	-	401	-
Stage 2	-	-	-	-	147	-
Critical Hdwy	4.2	-	-	-	6.33	6.98
Critical Hdwy Stg 1	-	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	-	6.08	-
Follow-up Hdwy	2.25	-	-	-	3.69	3.34
Pot Cap-1 Maneuver	1087	-	-	-	486	772
Stage 1	-	-	-	-	618	-
Stage 2	-	-	-	-	820	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1087	-	-	-	477	772
Mov Cap-2 Maneuver	-	-	-	-	477	-
Stage 1	-	-	-	-	606	-
Stage 2	-	-	-	-	820	-

Approach EB WB SB

HCM Control Delay, s	0.5	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1087	-	-	-	529
HCM Lane V/C Ratio	0.015	-	-	-	0.189
HCM Control Delay (s)	8.4	0	-	-	13.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Existing (2019) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	0	0	0	0	4	210	3	1	221	2
Future Volume (vph)	3	1	0	0	0	0	4	210	3	1	221	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.998			0.999	
Flt Protected		0.964						0.999		0.950		
Satd. Flow (prot)	0	1796	0	0	1863	0	0	1821	0	1752	1843	0
Flt Permitted		0.964						0.999		0.950		
Satd. Flow (perm)	0	1796	0	0	1863	0	0	1821	0	1752	1843	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	3	1	0	0	0	0	4	233	3	1	246	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	0	0	0	240	0	1	248	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 24.4%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	0	0	0	0	4	210	3	1	221	2
Future Vol, veh/h	3	1	0	0	0	0	4	210	3	1	221	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	3	3	3
Mvmt Flow	3	1	0	0	0	0	4	233	3	1	246	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	492	493	247	493	493	235	248	0	0	236	0	0
Stage 1	249	249	-	243	243	-	-	-	-	-	-	-
Stage 2	243	244	-	250	250	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	487	477	792	486	477	804	1306	-	-	1325	-	-
Stage 1	755	701	-	761	705	-	-	-	-	-	-	-
Stage 2	761	704	-	754	700	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	485	475	792	484	475	804	1306	-	-	1325	-	-
Mov Cap-2 Maneuver	485	475	-	484	475	-	-	-	-	-	-	-
Stage 1	752	700	-	758	702	-	-	-	-	-	-	-
Stage 2	758	701	-	752	699	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	0	0.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1306	-	-	482	-	1325	-
HCM Lane V/C Ratio	0.003	-	-	0.009	-	0.001	-
HCM Control Delay (s)	7.8	0	-	12.5	0	7.7	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

University Place TIA
302: Willow Ave & UPlace Access #7

Existing (2019) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	11	0	4	6	191	16	12	211	3
Future Volume (vph)	2	0	2	11	0	4	6	191	16	12	211	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932				0.850		0.988			0.998	
Flt Protected		0.976			0.950		0.950			0.950		
Satd. Flow (prot)	0	1694	0	0	1641	1468	1752	1823	0	1752	1841	0
Flt Permitted		0.976			0.950		0.950			0.950		
Satd. Flow (perm)	0	1694	0	0	1641	1468	1752	1823	0	1752	1841	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	2	0	2	12	0	4	7	212	18	13	234	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	12	4	7	230	0	13	237	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.7%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	11	0	4	6	191	16	12	211	3
Future Vol, veh/h	2	0	2	11	0	4	6	191	16	12	211	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	3	3	3
Mvmt Flow	2	0	2	12	0	4	7	212	18	13	234	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	499	506	236	498	498	221	237	0	0	230	0	0
Stage 1	262	262	-	235	235	-	-	-	-	-	-	-
Stage 2	237	244	-	263	263	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	482	469	803	470	463	799	1324	-	-	1332	-	-
Stage 1	743	691	-	750	696	-	-	-	-	-	-	-
Stage 2	766	704	-	725	676	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	474	462	803	463	456	799	1324	-	-	1332	-	-
Mov Cap-2 Maneuver	474	462	-	463	456	-	-	-	-	-	-	-
Stage 1	739	684	-	746	693	-	-	-	-	-	-	-
Stage 2	758	700	-	716	669	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	12.1	0.2	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1324	-	-	596 463 799	1332	-	-
HCM Lane V/C Ratio	0.005	-	-	0.007 0.026 0.006	0.01	-	-
HCM Control Delay (s)	7.7	-	-	11.1 13 9.5	7.7	-	-
HCM Lane LOS	A	-	-	B B A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1 0	0	-	-

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	77	120	202	104	10	24
Future Volume (vph)	77	120	202	104	10	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.954		0.904	
Flt Protected	0.950				0.986	
Satd. Flow (prot)	1736	1827	1777	0	1598	0
Flt Permitted	0.950				0.986	
Satd. Flow (perm)	1736	1827	1777	0	1598	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		345	318		387	
Travel Time (s)		6.7	6.2		10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	2%	2%	6%	6%
Adj. Flow (vph)	86	133	224	116	11	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	86	133	340	0	38	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 34.6%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.9

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	77	120	202	104	10	24
Future Vol, veh/h	77	120	202	104	10	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	2	2	6	6
Mvmt Flow	86	133	224	116	11	27

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	340	0	-	0	587	282
Stage 1	-	-	-	-	282	-
Stage 2	-	-	-	-	305	-
Critical Hdwy	4.14	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.236	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	1208	-	-	-	465	747
Stage 1	-	-	-	-	757	-
Stage 2	-	-	-	-	739	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1208	-	-	-	432	747
Mov Cap-2 Maneuver	-	-	-	-	526	-
Stage 1	-	-	-	-	703	-
Stage 2	-	-	-	-	739	-

Approach EB WB SB

HCM Control Delay, s	3.2	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1208	-	-	-	665
HCM Lane V/C Ratio	0.071	-	-	-	0.057
HCM Control Delay (s)	8.2	-	-	-	10.7
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.2

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	83	47	49	258	48	35
Future Volume (vph)	83	47	49	258	48	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.951					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1721	0	1770	1863	1736	1553
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1721	0	1770	1863	1736	1553
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	4%	4%
Adj. Flow (vph)	92	52	54	287	53	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	54	287	53	39
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 23.9%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	83	47	49	258	48	35
Future Vol, veh/h	83	47	49	258	48	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	92	52	54	287	53	39

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	144
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1438
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1438
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	10.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	555	928	-	-	1438	-
HCM Lane V/C Ratio	0.096	0.042	-	-	0.038	-
HCM Control Delay (s)	12.2	9	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	106	12	56	301	6	34
Future Volume (vph)	106	12	56	301	6	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.987					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1786	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1786	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Adj. Flow (vph)	118	13	62	334	7	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	131	0	62	334	7	38
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	106	12	56	301	6	34
Future Vol, veh/h	106	12	56	301	6	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	118	13	62	334	7	38

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	131
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1454
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1454
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	455	926	-	-	1454	-
HCM Lane V/C Ratio	0.015	0.041	-	-	0.043	-
HCM Control Delay (s)	13	9.1	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Existing (2019) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	102	12	321	5	12	9	437	1377	9	17	1275	95
Future Volume (vph)	102	12	321	5	12	9	437	1377	9	17	1275	95
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.953			0.999				0.850
Flt Protected		0.957			0.990		0.950			0.950		
Satd. Flow (prot)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Flt Permitted		0.957			0.990		0.950			0.950		
Satd. Flow (perm)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	113	13	357	6	13	10	486	1530	10	19	1417	106
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	126	357	0	29	0	486	1540	0	19	1417	106
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	25.0	25.0	41.0	20.0	20.0		41.0	120.0		15.0	94.0	25.0
Total Split (%)	13.9%	13.9%	22.8%	11.1%	11.1%		22.8%	66.7%		8.3%	52.2%	13.9%
Maximum Green (s)	18.4	18.4	34.3	13.3	13.3		34.3	113.9		8.5	87.9	18.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		17.4	51.3		9.5		32.9	131.8		9.4	102.9	125.3
Actuated g/C Ratio		0.10	0.28		0.05		0.18	0.73		0.05	0.57	0.70
v/c Ratio		0.73	0.45		0.34		0.78	0.59		0.21	0.70	0.10
Control Delay		102.7	42.2		92.7		78.7	14.8		73.0	24.1	8.1

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Existing (2019) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		102.7	42.2		92.7		78.7	14.8		73.0	24.1	8.1
LOS		F	D		F		E	B		E	C	A
Approach Delay		58.0			92.7			30.1			23.6	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)		146	167		34		285	512		23	348	25
Queue Length 95th (ft)		225	194		73		339	628		m33	318	m34
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		198	852		135		698	2589		98	2023	1124
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.64	0.42		0.21		0.70	0.59		0.19	0.70	0.09

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 68 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 90

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.78

Intersection Signal Delay: 31.4

Intersection LOS: C

Intersection Capacity Utilization 73.2%

ICU Level of Service D

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

			
Ø2 (R)	Ø1	Ø3	Ø4
120 s	15 s	25 s	20 s
			
Ø5			
41 s			
			
Ø6 (R)			
94 s			

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	97	0	1488	1290	84
Future Volume (vph)	0	97	0	1488	1290	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	108	0	1653	1433	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	108	0	1653	1433	93
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.3%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.6

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗		↗	↗	↗
Traffic Vol, veh/h	0	97	0	1488	1290	84
Future Vol, veh/h	0	97	0	1488	1290	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	108	0	1653	1433	93

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	-	717	-	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	372	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	372	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	18.6	0	0
HCM LOS	C		

Minor Lane/Major Mvmt NBT EBLn1 SBT

Capacity (veh/h)	-	372	-
HCM Lane V/C Ratio	-	0.29	-
HCM Control Delay (s)	-	18.6	-
HCM Lane LOS	-	C	-
HCM 95th %tile Q(veh)	-	1.2	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Existing (2019) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	254	100	28	31	41	23	44	1417	27	35	1315	264
Future Volume (vph)	254	100	28	31	41	23	44	1417	27	35	1315	264
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.967			0.946			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1810	0	1744	1736	0	1778	3546	0	1778	3557	1591
Flt Permitted	0.616			0.525			0.104			0.073		
Satd. Flow (perm)	1153	1810	0	964	1736	0	195	3546	0	137	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	282	111	31	34	46	26	49	1574	30	39	1461	293
Shared Lane Traffic (%)												
Lane Group Flow (vph)	282	142	0	34	72	0	49	1604	0	39	1461	293
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	35.0	43.0		15.0	23.0		15.0	107.0		15.0	107.0	35.0
Total Split (%)	19.4%	23.9%		8.3%	12.8%		8.3%	59.4%		8.3%	59.4%	19.4%
Maximum Green (s)	28.7	36.6		9.1	16.6		8.9	100.9		9.4	100.9	28.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	41.3	35.3		42.3	13.2		119.7	111.7		119.7	113.1	145.9
Actuated g/C Ratio	0.23	0.20		0.24	0.07		0.66	0.62		0.66	0.63	0.81
v/c Ratio	0.78	0.40		0.13	0.57		0.24	0.73		0.22	0.65	0.23
Control Delay	74.0	66.7		49.3	96.8		6.6	17.5		19.8	21.1	3.1

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

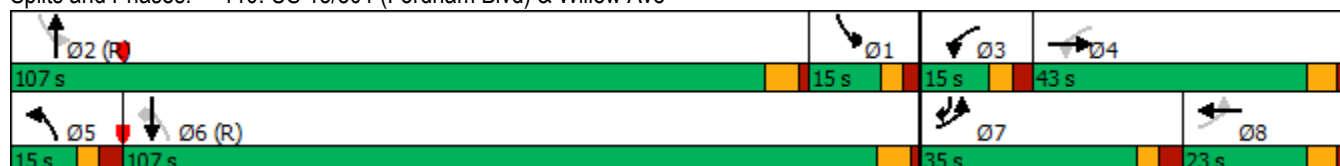
Existing (2019) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.2	0.0
Total Delay	74.0	66.7		49.3	96.8		6.6	17.5		19.8	21.3	3.1
LOS	E	E		D	F		A	B		B	C	A
Approach Delay		71.6			81.6			17.1			18.2	
Approach LOS		E			F			B			B	
Queue Length 50th (ft)	293	149		30	84		6	761		15	574	46
Queue Length 95th (ft)	386	221		60	141		m9	846		m27	439	57
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	378	382		275	173		219	2200		182	2234	1306
Starvation Cap Reductn	0	0		0	0		0	0		0	186	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.75	0.37		0.12	0.42		0.22	0.73		0.21	0.71	0.22

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 65 (36%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 25.2
Intersection Capacity Utilization 72.4%
Analysis Period (min) 15
Intersection LOS: C
ICU Level of Service C
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave



University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd

Existing (2019) PM
01/15/2021

							
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations							
Traffic Volume (vph)	132	220	218	1476	0	1394	168
Future Volume (vph)	132	220	218	1476	0	1394	168
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900
Grade (%)	1%			0%		0%	
Storage Length (ft)	160	0	320		160		180
Storage Lanes	1	1	1		1		1
Taper Length (ft)	100		100		100		
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	0.95	1.00
Frt		0.850					0.850
Flt Protected	0.950		0.950				
Satd. Flow (prot)	1744	1560	1770	3539	1863	3539	1583
Flt Permitted	0.950		0.105				
Satd. Flow (perm)	1744	1560	196	3539	1863	3539	1583
Right Turn on Red		No					No
Satd. Flow (RTOR)							
Link Speed (mph)	25			45		45	
Link Distance (ft)	967			783		1413	
Travel Time (s)	26.4			11.9		21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%	2%
Adj. Flow (vph)	147	244	242	1640	0	1549	187
Shared Lane Traffic (%)							
Lane Group Flow (vph)	147	244	242	1640	0	1549	187
Turn Type	Prot	pm+ov	pm+pt	NA	D.P+P	NA	pm+ov
Protected Phases	4	5	5	2	1	6	4
Permitted Phases		4	2		2		6
Detector Phase	4	5	5	2	1	6	4
Switch Phase							
Minimum Initial (s)	7.0	7.0	7.0	12.0	7.0	12.0	7.0
Minimum Split (s)	12.6	12.9	12.9	17.9	12.3	17.9	12.6
Total Split (s)	30.0	38.0	38.0	132.0	18.0	112.0	30.0
Total Split (%)	16.7%	21.1%	21.1%	73.3%	10.0%	62.2%	16.7%
Maximum Green (s)	24.4	32.1	32.1	126.1	12.7	106.1	24.4
Yellow Time (s)	3.0	3.0	3.0	4.5	3.0	4.5	3.0
All-Red Time (s)	2.6	2.9	2.9	1.4	2.3	1.4	2.6
Lost Time Adjust (s)	-0.6	-0.9	-0.9	-0.9	-0.3	-0.9	-0.6
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag		Lead	Lead	Lead	Lag	Lag	
Lead-Lag Optimize?							
Vehicle Extension (s)	4.0	1.0	1.0	2.0	1.0	2.0	4.0
Recall Mode	None	None	None	C-Max	None	C-Max	None
Act Effect Green (s)	21.1	46.7	148.9	148.9		123.3	149.4
Actuated g/C Ratio	0.12	0.26	0.83	0.83		0.68	0.83
v/c Ratio	0.72	0.60	0.71	0.56		0.64	0.14
Control Delay	95.8	63.5	50.3	3.7		15.0	4.9
Queue Delay	0.0	0.0	0.0	0.3		0.0	0.0
Total Delay	95.8	63.5	50.3	4.1		15.0	4.9
LOS	F	E	D	A		B	A

							
Lane Group	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Approach Delay	75.6			10.0		13.9	
Approach LOS	E			B		B	
Queue Length 50th (ft)	170	254	119	152		355	48
Queue Length 95th (ft)	250	322	209	162		434	m64
Internal Link Dist (ft)	887			703		1333	
Turn Bay Length (ft)	160		320				180
Base Capacity (vph)	242	512	450	2927		2424	1348
Starvation Cap Reductn	0	0	0	609		0	0
Spillback Cap Reductn	0	0	0	0		23	0
Storage Cap Reductn	0	0	0	0		0	0
Reduced v/c Ratio	0.61	0.48	0.54	0.71		0.65	0.14

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 79 (44%), Referenced to phase 2:NBSB and 6:SBT, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 18.1
 Intersection Capacity Utilization 70.4%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd

 Ø2 (R)	 Ø1	 Ø4
132 s	18 s	30 s
 Ø5	 Ø6 (R)	
38 s	112 s	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Existing (2019) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	93	83	328	115	74	97	1250	261	97	1151	18
Future Volume (vph)	82	93	83	328	115	74	97	1250	261	97	1151	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.929			0.941				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1730	0	3433	1753	0	1770	3539	1583	1770	3532	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1730	0	3433	1753	0	1770	3539	1583	1770	3532	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	91	103	92	364	128	82	108	1389	290	108	1279	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	195	0	364	210	0	108	1389	290	108	1299	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	26.0	30.0		35.0	39.0		26.0	92.0		23.0	89.0	
Total Split (%)	14.4%	16.7%		19.4%	21.7%		14.4%	51.1%		12.8%	49.4%	
Maximum Green (s)	19.6	23.1		28.2	32.3		19.2	85.2		16.3	82.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	15.0	24.9		25.8	35.7		18.1	93.6	180.0	15.7	91.2	
Actuated g/C Ratio	0.08	0.14		0.14	0.20		0.10	0.52	1.00	0.09	0.51	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.62	0.82		0.74	0.61		0.61	0.76	0.18	0.70	0.73	
Control Delay	97.0	99.8		83.4	73.7		99.7	27.7	0.2	102.8	39.0	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	97.0	99.8		83.4	73.7		99.7	27.7	0.2	102.8	39.0	
LOS	F	F		F	E		F	C	A	F	D	
Approach Delay		98.9			79.8			27.6			43.9	
Approach LOS		F			E			C			D	
Queue Length 50th (ft)	106	223		215	223		115	796	0	125	655	
Queue Length 95th (ft)	168	#362		269	330		187	828	0	198	770	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	206	249		572	353		206	1839	1583	177	1789	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.44	0.78		0.64	0.59		0.52	0.76	0.18	0.61	0.73	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 102 (57%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.82

Intersection Signal Delay: 45.7

Intersection LOS: D

Intersection Capacity Utilization 76.4%

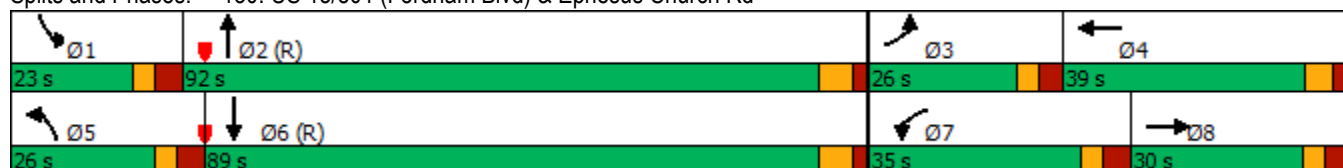
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

Existing (2019) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	299	315	94	196	317	221	61	732	163	97	632	359
Future Volume (vph)	299	315	94	196	317	221	61	732	163	97	632	359
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.966				0.850		0.973			0.946	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1808	0	1725	1816	1544	1743	3392	0	1778	3365	0
Flt Permitted	0.950			0.209			0.950			0.950		
Satd. Flow (perm)	1778	1808	0	380	1816	1544	1743	3392	0	1778	3365	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	332	350	104	218	352	246	68	813	181	108	702	399
Shared Lane Traffic (%)												
Lane Group Flow (vph)	332	454	0	218	352	246	68	994	0	108	1101	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	40.0	53.0		20.0	33.0	20.0	15.0	57.0		20.0	62.0	
Total Split (%)	26.7%	35.3%		13.3%	22.0%	13.3%	10.0%	38.0%		13.3%	41.3%	
Maximum Green (s)	34.1	47.1		14.4	27.1	14.1	8.8	51.3		14.1	56.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	31.6	49.7		64.2	32.6	50.7	9.4	52.7		13.1	59.0	
Actuated g/C Ratio	0.21	0.33		0.43	0.22	0.34	0.06	0.35		0.09	0.39	
v/c Ratio	0.89	0.76		0.75	0.89	0.47	0.62	0.83		0.70	0.83	
Control Delay	82.4	54.6		44.7	78.6	42.2	92.8	52.3		89.7	48.4	

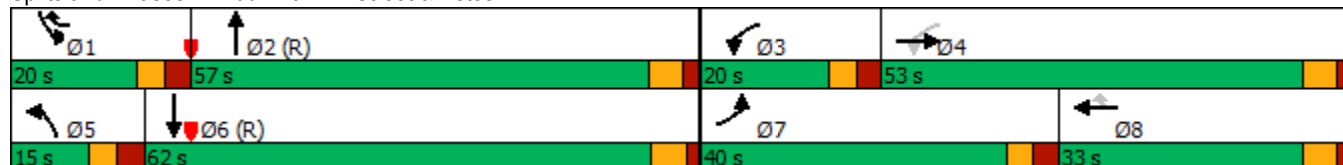
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	82.4	54.6		44.7	78.6	42.2	92.8	52.3		89.7	48.4	
LOS	F	D		D	E	D	F	D		F	D	
Approach Delay		66.4			58.6			54.9			52.1	
Approach LOS		E			E			D			D	
Queue Length 50th (ft)	313	404		137	301	192	66	474		104	525	
Queue Length 95th (ft)	#454	545		#242	#586	261	#128	565		172	617	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	414	599		300	394	541	116	1203		177	1345	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.80	0.76		0.73	0.89	0.45	0.59	0.83		0.61	0.82	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 104 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 57.1
Intersection Capacity Utilization 84.7%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: E
ICU Level of Service E

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Existing (2019) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	288	284	3	12	360	28	6	8	7	67	8	368
Future Volume (vph)	288	284	3	12	360	28	6	8	7	67	8	368
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.989			0.955				0.850
Flt Protected	0.950			0.950				0.986			0.957	
Satd. Flow (prot)	1770	3536	0	1770	3500	0	0	1754	0	0	1774	1575
Flt Permitted	0.950			0.558				0.892			0.732	
Satd. Flow (perm)	1770	3536	0	1039	3500	0	0	1587	0	0	1357	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	320	316	3	13	400	31	7	9	8	74	9	409
Shared Lane Traffic (%)												
Lane Group Flow (vph)	320	319	0	13	431	0	0	24	0	0	83	409
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	13.2	15.7		21.4	21.4		30.6	30.6		12.9	12.9	13.2
Total Split (s)	20.0	46.0		26.0	26.0		29.0	29.0		29.0	29.0	20.0
Total Split (%)	26.7%	61.3%		34.7%	34.7%		38.7%	38.7%		38.7%	38.7%	26.7%
Maximum Green (s)	13.8	40.3		20.6	20.6		23.4	23.4		23.1	23.1	13.8
Yellow Time (s)	3.0	3.7		3.9	3.9		3.6	3.6		3.9	3.9	3.0
All-Red Time (s)	3.2	2.0		1.5	1.5		2.0	2.0		2.0	2.0	3.2
Lost Time Adjust (s)	-1.2	-0.7		-0.4	-0.4			-0.6			-0.9	-0.9
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				9.0	9.0		18.0	18.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	19.7	58.4		32.7	32.7			10.1			10.2	32.0
Actuated g/C Ratio	0.26	0.78		0.44	0.44			0.13			0.14	0.43
v/c Ratio	0.69	0.12		0.03	0.28			0.11			0.45	0.61
Control Delay	34.0	4.3		17.2	16.6			28.2			37.1	19.4

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

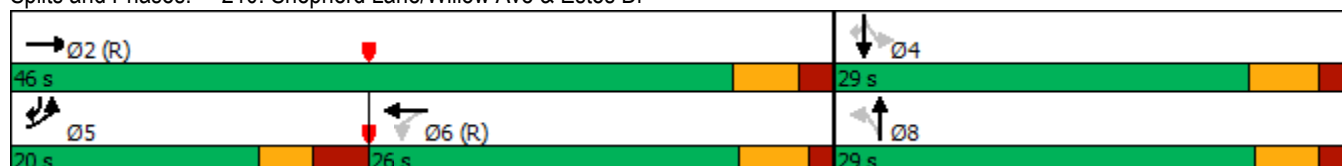
Existing (2019) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	34.0	4.3		17.2	16.6			28.2			37.1	19.4
LOS	C	A		B	B			C			D	B
Approach Delay		19.2			16.6			28.2			22.4	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	177	43		4	69			10			36	133
Queue Length 95th (ft)	m283	m56		17	123			29			73	170
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	464	2752		453	1527			507			434	671
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.69	0.12		0.03	0.28			0.05			0.19	0.61

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 61 (81%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 19.6
Intersection Capacity Utilization 52.2%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service A
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	3	355	394	2	0	6
Future Volume (vph)	3	355	394	2	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.999		0.865	
Flt Protected						
Satd. Flow (prot)	0	3505	3536	0	1611	0
Flt Permitted						
Satd. Flow (perm)	0	3505	3536	0	1611	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	3	394	438	2	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	397	440	0	7	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.9%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	3	355	394	2	0	6
Future Vol, veh/h	3	355	394	2	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	3	394	438	2	0	7

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	440	0	-	0	642	220
Stage 1	-	-	-	-	439	-
Stage 2	-	-	-	-	203	-
Critical Hdwy	4.16	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.23	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1109	-	-	-	407	784
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	811	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1109	-	-	-	406	784
Mov Cap-2 Maneuver	-	-	-	-	406	-
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	811	-

Approach EB WB SB

HCM Control Delay, s	0.1	0	9.6
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1109	-	-	-	784
HCM Lane V/C Ratio	0.003	-	-	-	0.009
HCM Control Delay (s)	8.3	0	-	-	9.6
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Existing (2019) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	55	299	1	7	348	61	2	0	6	35	0	46
Future Volume (vph)	55	299	1	7	348	61	2	0	6	35	0	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.978			0.895				0.850
Flt Protected	0.950			0.950				0.989			0.950	
Satd. Flow (prot)	1770	3539	0	1770	3461	0	0	1649	0	0	1770	1583
Flt Permitted	0.950			0.950				0.989			0.950	
Satd. Flow (perm)	1770	3539	0	1770	3461	0	0	1649	0	0	1770	1583
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	61	332	1	8	387	68	2	0	7	39	0	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	61	333	0	8	455	0	0	9	0	0	39	51
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 31.0%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	55	299	1	7	348	61	2	0	6	35	0	46
Future Vol, veh/h	55	299	1	7	348	61	2	0	6	35	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	61	332	1	8	387	68	2	0	7	39	0	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	455	0	0	333	0	0	665	926	167	725	892	228
Stage 1	-	-	-	-	-	-	455	455	-	437	437	-
Stage 2	-	-	-	-	-	-	210	471	-	288	455	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1102	-	-	1223	-	-	345	267	848	313	280	775
Stage 1	-	-	-	-	-	-	554	567	-	568	578	-
Stage 2	-	-	-	-	-	-	773	558	-	695	567	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1102	-	-	1223	-	-	307	250	848	296	263	775
Mov Cap-2 Maneuver	-	-	-	-	-	-	307	250	-	296	263	-
Stage 1	-	-	-	-	-	-	524	536	-	537	574	-
Stage 2	-	-	-	-	-	-	717	554	-	651	536	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.1	11.2	13.9
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	589	1102	-	-	1223	-	-	296	775
HCM Lane V/C Ratio	0.015	0.055	-	-	0.006	-	-	0.131	0.066
HCM Control Delay (s)	11.2	8.5	-	-	8	-	-	19	10
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0	0.2	-	-	0	-	-	0.4	0.2

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	21	319	393	117	65	23
Future Volume (vph)	21	319	393	117	65	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.966			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3419	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3419	0	1770	1583
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	23	354	437	130	72	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	354	567	0	72	26
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 27.7%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	319	393	117	65	23
Future Vol, veh/h	21	319	393	117	65	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	354	437	130	72	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	567	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	1001	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1001	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	15.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1001	-	-	-	352	713
HCM Lane V/C Ratio	0.023	-	-	-	0.205	0.036
HCM Control Delay (s)	8.7	-	-	-	17.8	10.2
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.8	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	18	366	476	68	69	34
Future Volume (vph)	18	366	476	68	69	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.981		0.955	
Flt Protected		0.998			0.968	
Satd. Flow (prot)	0	5026	3472	0	1722	0
Flt Permitted		0.998			0.968	
Satd. Flow (perm)	0	5026	3472	0	1722	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	20	407	529	76	77	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	427	605	0	115	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 33.2%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↑↑↑	↑↑		↑	
Traffic Vol, veh/h	18	366	476	68	69	34
Future Vol, veh/h	18	366	476	68	69	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	20	407	529	76	77	38

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	605	0	-	0	770	303
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	203	-
Critical Hdwy	4.16	-	-	-	6.29	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	2.23	-	-	-	3.67	3.32
Pot Cap-1 Maneuver	962	-	-	-	369	693
Stage 1	-	-	-	-	515	-
Stage 2	-	-	-	-	772	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	962	-	-	-	359	693
Mov Cap-2 Maneuver	-	-	-	-	359	-
Stage 1	-	-	-	-	501	-
Stage 2	-	-	-	-	772	-

Approach EB WB SB

HCM Control Delay, s	0.5	0	16.5
HCM LOS			C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	962	-	-	-	427
HCM Lane V/C Ratio	0.021	-	-	-	0.268
HCM Control Delay (s)	8.8	0.1	-	-	16.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.1

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Existing (2019) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	6	1	0	0	6	309	9	0	436	3
Future Volume (vph)	3	0	6	1	0	0	6	309	9	0	436	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.905						0.996			0.999	
Flt Protected		0.985			0.950			0.999				
Satd. Flow (prot)	0	1660	0	0	1770	0	0	1853	0	1863	1861	0
Flt Permitted		0.985			0.950			0.999				
Satd. Flow (perm)	0	1660	0	0	1770	0	0	1853	0	1863	1861	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	0	7	1	0	0	7	343	10	0	484	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	1	0	0	360	0	0	487	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.1%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.3

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

Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	3	0	6	1	0	0	6	309	9	0	436	3
Future Vol, veh/h	3	0	6	1	0	0	6	309	9	0	436	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	7	1	0	0	7	343	10	0	484	3

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	848	853	486	851	849	348	487	0
Stage 1	486	486	-	362	362	-	-	-
Stage 2	362	367	-	489	487	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	281	296	581	280	298	695	1076	-
Stage 1	563	551	-	657	625	-	-	-
Stage 2	657	622	-	561	550	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	279	294	581	275	296	695	1076	-
Mov Cap-2 Maneuver	279	294	-	275	296	-	-	-
Stage 1	558	551	-	652	620	-	-	-
Stage 2	652	617	-	555	550	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	18.1	0.2	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1076	-	-	427	275	1206	-
HCM Lane V/C Ratio	0.006	-	-	0.023	0.004	-	-
HCM Control Delay (s)	8.4	0	-	13.6	18.1	0	-
HCM Lane LOS	A	A	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-

University Place TIA
302: Willow Ave & UPlace Access #7

Existing (2019) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1	4	50	0	21	4	255	53	29	385	5
Future Volume (vph)	4	1	4	50	0	21	4	255	53	29	385	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940				0.850		0.974			0.998	
Flt Protected		0.978			0.950		0.950			0.950		
Satd. Flow (prot)	0	1712	0	0	1687	1509	1770	1814	0	1770	1859	0
Flt Permitted		0.978			0.950		0.950			0.950		
Satd. Flow (perm)	0	1712	0	0	1687	1509	1770	1814	0	1770	1859	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	4	1	4	56	0	23	4	283	59	32	428	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	56	23	4	342	0	32	434	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 36.2%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.1

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

Lane Configurations												
Traffic Vol, veh/h	4	1	4	50	0	21	4	255	53	29	385	5
Future Vol, veh/h	4	1	4	50	0	21	4	255	53	29	385	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	7	7	7	2	2	2	2	2	2
Mvmt Flow	4	1	4	56	0	23	4	283	59	32	428	6

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	827	845	431	819	819	313	434	0
Stage 1	495	495	-	321	321	-	-	-
Stage 2	332	350	-	498	498	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.57	6.27	4.12	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.57	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.57	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.063	3.363	2.218	-
Pot Cap-1 Maneuver	291	300	624	289	305	716	1126	-
Stage 1	556	546	-	680	643	-	-	-
Stage 2	681	633	-	545	536	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	275	291	624	280	296	716	1126	-
Mov Cap-2 Maneuver	275	291	-	280	296	-	-	-
Stage 1	554	532	-	677	640	-	-	-
Stage 2	656	630	-	526	522	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15	17.8	0.1	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1126	-	-	369 280 716	1217	-	-
HCM Lane V/C Ratio	0.004	-	-	0.027 0.198 0.033	0.026	-	-
HCM Control Delay (s)	8.2	-	-	15 21 10.2	8	-	-
HCM Lane LOS	A	-	-	C C B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.7 0.1	0.1	-	-

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	35	245	307	36	82	112
Future Volume (vph)	35	245	307	36	82	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.986		0.922	
Flt Protected	0.950				0.979	
Satd. Flow (prot)	1770	1863	1837	0	1681	0
Flt Permitted	0.950				0.979	
Satd. Flow (perm)	1770	1863	1837	0	1681	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		345	318		387	
Travel Time (s)		6.7	6.2		10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	39	272	341	40	91	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	39	272	381	0	215	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 43.1%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 3.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	35	245	307	36	82	112
Future Vol, veh/h	35	245	307	36	82	112
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	39	272	341	40	91	124

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	381	0	-	0	711	361
Stage 1	-	-	-	-	361	-
Stage 2	-	-	-	-	350	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1177	-	-	-	400	684
Stage 1	-	-	-	-	705	-
Stage 2	-	-	-	-	713	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1177	-	-	-	387	684
Mov Cap-2 Maneuver	-	-	-	-	495	-
Stage 1	-	-	-	-	682	-
Stage 2	-	-	-	-	713	-

Approach EB WB SB

HCM Control Delay, s	1	0	14.6
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1177	-	-	-	589
HCM Lane V/C Ratio	0.033	-	-	-	0.366
HCM Control Delay (s)	8.2	-	-	-	14.6
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	1.7

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	203	124	60	202	141	106
Future Volume (vph)	203	124	60	202	141	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.949					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1768	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1768	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	226	138	67	224	157	118
Shared Lane Traffic (%)						
Lane Group Flow (vph)	364	0	67	224	157	118
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 39.4%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	203	124	60	202	141	106
Future Vol, veh/h	203	124	60	202	141	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	226	138	67	224	157	118

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	364
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1195
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1195
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.9	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	508	744	-	-	1195	-
HCM Lane V/C Ratio	0.308	0.158	-	-	0.056	-
HCM Control Delay (s)	15.2	10.7	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.3	0.6	-	-	0.2	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	308	1	97	252	10	74
Future Volume (vph)	308	1	97	252	10	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1863	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1863	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	342	1	108	280	11	82
Shared Lane Traffic (%)						
Lane Group Flow (vph)	343	0	108	280	11	82
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 35.0%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	308	1	97	252	10	74
Future Vol, veh/h	308	1	97	252	10	74
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	342	1	108	280	11	82

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	343
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1216
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1216
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	11.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	306	700	-	-	1216	-
HCM Lane V/C Ratio	0.036	0.117	-	-	0.089	-
HCM Control Delay (s)	17.2	10.8	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0.3	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

No-Build (2024) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	8	323	5	8	9	350	1680	3	7	1754	79
Future Volume (vph)	58	8	323	5	8	9	350	1680	3	7	1754	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.946							0.850
Flt Protected		0.958			0.988		0.950			0.950		
Satd. Flow (prot)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Flt Permitted		0.958			0.988		0.950			0.950		
Satd. Flow (perm)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	9%	9%	9%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	64	9	359	6	9	10	389	1867	3	8	1949	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	359	0	25	0	389	1870	0	8	1949	88
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	22.0	22.0	37.0	20.0	20.0		37.0	123.0		15.0	101.0	22.0
Total Split (%)	12.2%	12.2%	20.6%	11.1%	11.1%		20.6%	68.3%		8.3%	56.1%	12.2%
Maximum Green (s)	15.4	15.4	30.3	13.3	13.3		30.3	116.9		8.5	94.9	15.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		13.6	46.5		9.3		27.9	141.6		9.1	114.7	130.3
Actuated g/C Ratio		0.08	0.26		0.05		0.16	0.79		0.05	0.64	0.72
v/c Ratio		0.56	0.51		0.30		0.74	0.68		0.09	0.87	0.08
Control Delay		95.8	58.8		91.5		81.1	13.5		76.9	24.5	3.1

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

No-Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		95.8	58.8		91.5		81.1	13.5		76.9	24.5	3.1
LOS		F	E		F		F	B		E	C	A
Approach Delay		65.1			91.5			25.1			23.8	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)		85	207		29		228	458		9	772	12
Queue Length 95th (ft)		142	246		66		280	882		m11	#1415	m20
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		166	766		135		612	2757		97	2234	1167
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.44	0.47		0.19		0.64	0.68		0.08	0.87	0.08

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 110
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 28.5
Intersection Capacity Utilization 81.3%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
ICU Level of Service D

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

 Ø2 (R)	 Ø1	 Ø4	 Ø3
123 s	15 s	20 s	22 s
 Ø5	 Ø6 (R)		
37 s	101 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	31	0	1747	1809	49
Future Volume (vph)	0	31	0	1747	1809	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1596	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1596	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	34	0	1941	2010	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	34	0	1941	2010	54
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 60.0%
Analysis Period (min) 15

ICU Level of Service B

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	31	0	1747	1809	49
Future Vol, veh/h	0	31	0	1747	1809	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	34	0	1941	2010	54

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 1005	-	0 -
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	- 6.96	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	- 3.33	-	-
Pot Cap-1 Maneuver	0 238	0	- -
Stage 1	0	0	- -
Stage 2	0	0	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	- 238	-	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	22.7	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 238	-
HCM Lane V/C Ratio	- 0.145	-
HCM Control Delay (s)	- 22.7	-
HCM Lane LOS	- C	-
HCM 95th %tile Q(veh)	- 0.5	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

No-Build (2024) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	95	37	18	62	45	28	51	1649	47	13	1778	270
Future Volume (vph)	95	37	18	62	45	28	51	1649	47	13	1778	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.951			0.943			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1746	0	1761	1748	0	1778	3543	0	1778	3557	1591
Flt Permitted	0.563			0.691			0.045			0.064		
Satd. Flow (perm)	1034	1746	0	1281	1748	0	84	3543	0	120	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	106	41	20	69	50	31	57	1832	52	14	1976	300
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	61	0	69	81	0	57	1884	0	14	1976	300
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	21.0	39.0		15.0	33.0		15.0	111.0		15.0	111.0	21.0
Total Split (%)	11.7%	21.7%		8.3%	18.3%		8.3%	61.7%		8.3%	61.7%	11.7%
Maximum Green (s)	14.7	32.6		9.1	26.6		8.9	104.9		9.4	104.9	14.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	28.3	18.7		28.3	14.1		132.7	131.7		134.7	125.5	144.4
Actuated g/C Ratio	0.16	0.10		0.16	0.08		0.74	0.73		0.75	0.70	0.80
v/c Ratio	0.49	0.34		0.31	0.59		0.39	0.73		0.09	0.80	0.24
Control Delay	70.1	78.1		64.0	96.8		33.1	7.0		5.1	11.1	1.8

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

No-Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.5	0.0
Total Delay	70.1	78.1		64.0	96.8		33.1	7.0		5.1	11.6	1.8
LOS	E	E		E	F		C	A		A	B	A
Approach Delay		73.0			81.7			7.8			10.3	
Approach LOS		E			F			A			B	
Queue Length 50th (ft)	109	68		70	94		9	190		2	260	25
Queue Length 95th (ft)	168	116		116	153		m0	95		m3	636	m31
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	235	329		231	271		158	2592		182	2479	1292
Starvation Cap Reductn	0	0		0	0		0	0		0	175	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.45	0.19		0.30	0.30		0.36	0.73		0.08	0.86	0.23

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 177 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.80
 Intersection Signal Delay: 13.9
 Intersection Capacity Utilization 69.4%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	111 s	15 s	39 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	111 s	21 s	33 s

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

No-Build (2024) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	10	134	125	15	15	140	1502	130	2	1802	74
Future Volume (vph)	26	10	134	125	15	15	140	1502	130	2	1802	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1710	1835	1530	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.040			0.110		
Satd. Flow (perm)	1710	1835	1530	3400	1845	1568	75	3539	1568	203	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		958			778			783			1413	
Travel Time (s)		18.7			15.2			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	3%	5%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	29	11	149	139	17	17	156	1669	144	2	2002	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	11	149	139	17	17	156	1669	144	2	2002	82
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	13.6	43.5	16.7	13.6	43.5	13.4	16.7	109.5	13.6	13.4	106.2	13.6
Total Split (%)	7.6%	24.2%	9.3%	7.6%	24.2%	7.4%	9.3%	60.8%	7.6%	7.4%	59.0%	7.6%
Maximum Green (s)	7.2	37.0	10.4	7.0	37.0	7.0	10.4	103.0	7.0	7.0	99.7	7.2
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	8.6	8.8	26.8	11.3	8.8	16.8	148.0	145.0	163.3	150.0	126.9	140.5
Actuated g/C Ratio	0.05	0.05	0.15	0.06	0.05	0.09	0.82	0.81	0.91	0.83	0.70	0.78
v/c Ratio	0.36	0.12	0.65	0.65	0.19	0.12	0.60	0.59	0.10	0.01	0.80	0.07
Control Delay	95.7	84.8	84.3	95.2	87.0	72.7	63.4	4.5	1.1	3.0	8.9	1.7

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

No-Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.0
Total Delay	95.7	84.8	84.3	95.2	87.0	72.7	63.4	4.6	1.1	3.0	9.0	1.7
LOS	F	F	F	F	F	E	E	A	A	A	A	A
Approach Delay		86.1			92.2			9.0			8.7	
Approach LOS		F			F			A			A	
Queue Length 50th (ft)	34	13	173	78	20	18	130	177	6	0	231	11
Queue Length 95th (ft)	74	37	235	#153	49	45	m213	182	m18	m0	301	m13
Internal Link Dist (ft)		878			698			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	81	392	228	213	394	146	260	2850	1422	241	2494	1235
Starvation Cap Reductn	0	0	0	0	0	0	0	261	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	58	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.03	0.65	0.65	0.04	0.12	0.60	0.64	0.10	0.01	0.82	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 175 (97%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 15.4
Intersection Capacity Utilization 80.3%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

											
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)		Ø7	Ø8	
13.4 s	109.5 s		13.6 s	43.5 s		16.7 s	106.2 s		13.6 s	43.5 s	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

No-Build (2024) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	76	53	43	186	93	102	75	1365	103	81	1622	7
Future Volume (vph)	76	53	43	186	93	102	75	1365	103	81	1622	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.933			0.922				0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1738	0	3367	1684	0	1770	3539	1583	1770	3536	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1738	0	3367	1684	0	1770	3539	1583	1770	3536	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	84	59	48	207	103	113	83	1517	114	90	1802	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	107	0	207	216	0	83	1517	114	90	1810	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	20.0	20.0		38.0	38.0		20.0	102.0		20.0	102.0	
Total Split (%)	11.1%	11.1%		21.1%	21.1%		11.1%	56.7%		11.1%	56.7%	
Maximum Green (s)	13.6	13.1		31.2	31.3		13.2	95.2		13.3	95.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	13.1	23.0		18.2	28.1		15.0	105.2	180.0	13.7	103.8	
Actuated g/C Ratio	0.07	0.13		0.10	0.16		0.08	0.58	1.00	0.08	0.58	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.66	0.48		0.61	0.82		0.56	0.73	0.07	0.67	0.89	
Control Delay	104.4	79.8		85.0	97.7		76.8	17.2	0.1	104.8	40.5	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	104.4	79.8		85.0	97.7		76.8	17.2	0.1	104.8	40.5	
LOS	F	E		F	F		E	B	A	F	D	
Approach Delay		90.6			91.5			18.9			43.6	
Approach LOS		F			F			B			D	
Queue Length 50th (ft)	98	118		123	249		97	729	0	105	982	
Queue Length 95th (ft)	163	188		167	346		156	470	0	173	#1178	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	147	221		617	308		147	2067	1583	148	2039	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.57	0.48		0.34	0.70		0.56	0.73	0.07	0.61	0.89	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 8 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 40.5

Intersection LOS: D

Intersection Capacity Utilization 84.5%

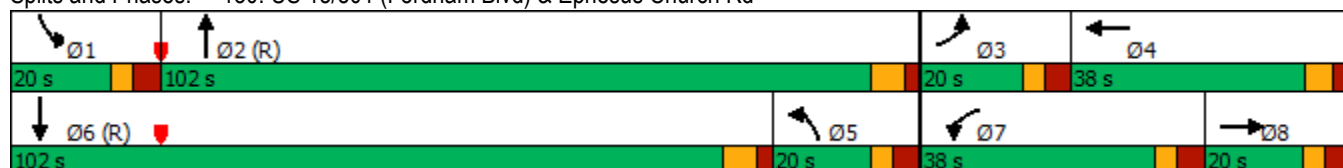
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

No-Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	297	55	119	251	80	56	415	85	89	536	212
Future Volume (vph)	350	297	55	119	251	80	56	415	85	89	536	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.977				0.850		0.975			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1811	0	1692	1781	1514	1710	3334	0	1744	3339	0
Flt Permitted	0.950			0.303			0.950			0.950		
Satd. Flow (perm)	1761	1811	0	540	1781	1514	1710	3334	0	1744	3339	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	389	330	61	132	279	89	62	461	94	99	596	236
Shared Lane Traffic (%)												
Lane Group Flow (vph)	389	391	0	132	279	89	62	555	0	99	832	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	35.0	35.0		35.0	35.0	20.0	20.0	40.0		20.0	40.0	
Total Split (%)	26.9%	26.9%		26.9%	26.9%	15.4%	15.4%	30.8%		15.4%	30.8%	
Maximum Green (s)	29.1	29.1		29.4	29.1	14.1	13.8	34.3		14.1	34.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.4	44.2		55.2	24.8	42.0	10.0	42.7		12.1	47.5	
Actuated g/C Ratio	0.23	0.34		0.42	0.19	0.32	0.08	0.33		0.09	0.37	
v/c Ratio	0.95	0.63		0.40	0.82	0.18	0.47	0.51		0.61	0.68	
Control Delay	82.1	41.2		25.6	73.5	29.6	69.0	38.7		72.1	40.6	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	82.1	41.2		25.6	73.5	29.6	69.0	38.7		72.1	40.6	
LOS	F	D		C	E	C	E	D		E	D	
Approach Delay		61.6			53.0			41.7			43.9	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	326	275		61	240	54	51	200		81	319	
Queue Length 95th (ft)	#527	383		94	334	76	97	279		140	#463	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	414	616		515	411	522	197	1094		201	1218	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.94	0.63		0.26	0.68	0.17	0.31	0.51		0.49	0.68	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 49.9
 Intersection Capacity Utilization 76.7%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 200: Franklin Street & Estes Dr

 Ø1	 Ø2 (R)	 Ø3	 Ø4
20 s	40 s	35 s	35 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20 s	40 s	35 s	35 s

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

No-Build (2024) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	162	305	4	6	244	53	3	9	11	25	5	203
Future Volume (vph)	162	305	4	6	244	53	3	9	11	25	5	203
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.973			0.935				0.850
Flt Protected	0.950			0.950				0.994			0.960	
Satd. Flow (prot)	1736	3464	0	1752	3410	0	0	1715	0	0	1745	1545
Flt Permitted	0.950			0.546				0.951			0.986	
Satd. Flow (perm)	1736	3464	0	1007	3410	0	0	1641	0	0	1792	1545
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	180	339	4	7	271	59	3	10	12	28	6	226
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	343	0	7	330	0	0	25	0	0	34	226
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	12.1	15.1		22.2	22.2		28.7	28.7		12.8	12.8	12.1
Total Split (s)	18.0	42.0		24.0	24.0		23.0	23.0		23.0	23.0	18.0
Total Split (%)	27.7%	64.6%		36.9%	36.9%		35.4%	35.4%		35.4%	35.4%	27.7%
Maximum Green (s)	12.9	36.9		18.8	18.8		17.3	17.3		17.2	17.2	12.9
Yellow Time (s)	3.0	3.8		3.8	3.8		3.3	3.3		3.8	3.8	3.0
All-Red Time (s)	2.1	1.3		1.4	1.4		2.4	2.4		2.0	2.0	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.2	-0.2			-0.7			-0.8	-0.8
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	4.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				10.0	10.0		16.0	16.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	11.6	57.8		38.2	38.2			7.8			7.9	17.5
Actuated g/C Ratio	0.18	0.89		0.59	0.59			0.12			0.12	0.27
v/c Ratio	0.58	0.11		0.01	0.16			0.13			0.16	0.54
Control Delay	26.9	1.4		10.0	8.4			27.2			27.5	23.3

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

No-Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	26.9	1.4		10.0	8.4			27.2			27.5	23.3
LOS	C	A		A	A			C			C	C
Approach Delay		10.2			8.5			27.2			23.8	
Approach LOS		B			A			C			C	
Queue Length 50th (ft)	94	0		1	23			9			12	83
Queue Length 95th (ft)	113	24		8	67			28			35	102
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	359	3080		591	2001			454			496	459
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.50	0.11		0.01	0.16			0.06			0.07	0.49

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 13.2
Intersection Capacity Utilization 38.8%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	340	302	0	1	1
Future Volume (vph)	1	340	302	0	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt					0.932	
Flt Protected					0.976	
Satd. Flow (prot)	0	3438	3505	0	1694	0
Flt Permitted					0.976	
Satd. Flow (perm)	0	3438	3505	0	1694	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	3%	3%	2%	2%
Adj. Flow (vph)	1	378	336	0	1	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	379	336	0	2	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 20.1%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations

Traffic Vol, veh/h	1	340	302	0	1	1

Future Vol, veh/h	1	340	302	0	1	1

Conflicting Peds, #/hr	0	0	0	0	0	0

Sign Control	Free	Free	Free	Free	Stop	Stop

RT Channelized	-	None	-	None	-	None

Storage Length	-	-	-	-	0	-

Veh in Median Storage, #	-	0	0	-	0	-

Grade, %	-	0	0	-	0	-

Peak Hour Factor	90	90	90	90	90	90

Heavy Vehicles, %	5	5	3	3	2	2

Mvmt Flow	1	378	336	0	1	1

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	336	0	0	527	168

Stage 1	-	-	-	336	-

Stage 2	-	-	-	191	-

Critical Hdwy	4.2	-	-	6.84	6.94

Critical Hdwy Stg 1	-	-	-	5.84	-

Critical Hdwy Stg 2	-	-	-	5.84	-

Follow-up Hdwy	2.25	-	-	3.52	3.32

Pot Cap-1 Maneuver	1199	-	-	481	847

Stage 1	-	-	-	696	-

Stage 2	-	-	-	822	-

Platoon blocked, %	-	-	-	-	-

Mov Cap-1 Maneuver	1199	-	-	481	847

Mov Cap-2 Maneuver	-	-	-	481	-

Stage 1	-	-	-	695	-

Stage 2	-	-	-	822	-

Approach	EB	WB	SB

HCM Control Delay, s	0	0	10.9

HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	1199	-	-	-	614

HCM Lane V/C Ratio	0.001	-	-	-	0.004

HCM Control Delay (s)	8	0	-	-	10.9

HCM Lane LOS	A	A	-	-	B

HCM 95th %tile Q(veh)	0	-	-	-	0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

No-Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	316	5	5	286	19	8	0	12	1	0	8
Future Volume (vph)	20	316	5	5	286	19	8	0	12	1	0	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.991			0.920				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1736	3461	0	1752	3473	0	0	1679	0	0	1719	1538
Flt Permitted	0.950			0.950				0.980			0.950	
Satd. Flow (perm)	1736	3461	0	1752	3473	0	0	1679	0	0	1719	1538
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	22	351	6	6	318	21	9	0	13	1	0	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	357	0	6	339	0	0	22	0	0	1	9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 30.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	316	5	5	286	19	8	0	12	1	0	8
Future Vol, veh/h	20	316	5	5	286	19	8	0	12	1	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	4	3	3	3	2	2	2	5	5	5
Mvmt Flow	22	351	6	6	318	21	9	0	13	1	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	339	0	0	357	0	0	569	749	179	561	742	170
Stage 1	-	-	-	-	-	-	398	398	-	341	341	-
Stage 2	-	-	-	-	-	-	171	351	-	220	401	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.54	6.54	6.94	7.6	6.6	7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.52	4.02	3.32	3.55	4.05	3.35
Pot Cap-1 Maneuver	1203	-	-	1191	-	-	405	339	833	404	336	835
Stage 1	-	-	-	-	-	-	599	601	-	639	630	-
Stage 2	-	-	-	-	-	-	814	631	-	754	592	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1203	-	-	1191	-	-	394	331	833	391	328	835
Mov Cap-2 Maneuver	-	-	-	-	-	-	394	331	-	391	328	-
Stage 1	-	-	-	-	-	-	588	590	-	627	627	-
Stage 2	-	-	-	-	-	-	801	628	-	728	581	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	11.5	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	576	1203	-	-	1191	-	-	391	835
HCM Lane V/C Ratio	0.039	0.018	-	-	0.005	-	-	0.003	0.011
HCM Control Delay (s)	11.5	8	-	-	8	-	-	14.2	9.4
HCM Lane LOS	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0	0

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	8	321	307	65	15	3
Future Volume (vph)	8	321	307	65	15	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.974			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1736	3471	3414	0	1719	1538
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1736	3471	3414	0	1719	1538
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	5%	5%
Adj. Flow (vph)	9	357	341	72	17	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	357	413	0	17	3
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 20.6%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	321	307	65	15	3
Future Vol, veh/h	8	321	307	65	15	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	5	5
Mvmt Flow	9	357	341	72	17	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	413	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.18	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.24	-	-
Pot Cap-1 Maneuver	1128	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1128	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1128	-	-	-	438	790
HCM Lane V/C Ratio	0.008	-	-	-	0.038	0.004
HCM Control Delay (s)	8.2	-	-	-	13.5	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	321	349	88	68	23
Future Volume (vph)	15	321	349	88	68	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.970		0.966	
Flt Protected		0.998			0.964	
Satd. Flow (prot)	0	4930	3367	0	1701	0
Flt Permitted		0.998			0.964	
Satd. Flow (perm)	0	4930	3367	0	1701	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Adj. Flow (vph)	17	357	388	98	76	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	374	486	0	102	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 29.3%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations		↑↑↑	↑↑		↑	
Traffic Vol, veh/h	15	321	349	88	68	23
Future Vol, veh/h	15	321	349	88	68	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	4	4	4	4
Mvmt Flow	17	357	388	98	76	26

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	486	0	0	614	243
Stage 1	-	-	-	437	-
Stage 2	-	-	-	177	-
Critical Hdwy	4.2	-	-	6.33	6.98
Critical Hdwy Stg 1	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	6.08	-
Follow-up Hdwy	2.25	-	-	3.69	3.34
Pot Cap-1 Maneuver	1052	-	-	447	752
Stage 1	-	-	-	593	-
Stage 2	-	-	-	791	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1052	-	-	438	752
Mov Cap-2 Maneuver	-	-	-	438	-
Stage 1	-	-	-	581	-
Stage 2	-	-	-	791	-

Approach	EB	WB	SB

HCM Control Delay, s	0.4	0	14.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	1052	-	-	-	490
HCM Lane V/C Ratio	0.016	-	-	-	0.206
HCM Control Delay (s)	8.5	0	-	-	14.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

No-Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	0	0	0	0	4	217	3	1	233	2
Future Volume (vph)	3	1	0	0	0	0	4	217	3	1	233	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.998			0.999	
Flt Protected		0.964						0.999		0.950		
Satd. Flow (prot)	0	1796	0	0	1863	0	0	1821	0	1752	1843	0
Flt Permitted		0.964						0.999		0.950		
Satd. Flow (perm)	0	1796	0	0	1863	0	0	1821	0	1752	1843	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	3	1	0	0	0	0	4	241	3	1	259	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	0	0	0	248	0	1	261	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 24.8%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	0	0	0	0	4	217	3	1	233	2
Future Vol, veh/h	3	1	0	0	0	0	4	217	3	1	233	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	3	3	3
Mvmt Flow	3	1	0	0	0	0	4	241	3	1	259	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	513	514	260	514	514	243	261	0	0	244	0	0
Stage 1	262	262	-	251	251	-	-	-	-	-	-	-
Stage 2	251	252	-	263	263	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	472	464	779	471	464	796	1292	-	-	1316	-	-
Stage 1	743	691	-	753	699	-	-	-	-	-	-	-
Stage 2	753	698	-	742	691	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	470	462	779	469	462	796	1292	-	-	1316	-	-
Mov Cap-2 Maneuver	470	462	-	469	462	-	-	-	-	-	-	-
Stage 1	740	690	-	750	696	-	-	-	-	-	-	-
Stage 2	750	695	-	740	690	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	0	0.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1292	-	-	468	-	1316	-
HCM Lane V/C Ratio	0.003	-	-	0.009	-	0.001	-
HCM Control Delay (s)	7.8	0	-	12.8	0	7.7	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

University Place TIA
302: Willow Ave & UPlace Access #7

No-Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	11	0	4	6	198	16	12	223	3
Future Volume (vph)	2	0	2	11	0	4	6	198	16	12	223	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932				0.850		0.989			0.998	
Flt Protected		0.976			0.950		0.950			0.950		
Satd. Flow (prot)	0	1694	0	0	1641	1468	1752	1824	0	1752	1841	0
Flt Permitted		0.976			0.950		0.950			0.950		
Satd. Flow (perm)	0	1694	0	0	1641	1468	1752	1824	0	1752	1841	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	2	0	2	12	0	4	7	220	18	13	248	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	12	4	7	238	0	13	251	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.1%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.8

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

Lane Configurations												
Traffic Vol, veh/h	2	0	2	11	0	4	6	198	16	12	223	3
Future Vol, veh/h	2	0	2	11	0	4	6	198	16	12	223	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	3	3	3
Mvmt Flow	2	0	2	12	0	4	7	220	18	13	248	3

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	521	528	250	520	520	229	251	0
Stage 1	276	276	-	243	243	-	-	-
Stage 2	245	252	-	277	277	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.13	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.227	-
Pot Cap-1 Maneuver	466	456	789	454	449	791	1309	-
Stage 1	730	682	-	743	690	-	-	-
Stage 2	759	698	-	712	667	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	458	449	789	448	442	791	1309	-
Mov Cap-2 Maneuver	458	449	-	448	442	-	-	-
Stage 1	726	675	-	739	687	-	-	-
Stage 2	751	695	-	703	660	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	12.3	0.2	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1309	-	-	580 448 791	1323	-	-
HCM Lane V/C Ratio	0.005	-	-	0.008 0.027 0.006	0.01	-	-
HCM Control Delay (s)	7.8	-	-	11.3 13.3 9.6	7.7	-	-
HCM Lane LOS	A	-	-	B B A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1 0	0	-	-

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	82	122	205	109	19	33
Future Volume (vph)	82	122	205	109	19	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.953		0.914	
Flt Protected	0.950				0.982	
Satd. Flow (prot)	1736	1827	1775	0	1609	0
Flt Permitted	0.950				0.982	
Satd. Flow (perm)	1736	1827	1775	0	1609	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		345	318		387	
Travel Time (s)		6.7	6.2		10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	2%	2%	6%	6%
Adj. Flow (vph)	91	136	228	121	21	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	136	349	0	58	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.3%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.2

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	82	122	205	109	19	33
Future Vol, veh/h	82	122	205	109	19	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	2	2	6	6
Mvmt Flow	91	136	228	121	21	37

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	349	0	-	0	607	289
Stage 1	-	-	-	-	289	-
Stage 2	-	-	-	-	318	-
Critical Hdwy	4.14	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.236	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	1199	-	-	-	453	741
Stage 1	-	-	-	-	751	-
Stage 2	-	-	-	-	729	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1199	-	-	-	419	741
Mov Cap-2 Maneuver	-	-	-	-	515	-
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	729	-

Approach EB WB SB

HCM Control Delay, s	3.3	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1199	-	-	-	639
HCM Lane V/C Ratio	0.076	-	-	-	0.09
HCM Control Delay (s)	8.2	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	93	48	50	265	49	35
Future Volume (vph)	93	48	50	265	49	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.954					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1726	0	1770	1863	1736	1553
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1726	0	1770	1863	1736	1553
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	4%	4%
Adj. Flow (vph)	103	53	56	294	54	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	0	56	294	54	39
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 24.5%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	93	48	50	265	49	35
Future Vol, veh/h	93	48	50	265	49	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	103	53	56	294	54	39

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	156
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1424
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1424
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	545	914	-	-	1424	-
HCM Lane V/C Ratio	0.1	0.043	-	-	0.039	-
HCM Control Delay (s)	12.3	9.1	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	116	12	57	309	6	34
Future Volume (vph)	116	12	57	309	6	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1788	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1788	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Adj. Flow (vph)	129	13	63	343	7	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	142	0	63	343	7	38
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 26.3%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	116	12	57	309	6	34
Future Vol, veh/h	116	12	57	309	6	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	129	13	63	343	7	38

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	142
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1441
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1441
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	441	913	-	-	1441	-
HCM Lane V/C Ratio	0.015	0.041	-	-	0.044	-
HCM Control Delay (s)	13.3	9.1	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

No-Build (2024) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	103	12	360	5	12	9	502	1759	9	17	1584	97
Future Volume (vph)	103	12	360	5	12	9	502	1759	9	17	1584	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.953			0.999				0.850
Flt Protected		0.957			0.990		0.950			0.950		
Satd. Flow (prot)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Flt Permitted		0.957			0.990		0.950			0.950		
Satd. Flow (perm)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	114	13	400	6	13	10	558	1954	10	19	1760	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	127	400	0	29	0	558	1964	0	19	1760	108
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	25.0	25.0	41.0	20.0	20.0		41.0	120.0		15.0	94.0	25.0
Total Split (%)	13.9%	13.9%	22.8%	11.1%	11.1%		22.8%	66.7%		8.3%	52.2%	13.9%
Maximum Green (s)	18.4	18.4	34.3	13.3	13.3		34.3	113.9		8.5	87.9	18.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		17.4	54.4		9.5		35.9	131.8		9.4	99.8	122.3
Actuated g/C Ratio		0.10	0.30		0.05		0.20	0.73		0.05	0.55	0.68
v/c Ratio		0.74	0.48		0.34		0.82	0.76		0.21	0.90	0.10
Control Delay		103.1	41.5		92.7		79.0	20.0		76.4	33.7	8.3

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		103.1	41.5		92.7		79.0	20.0		76.4	33.7	8.3
LOS		F	D		F		E	B		E	C	A
Approach Delay		56.3			92.7			33.0			32.6	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)		147	184		34		327	830		0	402	22
Queue Length 95th (ft)		226	219		73		393	1008		m29	#1255	m31
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		198	868		135		718	2588		98	1962	1097
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.64	0.46		0.21		0.78	0.76		0.19	0.90	0.10

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 68 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 35.7

Intersection LOS: D

Intersection Capacity Utilization 83.6%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	98	0	1871	1600	85
Future Volume (vph)	0	98	0	1871	1600	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Flt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	109	0	2079	1778	94
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	109	0	2079	1778	94
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 57.0%

ICU Level of Service B

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	98	0	1871	1600	85
Future Vol, veh/h	0	98	0	1871	1600	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	109	0	2079	1778	94

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	889	-
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	286	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	286	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 286	-
HCM Lane V/C Ratio	- 0.381	-
HCM Control Delay (s)	- 25.1	-
HCM Lane LOS	- D	-
HCM 95th %tile Q(veh)	- 1.7	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

No-Build (2024) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	257	102	34	35	42	23	53	1782	36	35	1616	267
Future Volume (vph)	257	102	34	35	42	23	53	1782	36	35	1616	267
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.962			0.947			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1801	0	1744	1738	0	1778	3546	0	1778	3557	1591
Flt Permitted	0.610			0.504			0.041			0.037		
Satd. Flow (perm)	1142	1801	0	925	1738	0	77	3546	0	69	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	286	113	38	39	47	26	59	1980	40	39	1796	297
Shared Lane Traffic (%)												
Lane Group Flow (vph)	286	151	0	39	73	0	59	2020	0	39	1796	297
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	35.0	43.0		15.0	23.0		15.0	107.0		15.0	107.0	35.0
Total Split (%)	19.4%	23.9%		8.3%	12.8%		8.3%	59.4%		8.3%	59.4%	19.4%
Maximum Green (s)	28.7	36.6		9.1	16.6		8.9	100.9		9.4	100.9	28.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	41.5	35.3		42.5	13.3		118.5	111.5		119.5	109.8	142.8
Actuated g/C Ratio	0.23	0.20		0.24	0.07		0.66	0.62		0.66	0.61	0.79
v/c Ratio	0.79	0.43		0.15	0.57		0.45	0.92		0.29	0.83	0.24
Control Delay	74.7	67.5		49.8	97.1		44.3	24.2		28.9	22.2	2.9

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

No-Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	1.0	0.0
Total Delay	74.7	67.5		49.8	97.1		44.3	24.2		28.9	23.1	2.9
LOS	E	E		D	F		D	C		C	C	A
Approach Delay		72.3			80.6			24.8			20.4	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	298	159		35	85		13	1177		12	655	39
Queue Length 95th (ft)	391	233		68	142		m38	#1417		m16	696	m50
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	378	380		268	173		145	2196		140	2170	1278
Starvation Cap Reductn	0	0		0	0		0	0		0	159	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.76	0.40		0.15	0.42		0.41	0.92		0.28	0.89	0.23

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 65 (36%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 28.5
 Intersection Capacity Utilization 83.0%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave



University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

No-Build (2024) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	15	228	133	20	3	230	1660	172	12	1557	150
Future Volume (vph)	119	15	228	133	20	3	230	1660	172	12	1557	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1835	1560	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.049			0.078		
Satd. Flow (perm)	1744	1835	1560	3400	1845	1568	91	3539	1568	144	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		967			755			783			1413	
Travel Time (s)		18.8			14.7			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	132	17	253	148	22	3	256	1844	191	13	1730	167
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	17	253	148	22	3	256	1844	191	13	1730	167
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	19.0	44.0	26.2	15.6	40.6	13.4	26.2	107.0	15.6	13.4	94.2	19.0
Total Split (%)	10.6%	24.4%	14.6%	8.7%	22.6%	7.4%	14.6%	59.4%	8.7%	7.4%	52.3%	10.6%
Maximum Green (s)	12.6	37.5	19.9	9.0	34.1	7.0	19.9	100.5	9.0	7.0	87.7	12.6
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	14.0	11.1	42.9	12.0	9.1	14.1	142.3	139.3	155.3	144.3	110.1	129.1
Actuated g/C Ratio	0.08	0.06	0.24	0.07	0.05	0.08	0.79	0.77	0.86	0.80	0.61	0.72
v/c Ratio	0.98	0.15	0.68	0.65	0.24	0.02	0.69	0.67	0.14	0.07	0.80	0.15
Control Delay	151.1	81.7	70.6	96.1	88.2	55.0	75.3	4.5	1.6	10.4	31.1	11.1

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

No-Build (2024) PM
01/15/2021

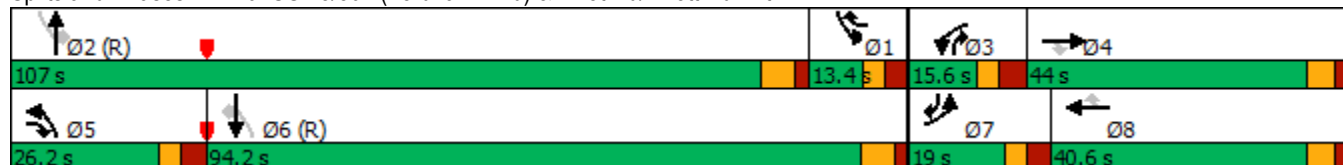
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.5	0.0
Total Delay	151.1	81.7	70.6	96.1	88.2	55.0	75.3	4.8	1.6	10.4	31.6	11.1
LOS	F	F	E	F	F	D	E	A	A	B	C	B
Approach Delay		97.5			94.4			12.4			29.7	
Approach LOS		F			F			B			C	
Queue Length 50th (ft)	159	19	263	90	26	3	246	187	18	5	569	58
Queue Length 95th (ft)	#311	48	351	#142	60	13	m284	223	m21	m7	673	m80
Internal Link Dist (ft)		887			675			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	135	397	371	226	364	122	372	2738	1352	190	2165	1135
Starvation Cap Reductn	0	0	0	0	0	0	0	293	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	127	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.04	0.68	0.65	0.06	0.02	0.69	0.75	0.14	0.07	0.85	0.15

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 79 (44%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 29.4
Intersection Capacity Utilization 81.5%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
ICU Level of Service D

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext



University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

No-Build (2024) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	94	88	220	116	90	107	1548	127	134	1487	18
Future Volume (vph)	109	94	88	220	116	90	107	1548	127	134	1487	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.927			0.934				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1727	0	3433	1740	0	1770	3539	1583	1770	3532	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1727	0	3433	1740	0	1770	3539	1583	1770	3532	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	121	104	98	244	129	100	119	1720	141	149	1652	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	202	0	244	229	0	119	1720	141	149	1672	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	26.0	30.0		35.0	39.0		26.0	92.0		23.0	89.0	
Total Split (%)	14.4%	16.7%		19.4%	21.7%		14.4%	51.1%		12.8%	49.4%	
Maximum Green (s)	19.6	23.1		28.2	32.3		19.2	85.2		16.3	82.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	17.3	27.9		19.9	30.5		18.8	93.3	180.0	18.9	93.4	
Actuated g/C Ratio	0.10	0.16		0.11	0.17		0.10	0.52	1.00	0.10	0.52	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.71	0.76		0.64	0.78		0.64	0.94	0.09	0.80	0.91	
Control Delay	100.7	90.5		84.5	89.7		101.8	39.9	0.1	107.0	48.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	100.7	90.5		84.5	89.7		101.8	39.9	0.1	107.0	48.8	
LOS	F	F		F	F		F	D	A	F	D	
Approach Delay		94.3			87.0			40.8			53.6	
Approach LOS		F			F			D			D	
Queue Length 50th (ft)	141	230		144	261		135	1131	0	171	968	
Queue Length 95th (ft)	216	328		190	361		m197	m#1271	m0	#309	#1225	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	206	275		572	328		208	1833	1583	191	1831	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.59	0.73		0.43	0.70		0.57	0.94	0.09	0.78	0.91	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 102 (57%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 54.4

Intersection LOS: D

Intersection Capacity Utilization 84.5%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

No-Build (2024) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	344	95	208	364	224	62	763	170	98	662	379
Future Volume (vph)	318	344	95	208	364	224	62	763	170	98	662	379
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.967				0.850		0.973			0.945	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1810	0	1725	1816	1544	1743	3392	0	1778	3361	0
Flt Permitted	0.950			0.168			0.950			0.950		
Satd. Flow (perm)	1778	1810	0	305	1816	1544	1743	3392	0	1778	3361	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	353	382	106	231	404	249	69	848	189	109	736	421
Shared Lane Traffic (%)												
Lane Group Flow (vph)	353	488	0	231	404	249	69	1037	0	109	1157	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	40.0	53.0		20.0	33.0	20.0	15.0	57.0		20.0	62.0	
Total Split (%)	26.7%	35.3%		13.3%	22.0%	13.3%	10.0%	38.0%		13.3%	41.3%	
Maximum Green (s)	34.1	47.1		14.4	27.1	14.1	8.8	51.3		14.1	56.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	32.7	49.7		65.0	32.3	50.4	9.4	51.9		13.1	55.6	
Actuated g/C Ratio	0.22	0.33		0.43	0.22	0.34	0.06	0.35		0.09	0.37	
v/c Ratio	0.91	0.81		0.84	1.04	0.48	0.63	0.88		0.70	0.93	
Control Delay	85.1	58.6		56.6	108.4	42.7	93.4	56.3		90.1	58.7	

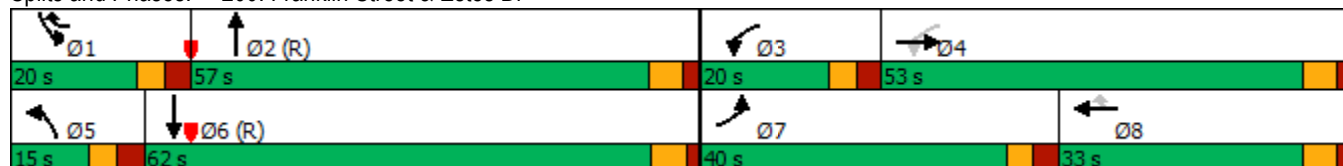
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	85.1	58.6		56.6	108.4	42.7	93.4	56.3		90.1	58.7	
LOS	F	E		E	F	D	F	E		F	E	
Approach Delay		69.7			76.3			58.6			61.4	
Approach LOS		E			E			E			E	
Queue Length 50th (ft)	333	446		161	~451	191	67	498		105	561	
Queue Length 95th (ft)	#500	#628		#263	#701	265	#130	598		173	#673	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	414	600		279	390	538	116	1179		177	1277	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.85	0.81		0.83	1.04	0.46	0.59	0.88		0.62	0.91	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 104 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.04
 Intersection Signal Delay: 65.6
 Intersection Capacity Utilization 89.7%
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Intersection LOS: E
 ICU Level of Service E

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

No-Build (2024) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	292	317	3	12	417	36	6	8	7	73	8	373
Future Volume (vph)	292	317	3	12	417	36	6	8	7	73	8	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.988			0.955				0.850
Flt Protected	0.950			0.950				0.986			0.957	
Satd. Flow (prot)	1770	3536	0	1770	3497	0	0	1754	0	0	1774	1575
Flt Permitted	0.950			0.539				0.893			0.730	
Satd. Flow (perm)	1770	3536	0	1004	3497	0	0	1589	0	0	1353	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	324	352	3	13	463	40	7	9	8	81	9	414
Shared Lane Traffic (%)												
Lane Group Flow (vph)	324	355	0	13	503	0	0	24	0	0	90	414
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	13.2	15.7		21.4	21.4		30.6	30.6		12.9	12.9	13.2
Total Split (s)	20.0	46.0		26.0	26.0		29.0	29.0		29.0	29.0	20.0
Total Split (%)	26.7%	61.3%		34.7%	34.7%		38.7%	38.7%		38.7%	38.7%	26.7%
Maximum Green (s)	13.8	40.3		20.6	20.6		23.4	23.4		23.1	23.1	13.8
Yellow Time (s)	3.0	3.7		3.9	3.9		3.6	3.6		3.9	3.9	3.0
All-Red Time (s)	3.2	2.0		1.5	1.5		2.0	2.0		2.0	2.0	3.2
Lost Time Adjust (s)	-1.2	-0.7		-0.4	-0.4			-0.6			-0.9	-0.9
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				9.0	9.0		18.0	18.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	20.1	58.0		31.9	31.9			10.5			10.6	32.8
Actuated g/C Ratio	0.27	0.77		0.43	0.43			0.14			0.14	0.44
v/c Ratio	0.68	0.13		0.03	0.34			0.11			0.47	0.60
Control Delay	31.7	4.6		18.2	17.8			27.5			37.2	18.6

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

No-Build (2024) PM
01/15/2021

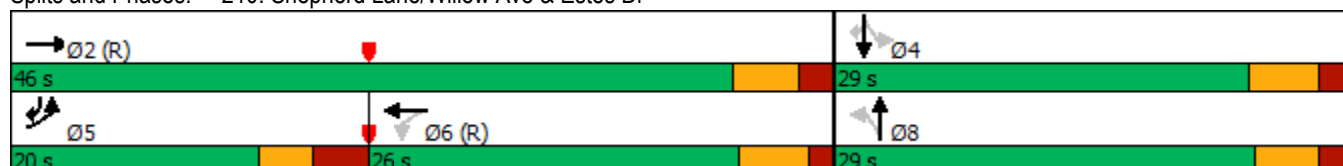
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	31.7	4.6		18.2	17.8			27.5			37.2	18.6
LOS	C	A		B	B			C			D	B
Approach Delay		17.5			17.8			27.5			22.0	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	187	48		4	84			10			39	132
Queue Length 95th (ft)	m288	m65		17	148			28			77	162
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	473	2734		427	1489			508			432	688
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.68	0.13		0.03	0.34			0.05			0.21	0.60

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 61 (81%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.68
 Intersection Signal Delay: 19.0
 Intersection Capacity Utilization 54.4%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 		 	
Traffic Volume (vph)	3	394	459	2	0	6
Future Volume (vph)	3	394	459	2	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.999		0.865	
Flt Protected						
Satd. Flow (prot)	0	3505	3536	0	1611	0
Flt Permitted						
Satd. Flow (perm)	0	3505	3536	0	1611	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	3	438	510	2	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	441	512	0	7	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 23.0%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↑↑	↑↑		↑	
Traffic Vol, veh/h	3	394	459	2	0	6
Future Vol, veh/h	3	394	459	2	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	3	438	510	2	0	7

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	512	0	-	0	736	256
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	225	-
Critical Hdwy	4.16	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.23	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1043	-	-	-	354	743
Stage 1	-	-	-	-	567	-
Stage 2	-	-	-	-	791	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1043	-	-	-	353	743
Mov Cap-2 Maneuver	-	-	-	-	353	-
Stage 1	-	-	-	-	565	-
Stage 2	-	-	-	-	791	-

Approach EB WB SB

HCM Control Delay, s	0.1	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1043	-	-	-	743
HCM Lane V/C Ratio	0.003	-	-	-	0.009
HCM Control Delay (s)	8.5	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

No-Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	337	1	7	412	62	2	0	6	35	0	47
Future Volume (vph)	56	337	1	7	412	62	2	0	6	35	0	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.980			0.895				0.850
Flt Protected	0.950			0.950				0.989			0.950	
Satd. Flow (prot)	1770	3539	0	1770	3468	0	0	1649	0	0	1770	1583
Flt Permitted	0.950			0.950				0.989			0.950	
Satd. Flow (perm)	1770	3539	0	1770	3468	0	0	1649	0	0	1770	1583
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	62	374	1	8	458	69	2	0	7	39	0	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	375	0	8	527	0	0	9	0	0	39	52
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 32.8%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	337	1	7	412	62	2	0	6	35	0	47
Future Vol, veh/h	56	337	1	7	412	62	2	0	6	35	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	374	1	8	458	69	2	0	7	39	0	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	527	0	0	375	0	0	744	1042	188	820	1008	264
Stage 1	-	-	-	-	-	-	499	499	-	509	509	-
Stage 2	-	-	-	-	-	-	245	543	-	311	499	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1036	-	-	1180	-	-	303	228	822	267	239	734
Stage 1	-	-	-	-	-	-	522	542	-	515	536	-
Stage 2	-	-	-	-	-	-	737	518	-	674	542	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1036	-	-	1180	-	-	267	213	822	252	223	734
Mov Cap-2 Maneuver	-	-	-	-	-	-	267	213	-	252	223	-
Stage 1	-	-	-	-	-	-	491	509	-	484	532	-
Stage 2	-	-	-	-	-	-	680	514	-	629	509	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.1	11.8	15.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	541	1036	-	-	1180	-	-	252	734
HCM Lane V/C Ratio	0.016	0.06	-	-	0.007	-	-	0.154	0.071
HCM Control Delay (s)	11.8	8.7	-	-	8.1	-	-	21.9	10.3
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	0.5	0.2

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	21	357	458	118	66	23
Future Volume (vph)	21	357	458	118	66	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.969			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3429	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3429	0	1770	1583
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	23	397	509	131	73	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	397	640	0	73	26
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	357	458	118	66	23
Future Vol, veh/h	21	357	458	118	66	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	397	509	131	73	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	640	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	940	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	940	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	940	-	-	-	305	676
HCM Lane V/C Ratio	0.025	-	-	-	0.24	0.038
HCM Control Delay (s)	8.9	-	-	-	20.5	10.5
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		  	  		  	
Traffic Volume (vph)	18	405	542	69	70	34
Future Volume (vph)	18	405	542	69	70	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.983		0.956	
Flt Protected		0.998			0.967	
Satd. Flow (prot)	0	5026	3479	0	1722	0
Flt Permitted		0.998			0.967	
Satd. Flow (perm)	0	5026	3479	0	1722	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	20	450	602	77	78	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	470	679	0	116	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 33.9%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations 

Traffic Vol, veh/h	18	405	542	69	70	34

Future Vol, veh/h	18	405	542	69	70	34

Conflicting Peds, #/hr	0	0	0	0	0	0

Sign Control	Free	Free	Free	Free	Stop	Stop

RT Channelized	-	None	-	None	-	None

Storage Length	-	-	-	-	0	-

Veh in Median Storage, #	-	0	0	-	0	-

Grade, %	-	0	0	-	0	-

Peak Hour Factor	90	90	90	90	90	90

Heavy Vehicles, %	3	3	2	2	2	2

Mvmt Flow	20	450	602	77	78	38

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	679	0	0	861	340

Stage 1	-	-	-	641	-

Stage 2	-	-	-	220	-

Critical Hdwy	4.16	-	-	6.29	6.94

Critical Hdwy Stg 1	-	-	-	5.84	-

Critical Hdwy Stg 2	-	-	-	6.04	-

Follow-up Hdwy	2.23	-	-	3.67	3.32

Pot Cap-1 Maneuver	902	-	-	327	656

Stage 1	-	-	-	472	-

Stage 2	-	-	-	757	-

Platoon blocked, %	-	-	-	-	-

Mov Cap-1 Maneuver	902	-	-	317	656

Mov Cap-2 Maneuver	-	-	-	317	-

Stage 1	-	-	-	458	-

Stage 2	-	-	-	757	-

Approach	EB	WB	SB

HCM Control Delay, s	0.5	0	18.5

HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	902	-	-	-	381

HCM Lane V/C Ratio	0.022	-	-	-	0.303

HCM Control Delay (s)	9.1	0.1	-	-	18.5

HCM Lane LOS	A	A	-	-	C

HCM 95th %tile Q(veh)	0.1	-	-	-	1.3

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

No-Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	6	1	0	0	6	321	9	0	447	3
Future Volume (vph)	3	0	6	1	0	0	6	321	9	0	447	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.905						0.996			0.999	
Flt Protected		0.985			0.950			0.999				
Satd. Flow (prot)	0	1660	0	0	1770	0	0	1853	0	1863	1861	0
Flt Permitted		0.985			0.950			0.999				
Satd. Flow (perm)	0	1660	0	0	1770	0	0	1853	0	1863	1861	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	0	7	1	0	0	7	357	10	0	497	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	1	0	0	374	0	0	500	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.7%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	6	1	0	0	6	321	9	0	447	3
Future Vol, veh/h	3	0	6	1	0	0	6	321	9	0	447	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	7	1	0	0	7	357	10	0	497	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	875	880	499	878	876	362	500	0	0	367	0	0
Stage 1	499	499	-	376	376	-	-	-	-	-	-	-
Stage 2	376	381	-	502	500	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	270	286	572	268	287	683	1064	-	-	1192	-	-
Stage 1	554	544	-	645	616	-	-	-	-	-	-	-
Stage 2	645	613	-	552	543	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	268	284	572	263	285	683	1064	-	-	1192	-	-
Mov Cap-2 Maneuver	268	284	-	263	285	-	-	-	-	-	-	-
Stage 1	550	544	-	640	611	-	-	-	-	-	-	-
Stage 2	640	608	-	546	543	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	18.7	0.2	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1064	-	-	415 263	1192	-	-
HCM Lane V/C Ratio	0.006	-	-	0.024 0.004	-	-	-
HCM Control Delay (s)	8.4	0	-	13.9 18.7	0	-	-
HCM Lane LOS	A	A	-	B C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0	0	-	-

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1	4	51	0	21	4	266	54	29	395	5
Future Volume (vph)	4	1	4	51	0	21	4	266	54	29	395	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940				0.850		0.975			0.998	
Flt Protected		0.978			0.950		0.950			0.950		
Satd. Flow (prot)	0	1712	0	0	1687	1509	1770	1816	0	1770	1859	0
Flt Permitted		0.978			0.950		0.950			0.950		
Satd. Flow (perm)	0	1712	0	0	1687	1509	1770	1816	0	1770	1859	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	4	1	4	57	0	23	4	296	60	32	439	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	57	23	4	356	0	32	445	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 36.3%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.1

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

Lane Configurations												
Traffic Vol, veh/h	4	1	4	51	0	21	4	266	54	29	395	5
Future Vol, veh/h	4	1	4	51	0	21	4	266	54	29	395	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	7	7	7	2	2	2	2	2	2
Mvmt Flow	4	1	4	57	0	23	4	296	60	32	439	6

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	852	870	442	843	843	326	445	0
Stage 1	506	506	-	334	334	-	-	-
Stage 2	346	364	-	509	509	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.57	6.27	4.12	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.57	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.57	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.063	3.363	2.218	-
Pot Cap-1 Maneuver	280	290	615	278	295	704	1115	-
Stage 1	549	540	-	669	634	-	-	-
Stage 2	670	624	-	538	530	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	265	281	615	269	286	704	1115	-
Mov Cap-2 Maneuver	265	281	-	269	286	-	-	-
Stage 1	547	525	-	666	631	-	-	-
Stage 2	645	622	-	519	516	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	18.5	0.1	0.5
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1115	-	-	358 269 704	1203	-	-
HCM Lane V/C Ratio	0.004	-	-	0.028 0.211 0.033	0.027	-	-
HCM Control Delay (s)	8.2	-	-	15.3 21.9 10.3	8.1	-	-
HCM Lane LOS	A	-	-	C C B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.8 0.1	0.1	-	-

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	43	248	311	45	89	118
Future Volume (vph)	43	248	311	45	89	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.983		0.923	
Flt Protected	0.950				0.979	
Satd. Flow (prot)	1770	1863	1831	0	1683	0
Flt Permitted	0.950				0.979	
Satd. Flow (perm)	1770	1863	1831	0	1683	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		345	318		387	
Travel Time (s)		6.7	6.2		10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	48	276	346	50	99	131
Shared Lane Traffic (%)						
Lane Group Flow (vph)	48	276	396	0	230	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 44.6%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 4.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	43	248	311	45	89	118
Future Vol, veh/h	43	248	311	45	89	118
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	48	276	346	50	99	131

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	396	0	-	0	743	371
Stage 1	-	-	-	-	371	-
Stage 2	-	-	-	-	372	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1163	-	-	-	383	675
Stage 1	-	-	-	-	698	-
Stage 2	-	-	-	-	697	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1163	-	-	-	367	675
Mov Cap-2 Maneuver	-	-	-	-	479	-
Stage 1	-	-	-	-	669	-
Stage 2	-	-	-	-	697	-

Approach EB WB SB

HCM Control Delay, s	1.2	0	15.4
HCM LOS			C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1163	-	-	-	574
HCM Lane V/C Ratio	0.041	-	-	-	0.401
HCM Control Delay (s)	8.2	-	-	-	15.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.9

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	212	125	61	213	143	107
Future Volume (vph)	212	125	61	213	143	107
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.950					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1770	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1770	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	236	139	68	237	159	119
Shared Lane Traffic (%)						
Lane Group Flow (vph)	375	0	68	237	159	119
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 40.1%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	212	125	61	213	143	107
Future Vol, veh/h	212	125	61	213	143	107
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	236	139	68	237	159	119

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	375
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1183
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1183
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	496	734	-	-	1183	-
HCM Lane V/C Ratio	0.32	0.162	-	-	0.057	-
HCM Control Delay (s)	15.6	10.9	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.4	0.6	-	-	0.2	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	318	1	98	264	10	75
Future Volume (vph)	318	1	98	264	10	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1863	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1863	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	353	1	109	293	11	83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	354	0	109	293	11	83
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 35.6%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	318	1	98	264	10	75
Future Vol, veh/h	318	1	98	264	10	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	353	1	109	293	11	83

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	354
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.12	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.218	-
Pot Cap-1 Maneuver	-	1205	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1205	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	295	690	-	-	1205	-
HCM Lane V/C Ratio	0.038	0.121	-	-	0.09	-
HCM Control Delay (s)	17.7	10.9	-	-	8.3	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0.3	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

No-Build (2026) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	8	324	5	8	9	352	1710	3	7	1787	79
Future Volume (vph)	58	8	324	5	8	9	352	1710	3	7	1787	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.946							0.850
Flt Protected		0.958			0.988		0.950			0.950		
Satd. Flow (prot)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Flt Permitted		0.958			0.988		0.950			0.950		
Satd. Flow (perm)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	9%	9%	9%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	64	9	360	6	9	10	391	1900	3	8	1986	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	360	0	25	0	391	1903	0	8	1986	88
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	22.0	22.0	37.0	20.0	20.0		37.0	123.0		15.0	101.0	22.0
Total Split (%)	12.2%	12.2%	20.6%	11.1%	11.1%		20.6%	68.3%		8.3%	56.1%	12.2%
Maximum Green (s)	15.4	15.4	30.3	13.3	13.3		30.3	116.9		8.5	94.9	15.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		13.6	46.6		9.3		28.0	141.6		9.1	114.6	130.2
Actuated g/C Ratio		0.08	0.26		0.05		0.16	0.79		0.05	0.64	0.72
v/c Ratio		0.56	0.51		0.30		0.74	0.69		0.09	0.89	0.08
Control Delay		95.8	58.8		91.5		81.1	13.9		76.7	25.5	3.1

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		95.8	58.8		91.5		81.1	13.9		76.7	25.5	3.1
LOS		F	E		F		F	B		E	C	A
Approach Delay		65.0			91.5			25.3			24.8	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)		85	207		29		229	476		9	796	12
Queue Length 95th (ft)		142	247		66		280	917		m11	#1465	m20
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		166	767		135		612	2757		97	2232	1166
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.44	0.47		0.19		0.64	0.69		0.08	0.89	0.08

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 29.0
Intersection Capacity Utilization 82.2%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
ICU Level of Service E

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

 Ø2 (R)	 Ø1	 Ø4	 Ø3
123 s	15 s	20 s	22 s
 Ø5	 Ø6 (R)		
37 s	101 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	32	0	1777	1841	49
Future Volume (vph)	0	32	0	1777	1841	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1596	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1596	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	36	0	1974	2046	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	36	0	1974	2046	54
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 60.9%

ICU Level of Service B

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	32	0	1777	1841	49
Future Vol, veh/h	0	32	0	1777	1841	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	36	0	1974	2046	54

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 1023	-	0 -
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	- 6.96	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	- 3.33	-	-
Pot Cap-1 Maneuver	0 231	0	-
Stage 1	0	0	-
Stage 2	0	0	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	- 231	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	23.4	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 231	-
HCM Lane V/C Ratio	- 0.154	-
HCM Control Delay (s)	- 23.4	-
HCM Lane LOS	- C	-
HCM 95th %tile Q(veh)	- 0.5	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

No-Build (2026) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	96	38	18	62	45	28	51	1679	47	13	1810	272
Future Volume (vph)	96	38	18	62	45	28	51	1679	47	13	1810	272
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.952			0.943			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1748	0	1761	1748	0	1778	3543	0	1778	3557	1591
Flt Permitted	0.563			0.687			0.041			0.059		
Satd. Flow (perm)	1034	1748	0	1273	1748	0	77	3543	0	110	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	107	42	20	69	50	31	57	1866	52	14	2011	302
Shared Lane Traffic (%)												
Lane Group Flow (vph)	107	62	0	69	81	0	57	1918	0	14	2011	302
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	21.0	39.0		15.0	33.0		15.0	111.0		15.0	111.0	21.0
Total Split (%)	11.7%	21.7%		8.3%	18.3%		8.3%	61.7%		8.3%	61.7%	11.7%
Maximum Green (s)	14.7	32.6		9.1	26.6		8.9	104.9		9.4	104.9	14.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	28.3	18.8		28.3	14.1		132.7	131.6		134.7	125.4	144.4
Actuated g/C Ratio	0.16	0.10		0.16	0.08		0.74	0.73		0.75	0.70	0.80
v/c Ratio	0.49	0.34		0.31	0.59		0.41	0.74		0.09	0.81	0.24
Control Delay	70.2	78.2		64.0	96.8		37.3	7.2		5.1	11.4	1.8

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

No-Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.6	0.0
Total Delay	70.2	78.2		64.0	96.8		37.3	7.2		5.1	12.0	1.8
LOS	E	E		E	F		D	A		A	B	A
Approach Delay		73.1			81.7			8.1			10.6	
Approach LOS		E			F			A			B	
Queue Length 50th (ft)	111	69		70	94		9	193		2	272	25
Queue Length 95th (ft)	169	119		116	153		m0	96		m3	740	m30
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	235	330		230	271		154	2590		175	2478	1292
Starvation Cap Reductn	0	0		0	0		0	0		0	174	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.46	0.19		0.30	0.30		0.37	0.74		0.08	0.87	0.23

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 177 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 14.1
Intersection Capacity Utilization 70.4%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service C
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave

 Ø1		 Ø2 (R)									
15 s	111 s		15 s	39 s		15 s	39 s		15 s	39 s	
 Ø5		 Ø6 (R)									
15 s	111 s		21 s	33 s		21 s	33 s		21 s	33 s	

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

No-Build (2026) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	10	134	125	15	15	140	1533	130	2	1836	75
Future Volume (vph)	27	10	134	125	15	15	140	1533	130	2	1836	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1710	1835	1530	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.035			0.104		
Satd. Flow (perm)	1710	1835	1530	3400	1845	1568	65	3539	1568	192	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		958			778			783			1413	
Travel Time (s)		18.7			15.2			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	3%	5%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	30	11	149	139	17	17	156	1703	144	2	2040	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	11	149	139	17	17	156	1703	144	2	2040	83
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	13.6	43.5	16.7	13.6	43.5	13.4	16.7	109.5	13.6	13.4	106.2	13.6
Total Split (%)	7.6%	24.2%	9.3%	7.6%	24.2%	7.4%	9.3%	60.8%	7.6%	7.4%	59.0%	7.6%
Maximum Green (s)	7.2	37.0	10.4	7.0	37.0	7.0	10.4	103.0	7.0	7.0	99.7	7.2
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	8.6	8.8	26.8	11.3	8.8	16.8	148.0	145.0	163.3	150.0	126.9	140.5
Actuated g/C Ratio	0.05	0.05	0.15	0.06	0.05	0.09	0.82	0.81	0.91	0.83	0.70	0.78
v/c Ratio	0.37	0.12	0.65	0.65	0.19	0.12	0.62	0.60	0.10	0.01	0.82	0.07
Control Delay	96.3	84.8	84.3	95.2	87.0	72.7	67.2	4.6	1.0	3.0	9.4	1.7

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

No-Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0
Total Delay	96.3	84.8	84.3	95.2	87.0	72.7	67.2	4.7	1.0	3.0	9.6	1.7
LOS	F	F	F	F	F	E	E	A	A	A	A	A
Approach Delay		86.2			92.2			9.3			9.3	
Approach LOS		F			F			A			A	
Queue Length 50th (ft)	35	13	173	78	20	18	138	180	6	0	236	11
Queue Length 95th (ft)	75	37	235	#153	49	45	m214	196	m18	m0	307	m12
Internal Link Dist (ft)		878			698			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	81	392	228	213	394	146	253	2850	1422	232	2494	1235
Starvation Cap Reductn	0	0	0	0	0	0	0	257	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	72	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.03	0.65	0.65	0.04	0.12	0.62	0.66	0.10	0.01	0.84	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 175 (97%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 15.8
Intersection Capacity Utilization 81.2%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

											
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)		Ø7	Ø8	
13.4 s	109.5 s		13.6 s	43.5 s		16.7 s	106.2 s		13.6 s	43.5 s	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

No-Build (2026) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	76	53	44	191	94	102	75	1396	104	81	1651	7
Future Volume (vph)	76	53	44	191	94	102	75	1396	104	81	1651	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.932			0.922				0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1736	0	3367	1684	0	1770	3539	1583	1770	3536	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1736	0	3367	1684	0	1770	3539	1583	1770	3536	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	84	59	49	212	104	113	83	1551	116	90	1834	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	108	0	212	217	0	83	1551	116	90	1842	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	20.0	20.0		38.0	38.0		20.0	102.0		20.0	102.0	
Total Split (%)	11.1%	11.1%		21.1%	21.1%		11.1%	56.7%		11.1%	56.7%	
Maximum Green (s)	13.6	13.1		31.2	31.3		13.2	95.2		13.3	95.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	13.1	22.7		18.5	28.2		15.0	105.1	180.0	13.6	103.8	
Actuated g/C Ratio	0.07	0.13		0.10	0.16		0.08	0.58	1.00	0.08	0.58	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.66	0.49		0.61	0.83		0.56	0.75	0.07	0.67	0.90	
Control Delay	104.4	80.4		84.8	97.8		76.9	17.8	0.1	104.9	41.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	104.4	80.4		84.8	97.8		76.9	17.8	0.1	104.9	41.9	
LOS	F	F		F	F		E	B	A	F	D	
Approach Delay		90.9			91.4			19.5			44.9	
Approach LOS		F			F			B			D	
Queue Length 50th (ft)	98	119		125	251		97	766	0	105	1019	
Queue Length 95th (ft)	163	190		169	347		155	533	0	173	#1273	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	147	219		617	308		147	2066	1583	148	2038	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.57	0.49		0.34	0.70		0.56	0.75	0.07	0.61	0.90	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 8 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 41.2
Intersection Capacity Utilization 85.4%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: D
ICU Level of Service E

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

No-Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	352	298	55	120	252	80	56	417	85	89	538	213
Future Volume (vph)	352	298	55	120	252	80	56	417	85	89	538	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.977				0.850		0.975			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1811	0	1692	1781	1514	1710	3334	0	1744	3339	0
Flt Permitted	0.950			0.303			0.950			0.950		
Satd. Flow (perm)	1761	1811	0	540	1781	1514	1710	3334	0	1744	3339	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	391	331	61	133	280	89	62	463	94	99	598	237
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	392	0	133	280	89	62	557	0	99	835	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	35.0	35.0		35.0	35.0	20.0	20.0	40.0		20.0	40.0	
Total Split (%)	26.9%	26.9%		26.9%	26.9%	15.4%	15.4%	30.8%		15.4%	30.8%	
Maximum Green (s)	29.1	29.1		29.4	29.1	14.1	13.8	34.3		14.1	34.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.4	44.3		55.3	24.9	42.0	10.0	42.6		12.1	47.4	
Actuated g/C Ratio	0.23	0.34		0.43	0.19	0.32	0.08	0.33		0.09	0.36	
v/c Ratio	0.95	0.64		0.41	0.82	0.18	0.47	0.51		0.61	0.69	
Control Delay	82.8	41.3		25.7	73.7	29.6	69.0	38.8		72.1	40.7	

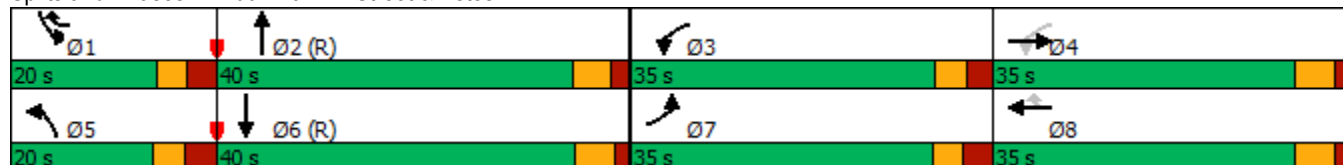
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	82.8	41.3		25.7	73.7	29.6	69.0	38.8		72.1	40.7	
LOS	F	D		C	E	C	E	D		E	D	
Approach Delay		62.0			53.2			41.8			44.1	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	328	277		61	241	54	51	201		81	321	
Queue Length 95th (ft)	#530	384		95	335	76	97	280		140	#465	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	413	616		516	411	522	197	1092		201	1216	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.95	0.64		0.26	0.68	0.17	0.31	0.51		0.49	0.69	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 50.1
 Intersection Capacity Utilization 76.9%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

No-Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	162	306	4	6	245	53	3	9	11	25	5	204
Future Volume (vph)	162	306	4	6	245	53	3	9	11	25	5	204
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.973			0.935				0.850
Flt Protected	0.950			0.950				0.994			0.960	
Satd. Flow (prot)	1736	3464	0	1752	3410	0	0	1715	0	0	1745	1545
Flt Permitted	0.950			0.545				0.951			0.986	
Satd. Flow (perm)	1736	3464	0	1005	3410	0	0	1641	0	0	1792	1545
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	180	340	4	7	272	59	3	10	12	28	6	227
Shared Lane Traffic (%)												
Lane Group Flow (vph)	180	344	0	7	331	0	0	25	0	0	34	227
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	12.1	15.1		22.2	22.2		28.7	28.7		12.8	12.8	12.1
Total Split (s)	18.0	42.0		24.0	24.0		23.0	23.0		23.0	23.0	18.0
Total Split (%)	27.7%	64.6%		36.9%	36.9%		35.4%	35.4%		35.4%	35.4%	27.7%
Maximum Green (s)	12.9	36.9		18.8	18.8		17.3	17.3		17.2	17.2	12.9
Yellow Time (s)	3.0	3.8		3.8	3.8		3.3	3.3		3.8	3.8	3.0
All-Red Time (s)	2.1	1.3		1.4	1.4		2.4	2.4		2.0	2.0	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.2	-0.2			-0.7			-0.8	-0.8
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	4.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				10.0	10.0		16.0	16.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	11.7	57.8		38.1	38.1			7.8			7.9	17.6
Actuated g/C Ratio	0.18	0.89		0.59	0.59			0.12			0.12	0.27
v/c Ratio	0.58	0.11		0.01	0.17			0.13			0.16	0.54
Control Delay	27.0	1.4		10.0	8.5			27.2			27.5	23.3

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

No-Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	27.0	1.4		10.0	8.5			27.2			27.5	23.3
LOS	C	A		A	A			C			C	C
Approach Delay		10.2			8.5			27.2			23.9	
Approach LOS		B			A			C			C	
Queue Length 50th (ft)	94	0		1	23			9			12	83
Queue Length 95th (ft)	114	24		8	68			28			35	102
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	359	3080		589	2000			454			496	460
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.50	0.11		0.01	0.17			0.06			0.07	0.49

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 65
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.58
 Intersection Signal Delay: 13.2
 Intersection Capacity Utilization 38.8%
 Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 		 	
Traffic Volume (vph)	1	341	303	0	1	1
Future Volume (vph)	1	341	303	0	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt					0.932	
Flt Protected					0.976	
Satd. Flow (prot)	0	3438	3505	0	1694	0
Flt Permitted					0.976	
Satd. Flow (perm)	0	3438	3505	0	1694	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	3%	3%	2%	2%
Adj. Flow (vph)	1	379	337	0	1	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	380	337	0	2	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 20.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	1	341	303	0	1	1
Future Vol, veh/h	1	341	303	0	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	3	3	2	2
Mvmt Flow	1	379	337	0	1	1

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	337	0	-	0	529	169
Stage 1	-	-	-	-	337	-
Stage 2	-	-	-	-	192	-
Critical Hdwy	4.2	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.25	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1198	-	-	-	479	845
Stage 1	-	-	-	-	695	-
Stage 2	-	-	-	-	822	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1198	-	-	-	479	845
Mov Cap-2 Maneuver	-	-	-	-	479	-
Stage 1	-	-	-	-	694	-
Stage 2	-	-	-	-	822	-

Approach EB WB SB

HCM Control Delay, s	0	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1198	-	-	-	611
HCM Lane V/C Ratio	0.001	-	-	-	0.004
HCM Control Delay (s)	8	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

No-Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	20	317	5	5	287	19	8	0	12	1	0	8
Future Volume (vph)	20	317	5	5	287	19	8	0	12	1	0	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.991			0.920				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1736	3461	0	1752	3473	0	0	1679	0	0	1719	1538
Flt Permitted	0.950			0.950				0.980			0.950	
Satd. Flow (perm)	1736	3461	0	1752	3473	0	0	1679	0	0	1719	1538
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	22	352	6	6	319	21	9	0	13	1	0	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	358	0	6	340	0	0	22	0	0	1	9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 30.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	317	5	5	287	19	8	0	12	1	0	8
Future Vol, veh/h	20	317	5	5	287	19	8	0	12	1	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	4	3	3	3	2	2	2	5	5	5
Mvmt Flow	22	352	6	6	319	21	9	0	13	1	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	340	0	0	358	0	0	571	751	179	562	744	170
Stage 1	-	-	-	-	-	-	399	399	-	342	342	-
Stage 2	-	-	-	-	-	-	172	352	-	220	402	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.54	6.54	6.94	7.6	6.6	7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.52	4.02	3.32	3.55	4.05	3.35
Pot Cap-1 Maneuver	1202	-	-	1190	-	-	404	338	833	403	335	835
Stage 1	-	-	-	-	-	-	598	601	-	638	629	-
Stage 2	-	-	-	-	-	-	813	630	-	754	591	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1202	-	-	1190	-	-	393	330	833	390	327	835
Mov Cap-2 Maneuver	-	-	-	-	-	-	393	330	-	390	327	-
Stage 1	-	-	-	-	-	-	587	590	-	627	626	-
Stage 2	-	-	-	-	-	-	800	627	-	728	580	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	11.5	9.9
HCM LOS			B	A

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	575	1202	-	-	1190	-	-	390	835
HCM Lane V/C Ratio	0.039	0.018	-	-	0.005	-	-	0.003	0.011
HCM Control Delay (s)	11.5	8.1	-	-	8	-	-	14.3	9.4
HCM Lane LOS	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0	0

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	8	322	308	65	15	3
Future Volume (vph)	8	322	308	65	15	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.974			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1736	3471	3414	0	1719	1538
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1736	3471	3414	0	1719	1538
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	5%	5%
Adj. Flow (vph)	9	358	342	72	17	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	358	414	0	17	3
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 20.6%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	322	308	65	15	3
Future Vol, veh/h	8	322	308	65	15	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	5	5
Mvmt Flow	9	358	342	72	17	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	414	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.18	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.24	-	-
Pot Cap-1 Maneuver	1127	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1127	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1127	-	-	-	437	790
HCM Lane V/C Ratio	0.008	-	-	-	0.038	0.004
HCM Control Delay (s)	8.2	-	-	-	13.6	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	322	350	89	68	23
Future Volume (vph)	15	322	350	89	68	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.970		0.966	
Flt Protected		0.998			0.964	
Satd. Flow (prot)	0	4930	3367	0	1701	0
Flt Permitted		0.998			0.964	
Satd. Flow (perm)	0	4930	3367	0	1701	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Adj. Flow (vph)	17	358	389	99	76	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	375	488	0	102	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 29.3%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations		↑↑↑	↑↑		↑↑	
Traffic Vol, veh/h	15	322	350	89	68	23
Future Vol, veh/h	15	322	350	89	68	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	4	4	4	4
Mvmt Flow	17	358	389	99	76	26

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	488	0	0	616	244
Stage 1	-	-	-	439	-
Stage 2	-	-	-	177	-
Critical Hdwy	4.2	-	-	6.33	6.98
Critical Hdwy Stg 1	-	-	-	5.88	-
Critical Hdwy Stg 2	-	-	-	6.08	-
Follow-up Hdwy	2.25	-	-	3.69	3.34
Pot Cap-1 Maneuver	1051	-	-	445	750
Stage 1	-	-	-	591	-
Stage 2	-	-	-	791	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1051	-	-	436	750
Mov Cap-2 Maneuver	-	-	-	436	-
Stage 1	-	-	-	579	-
Stage 2	-	-	-	791	-

Approach	EB	WB	SB

HCM Control Delay, s	0.4	0	14.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	1051	-	-	-	488
HCM Lane V/C Ratio	0.016	-	-	-	0.207
HCM Control Delay (s)	8.5	0	-	-	14.3
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

No-Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	0	0	0	0	4	217	3	1	234	2
Future Volume (vph)	3	1	0	0	0	0	4	217	3	1	234	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.998			0.999	
Flt Protected		0.964						0.999		0.950		
Satd. Flow (prot)	0	1796	0	0	1863	0	0	1821	0	1752	1843	0
Flt Permitted		0.964						0.999		0.950		
Satd. Flow (perm)	0	1796	0	0	1863	0	0	1821	0	1752	1843	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	3	1	0	0	0	0	4	241	3	1	260	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	0	0	0	248	0	1	262	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 24.8%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	0	0	0	0	4	217	3	1	234	2
Future Vol, veh/h	3	1	0	0	0	0	4	217	3	1	234	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	3	3	3
Mvmt Flow	3	1	0	0	0	0	4	241	3	1	260	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	514	515	261	515	515	243	262	0	0	244	0	0
Stage 1	263	263	-	251	251	-	-	-	-	-	-	-
Stage 2	251	252	-	264	264	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	471	464	778	470	464	796	1291	-	-	1316	-	-
Stage 1	742	691	-	753	699	-	-	-	-	-	-	-
Stage 2	753	698	-	741	690	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	469	462	778	468	462	796	1291	-	-	1316	-	-
Mov Cap-2 Maneuver	469	462	-	468	462	-	-	-	-	-	-	-
Stage 1	739	690	-	750	696	-	-	-	-	-	-	-
Stage 2	750	695	-	739	689	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	0	0.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1291	-	-	467	-	1316	-
HCM Lane V/C Ratio	0.003	-	-	0.01	-	0.001	-
HCM Control Delay (s)	7.8	0	-	12.8	0	7.7	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

University Place TIA
302: Willow Ave & UPlace Access #7

No-Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	11	0	4	6	198	16	12	224	3
Future Volume (vph)	2	0	2	11	0	4	6	198	16	12	224	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932				0.850		0.989			0.998	
Flt Protected		0.976			0.950		0.950			0.950		
Satd. Flow (prot)	0	1694	0	0	1641	1468	1752	1824	0	1752	1841	0
Flt Permitted		0.976			0.950		0.950			0.950		
Satd. Flow (perm)	0	1694	0	0	1641	1468	1752	1824	0	1752	1841	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	2	0	2	12	0	4	7	220	18	13	249	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	12	4	7	238	0	13	252	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.1%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.8

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

Lane Configurations												
Traffic Vol, veh/h	2	0	2	11	0	4	6	198	16	12	224	3
Future Vol, veh/h	2	0	2	11	0	4	6	198	16	12	224	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	3	3	3
Mvmt Flow	2	0	2	12	0	4	7	220	18	13	249	3

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	522	529	251	521
Stage 1	277	277	-	243
Stage 2	245	252	-	278
Critical Hdwy	7.12	6.52	6.22	7.2
Critical Hdwy Stg 1	6.12	5.52	-	6.2
Critical Hdwy Stg 2	6.12	5.52	-	6.2
Follow-up Hdwy	3.518	4.018	3.318	3.59
Pot Cap-1 Maneuver	465	455	788	454
Stage 1	729	681	-	743
Stage 2	759	698	-	711
Platoon blocked, %				
Mov Cap-1 Maneuver	457	448	788	448
Mov Cap-2 Maneuver	457	448	-	448
Stage 1	725	674	-	739
Stage 2	751	695	-	702

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	12.3	0.2	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1307	-	-	578	448	791	1323
HCM Lane V/C Ratio	0.005	-	-	0.008	0.027	0.006	0.01
HCM Control Delay (s)	7.8	-	-	11.3	13.3	9.6	7.7
HCM Lane LOS	A	-	-	B	B	A	A
HCM 95th %tile Q(veh)	0	-	-	0	0.1	0	0

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	82	122	206	110	19	33
Future Volume (vph)	82	122	206	110	19	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.953		0.914	
Flt Protected	0.950				0.982	
Satd. Flow (prot)	1736	1827	1775	0	1609	0
Flt Permitted	0.950				0.982	
Satd. Flow (perm)	1736	1827	1775	0	1609	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		345	318		387	
Travel Time (s)		6.7	6.2		10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	2%	2%	6%	6%
Adj. Flow (vph)	91	136	229	122	21	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	91	136	351	0	58	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.4%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.2

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	82	122	206	110	19	33
Future Vol, veh/h	82	122	206	110	19	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	2	2	6	6
Mvmt Flow	91	136	229	122	21	37

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	351	0	-	0	608	290
Stage 1	-	-	-	-	290	-
Stage 2	-	-	-	-	318	-
Critical Hdwy	4.14	-	-	-	6.46	6.26
Critical Hdwy Stg 1	-	-	-	-	5.46	-
Critical Hdwy Stg 2	-	-	-	-	5.46	-
Follow-up Hdwy	2.236	-	-	-	3.554	3.354
Pot Cap-1 Maneuver	1197	-	-	-	452	740
Stage 1	-	-	-	-	750	-
Stage 2	-	-	-	-	729	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1197	-	-	-	418	740
Mov Cap-2 Maneuver	-	-	-	-	515	-
Stage 1	-	-	-	-	693	-
Stage 2	-	-	-	-	729	-

Approach EB WB SB

HCM Control Delay, s	3.3	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1197	-	-	-	638
HCM Lane V/C Ratio	0.076	-	-	-	0.091
HCM Control Delay (s)	8.3	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.2	-	-	-	0.3

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	93	48	50	267	49	36
Future Volume (vph)	93	48	50	267	49	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.954					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1726	0	1770	1863	1736	1553
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1726	0	1770	1863	1736	1553
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	4%	4%
Adj. Flow (vph)	103	53	56	297	54	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	156	0	56	297	54	40
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 24.5%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	93	48	50	267	49	36
Future Vol, veh/h	93	48	50	267	49	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	103	53	56	297	54	40

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	156
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1424
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1424
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	544	914	-	-	1424	-
HCM Lane V/C Ratio	0.1	0.044	-	-	0.039	-
HCM Control Delay (s)	12.4	9.1	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	117	12	57	311	6	35
Future Volume (vph)	117	12	57	311	6	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1788	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1788	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Adj. Flow (vph)	130	13	63	346	7	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	143	0	63	346	7	39
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 26.4%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	117	12	57	311	6	35
Future Vol, veh/h	117	12	57	311	6	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	130	13	63	346	7	39

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	143
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1440
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1440
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	438	911	-	-	1440	-
HCM Lane V/C Ratio	0.015	0.043	-	-	0.044	-
HCM Control Delay (s)	13.3	9.1	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

No-Build (2026) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	12	361	5	12	9	505	1788	9	17	1614	97
Future Volume (vph)	104	12	361	5	12	9	505	1788	9	17	1614	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.953			0.999				0.850
Flt Protected		0.957			0.990		0.950			0.950		
Satd. Flow (prot)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Flt Permitted		0.957			0.990		0.950			0.950		
Satd. Flow (perm)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	116	13	401	6	13	10	561	1987	10	19	1793	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	129	401	0	29	0	561	1997	0	19	1793	108
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	25.0	25.0	41.0	20.0	20.0		41.0	120.0		15.0	94.0	25.0
Total Split (%)	13.9%	13.9%	22.8%	11.1%	11.1%		22.8%	66.7%		8.3%	52.2%	13.9%
Maximum Green (s)	18.4	18.4	34.3	13.3	13.3		34.3	113.9		8.5	87.9	18.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		17.5	54.6		9.5		36.1	131.7		9.4	99.6	122.1
Actuated g/C Ratio		0.10	0.30		0.05		0.20	0.73		0.05	0.55	0.68
v/c Ratio		0.75	0.47		0.34		0.82	0.77		0.21	0.92	0.10
Control Delay		103.7	41.3		92.7		78.9	20.6		76.4	34.9	8.3

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		103.7	41.3		92.7		78.9	20.6		76.4	34.9	8.3
LOS		F	D		F		E	C		E	C	A
Approach Delay		56.5			92.7			33.4			33.8	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)		150	183		34		328	866		21	398	22
Queue Length 95th (ft)		230	219		73		395	1046		m27	#1300	m30
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		198	871		135		720	2586		98	1958	1095
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.65	0.46		0.21		0.78	0.77		0.19	0.92	0.10

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 68 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 120
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 36.3
 Intersection Capacity Utilization 84.6%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: D
 ICU Level of Service E

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

 Ø2 (R)	 Ø1	 Ø3	 Ø4
120 s	15 s	25 s	20 s
 Ø5	 Ø6 (R)		
41 s	94 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	99	0	1901	1629	85
Future Volume (vph)	0	99	0	1901	1629	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	110	0	2112	1810	94
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	110	0	2112	1810	94
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 57.8%

ICU Level of Service B

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	99	0	1901	1629	85
Future Vol, veh/h	0	99	0	1901	1629	85
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	110	0	2112	1810	94

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	905	-	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	279	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	279	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	26.1	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 279	-
HCM Lane V/C Ratio	- 0.394	-
HCM Control Delay (s)	- 26.1	-
HCM Lane LOS	- D	-
HCM 95th %tile Q(veh)	- 1.8	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

No-Build (2026) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	258	102	34	36	42	23	53	1812	36	36	1644	269
Future Volume (vph)	258	102	34	36	42	23	53	1812	36	36	1644	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.962			0.947			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1801	0	1744	1738	0	1778	3546	0	1778	3557	1591
Flt Permitted	0.611			0.504			0.037			0.037		
Satd. Flow (perm)	1144	1801	0	925	1738	0	69	3546	0	69	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	287	113	38	40	47	26	59	2013	40	40	1827	299
Shared Lane Traffic (%)												
Lane Group Flow (vph)	287	151	0	40	73	0	59	2053	0	40	1827	299
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	35.0	43.0		15.0	23.0		15.0	107.0		15.0	107.0	35.0
Total Split (%)	19.4%	23.9%		8.3%	12.8%		8.3%	59.4%		8.3%	59.4%	19.4%
Maximum Green (s)	28.7	36.6		9.1	16.6		8.9	100.9		9.4	100.9	28.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	41.5	35.3		42.5	13.3		118.5	111.5		119.5	109.8	142.8
Actuated g/C Ratio	0.23	0.20		0.24	0.07		0.66	0.62		0.66	0.61	0.79
v/c Ratio	0.79	0.43		0.16	0.57		0.46	0.94		0.29	0.84	0.24
Control Delay	74.9	67.5		49.9	97.1		50.1	25.6		28.9	22.4	2.8

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

No-Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	1.2	0.0
Total Delay	74.9	67.5		49.9	97.1		50.1	25.6		28.9	23.6	2.8
LOS	E	E		D	F		D	C		C	C	A
Approach Delay		72.3			80.4			26.3			20.8	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	299	159		36	85		18	1220		12	659	39
Queue Length 95th (ft)	394	233		69	142		m42	#1458		m16	738	m49
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	378	380		268	173		140	2195		140	2169	1278
Starvation Cap Reductn	0	0		0	0		0	0		0	158	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.76	0.40		0.15	0.42		0.42	0.94		0.29	0.91	0.23

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 65 (36%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 29.3

Intersection LOS: C

Intersection Capacity Utilization 83.9%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave



University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

No-Build (2026) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	119	15	229	133	20	3	231	1690	172	12	1587	151
Future Volume (vph)	119	15	229	133	20	3	231	1690	172	12	1587	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1835	1560	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.043			0.073		
Satd. Flow (perm)	1744	1835	1560	3400	1845	1568	80	3539	1568	135	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		967			755			783			1413	
Travel Time (s)		18.8			14.7			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	132	17	254	148	22	3	257	1878	191	13	1763	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	17	254	148	22	3	257	1878	191	13	1763	168
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	19.0	44.0	26.2	15.6	40.6	13.4	26.2	107.0	15.6	13.4	94.2	19.0
Total Split (%)	10.6%	24.4%	14.6%	8.7%	22.6%	7.4%	14.6%	59.4%	8.7%	7.4%	52.3%	10.6%
Maximum Green (s)	12.6	37.5	19.9	9.0	34.1	7.0	19.9	100.5	9.0	7.0	87.7	12.6
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	14.0	11.1	43.1	12.0	9.1	14.1	142.3	139.3	155.3	144.3	109.9	128.9
Actuated g/C Ratio	0.08	0.06	0.24	0.07	0.05	0.08	0.79	0.77	0.86	0.80	0.61	0.72
v/c Ratio	0.98	0.15	0.68	0.65	0.24	0.02	0.70	0.69	0.14	0.07	0.82	0.15
Control Delay	151.1	81.7	70.5	96.1	88.2	55.0	77.9	4.7	1.6	10.8	32.0	11.3

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

No-Build (2026) PM
01/15/2021

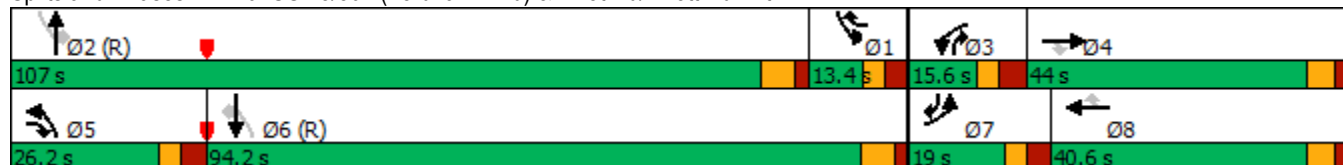
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.6	0.0
Total Delay	151.1	81.7	70.5	96.1	88.2	55.0	77.9	5.0	1.6	10.8	32.7	11.3
LOS	F	F	E	F	F	D	E	A	A	B	C	B
Approach Delay		97.4			94.4			12.8			30.7	
Approach LOS		F			F			B			C	
Queue Length 50th (ft)	159	19	264	90	26	3	256	205	18	5	599	62
Queue Length 95th (ft)	#311	48	352	#142	60	13	m288	226	m20	m7	685	m79
Internal Link Dist (ft)		887			675			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	135	397	373	226	364	122	367	2738	1352	183	2161	1134
Starvation Cap Reductn	0	0	0	0	0	0	0	288	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	134	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.04	0.68	0.65	0.06	0.02	0.70	0.77	0.14	0.07	0.87	0.15

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 79 (44%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 29.9
Intersection Capacity Utilization 82.4%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
ICU Level of Service E

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext



University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

No-Build (2026) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	95	88	227	117	90	108	1575	129	135	1511	18
Future Volume (vph)	109	95	88	227	117	90	108	1575	129	135	1511	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.928			0.935				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1729	0	3433	1742	0	1770	3539	1583	1770	3532	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1729	0	3433	1742	0	1770	3539	1583	1770	3532	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	121	106	98	252	130	100	120	1750	143	150	1679	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	204	0	252	230	0	120	1750	143	150	1699	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	26.0	30.0		35.0	39.0		26.0	92.0		23.0	89.0	
Total Split (%)	14.4%	16.7%		19.4%	21.7%		14.4%	51.1%		12.8%	49.4%	
Maximum Green (s)	19.6	23.1		28.2	32.3		19.2	85.2		16.3	82.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	17.3	28.0		20.3	31.0		18.7	92.8	180.0	18.8	92.9	
Actuated g/C Ratio	0.10	0.16		0.11	0.17		0.10	0.52	1.00	0.10	0.52	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

No-Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.71	0.76		0.65	0.77		0.65	0.96	0.09	0.81	0.93	
Control Delay	100.7	90.6		84.3	88.1		102.2	42.7	0.1	108.2	51.1	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	100.7	90.6		84.3	88.1		102.2	42.7	0.1	108.2	51.1	
LOS	F	F		F	F		F	D	A	F	D	
Approach Delay		94.4			86.1			43.2			55.8	
Approach LOS		F			F			D			E	
Queue Length 50th (ft)	141	232		149	261		135	~1174	0	172	1008	
Queue Length 95th (ft)	216	331		195	364		m195	m#1308	m0	#312	#1258	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	206	276		572	330		206	1824	1583	190	1823	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.59	0.74		0.44	0.70		0.58	0.96	0.09	0.79	0.93	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 102 (57%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 56.2

Intersection LOS: E

Intersection Capacity Utilization 85.4%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

No-Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	319	345	96	208	365	225	62	767	170	99	665	380
Future Volume (vph)	319	345	96	208	365	225	62	767	170	99	665	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.967				0.850		0.973			0.945	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1810	0	1725	1816	1544	1743	3392	0	1778	3361	0
Flt Permitted	0.950			0.166			0.950			0.950		
Satd. Flow (perm)	1778	1810	0	301	1816	1544	1743	3392	0	1778	3361	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	354	383	107	231	406	250	69	852	189	110	739	422
Shared Lane Traffic (%)												
Lane Group Flow (vph)	354	490	0	231	406	250	69	1041	0	110	1161	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	40.0	48.0		20.0	33.0	20.0	15.0	57.0		20.0	62.0	
Total Split (%)	26.7%	32.0%		13.3%	22.0%	13.3%	10.0%	38.0%		13.3%	41.3%	
Maximum Green (s)	34.1	42.1		14.4	27.1	14.1	8.8	51.3		14.1	56.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	32.8	49.7		64.9	32.2	50.3	9.4	51.9		13.2	55.6	
Actuated g/C Ratio	0.22	0.33		0.43	0.21	0.34	0.06	0.35		0.09	0.37	
v/c Ratio	0.91	0.82		0.84	1.04	0.48	0.63	0.89		0.71	0.93	
Control Delay	85.1	58.9		57.4	110.7	42.9	93.4	56.6		90.3	58.9	

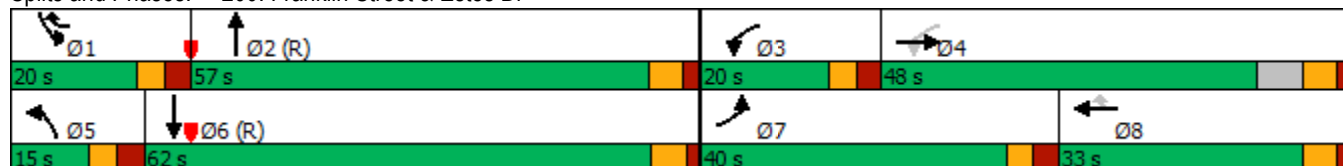
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	85.1	58.9		57.4	110.7	42.9	93.4	56.6		90.3	58.9	
LOS	F	E		E	F	D	F	E		F	E	
Approach Delay		69.9			77.7			58.9			61.6	
Approach LOS		E			E			E			E	
Queue Length 50th (ft)	335	448		162	~453	192	67	502		106	563	
Queue Length 95th (ft)	#502	#632		#262	#705	268	#130	601		175	#680	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	414	599		277	389	537	116	1179		177	1277	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.86	0.82		0.83	1.04	0.47	0.59	0.88		0.62	0.91	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 104 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.04
Intersection Signal Delay: 66.1
Intersection Capacity Utilization 89.9%
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: E
ICU Level of Service E

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

No-Build (2026) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	293	318	3	12	418	36	6	8	7	74	8	374
Future Volume (vph)	293	318	3	12	418	36	6	8	7	74	8	374
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.988			0.955				0.850
Flt Protected	0.950			0.950				0.986			0.957	
Satd. Flow (prot)	1770	3536	0	1770	3497	0	0	1754	0	0	1774	1575
Flt Permitted	0.950			0.539				0.894			0.730	
Satd. Flow (perm)	1770	3536	0	1004	3497	0	0	1591	0	0	1353	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	326	353	3	13	464	40	7	9	8	82	9	416
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	356	0	13	504	0	0	24	0	0	91	416
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	13.2	15.7		21.4	21.4		30.6	30.6		12.9	12.9	13.2
Total Split (s)	20.0	46.0		26.0	26.0		29.0	29.0		29.0	29.0	20.0
Total Split (%)	26.7%	61.3%		34.7%	34.7%		38.7%	38.7%		38.7%	38.7%	26.7%
Maximum Green (s)	13.8	40.3		20.6	20.6		23.4	23.4		23.1	23.1	13.8
Yellow Time (s)	3.0	3.7		3.9	3.9		3.6	3.6		3.9	3.9	3.0
All-Red Time (s)	3.2	2.0		1.5	1.5		2.0	2.0		2.0	2.0	3.2
Lost Time Adjust (s)	-1.2	-0.7		-0.4	-0.4			-0.6			-0.9	-0.9
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				9.0	9.0		18.0	18.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	20.2	57.9		31.7	31.7			10.6			10.7	33.0
Actuated g/C Ratio	0.27	0.77		0.42	0.42			0.14			0.14	0.44
v/c Ratio	0.68	0.13		0.03	0.34			0.11			0.47	0.60
Control Delay	31.6	4.7		18.3	17.9			27.5			37.2	18.5

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

No-Build (2026) PM
01/15/2021

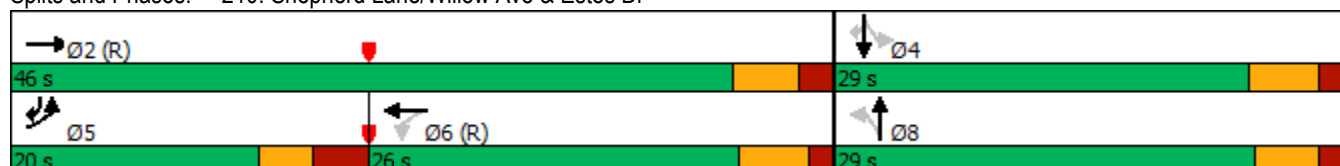
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	31.6	4.7		18.3	17.9			27.5			37.2	18.5
LOS	C	A		B	B			C			D	B
Approach Delay		17.5			18.0			27.5			21.8	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	188	48		4	85			10			40	133
Queue Length 95th (ft)	m290	m66		17	150			28			78	161
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	476	2730		425	1481			509			432	692
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.68	0.13		0.03	0.34			0.05			0.21	0.60

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 61 (81%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 19.1
Intersection Capacity Utilization 54.4%
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 		 	
Traffic Volume (vph)	3	396	460	2	0	6
Future Volume (vph)	3	396	460	2	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.999		0.865	
Flt Protected						
Satd. Flow (prot)	0	3505	3536	0	1611	0
Flt Permitted						
Satd. Flow (perm)	0	3505	3536	0	1611	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	3	440	511	2	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	443	513	0	7	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 23.0%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	3	396	460	2	0	6
Future Vol, veh/h	3	396	460	2	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	3	440	511	2	0	7

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	513	0	738
Stage 1	-	-	512
Stage 2	-	-	226
Critical Hdwy	4.16	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.23	-	3.52
Pot Cap-1 Maneuver	1042	-	353
Stage 1	-	-	567
Stage 2	-	-	790
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1042	-	352
Mov Cap-2 Maneuver	-	-	352
Stage 1	-	-	565
Stage 2	-	-	790

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1042	-	-	-	742
HCM Lane V/C Ratio	0.003	-	-	-	0.009
HCM Control Delay (s)	8.5	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

No-Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	339	1	7	414	62	2	0	6	36	0	46
Future Volume (vph)	56	339	1	7	414	62	2	0	6	36	0	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.980			0.895				0.850
Flt Protected	0.950			0.950				0.989			0.950	
Satd. Flow (prot)	1770	3539	0	1770	3468	0	0	1649	0	0	1770	1583
Flt Permitted	0.950			0.950				0.989			0.950	
Satd. Flow (perm)	1770	3539	0	1770	3468	0	0	1649	0	0	1770	1583
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	62	377	1	8	460	69	2	0	7	40	0	51
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	378	0	8	529	0	0	9	0	0	40	51
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	339	1	7	414	62	2	0	6	36	0	46
Future Vol, veh/h	56	339	1	7	414	62	2	0	6	36	0	46
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	377	1	8	460	69	2	0	7	40	0	51

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	529	0	0	378	0	0	748	1047	189	824	1013	265
Stage 1	-	-	-	-	-	-	502	502	-	511	511	-
Stage 2	-	-	-	-	-	-	246	545	-	313	502	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1034	-	-	1177	-	-	301	227	821	265	237	733
Stage 1	-	-	-	-	-	-	520	540	-	514	535	-
Stage 2	-	-	-	-	-	-	736	517	-	672	540	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1034	-	-	1177	-	-	266	212	821	250	221	733
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	212	-	250	221	-
Stage 1	-	-	-	-	-	-	489	508	-	483	531	-
Stage 2	-	-	-	-	-	-	680	513	-	627	508	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.1	11.8	15.5
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	540	1034	-	-	1177	-	-	250	733
HCM Lane V/C Ratio	0.016	0.06	-	-	0.007	-	-	0.16	0.07
HCM Control Delay (s)	11.8	8.7	-	-	8.1	-	-	22.1	10.3
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	0.6	0.2

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	22	359	460	119	66	23
Future Volume (vph)	22	359	460	119	66	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.969			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3429	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3429	0	1770	1583
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	24	399	511	132	73	26
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	399	643	0	73	26
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 28.6%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	22	359	460	119	66	23
Future Vol, veh/h	22	359	460	119	66	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	399	511	132	73	26

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	643	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	938	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	938	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	18
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	938	-	-	-	303	674
HCM Lane V/C Ratio	0.026	-	-	-	0.242	0.038
HCM Control Delay (s)	8.9	-	-	-	20.6	10.6
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	18	407	544	70	70	35
Future Volume (vph)	18	407	544	70	70	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.983		0.955	
Flt Protected		0.998			0.968	
Satd. Flow (prot)	0	5026	3479	0	1722	0
Flt Permitted		0.998			0.968	
Satd. Flow (perm)	0	5026	3479	0	1722	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	20	452	604	78	78	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	472	682	0	117	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 34.0%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.9

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		  	 		 	
Traffic Vol, veh/h	18	407	544	70	70	35
Future Vol, veh/h	18	407	544	70	70	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	20	452	604	78	78	39

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	682	0	-	0	864	341
Stage 1	-	-	-	-	643	-
Stage 2	-	-	-	-	221	-
Critical Hdwy	4.16	-	-	-	6.29	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	2.23	-	-	-	3.67	3.32
Pot Cap-1 Maneuver	900	-	-	-	326	655
Stage 1	-	-	-	-	471	-
Stage 2	-	-	-	-	756	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	900	-	-	-	316	655
Mov Cap-2 Maneuver	-	-	-	-	316	-
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	756	-

Approach EB WB SB

HCM Control Delay, s	0.5	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	900	-	-	-	382
HCM Lane V/C Ratio	0.022	-	-	-	0.305
HCM Control Delay (s)	9.1	0.1	-	-	18.5
HCM Lane LOS	A	A	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.3

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

No-Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	6	1	0	0	6	322	9	0	449	3
Future Volume (vph)	3	0	6	1	0	0	6	322	9	0	449	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.905						0.996			0.999	
Flt Protected		0.985			0.950			0.999				
Satd. Flow (prot)	0	1660	0	0	1770	0	0	1853	0	1863	1861	0
Flt Permitted		0.985			0.950			0.999				
Satd. Flow (perm)	0	1660	0	0	1770	0	0	1853	0	1863	1861	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	0	7	1	0	0	7	358	10	0	499	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	1	0	0	375	0	0	502	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.2

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

Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	3	0	6	1	0	0	6	322	9	0	449	3
Future Vol, veh/h	3	0	6	1	0	0	6	322	9	0	449	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	7	1	0	0	7	358	10	0	499	3

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	878	883	501	881
Stage 1	501	501	-	377
Stage 2	377	382	-	504
Critical Hdwy	7.12	6.52	6.22	7.12
Critical Hdwy Stg 1	6.12	5.52	-	6.12
Critical Hdwy Stg 2	6.12	5.52	-	6.12
Follow-up Hdwy	3.518	4.018	3.318	3.518
Pot Cap-1 Maneuver	268	285	570	267
Stage 1	552	543	-	644
Stage 2	644	613	-	550
Platoon blocked, %				
Mov Cap-1 Maneuver	266	283	570	262
Mov Cap-2 Maneuver	266	283	-	262
Stage 1	548	543	-	639
Stage 2	639	608	-	544

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.9	18.8	0.1	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1062	-	-	413	262	1191	-
HCM Lane V/C Ratio	0.006	-	-	0.024	0.004	-	-
HCM Control Delay (s)	8.4	0	-	13.9	18.8	0	-
HCM Lane LOS	A	A	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-

University Place TIA
302: Willow Ave & UPlace Access #7

No-Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	5	51	0	21	4	267	54	30	396	5
Future Volume (vph)	5	1	5	51	0	21	4	267	54	30	396	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.938				0.850		0.975			0.998	
Flt Protected		0.977			0.950		0.950			0.950		
Satd. Flow (prot)	0	1707	0	0	1687	1509	1770	1816	0	1770	1859	0
Flt Permitted		0.977			0.950		0.950			0.950		
Satd. Flow (perm)	0	1707	0	0	1687	1509	1770	1816	0	1770	1859	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	6	1	6	57	0	23	4	297	60	33	440	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	57	23	4	357	0	33	446	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 37.0%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.2

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

Lane Configurations												
Traffic Vol, veh/h	5	1	5	51	0	21	4	267	54	30	396	5
Future Vol, veh/h	5	1	5	51	0	21	4	267	54	30	396	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	7	7	7	2	2	2	2	2	2
Mvmt Flow	6	1	6	57	0	23	4	297	60	33	440	6

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	856	874	443	848	847	327	446	0
Stage 1	509	509	-	335	335	-	-	-
Stage 2	347	365	-	513	512	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.57	6.27	4.12	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.57	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.57	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.063	3.363	2.218	-
Pot Cap-1 Maneuver	278	288	615	276	293	703	1114	-
Stage 1	547	538	-	669	634	-	-	-
Stage 2	669	623	-	535	528	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	262	279	615	266	284	703	1114	-
Mov Cap-2 Maneuver	262	279	-	266	284	-	-	-
Stage 1	545	523	-	666	631	-	-	-
Stage 2	644	621	-	515	514	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.4	18.7	0.1	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1114	-	-	357 266 703	1202	-	-
HCM Lane V/C Ratio	0.004	-	-	0.034 0.213 0.033	0.028	-	-
HCM Control Delay (s)	8.2	-	-	15.4 22.2 10.3	8.1	-	-
HCM Lane LOS	A	-	-	C C B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.8 0.1	0.1	-	-

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	44	249	312	45	89	119
Future Volume (vph)	44	249	312	45	89	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.983		0.923	
Flt Protected	0.950				0.979	
Satd. Flow (prot)	1770	1863	1831	0	1683	0
Flt Permitted	0.950				0.979	
Satd. Flow (perm)	1770	1863	1831	0	1683	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		345	318		387	
Travel Time (s)		6.7	6.2		10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	49	277	347	50	99	132
Shared Lane Traffic (%)						
Lane Group Flow (vph)	49	277	397	0	231	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 44.7%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 4.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	44	249	312	45	89	119
Future Vol, veh/h	44	249	312	45	89	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	277	347	50	99	132

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	397	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.12	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.218	-	-
Pot Cap-1 Maneuver	1162	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1162	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	15.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1162	-	-	-	573
HCM Lane V/C Ratio	0.042	-	-	-	0.403
HCM Control Delay (s)	8.2	-	-	-	15.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	1.9

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	212	126	61	214	143	108
Future Volume (vph)	212	126	61	214	143	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.950					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1770	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1770	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	236	140	68	238	159	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	376	0	68	238	159	120
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 40.1%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	212	126	61	214	143	108
Future Vol, veh/h	212	126	61	214	143	108
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	236	140	68	238	159	120

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	376
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1182
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1182
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	496	734	-	-	1182	-
HCM Lane V/C Ratio	0.32	0.163	-	-	0.057	-
HCM Control Delay (s)	15.6	10.9	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.4	0.6	-	-	0.2	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	319	1	99	265	10	75
Future Volume (vph)	319	1	99	265	10	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1863	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1863	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	354	1	110	294	11	83
Shared Lane Traffic (%)						
Lane Group Flow (vph)	355	0	110	294	11	83
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.7%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	319	1	99	265	10	75
Future Vol, veh/h	319	1	99	265	10	75
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	354	1	110	294	11	83

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	355
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.12	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.218	-
Pot Cap-1 Maneuver	-	1204	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1204	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.3	11.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	293	689	-	-	1204	-
HCM Lane V/C Ratio	0.038	0.121	-	-	0.091	-
HCM Control Delay (s)	17.8	10.9	-	-	8.3	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0.3	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

No-Build (2028) AM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	8	329	5	8	9	362	1769	3	7	1826	79
Future Volume (vph)	58	8	329	5	8	9	362	1769	3	7	1826	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.946							0.850
Flt Protected		0.958			0.988		0.950			0.950		
Satd. Flow (prot)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Flt Permitted		0.958			0.988		0.950			0.950		
Satd. Flow (perm)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	9%	9%	9%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	64	9	366	6	9	10	402	1966	3	8	2029	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	366	0	25	0	402	1969	0	8	2029	88
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	22.0	22.0	37.0	20.0	20.0		37.0	123.0		15.0	101.0	22.0
Total Split (%)	12.2%	12.2%	20.6%	11.1%	11.1%		20.6%	68.3%		8.3%	56.1%	12.2%
Maximum Green (s)	15.4	15.4	30.3	13.3	13.3		30.3	116.9		8.5	94.9	15.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		13.6	47.0		9.3		28.4	141.6		9.1	114.2	129.8
Actuated g/C Ratio		0.08	0.26		0.05		0.16	0.79		0.05	0.63	0.72
v/c Ratio		0.56	0.52		0.30		0.75	0.71		0.09	0.91	0.08
Control Delay		95.8	58.6		91.5		81.2	14.6		76.6	26.9	3.2

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

No-Build (2028) AM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		95.8	58.6		91.5		81.2	14.6		76.6	26.9	3.2
LOS		F	E		F		F	B		E	C	A
Approach Delay		64.7			91.5			25.9			26.1	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)		85	211		29		236	514		9	824	12
Queue Length 95th (ft)		142	251		66		289	987		m12	#1517	m19
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		166	767		135		613	2757		97	2223	1163
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.44	0.48		0.19		0.66	0.71		0.08	0.91	0.08

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 29.8

Intersection LOS: C

Intersection Capacity Utilization 83.6%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

			
Ø2 (R)	Ø1	Ø4	Ø3
123 s	15 s	20 s	22 s
			
Ø5	Ø6 (R)		
37 s	101 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	32	0	1836	1880	49
Future Volume (vph)	0	32	0	1836	1880	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Flt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1596	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1596	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	36	0	2040	2089	54
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	36	0	2040	2089	54
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 62.0%

ICU Level of Service B

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	32	0	1836	1880	49
Future Vol, veh/h	0	32	0	1836	1880	49
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	36	0	2040	2089	54

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 1045	-	0 -
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	- 6.96	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	- 3.33	-	-
Pot Cap-1 Maneuver	0 224	0	-
Stage 1	0	0	-
Stage 2	0	0	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	- 224	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	24.1	0	0
HCM LOS	C		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 224	-
HCM Lane V/C Ratio	- 0.159	-
HCM Control Delay (s)	- 24.1	-
HCM Lane LOS	- C	-
HCM 95th %tile Q(veh)	- 0.6	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

No-Build (2028) AM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	97	38	18	62	44	29	52	1735	49	13	1849	273
Future Volume (vph)	97	38	18	62	44	29	52	1735	49	13	1849	273
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.952			0.941			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1748	0	1761	1744	0	1778	3543	0	1778	3557	1591
Flt Permitted	0.564			0.687			0.036			0.051		
Satd. Flow (perm)	1036	1748	0	1273	1744	0	67	3543	0	95	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	108	42	20	69	49	32	58	1928	54	14	2054	303
Shared Lane Traffic (%)												
Lane Group Flow (vph)	108	62	0	69	81	0	58	1982	0	14	2054	303
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	21.0	39.0		15.0	33.0		15.0	111.0		15.0	111.0	21.0
Total Split (%)	11.7%	21.7%		8.3%	18.3%		8.3%	61.7%		8.3%	61.7%	11.7%
Maximum Green (s)	14.7	32.6		9.1	26.6		8.9	104.9		9.4	104.9	14.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	28.4	18.9		28.4	14.2		132.6	131.6		134.6	125.3	144.3
Actuated g/C Ratio	0.16	0.10		0.16	0.08		0.74	0.73		0.75	0.70	0.80
v/c Ratio	0.49	0.34		0.31	0.59		0.43	0.77		0.10	0.83	0.24
Control Delay	70.2	78.1		64.0	96.8		45.1	7.5		5.2	11.9	1.7

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

No-Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.8	0.0
Total Delay	70.2	78.1		64.0	96.8		45.1	7.5		5.2	12.7	1.7
LOS	E	E		E	F		D	A		A	B	A
Approach Delay		73.1			81.7			8.6			11.2	
Approach LOS		E			F			A			B	
Queue Length 50th (ft)	111	69		70	94		14	198		2	404	25
Queue Length 95th (ft)	170	119		116	153		m48	98		m3	833	m29
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	235	330		231	271		147	2589		165	2476	1291
Starvation Cap Reductn	0	0		0	0		0	0		0	170	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.46	0.19		0.30	0.30		0.39	0.77		0.08	0.89	0.23

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 177 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.83
 Intersection Signal Delay: 14.5
 Intersection Capacity Utilization 71.5%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	111 s	15 s	39 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	111 s	21 s	33 s

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

No-Build (2028) AM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	10	135	125	15	15	142	1589	130	2	1875	75
Future Volume (vph)	27	10	135	125	15	15	142	1589	130	2	1875	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1710	1835	1530	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.033			0.095		
Satd. Flow (perm)	1710	1835	1530	3400	1845	1568	61	3539	1568	175	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		958			778			783			1413	
Travel Time (s)		18.7			15.2			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	3%	5%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	30	11	150	139	17	17	158	1766	144	2	2083	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	11	150	139	17	17	158	1766	144	2	2083	83
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	13.6	43.5	16.7	13.6	43.5	13.4	16.7	109.5	13.6	13.4	106.2	13.6
Total Split (%)	7.6%	24.2%	9.3%	7.6%	24.2%	7.4%	9.3%	60.8%	7.6%	7.4%	59.0%	7.6%
Maximum Green (s)	7.2	37.0	10.4	7.0	37.0	7.0	10.4	103.0	7.0	7.0	99.7	7.2
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	8.6	8.8	27.2	11.3	8.8	16.8	148.0	145.0	163.3	150.0	126.5	140.1
Actuated g/C Ratio	0.05	0.05	0.15	0.06	0.05	0.09	0.82	0.81	0.91	0.83	0.70	0.78
v/c Ratio	0.37	0.12	0.65	0.65	0.19	0.12	0.62	0.62	0.10	0.01	0.84	0.07
Control Delay	96.3	84.8	83.7	95.2	87.0	72.7	68.2	5.0	1.0	3.0	9.9	1.7

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

No-Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0
Total Delay	96.3	84.8	83.7	95.2	87.0	72.7	68.2	5.1	1.0	3.0	10.2	1.7
LOS	F	F	F	F	F	E	E	A	A	A	B	A
Approach Delay		85.7			92.2			9.7			9.8	
Approach LOS		F			F			A			A	
Queue Length 50th (ft)	35	13	174	78	20	18	144	186	6	0	242	11
Queue Length 95th (ft)	75	37	235	#153	49	45	m213	237	m17	m0	314	m13
Internal Link Dist (ft)		878			698			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	81	392	231	213	394	146	254	2850	1422	219	2487	1232
Starvation Cap Reductn	0	0	0	0	0	0	0	251	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	82	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.03	0.65	0.65	0.04	0.12	0.62	0.68	0.10	0.01	0.87	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 175 (97%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.84
Intersection Signal Delay: 16.0
Intersection Capacity Utilization 82.4%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

											
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)		Ø7	Ø8	
13.4 s	109.5 s		13.6 s	43.5 s		16.7 s	106.2 s		13.6 s	43.5 s	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

No-Build (2028) AM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	76	53	44	197	94	103	77	1446	108	82	1684	7
Future Volume (vph)	76	53	44	197	94	103	77	1446	108	82	1684	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.932			0.922				0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1736	0	3367	1684	0	1770	3539	1583	1770	3536	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1736	0	3367	1684	0	1770	3539	1583	1770	3536	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	84	59	49	219	104	114	86	1607	120	91	1871	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	108	0	219	218	0	86	1607	120	91	1879	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	20.0	20.0		38.0	38.0		20.0	102.0		20.0	102.0	
Total Split (%)	11.1%	11.1%		21.1%	21.1%		11.1%	56.7%		11.1%	56.7%	
Maximum Green (s)	13.6	13.1		31.2	31.3		13.2	95.2		13.3	95.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	13.1	22.5		18.8	28.2		15.0	105.0	180.0	13.7	103.7	
Actuated g/C Ratio	0.07	0.12		0.10	0.16		0.08	0.58	1.00	0.08	0.58	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

No-Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.66	0.50		0.62	0.83		0.59	0.78	0.08	0.68	0.92	
Control Delay	104.4	80.9		84.8	98.0		77.4	18.8	0.1	105.5	43.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	104.4	80.9		84.8	98.0		77.4	18.8	0.1	105.5	43.8	
LOS	F	F		F	F		E	B	A	F	D	
Approach Delay		91.2			91.4			20.3			46.6	
Approach LOS		F			F			C			D	
Queue Length 50th (ft)	98	119		130	252		101	821	0	106	1064	
Queue Length 95th (ft)	163	190		174	349		m161	647	0	174	#1319	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	147	216		617	308		147	2065	1583	148	2036	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.57	0.50		0.35	0.71		0.59	0.78	0.08	0.61	0.92	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 8 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.92

Intersection Signal Delay: 42.2

Intersection LOS: D

Intersection Capacity Utilization 86.4%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

No-Build (2028) AM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	354	301	55	122	260	81	56	419	87	90	541	214
Future Volume (vph)	354	301	55	122	260	81	56	419	87	90	541	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.977				0.850		0.974			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1811	0	1692	1781	1514	1710	3330	0	1744	3339	0
Flt Permitted	0.950			0.303			0.950			0.950		
Satd. Flow (perm)	1761	1811	0	540	1781	1514	1710	3330	0	1744	3339	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	393	334	61	136	289	90	62	466	97	100	601	238
Shared Lane Traffic (%)												
Lane Group Flow (vph)	393	395	0	136	289	90	62	563	0	100	839	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	35.0	35.0		35.0	35.0	20.0	20.0	40.0		20.0	40.0	
Total Split (%)	26.9%	26.9%		26.9%	26.9%	15.4%	15.4%	30.8%		15.4%	30.8%	
Maximum Green (s)	29.1	29.1		29.4	29.1	14.1	13.8	34.3		14.1	34.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.5	44.7		55.8	25.3	42.5	10.0	42.0		12.2	46.8	
Actuated g/C Ratio	0.23	0.34		0.43	0.19	0.33	0.08	0.32		0.09	0.36	
v/c Ratio	0.95	0.64		0.41	0.83	0.18	0.47	0.52		0.61	0.70	
Control Delay	83.3	41.0		25.5	74.3	29.3	69.0	39.4		72.2	41.3	

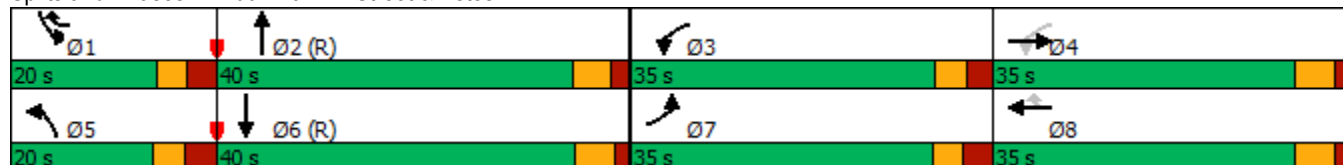
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	83.3	41.0		25.5	74.3	29.3	69.0	39.4		72.2	41.3	
LOS	F	D		C	E	C	E	D		E	D	
Approach Delay		62.1			53.6			42.4			44.6	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	330	276		62	247	54	51	205		82	326	
Queue Length 95th (ft)	#535	389		97	344	76	97	283		141	#469	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	412	622		518	411	528	197	1075		201	1203	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.95	0.64		0.26	0.70	0.17	0.31	0.52		0.50	0.70	

Intersection Summary

Area Type: Other
 Cycle Length: 130
 Actuated Cycle Length: 130
 Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 100
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.95
 Intersection Signal Delay: 50.5
 Intersection Capacity Utilization 77.6%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Intersection LOS: D
 ICU Level of Service D

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

No-Build (2028) AM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	164	310	4	6	255	54	3	9	11	25	5	205
Future Volume (vph)	164	310	4	6	255	54	3	9	11	25	5	205
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.974			0.935				0.850
Flt Protected	0.950			0.950				0.994			0.960	
Satd. Flow (prot)	1736	3464	0	1752	3414	0	0	1715	0	0	1745	1545
Flt Permitted	0.950			0.543				0.951			0.986	
Satd. Flow (perm)	1736	3464	0	1002	3414	0	0	1641	0	0	1792	1545
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	182	344	4	7	283	60	3	10	12	28	6	228
Shared Lane Traffic (%)												
Lane Group Flow (vph)	182	348	0	7	343	0	0	25	0	0	34	228
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	12.1	15.1		22.2	22.2		28.7	28.7		12.8	12.8	12.1
Total Split (s)	18.0	42.0		24.0	24.0		23.0	23.0		23.0	23.0	18.0
Total Split (%)	27.7%	64.6%		36.9%	36.9%		35.4%	35.4%		35.4%	35.4%	27.7%
Maximum Green (s)	12.9	36.9		18.8	18.8		17.3	17.3		17.2	17.2	12.9
Yellow Time (s)	3.0	3.8		3.8	3.8		3.3	3.3		3.8	3.8	3.0
All-Red Time (s)	2.1	1.3		1.4	1.4		2.4	2.4		2.0	2.0	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.2	-0.2			-0.7			-0.8	-0.8
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	4.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				10.0	10.0		16.0	16.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	11.7	57.8		38.1	38.1			7.8			7.9	17.6
Actuated g/C Ratio	0.18	0.89		0.59	0.59			0.12			0.12	0.27
v/c Ratio	0.58	0.11		0.01	0.17			0.13			0.16	0.55
Control Delay	27.2	1.4		10.0	8.5			27.2			27.5	23.3

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	27.2	1.4		10.0	8.5			27.2			27.5	23.3
LOS	C	A		A	A			C			C	C
Approach Delay		10.3			8.5			27.2			23.9	
Approach LOS		B			A			C			C	
Queue Length 50th (ft)	95	0		1	24			9			12	83
Queue Length 95th (ft)	115	23		8	71			28			35	103
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	360	3080		587	2000			454			496	460
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.51	0.11		0.01	0.17			0.06			0.07	0.50

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.58
Intersection Signal Delay: 13.2
Intersection Capacity Utilization 39.2%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	1	345	314	0	1	1
Future Volume (vph)	1	345	314	0	1	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt					0.932	
Flt Protected					0.976	
Satd. Flow (prot)	0	3438	3505	0	1694	0
Flt Permitted					0.976	
Satd. Flow (perm)	0	3438	3505	0	1694	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	3%	3%	2%	2%
Adj. Flow (vph)	1	383	349	0	1	1
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	384	349	0	2	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 20.2%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	1	345	314	0	1	1
Future Vol, veh/h	1	345	314	0	1	1
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	3	3	2	2
Mvmt Flow	1	383	349	0	1	1

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	349	0	-	0	543	175
Stage 1	-	-	-	-	349	-
Stage 2	-	-	-	-	194	-
Critical Hdwy	4.2	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.25	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1185	-	-	-	470	838
Stage 1	-	-	-	-	685	-
Stage 2	-	-	-	-	820	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1185	-	-	-	470	838
Mov Cap-2 Maneuver	-	-	-	-	470	-
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	820	-

Approach EB WB SB

HCM Control Delay, s	0	0	11
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1185	-	-	-	602
HCM Lane V/C Ratio	0.001	-	-	-	0.004
HCM Control Delay (s)	8	0	-	-	11
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

No-Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	20	321	5	5	298	19	8	0	12	1	0	8
Future Volume (vph)	20	321	5	5	298	19	8	0	12	1	0	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.991			0.920				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1736	3464	0	1752	3473	0	0	1679	0	0	1719	1538
Flt Permitted	0.950			0.950				0.980			0.950	
Satd. Flow (perm)	1736	3464	0	1752	3473	0	0	1679	0	0	1719	1538
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	22	357	6	6	331	21	9	0	13	1	0	9
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	363	0	6	352	0	0	22	0	0	1	9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 30.2%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	0.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	321	5	5	298	19	8	0	12	1	0	8
Future Vol, veh/h	20	321	5	5	298	19	8	0	12	1	0	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	4	3	3	3	2	2	2	5	5	5
Mvmt Flow	22	357	6	6	331	21	9	0	13	1	0	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	352	0	0	363	0	0	582	768	182	577	761	176
Stage 1	-	-	-	-	-	-	404	404	-	354	354	-
Stage 2	-	-	-	-	-	-	178	364	-	223	407	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.54	6.54	6.94	7.6	6.6	7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.52	4.02	3.32	3.55	4.05	3.35
Pot Cap-1 Maneuver	1189	-	-	1185	-	-	396	330	829	393	328	827
Stage 1	-	-	-	-	-	-	594	598	-	628	621	-
Stage 2	-	-	-	-	-	-	806	622	-	751	588	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1189	-	-	1185	-	-	385	322	829	380	320	827
Mov Cap-2 Maneuver	-	-	-	-	-	-	385	322	-	380	320	-
Stage 1	-	-	-	-	-	-	583	587	-	616	618	-
Stage 2	-	-	-	-	-	-	793	619	-	725	577	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	0.1	11.6	10
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	567	1189	-	-	1185	-	-	380	827
HCM Lane V/C Ratio	0.039	0.019	-	-	0.005	-	-	0.003	0.011
HCM Control Delay (s)	11.6	8.1	-	-	8.1	-	-	14.5	9.4
HCM Lane LOS	B	A	-	-	A	-	-	B	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0	0

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	8	326	319	65	15	3
Future Volume (vph)	8	326	319	65	15	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.975			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1736	3471	3417	0	1719	1538
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1736	3471	3417	0	1719	1538
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	5%	5%
Adj. Flow (vph)	9	362	354	72	17	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	9	362	426	0	17	3
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 20.9%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh	0.4					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	326	319	65	15	3
Future Vol, veh/h	8	326	319	65	15	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	5	5
Mvmt Flow	9	362	354	72	17	3

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	426	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.18	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.24	-	-
Pot Cap-1 Maneuver	1116	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1116	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1116	-	-	-	429	783
HCM Lane V/C Ratio	0.008	-	-	-	0.039	0.004
HCM Control Delay (s)	8.3	-	-	-	13.7	9.6
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1	0

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	15	326	360	89	69	24
Future Volume (vph)	15	326	360	89	69	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.970		0.965	
Flt Protected		0.998			0.964	
Satd. Flow (prot)	0	4930	3367	0	1700	0
Flt Permitted		0.998			0.964	
Satd. Flow (perm)	0	4930	3367	0	1700	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Adj. Flow (vph)	17	362	400	99	77	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	379	499	0	104	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 29.5%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		  	 		 	
Traffic Vol, veh/h	15	326	360	89	69	24
Future Vol, veh/h	15	326	360	89	69	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	4	4	4	4
Mvmt Flow	17	362	400	99	77	27

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	499	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.2	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.25	-	-
Pot Cap-1 Maneuver	1041	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1041	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	14.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1041	-	-	-	482
HCM Lane V/C Ratio	0.016	-	-	-	0.214
HCM Control Delay (s)	8.5	0	-	-	14.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

No-Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	0	0	0	0	4	220	3	1	235	2
Future Volume (vph)	3	1	0	0	0	0	4	220	3	1	235	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.998			0.999	
Flt Protected		0.964						0.999		0.950		
Satd. Flow (prot)	0	1796	0	0	1863	0	0	1821	0	1752	1843	0
Flt Permitted		0.964						0.999		0.950		
Satd. Flow (perm)	0	1796	0	0	1863	0	0	1821	0	1752	1843	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	3	1	0	0	0	0	4	244	3	1	261	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	0	0	0	251	0	1	263	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.0%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	0	0	0	0	4	220	3	1	235	2
Future Vol, veh/h	3	1	0	0	0	0	4	220	3	1	235	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	3	3	3
Mvmt Flow	3	1	0	0	0	0	4	244	3	1	261	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	518	519	262	519	519	246	263	0	0	247	0	0
Stage 1	264	264	-	254	254	-	-	-	-	-	-	-
Stage 2	254	255	-	265	265	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	468	461	777	467	461	793	1290	-	-	1313	-	-
Stage 1	741	690	-	750	697	-	-	-	-	-	-	-
Stage 2	750	696	-	740	689	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	466	459	777	465	459	793	1290	-	-	1313	-	-
Mov Cap-2 Maneuver	466	459	-	465	459	-	-	-	-	-	-	-
Stage 1	738	689	-	747	694	-	-	-	-	-	-	-
Stage 2	747	693	-	738	688	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.8	0	0.1	0
HCM LOS	B	A		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1290	-	-	464	-	1313	-
HCM Lane V/C Ratio	0.003	-	-	0.01	-	0.001	-
HCM Control Delay (s)	7.8	0	-	12.8	0	7.7	-
HCM Lane LOS	A	A	-	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0	-	0	-

University Place TIA
302: Willow Ave & UPlace Access #7

No-Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	11	0	4	6	201	16	12	225	3
Future Volume (vph)	2	0	2	11	0	4	6	201	16	12	225	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932				0.850		0.989			0.998	
Flt Protected		0.976			0.950		0.950			0.950		
Satd. Flow (prot)	0	1694	0	0	1641	1468	1752	1824	0	1752	1841	0
Flt Permitted		0.976			0.950		0.950			0.950		
Satd. Flow (perm)	0	1694	0	0	1641	1468	1752	1824	0	1752	1841	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	2	0	2	12	0	4	7	223	18	13	250	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	12	4	7	241	0	13	253	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.2%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.8

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

Lane Configurations												
Traffic Vol, veh/h	2	0	2	11	0	4	6	201	16	12	225	3
Future Vol, veh/h	2	0	2	11	0	4	6	201	16	12	225	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	3	3	3
Mvmt Flow	2	0	2	12	0	4	7	223	18	13	250	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	526	533	252	525	525	232	253	0	0	241	0	0
Stage 1	278	278	-	246	246	-	-	-	-	-	-	-
Stage 2	248	255	-	279	279	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	462	453	787	451	446	788	1306	-	-	1320	-	-
Stage 1	728	680	-	740	688	-	-	-	-	-	-	-
Stage 2	756	696	-	710	665	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	454	446	787	445	439	788	1306	-	-	1320	-	-
Mov Cap-2 Maneuver	454	446	-	445	439	-	-	-	-	-	-	-
Stage 1	724	673	-	736	685	-	-	-	-	-	-	-
Stage 2	748	693	-	701	658	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.3	12.3	0.2	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1306	-	-	576 445 788	1320	-	-
HCM Lane V/C Ratio	0.005	-	-	0.008 0.027 0.006	0.01	-	-
HCM Control Delay (s)	7.8	-	-	11.3 13.3 9.6	7.8	-	-
HCM Lane LOS	A	-	-	B B A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1 0	0	-	-

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	84	123	206	111	19	34
Future Volume (vph)	84	123	206	111	19	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.953		0.913	
Flt Protected	0.950				0.983	
Satd. Flow (prot)	1736	1827	1775	0	1609	0
Flt Permitted	0.950				0.983	
Satd. Flow (perm)	1736	1827	1775	0	1609	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		345	318		387	
Travel Time (s)		6.7	6.2		10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	2%	2%	6%	6%
Adj. Flow (vph)	93	137	229	123	21	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	93	137	352	0	59	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.6%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	84	123	206	111	19	34
Future Vol, veh/h	84	123	206	111	19	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	2	2	6	6
Mvmt Flow	93	137	229	123	21	38

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	352	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.236	-	-
Pot Cap-1 Maneuver	1196	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1196	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	3.4	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1196	-	-	-	638
HCM Lane V/C Ratio	0.078	-	-	-	0.092
HCM Control Delay (s)	8.3	-	-	-	11.2
HCM Lane LOS	A	-	-	-	B
HCM 95th %tile Q(veh)	0.3	-	-	-	0.3

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	94	48	50	268	49	36
Future Volume (vph)	94	48	50	268	49	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.954					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1726	0	1770	1863	1736	1553
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1726	0	1770	1863	1736	1553
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	4%	4%
Adj. Flow (vph)	104	53	56	298	54	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	157	0	56	298	54	40
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 24.5%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	94	48	50	268	49	36
Future Vol, veh/h	94	48	50	268	49	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	104	53	56	298	54	40

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	157
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1423
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1423
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	11
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	543	913	-	-	1423	-
HCM Lane V/C Ratio	0.1	0.044	-	-	0.039	-
HCM Control Delay (s)	12.4	9.1	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.1	-	-	0.1	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	118	12	57	312	6	35
Future Volume (vph)	118	12	57	312	6	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.988					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1788	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1788	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Adj. Flow (vph)	131	13	63	347	7	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	144	0	63	347	7	39
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 26.4%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	118	12	57	312	6	35
Future Vol, veh/h	118	12	57	312	6	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	131	13	63	347	7	39

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	144
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1438
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1438
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	437	910	-	-	1438	-
HCM Lane V/C Ratio	0.015	0.043	-	-	0.044	-
HCM Control Delay (s)	13.4	9.1	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

No-Build (2028) PM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	104	12	373	5	12	9	511	1831	9	17	1673	97
Future Volume (vph)	104	12	373	5	12	9	511	1831	9	17	1673	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.953			0.999				0.850
Flt Protected		0.957			0.990		0.950			0.950		
Satd. Flow (prot)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Flt Permitted		0.957			0.990		0.950			0.950		
Satd. Flow (perm)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	116	13	414	6	13	10	568	2034	10	19	1859	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	129	414	0	29	0	568	2044	0	19	1859	108
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	25.0	25.0	41.0	20.0	20.0		41.0	120.0		15.0	94.0	25.0
Total Split (%)	13.9%	13.9%	22.8%	11.1%	11.1%		22.8%	66.7%		8.3%	52.2%	13.9%
Maximum Green (s)	18.4	18.4	34.3	13.3	13.3		34.3	113.9		8.5	87.9	18.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		17.5	55.0		9.5		36.5	131.7		9.4	99.2	121.7
Actuated g/C Ratio		0.10	0.31		0.05		0.20	0.73		0.05	0.55	0.68
v/c Ratio		0.75	0.49		0.34		0.82	0.79		0.21	0.95	0.10
Control Delay		103.7	41.5		92.7		78.6	21.5		76.5	38.4	8.3

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		103.7	41.5		92.7		78.6	21.5		76.5	38.4	8.3
LOS		F	D		F		E	C		E	D	A
Approach Delay		56.3			92.7			33.9			37.1	
Approach LOS		E			F			C			D	
Queue Length 50th (ft)		150	189		34		332	914		20	396	22
Queue Length 95th (ft)		230	227		73		401	1105		m27	#1378	m29
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		198	875		135		724	2586		98	1949	1091
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.65	0.47		0.21		0.78	0.79		0.19	0.95	0.10

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 68 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 37.8

Intersection LOS: D

Intersection Capacity Utilization 86.4%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	99	0	1944	1688	86
Future Volume (vph)	0	99	0	1944	1688	86
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		0			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	110	0	2160	1876	96
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	110	0	2160	1876	96
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 59.5%

ICU Level of Service B

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	99	0	1944	1688	86
Future Vol, veh/h	0	99	0	1944	1688	86
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	110	0	2160	1876	96

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 938	- 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	0 266	0 -	- 0
Stage 1	0 -	0 -	- 0
Stage 2	0 -	0 -	- 0
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- 266	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	27.8	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 266	-
HCM Lane V/C Ratio	- 0.414	-
HCM Control Delay (s)	- 27.8	-
HCM Lane LOS	- D	-
HCM 95th %tile Q(veh)	- 1.9	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

No-Build (2028) PM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	260	102	36	37	42	24	54	1853	37	36	1701	270
Future Volume (vph)	260	102	36	37	42	24	54	1853	37	36	1701	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.961			0.945			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1799	0	1744	1734	0	1778	3546	0	1778	3557	1591
Flt Permitted	0.607			0.501			0.037			0.037		
Satd. Flow (perm)	1136	1799	0	920	1734	0	69	3546	0	69	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	289	113	40	41	47	27	60	2059	41	40	1890	300
Shared Lane Traffic (%)												
Lane Group Flow (vph)	289	153	0	41	74	0	60	2100	0	40	1890	300
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	35.0	43.0		15.0	23.0		15.0	107.0		15.0	107.0	35.0
Total Split (%)	19.4%	23.9%		8.3%	12.8%		8.3%	59.4%		8.3%	59.4%	19.4%
Maximum Green (s)	28.7	36.6		9.1	16.6		8.9	100.9		9.4	100.9	28.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	41.7	35.5		42.7	13.4		118.3	111.3		119.3	109.6	142.7
Actuated g/C Ratio	0.23	0.20		0.24	0.07		0.66	0.62		0.66	0.61	0.79
v/c Ratio	0.80	0.43		0.16	0.58		0.47	0.96		0.29	0.87	0.24
Control Delay	75.2	67.6		49.9	97.4		50.0	28.3		28.2	22.9	2.8

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

No-Build (2028) PM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	2.0	0.0
Total Delay	75.2	67.6		49.9	97.4		50.0	28.3		28.2	25.0	2.8
LOS	E	E		D	F		D	C		C	C	A
Approach Delay		72.6			80.5			28.9			22.0	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)	301	161		37	86		20	~1293		12	681	38
Queue Length 95th (ft)	397	237		70	143		m40	#1518		m15	854	m47
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	378	379		267	173		140	2193		140	2166	1276
Starvation Cap Reductn	0	0		0	0		0	0		0	154	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.76	0.40		0.15	0.43		0.43	0.96		0.29	0.94	0.24

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 65 (36%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.96

Intersection Signal Delay: 30.9

Intersection LOS: C

Intersection Capacity Utilization 85.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

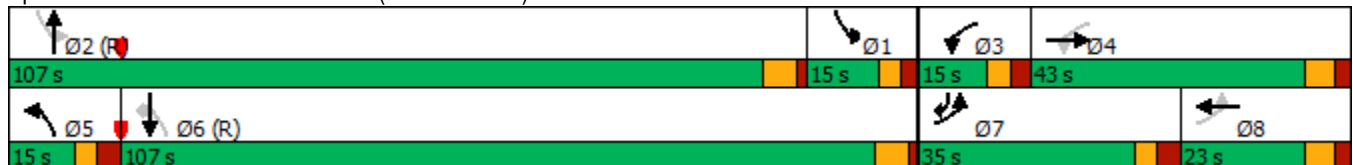
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave



University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

No-Build (2028) PM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	15	231	133	20	3	233	1732	172	12	1643	152
Future Volume (vph)	120	15	231	133	20	3	233	1732	172	12	1643	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1835	1560	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.038			0.067		
Satd. Flow (perm)	1744	1835	1560	3400	1845	1568	71	3539	1568	124	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		967			755			783			1413	
Travel Time (s)		18.8			14.7			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	133	17	257	148	22	3	259	1924	191	13	1826	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	17	257	148	22	3	259	1924	191	13	1826	169
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	19.0	44.0	26.2	15.6	40.6	13.4	26.2	107.0	15.6	13.4	94.2	19.0
Total Split (%)	10.6%	24.4%	14.6%	8.7%	22.6%	7.4%	14.6%	59.4%	8.7%	7.4%	52.3%	10.6%
Maximum Green (s)	12.6	37.5	19.9	9.0	34.1	7.0	19.9	100.5	9.0	7.0	87.7	12.6
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	14.0	11.1	43.6	12.0	9.1	14.1	142.3	139.3	155.3	144.3	109.5	128.5
Actuated g/C Ratio	0.08	0.06	0.24	0.07	0.05	0.08	0.79	0.77	0.86	0.80	0.61	0.71
v/c Ratio	0.99	0.15	0.68	0.65	0.24	0.02	0.71	0.70	0.14	0.07	0.85	0.15
Control Delay	152.9	81.7	70.2	96.1	88.2	55.0	79.8	4.9	1.6	10.8	33.6	11.6

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

No-Build (2028) PM
02/11/2021

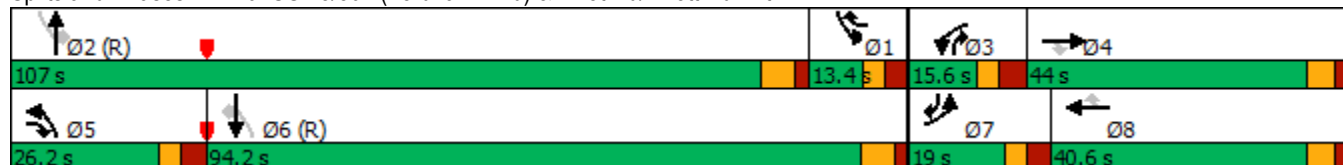
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	1.2	0.0
Total Delay	152.9	81.7	70.2	96.1	88.2	55.0	79.8	5.2	1.6	10.8	34.8	11.6
LOS	F	F	E	F	F	D	E	A	A	B	C	B
Approach Delay		97.7			94.4			13.1			32.7	
Approach LOS		F			F			B			C	
Queue Length 50th (ft)	160	19	267	90	26	3	266	232	18	5	647	69
Queue Length 95th (ft)	#313	48	357	#142	60	13	m287	m228	m20	m7	m697	m78
Internal Link Dist (ft)		887			675			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	135	397	377	226	364	122	366	2738	1352	175	2152	1130
Starvation Cap Reductn	0	0	0	0	0	0	0	285	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	149	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.04	0.68	0.65	0.06	0.02	0.71	0.78	0.14	0.07	0.91	0.15

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 79 (44%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 30.8
Intersection Capacity Utilization 84.1%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
ICU Level of Service E

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext



University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

No-Build (2028) PM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	95	90	237	118	91	109	1615	131	135	1556	18
Future Volume (vph)	110	95	90	237	118	91	109	1615	131	135	1556	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.927			0.935				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1727	0	3433	1742	0	1770	3539	1583	1770	3532	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1727	0	3433	1742	0	1770	3539	1583	1770	3532	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	122	106	100	263	131	101	121	1794	146	150	1729	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	206	0	263	232	0	121	1794	146	150	1749	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	26.0	30.0		35.0	39.0		26.0	92.0		23.0	89.0	
Total Split (%)	14.4%	16.7%		19.4%	21.7%		14.4%	51.1%		12.8%	49.4%	
Maximum Green (s)	19.6	23.1		28.2	32.3		19.2	85.2		16.3	82.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	17.4	28.0		20.9	31.5		18.8	92.4	180.0	18.7	92.3	
Actuated g/C Ratio	0.10	0.16		0.12	0.18		0.10	0.51	1.00	0.10	0.51	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

No-Build (2028) PM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.71	0.77		0.66	0.76		0.66	0.99	0.09	0.82	0.97	
Control Delay	100.9	91.4		84.1	87.2		101.6	47.9	0.1	109.3	56.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	100.9	91.4		84.1	87.2		101.6	47.9	0.1	109.3	56.6	
LOS	F	F		F	F		F	D	A	F	E	
Approach Delay		94.9			85.6			47.7			60.7	
Approach LOS		F			F			D			E	
Queue Length 50th (ft)	142	234		156	262		136	~1237	0	173	~1091	
Queue Length 95th (ft)	217	337		203	367		m192	m#1365	m0	#312	#1321	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	206	274		572	329		206	1816	1583	188	1811	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.59	0.75		0.46	0.71		0.59	0.99	0.09	0.80	0.97	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 102 (57%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 60.0

Intersection LOS: E

Intersection Capacity Utilization 86.7%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

No-Build (2028) PM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	321	354	96	209	370	226	62	771	172	99	668	382
Future Volume (vph)	321	354	96	209	370	226	62	771	172	99	668	382
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.968				0.850		0.973			0.945	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1812	0	1725	1816	1544	1743	3392	0	1778	3361	0
Flt Permitted	0.950			0.151			0.950			0.950		
Satd. Flow (perm)	1778	1812	0	274	1816	1544	1743	3392	0	1778	3361	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	357	393	107	232	411	251	69	857	191	110	742	424
Shared Lane Traffic (%)												
Lane Group Flow (vph)	357	500	0	232	411	251	69	1048	0	110	1166	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	40.0	48.0		20.0	33.0	20.0	15.0	57.0		20.0	62.0	
Total Split (%)	26.7%	32.0%		13.3%	22.0%	13.3%	10.0%	38.0%		13.3%	41.3%	
Maximum Green (s)	34.1	42.1		14.4	27.1	14.1	8.8	51.3		14.1	56.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	32.9	49.4		64.7	31.8	50.0	9.4	52.1		13.2	55.9	
Actuated g/C Ratio	0.22	0.33		0.43	0.21	0.33	0.06	0.35		0.09	0.37	
v/c Ratio	0.92	0.84		0.87	1.07	0.49	0.63	0.89		0.71	0.93	
Control Delay	85.7	60.9		62.3	117.8	43.3	93.4	56.7		90.3	58.8	

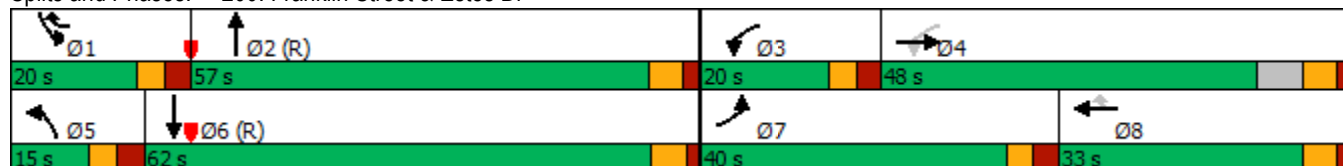
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	85.7	60.9		62.3	117.8	43.3	93.4	56.7		90.3	58.8	
LOS	F	E		E	F	D	F	E		F	E	
Approach Delay		71.2			82.5			58.9			61.5	
Approach LOS		E			F			E			E	
Queue Length 50th (ft)	338	460		165	~463	192	67	507		106	567	
Queue Length 95th (ft)	#508	#653		#279	#716	273	#130	#608		175	#703	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	414	595		266	384	533	116	1182		177	1277	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.86	0.84		0.87	1.07	0.47	0.59	0.89		0.62	0.91	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 104 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 67.4
Intersection Capacity Utilization 90.5%
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: E
ICU Level of Service E

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

No-Build (2028) PM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	295	327	3	12	423	38	6	8	7	75	8	376
Future Volume (vph)	295	327	3	12	423	38	6	8	7	75	8	376
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.988			0.955				0.850
Flt Protected	0.950			0.950				0.986			0.957	
Satd. Flow (prot)	1770	3536	0	1770	3497	0	0	1754	0	0	1774	1575
Flt Permitted	0.950			0.534				0.893			0.730	
Satd. Flow (perm)	1770	3536	0	995	3497	0	0	1589	0	0	1353	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	328	363	3	13	470	42	7	9	8	83	9	418
Shared Lane Traffic (%)												
Lane Group Flow (vph)	328	366	0	13	512	0	0	24	0	0	92	418
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	13.2	15.7		21.4	21.4		30.6	30.6		12.9	12.9	13.2
Total Split (s)	20.0	46.0		26.0	26.0		29.0	29.0		29.0	29.0	20.0
Total Split (%)	26.7%	61.3%		34.7%	34.7%		38.7%	38.7%		38.7%	38.7%	26.7%
Maximum Green (s)	13.8	40.3		20.6	20.6		23.4	23.4		23.1	23.1	13.8
Yellow Time (s)	3.0	3.7		3.9	3.9		3.6	3.6		3.9	3.9	3.0
All-Red Time (s)	3.2	2.0		1.5	1.5		2.0	2.0		2.0	2.0	3.2
Lost Time Adjust (s)	-1.2	-0.7		-0.4	-0.4			-0.6			-0.9	-0.9
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				9.0	9.0		18.0	18.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	20.3	57.9		31.6	31.6			10.6			10.7	33.1
Actuated g/C Ratio	0.27	0.77		0.42	0.42			0.14			0.14	0.44
v/c Ratio	0.68	0.13		0.03	0.35			0.11			0.48	0.60
Control Delay	31.4	4.7		18.5	18.2			27.5			37.3	18.3

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

No-Build (2028) PM
02/11/2021

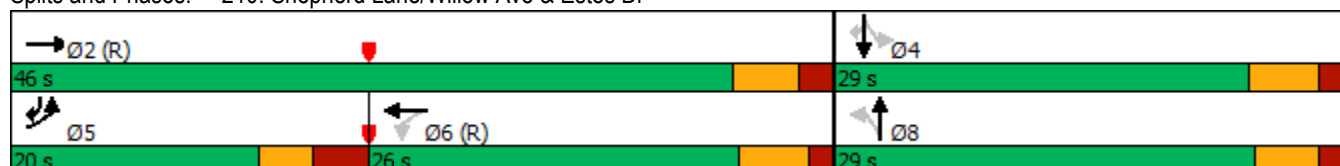
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	31.4	4.7		18.5	18.2			27.5			37.3	18.3
LOS	C	A		B	B			C			D	B
Approach Delay		17.3			18.2			27.5			21.8	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	191	49		4	87			10			40	133
Queue Length 95th (ft)	m289	m67		17	152			28			79	162
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	480	2729		419	1475			508			432	695
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.68	0.13		0.03	0.35			0.05			0.21	0.60

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 61 (81%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 19.0
Intersection Capacity Utilization 54.8%
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	3	406	467	2	0	6
Future Volume (vph)	3	406	467	2	0	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.999		0.865	
Flt Protected						
Satd. Flow (prot)	0	3505	3536	0	1611	0
Flt Permitted						
Satd. Flow (perm)	0	3505	3536	0	1611	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	3	451	519	2	0	7
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	454	521	0	7	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 23.3%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	3	406	467	2	0	6
Future Vol, veh/h	3	406	467	2	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	3	451	519	2	0	7

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	521	0	-	0	752	261
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	232	-
Critical Hdwy	4.16	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.23	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1034	-	-	-	346	738
Stage 1	-	-	-	-	561	-
Stage 2	-	-	-	-	785	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1034	-	-	-	345	738
Mov Cap-2 Maneuver	-	-	-	-	345	-
Stage 1	-	-	-	-	559	-
Stage 2	-	-	-	-	785	-

Approach EB WB SB

HCM Control Delay, s	0.1	0	9.9
HCM LOS			A

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1034	-	-	-	738
HCM Lane V/C Ratio	0.003	-	-	-	0.009
HCM Control Delay (s)	8.5	0	-	-	9.9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

No-Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	56	349	1	7	420	62	2	0	6	36	0	47
Future Volume (vph)	56	349	1	7	420	62	2	0	6	36	0	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.981			0.895				0.850
Flt Protected	0.950			0.950				0.989			0.950	
Satd. Flow (prot)	1770	3539	0	1770	3472	0	0	1649	0	0	1770	1583
Flt Permitted	0.950			0.950				0.989			0.950	
Satd. Flow (perm)	1770	3539	0	1770	3472	0	0	1649	0	0	1770	1583
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	62	388	1	8	467	69	2	0	7	40	0	52
Shared Lane Traffic (%)												
Lane Group Flow (vph)	62	389	0	8	536	0	0	9	0	0	40	52
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.2%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	56	349	1	7	420	62	2	0	6	36	0	47
Future Vol, veh/h	56	349	1	7	420	62	2	0	6	36	0	47
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	62	388	1	8	467	69	2	0	7	40	0	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	536	0	0	389	0	0	763	1065	195	836	1031	268
Stage 1	-	-	-	-	-	-	513	513	-	518	518	-
Stage 2	-	-	-	-	-	-	250	552	-	318	513	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1028	-	-	1166	-	-	294	221	814	260	232	730
Stage 1	-	-	-	-	-	-	512	534	-	509	531	-
Stage 2	-	-	-	-	-	-	732	513	-	668	534	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1028	-	-	1166	-	-	259	206	814	245	216	730
Mov Cap-2 Maneuver	-	-	-	-	-	-	259	206	-	245	216	-
Stage 1	-	-	-	-	-	-	481	502	-	478	527	-
Stage 2	-	-	-	-	-	-	675	509	-	623	502	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.1	11.9	15.6
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	530	1028	-	-	1166	-	-	245	730
HCM Lane V/C Ratio	0.017	0.061	-	-	0.007	-	-	0.163	0.072
HCM Control Delay (s)	11.9	8.7	-	-	8.1	-	-	22.5	10.3
HCM Lane LOS	B	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	0.6	0.2

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	21	370	465	120	66	24
Future Volume (vph)	21	370	465	120	66	24
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.969			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3429	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3429	0	1770	1583
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	23	411	517	133	73	27
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	411	650	0	73	27
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 27.8%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	370	465	120	66	24
Future Vol, veh/h	21	370	465	120	66	24
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	23	411	517	133	73	27

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	650	0	836
Stage 1	-	-	584
Stage 2	-	-	252
Critical Hdwy	4.14	-	6.84
Critical Hdwy Stg 1	-	-	5.84
Critical Hdwy Stg 2	-	-	5.84
Follow-up Hdwy	2.22	-	3.52
Pot Cap-1 Maneuver	932	-	306
Stage 1	-	-	521
Stage 2	-	-	767
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	932	-	298
Mov Cap-2 Maneuver	-	-	298
Stage 1	-	-	508
Stage 2	-	-	767

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	18.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	932	-	-	-	298	671
HCM Lane V/C Ratio	0.025	-	-	-	0.246	0.04
HCM Control Delay (s)	9	-	-	-	21	10.6
HCM Lane LOS	A	-	-	-	C	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.9	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	18	418	550	70	71	35
Future Volume (vph)	18	418	550	70	71	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.983		0.955	
Flt Protected		0.998			0.968	
Satd. Flow (prot)	0	5026	3479	0	1722	0
Flt Permitted		0.998			0.968	
Satd. Flow (perm)	0	5026	3479	0	1722	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	20	464	611	78	79	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	484	689	0	118	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 34.2%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations 

Traffic Vol, veh/h	18	418	550	70	71	35

Future Vol, veh/h	18	418	550	70	71	35

Conflicting Peds, #/hr	0	0	0	0	0	0

Sign Control	Free	Free	Free	Free	Stop	Stop

RT Channelized	-	None	-	None	-	None

Storage Length	-	-	-	-	0	-

Veh in Median Storage, #	-	0	0	-	0	-

Grade, %	-	0	0	-	0	-

Peak Hour Factor	90	90	90	90	90	90

Heavy Vehicles, %	3	3	2	2	2	2

Mvmt Flow	20	464	611	78	79	39

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	689	0	0	876	345

Stage 1	-	-	-	650	-

Stage 2	-	-	-	226	-

Critical Hdwy	4.16	-	-	6.29	6.94

Critical Hdwy Stg 1	-	-	-	5.84	-

Critical Hdwy Stg 2	-	-	-	6.04	-

Follow-up Hdwy	2.23	-	-	3.67	3.32

Pot Cap-1 Maneuver	895	-	-	321	651

Stage 1	-	-	-	467	-

Stage 2	-	-	-	752	-

Platoon blocked, %	-	-	-	-	-

Mov Cap-1 Maneuver	895	-	-	311	651

Mov Cap-2 Maneuver	-	-	-	311	-

Stage 1	-	-	-	453	-

Stage 2	-	-	-	752	-

Approach	EB	WB	SB

HCM Control Delay, s	0.5	0	18.9

HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	895	-	-	-	376

HCM Lane V/C Ratio	0.022	-	-	-	0.313

HCM Control Delay (s)	9.1	0.1	-	-	18.9

HCM Lane LOS	A	A	-	-	C

HCM 95th %tile Q(veh)	0.1	-	-	-	1.3

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

No-Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	6	1	0	0	6	326	9	0	452	3
Future Volume (vph)	3	0	6	1	0	0	6	326	9	0	452	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.905						0.996			0.999	
Flt Protected		0.985			0.950			0.999				
Satd. Flow (prot)	0	1660	0	0	1770	0	0	1853	0	1863	1861	0
Flt Permitted		0.985			0.950			0.999				
Satd. Flow (perm)	0	1660	0	0	1770	0	0	1853	0	1863	1861	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	0	7	1	0	0	7	362	10	0	502	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	1	0	0	379	0	0	505	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 34.0%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.2

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

Lane Configurations		↕			↕			↕		↕	↕	
Traffic Vol, veh/h	3	0	6	1	0	0	6	326	9	0	452	3
Future Vol, veh/h	3	0	6	1	0	0	6	326	9	0	452	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	7	1	0	0	7	362	10	0	502	3

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	885	890	504	888	886	367	505	0
Stage 1	504	504	-	381	381	-	-	-
Stage 2	381	386	-	507	505	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	266	282	568	264	284	678	1060	-
Stage 1	550	541	-	641	613	-	-	-
Stage 2	641	610	-	548	540	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	264	280	568	259	282	678	1060	-
Mov Cap-2 Maneuver	264	280	-	259	282	-	-	-
Stage 1	546	541	-	636	608	-	-	-
Stage 2	636	605	-	542	540	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14	19	0.1	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1060	-	-	410	259	1186	-
HCM Lane V/C Ratio	0.006	-	-	0.024	0.004	-	-
HCM Control Delay (s)	8.4	0	-	14	19	0	-
HCM Lane LOS	A	A	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0	0	-

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1	4	51	0	21	4	271	54	30	400	5
Future Volume (vph)	4	1	4	51	0	21	4	271	54	30	400	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940				0.850		0.975			0.998	
Flt Protected		0.978			0.950		0.950			0.950		
Satd. Flow (prot)	0	1712	0	0	1687	1509	1770	1816	0	1770	1859	0
Flt Permitted		0.978			0.950		0.950			0.950		
Satd. Flow (perm)	0	1712	0	0	1687	1509	1770	1816	0	1770	1859	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	4	1	4	57	0	23	4	301	60	33	444	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	57	23	4	361	0	33	450	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 37.1%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.1

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

Lane Configurations												
Traffic Vol, veh/h	4	1	4	51	0	21	4	271	54	30	400	5
Future Vol, veh/h	4	1	4	51	0	21	4	271	54	30	400	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	7	7	7	2	2	2	2	2	2
Mvmt Flow	4	1	4	57	0	23	4	301	60	33	444	6

Major/Minor	Minor2	Minor1	Major1	Major2
Conflicting Flow All	864	882	447	855
Stage 1	513	513	-	339
Stage 2	351	369	-	516
Critical Hdwy	7.12	6.52	6.22	7.17
Critical Hdwy Stg 1	6.12	5.52	-	6.17
Critical Hdwy Stg 2	6.12	5.52	-	6.17
Follow-up Hdwy	3.518	4.018	3.318	3.563
Pot Cap-1 Maneuver	274	285	612	273
Stage 1	544	536	-	665
Stage 2	666	621	-	533
Platoon blocked, %				
Mov Cap-1 Maneuver	259	276	612	264
Mov Cap-2 Maneuver	259	276	-	264
Stage 1	542	521	-	662
Stage 2	641	619	-	513

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	18.8	0.1	0.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1110	-	-	352	264	699	1198
HCM Lane V/C Ratio	0.004	-	-	0.028	0.215	0.033	0.028
HCM Control Delay (s)	8.3	-	-	15.5	22.3	10.3	8.1
HCM Lane LOS	A	-	-	C	C	B	A
HCM 95th %tile Q(veh)	0	-	-	0.1	0.8	0.1	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	45	251	314	46	91	121
Future Volume (vph)	45	251	314	46	91	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125			0	0	0
Storage Lanes	1			0	1	0
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.983		0.923	
Flt Protected	0.950				0.979	
Satd. Flow (prot)	1770	1863	1831	0	1683	0
Flt Permitted	0.950				0.979	
Satd. Flow (perm)	1770	1863	1831	0	1683	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		345	318		387	
Travel Time (s)		6.7	6.2		10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	50	279	349	51	101	134
Shared Lane Traffic (%)						
Lane Group Flow (vph)	50	279	400	0	235	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 45.1%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations						
Traffic Vol, veh/h	45	251	314	46	91	121
Future Vol, veh/h	45	251	314	46	91	121
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	125	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	50	279	349	51	101	134

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	400	0	0	754	375
Stage 1	-	-	-	375	-
Stage 2	-	-	-	379	-
Critical Hdwy	4.12	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	3.518	3.318
Pot Cap-1 Maneuver	1159	-	-	377	671
Stage 1	-	-	-	695	-
Stage 2	-	-	-	692	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1159	-	-	361	671
Mov Cap-2 Maneuver	-	-	-	474	-
Stage 1	-	-	-	665	-
Stage 2	-	-	-	692	-

Approach	EB	WB	SB

HCM Control Delay, s	1.3	0	15.7
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	1159	-	-	-	569
HCM Lane V/C Ratio	0.043	-	-	-	0.414
HCM Control Delay (s)	8.2	-	-	-	15.7
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	2

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	215	127	61	216	144	108
Future Volume (vph)	215	127	61	216	144	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.950					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1770	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1770	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	239	141	68	240	160	120
Shared Lane Traffic (%)						
Lane Group Flow (vph)	380	0	68	240	160	120
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 40.4%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 4.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	215	127	61	216	144	108
Future Vol, veh/h	215	127	61	216	144	108
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	239	141	68	240	160	120

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	380
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1178
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1178
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	494	730	-	-	1178	-
HCM Lane V/C Ratio	0.324	0.164	-	-	0.058	-
HCM Control Delay (s)	15.7	10.9	-	-	8.2	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.4	0.6	-	-	0.2	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	322	1	99	267	10	76
Future Volume (vph)	322	1	99	267	10	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1863	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1863	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	358	1	110	297	11	84
Shared Lane Traffic (%)						
Lane Group Flow (vph)	359	0	110	297	11	84
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 35.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	322	1	99	267	10	76
Future Vol, veh/h	322	1	99	267	10	76
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	358	1	110	297	11	84

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	359
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.12	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.218	-
Pot Cap-1 Maneuver	-	1200	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1200	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.2	11.8
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	290	685	-	-	1200	-
HCM Lane V/C Ratio	0.038	0.123	-	-	0.092	-
HCM Control Delay (s)	17.9	11	-	-	8.3	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	0.4	-	-	0.3	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Build (2024) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 		 	 			 	
Traffic Volume (vph)	59	8	321	5	8	9	340	1681	3	7	1798	79
Future Volume (vph)	59	8	321	5	8	9	340	1681	3	7	1798	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.946							0.850
Flt Protected		0.958			0.988		0.950			0.950		
Satd. Flow (prot)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Flt Permitted		0.958			0.988		0.950			0.950		
Satd. Flow (perm)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	9%	9%	9%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	66	9	357	6	9	10	378	1868	3	8	1998	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	75	357	0	25	0	378	1871	0	8	1998	88
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	22.0	22.0	37.0	20.0	20.0		37.0	123.0		15.0	101.0	22.0
Total Split (%)	12.2%	12.2%	20.6%	11.1%	11.1%		20.6%	68.3%		8.3%	56.1%	12.2%
Maximum Green (s)	15.4	15.4	30.3	13.3	13.3		30.3	116.9		8.5	94.9	15.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		13.8	46.0		9.3		27.3	141.4		9.1	115.2	130.9
Actuated g/C Ratio		0.08	0.26		0.05		0.15	0.79		0.05	0.64	0.73
v/c Ratio		0.57	0.52		0.30		0.73	0.68		0.09	0.89	0.08
Control Delay		96.0	59.2		91.5		81.4	13.6		76.0	25.1	3.0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		96.0	59.2		91.5		81.4	13.6		76.0	25.1	3.0
LOS		F	E		F		F	B		E	C	A
Approach Delay		65.6			91.5			25.0			24.3	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)		87	206		29		222	462		9	797	12
Queue Length 95th (ft)		145	246		66		273	888		m11	#1471	m19
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		167	767		135		609	2754		97	2242	1172
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.45	0.47		0.19		0.62	0.68		0.08	0.89	0.08

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 28.7
Intersection Capacity Utilization 82.3%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
ICU Level of Service E

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

			
Ø2 (R)	Ø1	Ø4	Ø3
123 s	15 s	20 s	22 s
			
Ø5	Ø6 (R)		
37 s	101 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	65	0	1749	1819	67
Future Volume (vph)	0	65	0	1749	1819	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1596	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1596	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	72	0	1943	2021	74
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	72	0	1943	2021	74
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 61.0%

ICU Level of Service B

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.5

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	65	0	1749	1819	67
Future Vol, veh/h	0	65	0	1749	1819	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	72	0	1943	2021	74

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	-	1011	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	236	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	236	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	26.8	0	0
HCM LOS	D		

Minor Lane/Major Mvmt NBT EBLn1 SBT

Capacity (veh/h)	-	236	-
HCM Lane V/C Ratio	-	0.306	-
HCM Control Delay (s)	-	26.8	-
HCM Lane LOS	-	D	-
HCM 95th %tile Q(veh)	-	1.2	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	129	39	18	62	49	28	51	1651	47	13	1806	254
Future Volume (vph)	129	39	18	62	49	28	51	1651	47	13	1806	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.952			0.945			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1748	0	1761	1751	0	1778	3543	0	1778	3557	1591
Flt Permitted	0.546			0.687			0.039			0.061		
Satd. Flow (perm)	1002	1748	0	1273	1751	0	73	3543	0	114	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	143	43	20	69	54	31	57	1834	52	14	2007	282
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	63	0	69	85	0	57	1886	0	14	2007	282
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	21.0	39.0		15.0	33.0		15.0	111.0		15.0	111.0	21.0
Total Split (%)	11.7%	21.7%		8.3%	18.3%		8.3%	61.7%		8.3%	61.7%	11.7%
Maximum Green (s)	14.7	32.6		9.1	26.6		8.9	104.9		9.4	104.9	14.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	29.8	20.3		29.8	14.5		131.2	130.1		133.2	123.9	144.0
Actuated g/C Ratio	0.17	0.11		0.17	0.08		0.73	0.72		0.74	0.69	0.80
v/c Ratio	0.62	0.32		0.29	0.60		0.42	0.74		0.09	0.82	0.22
Control Delay	75.7	76.5		62.8	96.8		40.9	7.8		5.3	12.2	1.9

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.7	0.0
Total Delay	75.7	76.5		62.8	96.8		40.9	7.8		5.3	12.9	1.9
LOS	E	E		E	F		D	A		A	B	A
Approach Delay		75.9			81.6			8.7			11.5	
Approach LOS		E			F			A			B	
Queue Length 50th (ft)	150	70		69	99		8	191		2	365	25
Queue Length 95th (ft)	218	120		116	160		m46	97		m3	723	m30
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	235	330		241	272		150	2561		177	2448	1278
Starvation Cap Reductn	0	0		0	0		0	0		0	162	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.61	0.19		0.29	0.31		0.38	0.74		0.08	0.88	0.22

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 177 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.82
 Intersection Signal Delay: 15.6
 Intersection Capacity Utilization 72.1%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	111 s	15 s	39 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	111 s	21 s	33 s

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Build (2024) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	26	10	141	132	15	15	146	1526	136	2	1800	74
Future Volume (vph)	26	10	141	132	15	15	146	1526	136	2	1800	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1710	1835	1530	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.038			0.105		
Satd. Flow (perm)	1710	1835	1530	3400	1845	1568	71	3539	1568	194	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		958			778			783			1413	
Travel Time (s)		18.7			15.2			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	3%	5%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	29	11	157	147	17	17	162	1696	151	2	2000	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	11	157	147	17	17	162	1696	151	2	2000	82
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	13.6	43.5	16.7	13.6	43.5	13.4	16.7	109.5	13.6	13.4	106.2	13.6
Total Split (%)	7.6%	24.2%	9.3%	7.6%	24.2%	7.4%	9.3%	60.8%	7.6%	7.4%	59.0%	7.6%
Maximum Green (s)	7.2	37.0	10.4	7.0	37.0	7.0	10.4	103.0	7.0	7.0	99.7	7.2
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	8.6	8.8	28.1	11.3	8.8	16.8	148.0	145.0	163.3	150.0	125.6	139.2
Actuated g/C Ratio	0.05	0.05	0.16	0.06	0.05	0.09	0.82	0.81	0.91	0.83	0.70	0.77
v/c Ratio	0.36	0.12	0.66	0.69	0.19	0.12	0.60	0.60	0.11	0.01	0.81	0.07
Control Delay	95.7	84.8	83.4	97.0	87.0	72.7	64.1	4.6	1.1	3.0	9.1	1.8

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0
Total Delay	95.7	84.8	83.4	97.0	87.0	72.7	64.1	4.8	1.1	3.0	9.3	1.8
LOS	F	F	F	F	F	E	E	A	A	A	A	A
Approach Delay		85.3			93.8			9.3			9.0	
Approach LOS		F			F			A			A	
Queue Length 50th (ft)	34	13	182	83	20	18	141	197	9	0	234	10
Queue Length 95th (ft)	74	37	245	#164	49	45	m219	205	m20	m0	303	m13
Internal Link Dist (ft)		878			698			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	81	392	238	213	394	146	269	2850	1422	234	2469	1223
Starvation Cap Reductn	0	0	0	0	0	0	0	267	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	70	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.03	0.66	0.69	0.04	0.12	0.60	0.66	0.11	0.01	0.83	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 175 (97%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 15.9
Intersection Capacity Utilization 80.8%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

											
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)		Ø7	Ø8	
13.4 s	109.5 s		13.6 s	43.5 s		16.7 s	106.2 s		13.6 s	43.5 s	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Build (2024) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	76	53	47	186	93	102	78	1381	108	81	1616	7
Future Volume (vph)	76	53	47	186	93	102	78	1381	108	81	1616	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.930			0.922				0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1732	0	3367	1684	0	1770	3539	1583	1770	3536	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1732	0	3367	1684	0	1770	3539	1583	1770	3536	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	84	59	52	207	103	113	87	1534	120	90	1796	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	111	0	207	216	0	87	1534	120	90	1804	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	20.0	20.0		38.0	38.0		20.0	102.0		20.0	102.0	
Total Split (%)	11.1%	11.1%		21.1%	21.1%		11.1%	56.7%		11.1%	56.7%	
Maximum Green (s)	13.6	13.1		31.2	31.3		13.2	95.2		13.3	95.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	13.1	23.0		18.2	28.1		15.0	105.2	180.0	13.7	103.8	
Actuated g/C Ratio	0.07	0.13		0.10	0.16		0.08	0.58	1.00	0.08	0.58	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.66	0.50		0.61	0.82		0.59	0.74	0.08	0.67	0.88	
Control Delay	104.4	80.6		85.0	97.7		78.7	17.6	0.1	104.8	40.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	104.4	80.6		85.0	97.7		78.7	17.6	0.1	104.8	40.3	
LOS	F	F		F	F		E	B	A	F	D	
Approach Delay		90.8			91.5			19.4			43.4	
Approach LOS		F			F			B			D	
Queue Length 50th (ft)	98	123		123	249		102	767	0	105	974	
Queue Length 95th (ft)	163	195		167	346		162	521	0	173	1161	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	147	221		617	308		147	2067	1583	148	2039	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.57	0.50		0.34	0.70		0.59	0.74	0.08	0.61	0.88	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 8 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 40.5
Intersection Capacity Utilization 84.4%
Analysis Period (min) 15

Intersection LOS: D
ICU Level of Service E

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	300	55	125	270	83	56	415	86	89	536	212
Future Volume (vph)	350	300	55	125	270	83	56	415	86	89	536	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.977				0.850		0.974			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1811	0	1692	1781	1514	1710	3330	0	1744	3339	0
Flt Permitted	0.950			0.307			0.950			0.950		
Satd. Flow (perm)	1761	1811	0	547	1781	1514	1710	3330	0	1744	3339	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	389	333	61	139	300	92	62	461	96	99	596	236
Shared Lane Traffic (%)												
Lane Group Flow (vph)	389	394	0	139	300	92	62	557	0	99	832	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	35.0	35.0		35.0	35.0	20.0	20.0	40.0		20.0	40.0	
Total Split (%)	26.9%	26.9%		26.9%	26.9%	15.4%	15.4%	30.8%		15.4%	30.8%	
Maximum Green (s)	29.1	29.1		29.4	29.1	14.1	13.8	34.3		14.1	34.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.3	45.0		56.2	26.0	43.1	10.0	41.6		12.1	46.4	
Actuated g/C Ratio	0.23	0.35		0.43	0.20	0.33	0.08	0.32		0.09	0.36	
v/c Ratio	0.95	0.63		0.41	0.85	0.18	0.47	0.52		0.61	0.70	
Control Delay	82.9	40.6		25.4	75.0	29.5	69.0	39.7		72.1	41.7	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	82.9	40.6		25.4	75.0	29.5	69.0	39.7		72.1	41.7	
LOS	F	D		C	E	C	E	D		E	D	
Approach Delay		61.6			54.1			42.6			44.9	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	326	273		63	257	56	51	204		81	326	
Queue Length 95th (ft)	#527	390		98	357	81	97	281		140	#463	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	412	626		521	411	535	197	1066		201	1192	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.94	0.63		0.27	0.73	0.17	0.31	0.52		0.49	0.70	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 50.7
Intersection Capacity Utilization 77.7%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: D
ICU Level of Service D

Splits and Phases: 200: Franklin Street & Estes Dr

 Ø1	 Ø2 (R)	 Ø3	 Ø4
20 s	40 s	35 s	35 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
20 s	40 s	35 s	35 s

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	150	321	4	6	267	38	3	9	11	25	5	208
Future Volume (vph)	150	321	4	6	267	38	3	9	11	25	5	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.981			0.935				0.850
Flt Protected	0.950			0.950				0.994			0.960	
Satd. Flow (prot)	1736	3464	0	1752	3438	0	0	1715	0	0	1745	1545
Flt Permitted	0.950			0.536				0.951			0.986	
Satd. Flow (perm)	1736	3464	0	989	3438	0	0	1641	0	0	1792	1545
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	167	357	4	7	297	42	3	10	12	28	6	231
Shared Lane Traffic (%)												
Lane Group Flow (vph)	167	361	0	7	339	0	0	25	0	0	34	231
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	12.1	15.1		22.2	22.2		28.7	28.7		12.8	12.8	12.1
Total Split (s)	18.0	42.0		24.0	24.0		23.0	23.0		23.0	23.0	18.0
Total Split (%)	27.7%	64.6%		36.9%	36.9%		35.4%	35.4%		35.4%	35.4%	27.7%
Maximum Green (s)	12.9	36.9		18.8	18.8		17.3	17.3		17.2	17.2	12.9
Yellow Time (s)	3.0	3.8		3.8	3.8		3.3	3.3		3.8	3.8	3.0
All-Red Time (s)	2.1	1.3		1.4	1.4		2.4	2.4		2.0	2.0	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.2	-0.2			-0.7			-0.8	-0.8
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	4.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				10.0	10.0		16.0	16.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	11.5	57.8		38.3	38.3			7.8			7.9	17.4
Actuated g/C Ratio	0.18	0.89		0.59	0.59			0.12			0.12	0.27
v/c Ratio	0.54	0.12		0.01	0.17			0.13			0.16	0.56
Control Delay	26.7	1.4		9.7	8.3			27.2			27.5	23.9

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	26.7	1.4		9.7	8.3			27.2			27.5	23.9
LOS	C	A		A	A			C			C	C
Approach Delay		9.4			8.3			27.2			24.4	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	86	0		1	24			9			12	84
Queue Length 95th (ft)	112	25		8	68			28			35	106
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	357	3080		582	2024			454			496	458
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.47	0.12		0.01	0.17			0.06			0.07	0.50

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 12.9
Intersection Capacity Utilization 39.2%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	5	352	308	5	4	3
Future Volume (vph)	5	352	308	5	4	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.997		0.942	
Flt Protected		0.999			0.972	
Satd. Flow (prot)	0	3435	3494	0	1706	0
Flt Permitted		0.999			0.972	
Satd. Flow (perm)	0	3435	3494	0	1706	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	3%	3%	2%	2%
Adj. Flow (vph)	6	391	342	6	4	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	397	348	0	7	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 23.3%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	5	352	308	5	4	3
Future Vol, veh/h	5	352	308	5	4	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	3	3	2	2
Mvmt Flow	6	391	342	6	4	3

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	348	0	0	553	174
Stage 1	-	-	-	345	-
Stage 2	-	-	-	208	-
Critical Hdwy	4.2	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.25	-	-	3.52	3.32
Pot Cap-1 Maneuver	1186	-	-	463	839
Stage 1	-	-	-	688	-
Stage 2	-	-	-	807	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1186	-	-	460	839
Mov Cap-2 Maneuver	-	-	-	460	-
Stage 1	-	-	-	684	-
Stage 2	-	-	-	807	-

Approach	EB	WB	SB

HCM Control Delay, s	0.1	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	1186	-	-	-	570
HCM Lane V/C Ratio	0.005	-	-	-	0.014
HCM Control Delay (s)	8.1	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	25	326	5	5	287	34	8	0	12	28	0	18
Future Volume (vph)	25	326	5	5	287	34	8	0	12	28	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.984			0.920				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1736	3464	0	1752	3449	0	0	1679	0	0	1719	1538
Flt Permitted	0.950			0.950				0.980			0.950	
Satd. Flow (perm)	1736	3464	0	1752	3449	0	0	1679	0	0	1719	1538
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	28	362	6	6	319	38	9	0	13	31	0	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	28	368	0	6	357	0	0	22	0	0	31	20
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 30.4%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	25	326	5	5	287	34	8	0	12	28	0	18
Future Vol, veh/h	25	326	5	5	287	34	8	0	12	28	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	4	3	3	3	2	2	2	5	5	5
Mvmt Flow	28	362	6	6	319	38	9	0	13	31	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	357	0	0	368	0	0	593	790	184	587	774	179
Stage 1	-	-	-	-	-	-	421	421	-	350	350	-
Stage 2	-	-	-	-	-	-	172	369	-	237	424	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.54	6.54	6.94	7.6	6.6	7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.52	4.02	3.32	3.55	4.05	3.35
Pot Cap-1 Maneuver	1184	-	-	1180	-	-	389	321	827	387	322	824
Stage 1	-	-	-	-	-	-	581	587	-	631	624	-
Stage 2	-	-	-	-	-	-	813	619	-	736	578	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1184	-	-	1180	-	-	371	312	827	372	313	824
Mov Cap-2 Maneuver	-	-	-	-	-	-	371	312	-	372	313	-
Stage 1	-	-	-	-	-	-	567	573	-	616	621	-
Stage 2	-	-	-	-	-	-	789	616	-	707	564	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			0.1			11.8			13.2		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	554	1184	-	-	1180	-	-	372	824
HCM Lane V/C Ratio	0.04	0.023	-	-	0.005	-	-	0.084	0.024
HCM Control Delay (s)	11.8	8.1	-	-	8.1	-	-	15.6	9.5
HCM Lane LOS	B	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	21	345	311	70	29	15
Future Volume (vph)	21	345	311	70	29	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.972			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1736	3471	3407	0	1719	1538
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1736	3471	3407	0	1719	1538
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	5%	5%
Adj. Flow (vph)	23	383	346	78	32	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	383	424	0	32	17
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.5%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	345	311	70	29	15
Future Vol, veh/h	21	345	311	70	29	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	5	5
Mvmt Flow	23	383	346	78	32	17

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	424	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.18	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.24	-	-
Pot Cap-1 Maneuver	1118	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1118	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	13
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1118	-	-	-	402	784
HCM Lane V/C Ratio	0.021	-	-	-	0.08	0.021
HCM Control Delay (s)	8.3	-	-	-	14.7	9.7
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	12	362	370	57	26	11
Future Volume (vph)	12	362	370	57	26	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.980		0.960	
Flt Protected		0.998			0.966	
Satd. Flow (prot)	0	4930	3402	0	1694	0
Flt Permitted		0.998			0.966	
Satd. Flow (perm)	0	4930	3402	0	1694	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Adj. Flow (vph)	13	402	411	63	29	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	415	474	0	41	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations 

Traffic Vol, veh/h	12	362	370	57	26	11

Future Vol, veh/h	12	362	370	57	26	11

Conflicting Peds, #/hr	0	0	0	0	0	0

Sign Control	Free	Free	Free	Free	Stop	Stop

RT Channelized	-	None	-	None	-	None

Storage Length	-	-	-	-	0	-

Veh in Median Storage, #	-	0	0	-	0	-

Grade, %	-	0	0	-	0	-

Peak Hour Factor	90	90	90	90	90	90

Heavy Vehicles, %	5	5	4	4	4	4

Mvmt Flow	13	402	411	63	29	12

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	474	0	0	630	237

Stage 1	-	-	-	443	-

Stage 2	-	-	-	187	-

Critical Hdwy	4.2	-	-	6.33	6.98

Critical Hdwy Stg 1	-	-	-	5.88	-

Critical Hdwy Stg 2	-	-	-	6.08	-

Follow-up Hdwy	2.25	-	-	3.69	3.34

Pot Cap-1 Maneuver	1063	-	-	437	758

Stage 1	-	-	-	589	-

Stage 2	-	-	-	782	-

Platoon blocked, %	-	-	-	-	-

Mov Cap-1 Maneuver	1063	-	-	430	758

Mov Cap-2 Maneuver	-	-	-	430	-

Stage 1	-	-	-	580	-

Stage 2	-	-	-	782	-

Approach	EB	WB	SB

HCM Control Delay, s	0.3	0	13

HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	1063	-	-	-	493

HCM Lane V/C Ratio	0.013	-	-	-	0.083

HCM Control Delay (s)	8.4	0	-	-	13

HCM Lane LOS	A	A	-	-	B

HCM 95th %tile Q(veh)	0	-	-	-	0.3

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	0	3	0	1	4	188	5	0	235	2
Future Volume (vph)	3	1	0	3	0	1	4	188	5	0	235	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.966			0.996			0.999	
Flt Protected		0.964			0.964			0.999				
Satd. Flow (prot)	0	1796	0	0	1735	0	0	1818	0	1845	1843	0
Flt Permitted		0.964			0.964			0.999				
Satd. Flow (perm)	0	1796	0	0	1735	0	0	1818	0	1845	1843	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	3	1	0	3	0	1	4	209	6	0	261	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	4	0	0	219	0	0	263	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 23.4%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	0	3	0	1	4	188	5	0	235	2
Future Vol, veh/h	3	1	0	3	0	1	4	188	5	0	235	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	3	3	3
Mvmt Flow	3	1	0	3	0	1	4	209	6	0	261	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	483	485	262	483	483	212	263	0	0	215	0	0
Stage 1	262	262	-	220	220	-	-	-	-	-	-	-
Stage 2	221	223	-	263	263	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	494	482	777	494	483	828	1290	-	-	1349	-	-
Stage 1	743	691	-	782	721	-	-	-	-	-	-	-
Stage 2	781	719	-	742	691	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	492	480	777	492	481	828	1290	-	-	1349	-	-
Mov Cap-2 Maneuver	492	480	-	492	481	-	-	-	-	-	-	-
Stage 1	740	691	-	779	718	-	-	-	-	-	-	-
Stage 2	777	716	-	741	691	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.4		11.6		0.2		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1290	-	-	489 548	1349	-	-
HCM Lane V/C Ratio	0.003	-	-	0.009 0.008	-	-	-
HCM Control Delay (s)	7.8	0	-	12.4 11.6	0	-	-
HCM Lane LOS	A	A	-	B B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

University Place TIA
302: Willow Ave & UPlace Access #7

Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	7	0	8	6	173	13	8	228	3
Future Volume (vph)	2	0	2	7	0	8	6	173	13	8	228	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932				0.850		0.990			0.998	
Flt Protected		0.976			0.950		0.950			0.950		
Satd. Flow (prot)	0	1694	0	0	1641	1468	1752	1826	0	1752	1841	0
Flt Permitted		0.976			0.950		0.950			0.950		
Satd. Flow (perm)	0	1694	0	0	1641	1468	1752	1826	0	1752	1841	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	2	0	2	8	0	9	7	192	14	9	253	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	8	9	7	206	0	9	256	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 26.6%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	0	2	7	0	8	6	173	13	8	228	3
Future Vol, veh/h	2	0	2	7	0	8	6	173	13	8	228	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	3	3	3
Mvmt Flow	2	0	2	8	0	9	7	192	14	9	253	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	491	493	255	487	487	199	256	0	0	206	0	0
Stage 1	273	273	-	213	213	-	-	-	-	-	-	-
Stage 2	218	220	-	274	274	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	488	477	784	478	469	822	1303	-	-	1359	-	-
Stage 1	733	684	-	771	711	-	-	-	-	-	-	-
Stage 2	784	721	-	715	669	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	478	471	784	472	463	822	1303	-	-	1359	-	-
Mov Cap-2 Maneuver	478	471	-	472	463	-	-	-	-	-	-	-
Stage 1	729	679	-	767	707	-	-	-	-	-	-	-
Stage 2	771	717	-	708	664	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	11	0.2	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1303	-	-	594 472 822	1359	-	-
HCM Lane V/C Ratio	0.005	-	-	0.007 0.016 0.011	0.007	-	-
HCM Control Delay (s)	7.8	-	-	11.1 12.8 9.4	7.7	-	-
HCM Lane LOS	A	-	-	B B A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1 0	0	-	-

University Place TIA
303: Future Access/Conner Drive & Willow Ave

Build (2024) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	85	16	23	193	109	13	3	28	17	4	33
Future Volume (vph)	82	85	16	23	193	109	13	3	28	17	4	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			0			100			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.976			0.946				0.850		0.917	
Flt Protected	0.950			0.950				0.960			0.984	
Satd. Flow (prot)	1736	1786	0	1752	1762	0	0	1771	1568	0	1620	0
Flt Permitted	0.950			0.950				0.960			0.984	
Satd. Flow (perm)	1736	1786	0	1752	1762	0	0	1771	1568	0	1620	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		345			318			321			387	
Travel Time (s)		6.7			6.2			8.8			10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	2%	2%	3%	3%	3%	6%	3%	6%
Adj. Flow (vph)	91	94	18	26	214	121	14	3	31	19	4	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	112	0	26	335	0	0	17	31	0	60	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.2%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 3.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	85	16	23	193	109	13	3	28	17	4	33
Future Vol, veh/h	82	85	16	23	193	109	13	3	28	17	4	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	2	2	3	3	3	6	3	6
Mvmt Flow	91	94	18	26	214	121	14	3	31	19	4	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	335	0	0	112	0	0	632	672	103	629	621	275
Stage 1	-	-	-	-	-	-	285	285	-	327	327	-
Stage 2	-	-	-	-	-	-	347	387	-	302	294	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.13	6.53	6.23	7.16	6.53	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.16	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.16	5.53	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.527	4.027	3.327	3.554	4.027	3.354
Pot Cap-1 Maneuver	1213	-	-	1471	-	-	392	376	949	389	402	754
Stage 1	-	-	-	-	-	-	720	674	-	677	646	-
Stage 2	-	-	-	-	-	-	667	608	-	699	668	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1213	-	-	1471	-	-	344	341	949	347	365	754
Mov Cap-2 Maneuver	-	-	-	-	-	-	344	341	-	347	365	-
Stage 1	-	-	-	-	-	-	666	623	-	626	634	-
Stage 2	-	-	-	-	-	-	619	597	-	622	618	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.7	0.5	11.5	12.8
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	343	949	1213	-	-	1471	-	-	521
HCM Lane V/C Ratio	0.052	0.033	0.075	-	-	0.017	-	-	0.115
HCM Control Delay (s)	16.1	8.9	8.2	-	-	7.5	-	-	12.8
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	0.2	-	-	0.1	-	-	0.4

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	107	23	31	297	28	47
Future Volume (vph)	107	23	31	297	28	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1766	0	1770	1863	1736	1553
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1766	0	1770	1863	1736	1553
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	4%	4%
Adj. Flow (vph)	119	26	34	330	31	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	145	0	34	330	31	52
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 25.6%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	107	23	31	297	28	47
Future Vol, veh/h	107	23	31	297	28	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	119	26	34	330	31	52

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	145
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1437
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1437
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	10.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	557	912	-	-	1437	-
HCM Lane V/C Ratio	0.056	0.057	-	-	0.024	-
HCM Control Delay (s)	11.8	9.2	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.1	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	150	4	30	324	4	36
Future Volume (vph)	150	4	30	324	4	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1804	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1804	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Adj. Flow (vph)	167	4	33	360	4	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	171	0	33	360	4	40
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	150	4	30	324	4	36
Future Vol, veh/h	150	4	30	324	4	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	167	4	33	360	4	40

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	171
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1406
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1406
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	456	875	-	-	1406	-
HCM Lane V/C Ratio	0.01	0.046	-	-	0.024	-
HCM Control Delay (s)	13	9.3	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Build (2024) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	107	12	424	5	12	9	729	1705	9	17	1642	97
Future Volume (vph)	107	12	424	5	12	9	729	1705	9	17	1642	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.953			0.999				0.850
Flt Protected		0.957			0.990		0.950			0.950		
Satd. Flow (prot)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Flt Permitted		0.957			0.990		0.950			0.950		
Satd. Flow (perm)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	119	13	471	6	13	10	810	1894	10	19	1824	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	132	471	0	29	0	810	1904	0	19	1824	108
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	25.0	25.0	41.0	20.0	20.0		41.0	120.0		15.0	94.0	25.0
Total Split (%)	13.9%	13.9%	22.8%	11.1%	11.1%		22.8%	66.7%		8.3%	52.2%	13.9%
Maximum Green (s)	18.4	18.4	34.3	13.3	13.3		34.3	113.9		8.5	87.9	18.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		17.7	65.2		9.5		46.5	131.5		9.4	89.0	111.7
Actuated g/C Ratio		0.10	0.36		0.05		0.26	0.73		0.05	0.49	0.62
v/c Ratio		0.75	0.47		0.34		0.91	0.74		0.21	1.04	0.11
Control Delay		104.5	37.3		92.7		79.3	19.1		77.0	64.7	9.7

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		104.5	37.3		92.7		79.3	19.1		77.0	64.7	9.7
LOS		F	D		F		E	B		E	E	A
Approach Delay		52.0			92.7			37.1			61.8	
Approach LOS		D			F			D			E	
Queue Length 50th (ft)		153	207		34		496	782		20	~1204	23
Queue Length 95th (ft)		234	261		73		#684	943		m27	#1337	m31
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		198	1009		135		886	2583		98	1749	1002
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.67	0.47		0.21		0.91	0.74		0.19	1.04	0.11

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 68 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.04

Intersection Signal Delay: 48.2

Intersection LOS: D

Intersection Capacity Utilization 91.9%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

			
Ø2 (R)	Ø1	Ø3	Ø4
120 s	15 s	25 s	20 s
			
Ø5			
41 s			
			
Ø6 (R)			
94 s			

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	210	0	1821	1546	208
Future Volume (vph)	0	210	0	1821	1546	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	233	0	2023	1718	231
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	233	0	2023	1718	231
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 62.4%
Analysis Period (min) 15

ICU Level of Service B

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	210	0	1821	1546	208
Future Vol, veh/h	0	210	0	1821	1546	208
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	233	0	2023	1718	231

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	859	-	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	300	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	300	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	48.9	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 300	-
HCM Lane V/C Ratio	- 0.778	-
HCM Control Delay (s)	- 48.9	-
HCM Lane LOS	- E	-
HCM 95th %tile Q(veh)	- 6.1	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	425	111	34	35	52	23	53	1732	36	35	1685	348
Future Volume (vph)	425	111	34	35	52	23	53	1732	36	35	1685	348
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.965			0.954			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1807	0	1744	1751	0	1778	3546	0	1778	3557	1591
Flt Permitted	0.560			0.498			0.038			0.038		
Satd. Flow (perm)	1048	1807	0	914	1751	0	71	3546	0	71	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	472	123	38	39	58	26	59	1924	40	39	1872	387
Shared Lane Traffic (%)												
Lane Group Flow (vph)	472	161	0	39	84	0	59	1964	0	39	1872	387
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	35.0	43.0		15.0	23.0		15.0	107.0		15.0	107.0	35.0
Total Split (%)	19.4%	23.9%		8.3%	12.8%		8.3%	59.4%		8.3%	59.4%	19.4%
Maximum Green (s)	28.7	36.6		9.1	16.6		8.9	100.9		9.4	100.9	28.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.3
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	44.0	37.9		45.0	14.0		116.0	109.0		117.0	107.3	142.3
Actuated g/C Ratio	0.24	0.21		0.25	0.08		0.64	0.61		0.65	0.60	0.79
v/c Ratio	1.25	0.42		0.15	0.62		0.46	0.92		0.29	0.88	0.31
Control Delay	181.8	66.0		48.9	98.9		50.0	25.1		27.4	23.7	3.1

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

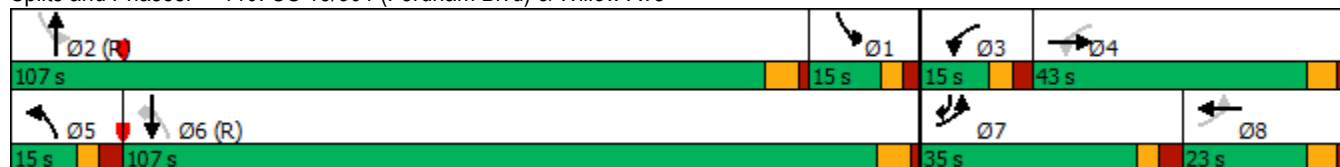
Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	3.9	0.0
Total Delay	181.8	66.0		48.9	98.9		50.0	25.1		27.4	27.6	3.1
LOS	F	E		D	F		D	C		C	C	A
Approach Delay		152.3			83.1			25.8			23.5	
Approach LOS		F			F			C			C	
Queue Length 50th (ft)	~585	169		35	98		17	1126		12	580	51
Queue Length 95th (ft)	#770	248		68	160		m45	#1356		m14	812	m60
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	378	393		279	175		141	2146		141	2120	1257
Starvation Cap Reductn	0	0		0	0		0	0		0	183	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.25	0.41		0.14	0.48		0.42	0.92		0.28	0.97	0.31

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 65 (36%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.25
Intersection Signal Delay: 41.9
Intersection Capacity Utilization 87.6%
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave



University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Build (2024) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	119	15	249	154	20	3	248	1743	190	12	1665	150
Future Volume (vph)	119	15	249	154	20	3	248	1743	190	12	1665	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1835	1560	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.039			0.065		
Satd. Flow (perm)	1744	1835	1560	3400	1845	1568	73	3539	1568	120	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		967			755			783			1413	
Travel Time (s)		18.8			14.7			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	132	17	277	171	22	3	276	1937	211	13	1850	167
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	17	277	171	22	3	276	1937	211	13	1850	167
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	19.0	44.0	26.2	15.6	40.6	13.4	26.2	107.0	15.6	13.4	94.2	19.0
Total Split (%)	10.6%	24.4%	14.6%	8.7%	22.6%	7.4%	14.6%	59.4%	8.7%	7.4%	52.3%	10.6%
Maximum Green (s)	12.6	37.5	19.9	9.0	34.1	7.0	19.9	100.5	9.0	7.0	87.7	12.6
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	14.0	11.1	47.5	12.0	9.1	14.1	142.3	139.3	155.3	144.3	105.6	124.6
Actuated g/C Ratio	0.08	0.06	0.26	0.07	0.05	0.08	0.79	0.77	0.86	0.80	0.59	0.69
v/c Ratio	0.98	0.15	0.67	0.76	0.24	0.02	0.68	0.71	0.16	0.08	0.89	0.15
Control Delay	151.1	81.7	67.1	102.6	88.2	55.0	71.7	5.0	1.8	11.1	36.5	12.5

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Build (2024) PM
01/15/2021

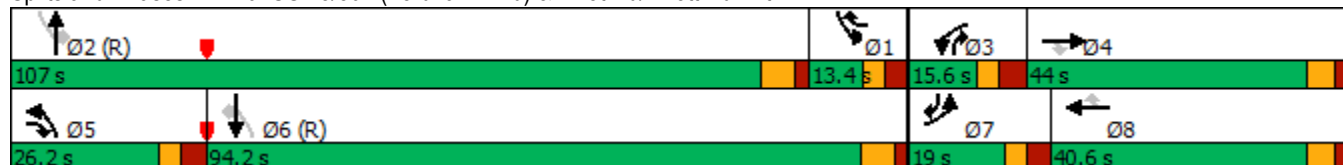
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	2.0	0.0
Total Delay	151.1	81.7	67.1	102.6	88.2	55.0	71.7	5.4	1.8	11.1	38.5	12.5
LOS	F	F	E	F	F	D	E	A	A	B	D	B
Approach Delay		93.7			100.3			12.6			36.2	
Approach LOS		F			F			B			D	
Queue Length 50th (ft)	159	19	285	105	26	3	272	242	24	5	662	69
Queue Length 95th (ft)	#311	48	380	#176	60	13	m284	m305	m27	m7	m691	m74
Internal Link Dist (ft)		887			675			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	135	397	411	226	364	122	404	2738	1352	172	2075	1095
Starvation Cap Reductn	0	0	0	0	0	0	0	301	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	118	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.04	0.67	0.76	0.06	0.02	0.68	0.79	0.16	0.08	0.95	0.15

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 79 (44%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 145
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.98
 Intersection Signal Delay: 32.2
 Intersection Capacity Utilization 85.5%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
 ICU Level of Service E

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext



University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	94	98	226	116	90	116	1608	141	134	1579	18
Future Volume (vph)	109	94	98	226	116	90	116	1608	141	134	1579	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.923			0.934				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1719	0	3433	1740	0	1770	3539	1583	1770	3532	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1719	0	3433	1740	0	1770	3539	1583	1770	3532	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	121	104	109	251	129	100	129	1787	157	149	1754	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	213	0	251	229	0	129	1787	157	149	1774	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	26.0	30.0		35.0	39.0		26.0	92.0		23.0	89.0	
Total Split (%)	14.4%	16.7%		19.4%	21.7%		14.4%	51.1%		12.8%	49.4%	
Maximum Green (s)	19.6	23.1		28.2	32.3		19.2	85.2		16.3	82.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	17.3	29.1		20.3	32.0		19.2	92.2	180.0	18.5	91.4	
Actuated g/C Ratio	0.10	0.16		0.11	0.18		0.11	0.51	1.00	0.10	0.51	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.71	0.77		0.65	0.74		0.69	0.99	0.10	0.82	0.99	
Control Delay	100.7	90.3		84.3	85.0		98.3	50.3	0.1	110.2	61.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	100.7	90.3		84.3	85.0		98.3	50.3	0.1	110.2	61.7	
LOS	F	F		F	F		F	D	A	F	E	
Approach Delay		94.1			84.6			49.5			65.4	
Approach LOS		F			F			D			E	
Queue Length 50th (ft)	141	241		148	257		144	~1226	0	173	~1183	
Queue Length 95th (ft)	216	#348		195	361		m205	m#1357	m0	#309	#1353	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	206	281		572	329		206	1812	1583	186	1794	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.59	0.76		0.44	0.70		0.63	0.99	0.10	0.80	0.99	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 102 (57%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 62.5

Intersection LOS: E

Intersection Capacity Utilization 86.2%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	391	95	212	373	226	62	763	186	105	662	379
Future Volume (vph)	318	391	95	212	373	226	62	763	186	105	662	379
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.971				0.850		0.971			0.945	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1818	0	1725	1816	1544	1743	3385	0	1778	3361	0
Flt Permitted	0.950			0.087			0.950			0.950		
Satd. Flow (perm)	1778	1818	0	158	1816	1544	1743	3385	0	1778	3361	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	353	434	106	236	414	251	69	848	207	117	736	421
Shared Lane Traffic (%)												
Lane Group Flow (vph)	353	540	0	236	414	251	69	1055	0	117	1157	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	40.0	53.0		20.0	33.0	20.0	15.0	57.0		20.0	62.0	
Total Split (%)	26.7%	35.3%		13.3%	22.0%	13.3%	10.0%	38.0%		13.3%	41.3%	
Maximum Green (s)	34.1	47.1		14.4	27.1	14.1	8.8	51.3		14.1	56.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	32.7	48.0		65.1	32.4	50.9	9.4	51.4		13.5	55.5	
Actuated g/C Ratio	0.22	0.32		0.43	0.22	0.34	0.06	0.34		0.09	0.37	
v/c Ratio	0.91	0.93		0.96	1.06	0.48	0.63	0.91		0.74	0.93	
Control Delay	85.1	72.8		86.8	113.8	41.8	93.4	59.1		92.1	58.8	

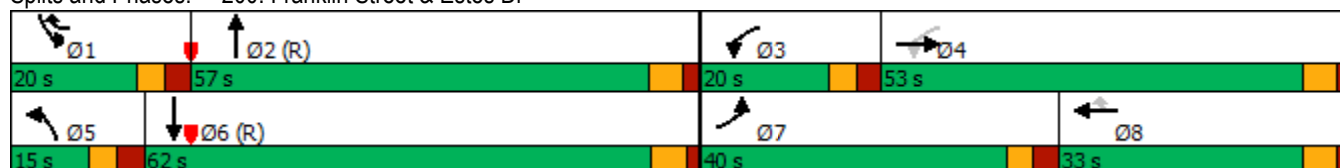
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	85.1	72.8		86.8	113.8	41.8	93.4	59.1		92.1	58.8	
LOS	F	E		F	F	D	F	E		F	E	
Approach Delay		77.7			86.7			61.3			61.9	
Approach LOS		E			F			E			E	
Queue Length 50th (ft)	333	512		~204	~480	191	67	515		112	561	
Queue Length 95th (ft)	#500	#737		#384	#724	261	#130	#622		#193	#673	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	414	581		246	391	539	116	1173		177	1277	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.85	0.93		0.96	1.06	0.47	0.59	0.90		0.66	0.91	

Intersection Summary

Area Type: Other
 Cycle Length: 150
 Actuated Cycle Length: 150
 Offset: 104 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 130
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.06
 Intersection Signal Delay: 70.4
 Intersection Capacity Utilization 91.0%
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.

Intersection LOS: E
 ICU Level of Service F

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	293	386	3	12	437	31	6	8	7	53	8	368
Future Volume (vph)	293	386	3	12	437	31	6	8	7	53	8	368
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.990			0.955				0.850
Flt Protected	0.950			0.950				0.986			0.958	
Satd. Flow (prot)	1770	3536	0	1770	3504	0	0	1754	0	0	1776	1575
Flt Permitted	0.950			0.501				0.890			0.737	
Satd. Flow (perm)	1770	3536	0	933	3504	0	0	1584	0	0	1366	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	326	429	3	13	486	34	7	9	8	59	9	409
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	432	0	13	520	0	0	24	0	0	68	409
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	13.2	15.7		21.4	21.4		30.6	30.6		12.9	12.9	13.2
Total Split (s)	20.0	46.0		26.0	26.0		29.0	29.0		29.0	29.0	20.0
Total Split (%)	26.7%	61.3%		34.7%	34.7%		38.7%	38.7%		38.7%	38.7%	26.7%
Maximum Green (s)	13.8	40.3		20.6	20.6		23.4	23.4		23.1	23.1	13.8
Yellow Time (s)	3.0	3.7		3.9	3.9		3.6	3.6		3.9	3.9	3.0
All-Red Time (s)	3.2	2.0		1.5	1.5		2.0	2.0		2.0	2.0	3.2
Lost Time Adjust (s)	-1.2	-0.7		-0.4	-0.4			-0.6			-0.9	-1.2
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				9.0	9.0		18.0	18.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	20.0	59.1		33.1	33.1			9.5			9.5	31.9
Actuated g/C Ratio	0.27	0.79		0.44	0.44			0.13			0.13	0.43
v/c Ratio	0.69	0.16		0.03	0.34			0.12			0.39	0.61
Control Delay	29.3	4.1		16.8	16.7			29.3			36.4	19.5

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Build (2024) PM
01/15/2021

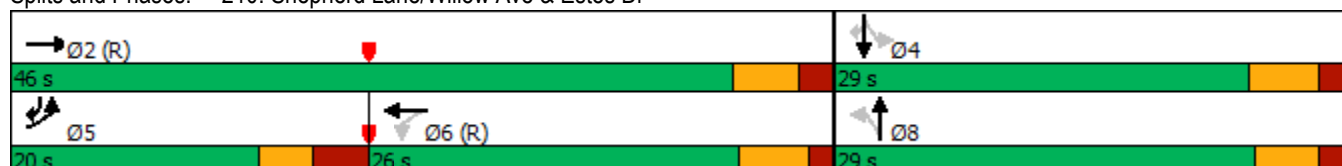
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	29.3	4.1		16.8	16.7			29.3			36.4	19.5
LOS	C	A		B	B			C			D	B
Approach Delay		14.9			16.7			29.3			21.9	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	191	51		4	85			10			30	134
Queue Length 95th (ft)	m250	m68		16	145			30			64	174
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	472	2784		411	1544			506			437	670
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.69	0.16		0.03	0.34			0.05			0.16	0.61

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 61 (81%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 17.5
 Intersection Capacity Utilization 54.2%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
 ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 		 	
Traffic Volume (vph)	14	432	468	14	12	12
Future Volume (vph)	14	432	468	14	12	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.996		0.932	
Flt Protected		0.998			0.976	
Satd. Flow (prot)	0	3498	3525	0	1694	0
Flt Permitted		0.998			0.976	
Satd. Flow (perm)	0	3498	3525	0	1694	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	16	480	520	16	13	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	496	536	0	26	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.1%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations      

Traffic Vol, veh/h 14 432 468 14 12 12

Future Vol, veh/h 14 432 468 14 12 12

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 90 90 90 90 90 90

Heavy Vehicles, % 3 3 2 2 2 2

Mvmt Flow 16 480 520 16 13 13

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 536 0 - 0 800 268

Stage 1 - - - - 528 -

Stage 2 - - - - 272 -

Critical Hdwy 4.16 - - - 6.84 6.94

Critical Hdwy Stg 1 - - - - 5.84 -

Critical Hdwy Stg 2 - - - - 5.84 -

Follow-up Hdwy 2.23 - - - 3.52 3.32

Pot Cap-1 Maneuver 1021 - - - 322 730

Stage 1 - - - - 556 -

Stage 2 - - - - 749 -

Platoon blocked, % - - - -

Mov Cap-1 Maneuver 1021 - - - 315 730

Mov Cap-2 Maneuver - - - - 315 -

Stage 1 - - - - 544 -

Stage 2 - - - - 749 -

Approach EB WB SB

HCM Control Delay, s 0.4 0 13.7

HCM LOS B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h) 1021 - - - 440

HCM Lane V/C Ratio 0.015 - - - 0.061

HCM Control Delay (s) 8.6 0.1 - - 13.7

HCM Lane LOS A A - - B

HCM 95th %tile Q(veh) 0 - - - 0.2

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	74	369	1	7	424	104	2	0	6	89	0	56
Future Volume (vph)	74	369	1	7	424	104	2	0	6	89	0	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.970			0.895				0.850
Flt Protected	0.950			0.950				0.989			0.950	
Satd. Flow (prot)	1770	3539	0	1770	3433	0	0	1649	0	0	1770	1583
Flt Permitted	0.950			0.950				0.989			0.950	
Satd. Flow (perm)	1770	3539	0	1770	3433	0	0	1649	0	0	1770	1583
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	82	410	1	8	471	116	2	0	7	99	0	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	82	411	0	8	587	0	0	9	0	0	99	62
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 40.7%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh	4.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	74	369	1	7	424	104	2	0	6	89	0	56
Future Vol, veh/h	74	369	1	7	424	104	2	0	6	89	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	82	410	1	8	471	116	2	0	7	99	0	62

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	587	0	0	411	0	0	827	1178	206	914	1120	294
Stage 1	-	-	-	-	-	-	575	575	-	545	545	-
Stage 2	-	-	-	-	-	-	252	603	-	369	575	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	984	-	-	1144	-	-	264	189	800	228	205	702
Stage 1	-	-	-	-	-	-	470	501	-	490	517	-
Stage 2	-	-	-	-	-	-	730	487	-	623	501	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	984	-	-	1144	-	-	224	172	800	211	187	702
Mov Cap-2 Maneuver	-	-	-	-	-	-	224	172	-	211	187	-
Stage 1	-	-	-	-	-	-	431	459	-	449	513	-
Stage 2	-	-	-	-	-	-	661	484	-	566	459	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.1	12.5	26.4
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	487	984	-	-	1144	-	-	211	702
HCM Lane V/C Ratio	0.018	0.084	-	-	0.007	-	-	0.469	0.089
HCM Control Delay (s)	12.5	9	-	-	8.2	-	-	36.3	10.6
HCM Lane LOS	B	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-	2.3	0.3

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	64	400	491	210	94	44
Future Volume (vph)	64	400	491	210	94	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.955			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3380	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3380	0	1770	1583
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	71	444	546	233	104	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	444	779	0	104	49
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 39.0%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	64	400	491	210	94	44
Future Vol, veh/h	64	400	491	210	94	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	444	546	233	104	49

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	779	0	0 1027 390
Stage 1	-	-	- 663 -
Stage 2	-	-	- 364 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	834	-	- 230 609
Stage 1	-	-	- 474 -
Stage 2	-	-	- 673 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	834	-	- 210 609
Mov Cap-2 Maneuver	-	-	- 210 -
Stage 1	-	-	- 434 -
Stage 2	-	-	- 673 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	29.5
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	834	-	-	-	210	609
HCM Lane V/C Ratio	0.085	-	-	-	0.497	0.08
HCM Control Delay (s)	9.7	-	-	-	38	11.4
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.3	-	-	-	2.5	0.3

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	34	460	668	170	83	33
Future Volume (vph)	34	460	668	170	83	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.970		0.961	
Flt Protected		0.997			0.966	
Satd. Flow (prot)	0	5021	3433	0	1729	0
Flt Permitted		0.997			0.966	
Satd. Flow (perm)	0	5021	3433	0	1729	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	38	511	742	189	92	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	549	931	0	129	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 48.3%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations 

Traffic Vol, veh/h	34	460	668	170	83	33

Future Vol, veh/h	34	460	668	170	83	33

Conflicting Peds, #/hr	0	0	0	0	0	0

Sign Control	Free	Free	Free	Free	Stop	Stop

RT Channelized	-	None	-	None	-	None

Storage Length	-	-	-	-	0	-

Veh in Median Storage, #	-	0	0	-	0	-

Grade, %	-	0	0	-	0	-

Peak Hour Factor	90	90	90	90	90	90

Heavy Vehicles, %	3	3	2	2	2	2

Mvmt Flow	38	511	742	189	92	37

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	931	0	0	1117	466

Stage 1	-	-	-	837	-

Stage 2	-	-	-	280	-

Critical Hdwy	4.16	-	-	6.29	6.94

Critical Hdwy Stg 1	-	-	-	5.84	-

Critical Hdwy Stg 2	-	-	-	6.04	-

Follow-up Hdwy	2.23	-	-	3.67	3.32

Pot Cap-1 Maneuver	724	-	-	233	543

Stage 1	-	-	-	375	-

Stage 2	-	-	-	705	-

Platoon blocked, %	-	-	-	-	-

Mov Cap-1 Maneuver	724	-	-	216	543

Mov Cap-2 Maneuver	-	-	-	216	-

Stage 1	-	-	-	348	-

Stage 2	-	-	-	705	-

Approach	EB	WB	SB

HCM Control Delay, s	0.9	0	31.5

HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	724	-	-	-	261

HCM Lane V/C Ratio	0.052	-	-	-	0.494

HCM Control Delay (s)	10.2	0.2	-	-	31.5

HCM Lane LOS	B	A	-	-	D

HCM 95th %tile Q(veh)	0.2	-	-	-	2.5

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	6	9	0	3	6	313	13	0	414	3
Future Volume (vph)	3	0	6	9	0	3	6	313	13	0	414	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	100			100			100			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.905			0.969			0.995			0.999	
Flt Protected		0.985			0.963			0.999				
Satd. Flow (prot)	0	1660	0	0	1738	0	0	1852	0	1863	1861	0
Flt Permitted		0.985			0.963			0.999				
Satd. Flow (perm)	0	1660	0	0	1738	0	0	1852	0	1863	1861	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	0	7	10	0	3	7	348	14	0	460	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	13	0	0	369	0	0	463	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 32.1%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	6	9	0	3	6	313	13	0	414	3
Future Vol, veh/h	3	0	6	9	0	3	6	313	13	0	414	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	7	10	0	3	7	348	14	0	460	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	833	838	462	834	832	355	463	0	0	362	0	0
Stage 1	462	462	-	369	369	-	-	-	-	-	-	-
Stage 2	371	376	-	465	463	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	288	302	600	288	305	689	1098	-	-	1197	-	-
Stage 1	580	565	-	651	621	-	-	-	-	-	-	-
Stage 2	649	616	-	578	564	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	285	300	600	283	303	689	1098	-	-	1197	-	-
Mov Cap-2 Maneuver	285	300	-	283	303	-	-	-	-	-	-	-
Stage 1	575	565	-	646	616	-	-	-	-	-	-	-
Stage 2	641	611	-	572	564	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.4		16.3		0.1		0	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1098	-	-	438	332	1197	-
HCM Lane V/C Ratio	0.006	-	-	0.023	0.04	-	-
HCM Control Delay (s)	8.3	0	-	13.4	16.3	0	-
HCM Lane LOS	A	A	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

University Place TIA
302: Willow Ave & UPlace Access #7

Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1	4	21	0	24	4	278	37	24	392	5
Future Volume (vph)	4	1	4	21	0	24	4	278	37	24	392	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	100			100			0			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940				0.850		0.982			0.998	
Flt Protected		0.978			0.950		0.950			0.950		
Satd. Flow (prot)	0	1712	0	0	1687	1509	1770	1829	0	1770	1859	0
Flt Permitted		0.978			0.950		0.950			0.950		
Satd. Flow (perm)	0	1712	0	0	1687	1509	1770	1829	0	1770	1859	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	4	1	4	23	0	27	4	309	41	27	436	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	23	27	4	350	0	27	442	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.5%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.3

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

Lane Configurations												
Traffic Vol, veh/h	4	1	4	21	0	24	4	278	37	24	392	5
Future Vol, veh/h	4	1	4	21	0	24	4	278	37	24	392	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	7	7	7	2	2	2	2	2	2
Mvmt Flow	4	1	4	23	0	27	4	309	41	27	436	6

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	844	851	439	834	834	330	442	0
Stage 1	493	493	-	338	338	-	-	-
Stage 2	351	358	-	496	496	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.57	6.27	4.12	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.57	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.57	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.063	3.363	2.218	-
Pot Cap-1 Maneuver	283	297	618	282	298	700	1118	-
Stage 1	558	547	-	666	632	-	-	-
Stage 2	666	628	-	546	537	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	267	289	618	274	290	700	1118	-
Mov Cap-2 Maneuver	267	289	-	274	290	-	-	-
Stage 1	556	535	-	663	629	-	-	-
Stage 2	638	625	-	529	525	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	14.5	0.1	0.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1118	-	-	361 274 700	1209	-	-
HCM Lane V/C Ratio	0.004	-	-	0.028 0.085 0.038	0.022	-	-
HCM Control Delay (s)	8.2	-	-	15.3 19.4 10.3	8	-	-
HCM Lane LOS	A	-	-	C C B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.3 0.1	0.1	-	-

University Place TIA
303: Future Access/Conner Drive & Willow Ave

Build (2024) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	218	45	65	265	45	38	9	89	80	10	118
Future Volume (vph)	43	218	45	65	265	45	38	9	89	80	10	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.978				0.850		0.923	
Flt Protected	0.950			0.950				0.961			0.981	
Satd. Flow (prot)	1770	1811	0	1752	1822	0	0	1773	1568	0	1686	0
Flt Permitted	0.950			0.950				0.961			0.981	
Satd. Flow (perm)	1770	1811	0	1752	1822	0	0	1773	1568	0	1686	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		345			318			413			387	
Travel Time (s)		6.7			6.2			11.3			10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Adj. Flow (vph)	48	242	50	72	294	50	42	10	99	89	11	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	292	0	72	344	0	0	52	99	0	231	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.9%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	9.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	218	45	65	265	45	38	9	89	80	10	118
Future Vol, veh/h	43	218	45	65	265	45	38	9	89	80	10	118
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2	3	3	3	2	3	2
Mvmt Flow	48	242	50	72	294	50	42	10	99	89	11	131

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	344	0	0	292	0	0	897	851	267	881	851	319
Stage 1	-	-	-	-	-	-	363	363	-	463	463	-
Stage 2	-	-	-	-	-	-	534	488	-	418	388	-
Critical Hdwy	4.12	-	-	4.13	-	-	7.13	6.53	6.23	7.12	6.53	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.12	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.12	5.53	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.527	4.027	3.327	3.518	4.027	3.318
Pot Cap-1 Maneuver	1215	-	-	1264	-	-	260	296	769	267	296	722
Stage 1	-	-	-	-	-	-	654	623	-	579	562	-
Stage 2	-	-	-	-	-	-	528	548	-	612	607	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1215	-	-	1264	-	-	191	268	769	210	268	722
Mov Cap-2 Maneuver	-	-	-	-	-	-	191	268	-	210	268	-
Stage 1	-	-	-	-	-	-	628	598	-	556	530	-
Stage 2	-	-	-	-	-	-	399	517	-	504	583	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.1			1.4			16.8			31.6		
HCM LOS							C			D		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	202	769	1215	-	-	1264	-	-	358
HCM Lane V/C Ratio	0.259	0.129	0.039	-	-	0.057	-	-	0.646
HCM Control Delay (s)	28.9	10.4	8.1	-	-	8	-	-	31.6
HCM Lane LOS	D	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1	0.4	0.1	-	-	0.2	-	-	4.3

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	322	65	90	289	86	147
Future Volume (vph)	322	65	90	289	86	147
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1820	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1820	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	358	72	100	321	96	163
Shared Lane Traffic (%)						
Lane Group Flow (vph)	430	0	100	321	96	163
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 40.6%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	322	65	90	289	86	147
Future Vol, veh/h	322	65	90	289	86	147
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	358	72	100	321	96	163

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	430
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1129
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1129
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	14
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	399	655	-	-	1129	-
HCM Lane V/C Ratio	0.239	0.249	-	-	0.089	-
HCM Control Delay (s)	16.8	12.3	-	-	8.5	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.9	1	-	-	0.3	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	458	11	86	367	12	112
Future Volume (vph)	458	11	86	367	12	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1857	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1857	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	509	12	96	408	13	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	521	0	96	408	13	124
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 42.9%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	458	11	86	367	12	112
Future Vol, veh/h	458	11	86	367	12	112
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	509	12	96	408	13	124

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	521
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1045
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1045
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	209	560	-	-	1045	-
HCM Lane V/C Ratio	0.064	0.222	-	-	0.091	-
HCM Control Delay (s)	23.4	13.3	-	-	8.8	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.8	-	-	0.3	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 		 	 			 	
Traffic Volume (vph)	58	8	321	5	8	9	362	1711	3	7	1829	79
Future Volume (vph)	58	8	321	5	8	9	362	1711	3	7	1829	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.946							0.850
Flt Protected		0.958			0.988		0.950			0.950		
Satd. Flow (prot)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Flt Permitted		0.958			0.988		0.950			0.950		
Satd. Flow (perm)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	9%	9%	9%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	64	9	357	6	9	10	402	1901	3	8	2032	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	357	0	25	0	402	1904	0	8	2032	88
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	22.0	22.0	37.0	20.0	20.0		37.0	123.0		15.0	101.0	22.0
Total Split (%)	12.2%	12.2%	20.6%	11.1%	11.1%		20.6%	68.3%		8.3%	56.1%	12.2%
Maximum Green (s)	15.4	15.4	30.3	13.3	13.3		30.3	116.9		8.5	94.9	15.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		13.6	47.0		9.3		28.4	141.6		9.1	114.2	129.8
Actuated g/C Ratio		0.08	0.26		0.05		0.16	0.79		0.05	0.63	0.72
v/c Ratio		0.56	0.50		0.30		0.75	0.69		0.09	0.91	0.08
Control Delay		95.8	58.2		91.5		81.2	13.9		75.6	27.0	3.2

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		95.8	58.2		91.5		81.2	13.9		75.6	27.0	3.2
LOS		F	E		F		F	B		E	C	A
Approach Delay		64.6			91.5			25.6			26.2	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)		85	205		29		236	476		9	824	12
Queue Length 95th (ft)		142	244		66		289	918		m11	#1523	m19
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		166	767		135		613	2757		97	2223	1162
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.44	0.47		0.19		0.66	0.69		0.08	0.91	0.08

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 130
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 29.6
Intersection Capacity Utilization 83.7%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
ICU Level of Service E

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

 Ø2 (R)	 Ø1	 Ø4	 Ø3
123 s	15 s	20 s	22 s
 Ø5	 Ø6 (R)		
37 s	101 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	62	0	1778	1853	70
Future Volume (vph)	0	62	0	1778	1853	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1596	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1596	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	69	0	1976	2059	78
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	69	0	1976	2059	78
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 61.7%

ICU Level of Service B

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.5

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗		↗	↗	↗
Traffic Vol, veh/h	0	62	0	1778	1853	70
Future Vol, veh/h	0	62	0	1778	1853	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	69	0	1976	2059	78

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	-	1030	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	229	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	-	229	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	27.3	0	0
HCM LOS	D		

Minor Lane/Major Mvmt NBT EBLn1 SBT

Capacity (veh/h)	-	229	-
HCM Lane V/C Ratio	-	0.301	-
HCM Control Delay (s)	-	27.3	-
HCM Lane LOS	-	D	-
HCM 95th %tile Q(veh)	-	1.2	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	125	41	18	62	49	28	51	1680	47	13	1843	270
Future Volume (vph)	125	41	18	62	49	28	51	1680	47	13	1843	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.955			0.945			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1753	0	1761	1751	0	1778	3543	0	1778	3557	1591
Flt Permitted	0.547			0.675			0.034			0.057		
Satd. Flow (perm)	1004	1753	0	1251	1751	0	64	3543	0	107	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	139	46	20	69	54	31	57	1867	52	14	2048	300
Shared Lane Traffic (%)												
Lane Group Flow (vph)	139	66	0	69	85	0	57	1919	0	14	2048	300
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	21.0	39.0		15.0	33.0		15.0	111.0		15.0	111.0	21.0
Total Split (%)	11.7%	21.7%		8.3%	18.3%		8.3%	61.7%		8.3%	61.7%	11.7%
Maximum Green (s)	14.7	32.6		9.1	26.6		8.9	104.9		9.4	104.9	14.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	29.8	20.3		29.8	14.5		131.2	130.2		133.2	124.0	144.0
Actuated g/C Ratio	0.17	0.11		0.17	0.08		0.73	0.72		0.74	0.69	0.80
v/c Ratio	0.61	0.34		0.30	0.60		0.44	0.75		0.09	0.84	0.24
Control Delay	74.8	77.0		62.9	96.8		48.1	8.0		5.3	12.5	1.9

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.9	0.0
Total Delay	74.8	77.0		62.9	96.8		48.1	8.0		5.3	13.4	1.9
LOS	E	E		E	F		D	A		A	B	A
Approach Delay		75.5			81.6			9.1			11.9	
Approach LOS		E			F			A			B	
Queue Length 50th (ft)	145	73		69	99		15	193		2	357	26
Queue Length 95th (ft)	212	124		116	160		m51	96		m3	845	m30
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	235	331		238	272		144	2562		172	2449	1279
Starvation Cap Reductn	0	0		0	0		0	0		0	168	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.59	0.20		0.29	0.31		0.40	0.75		0.08	0.90	0.23

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 177 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 15.8
 Intersection Capacity Utilization 72.9%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	111 s	15 s	39 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	111 s	21 s	33 s

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	10	142	133	15	15	146	1552	136	2	1851	75
Future Volume (vph)	27	10	142	133	15	15	146	1552	136	2	1851	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1710	1835	1530	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.033			0.101		
Satd. Flow (perm)	1710	1835	1530	3400	1845	1568	61	3539	1568	186	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		958			778			783			1413	
Travel Time (s)		18.7			15.2			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	3%	5%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	30	11	158	148	17	17	162	1724	151	2	2057	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	11	158	148	17	17	162	1724	151	2	2057	83
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	13.6	43.5	16.7	13.6	43.5	13.4	16.7	109.5	13.6	13.4	106.2	13.6
Total Split (%)	7.6%	24.2%	9.3%	7.6%	24.2%	7.4%	9.3%	60.8%	7.6%	7.4%	59.0%	7.6%
Maximum Green (s)	7.2	37.0	10.4	7.0	37.0	7.0	10.4	103.0	7.0	7.0	99.7	7.2
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	8.6	8.8	28.1	11.3	8.8	16.8	148.0	145.0	163.3	150.0	125.6	139.2
Actuated g/C Ratio	0.05	0.05	0.16	0.06	0.05	0.09	0.82	0.81	0.91	0.83	0.70	0.77
v/c Ratio	0.37	0.12	0.66	0.69	0.19	0.12	0.62	0.60	0.11	0.01	0.83	0.07
Control Delay	96.3	84.8	83.6	97.2	87.0	72.7	68.0	4.8	1.1	3.0	9.8	1.8

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0
Total Delay	96.3	84.8	83.6	97.2	87.0	72.7	68.0	4.9	1.1	3.0	10.1	1.8
LOS	F	F	F	F	F	E	E	A	A	A	B	A
Approach Delay		85.6			94.0			9.7			9.8	
Approach LOS		F			F			A			A	
Queue Length 50th (ft)	35	13	183	84	20	18	149	197	8	0	241	11
Queue Length 95th (ft)	75	37	246	#165	49	45	m222	221	m19	m0	312	m12
Internal Link Dist (ft)		878			698			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	81	392	239	213	394	146	263	2850	1422	227	2468	1223
Starvation Cap Reductn	0	0	0	0	0	0	0	263	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	84	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.03	0.66	0.69	0.04	0.12	0.62	0.67	0.11	0.01	0.86	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 175 (97%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 16.4
Intersection Capacity Utilization 82.2%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

 Ø1	 Ø2 (R)	 Ø3	 Ø4
13.4 s	109.5 s	13.6 s	43.5 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
16.7 s	106.2 s	13.6 s	43.5 s

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Build (2026) AM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	76	53	48	193	94	102	78	1407	109	81	1660	7
Future Volume (vph)	76	53	48	193	94	102	78	1407	109	81	1660	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.929			0.922				0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1730	0	3367	1684	0	1770	3539	1583	1770	3536	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1730	0	3367	1684	0	1770	3539	1583	1770	3536	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	84	59	53	214	104	113	87	1563	121	90	1844	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	112	0	214	217	0	87	1563	121	90	1852	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	20.0	20.0		38.0	38.0		20.0	102.0		20.0	102.0	
Total Split (%)	11.1%	11.1%		21.1%	21.1%		11.1%	56.7%		11.1%	56.7%	
Maximum Green (s)	13.6	13.1		31.2	31.3		13.2	95.2		13.3	95.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	13.1	22.7		18.6	28.2		15.0	105.1	180.0	13.6	103.8	
Actuated g/C Ratio	0.07	0.13		0.10	0.16		0.08	0.58	1.00	0.08	0.58	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.66	0.52		0.62	0.83		0.59	0.76	0.08	0.67	0.91	
Control Delay	104.4	81.4		84.8	97.8		78.5	18.1	0.1	104.9	42.4	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	104.4	81.4		84.8	97.8		78.5	18.1	0.1	104.9	42.4	
LOS	F	F		F	F		E	B	A	F	D	
Approach Delay		91.3			91.4			19.8			45.3	
Approach LOS		F			F			B			D	
Queue Length 50th (ft)	98	124		127	251		102	800	0	105	1030	
Queue Length 95th (ft)	163	196		171	347		163	575	0	173	#1285	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	147	217		617	308		147	2066	1583	148	2038	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.57	0.52		0.35	0.70		0.59	0.76	0.08	0.61	0.91	

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 8 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.91
Intersection Signal Delay: 41.5
Intersection Capacity Utilization 85.6%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: D
ICU Level of Service E

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	352	312	55	126	268	83	56	417	90	91	538	213
Future Volume (vph)	352	312	55	126	268	83	56	417	90	91	538	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.978				0.850		0.973			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1813	0	1692	1781	1514	1710	3327	0	1744	3339	0
Flt Permitted	0.950			0.289			0.950			0.950		
Satd. Flow (perm)	1761	1813	0	515	1781	1514	1710	3327	0	1744	3339	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	391	347	61	140	298	92	62	463	100	101	598	237
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	408	0	140	298	92	62	563	0	101	835	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	35.0	35.0		35.0	35.0	20.0	20.0	40.0		20.0	40.0	
Total Split (%)	26.9%	26.9%		26.9%	26.9%	15.4%	15.4%	30.8%		15.4%	30.8%	
Maximum Green (s)	29.1	29.1		29.4	29.1	14.1	13.8	34.3		14.1	34.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.3	44.9		56.2	25.8	43.1	10.0	41.6		12.2	46.5	
Actuated g/C Ratio	0.23	0.35		0.43	0.20	0.33	0.08	0.32		0.09	0.36	
v/c Ratio	0.95	0.65		0.43	0.84	0.18	0.47	0.53		0.62	0.70	
Control Delay	83.2	41.6		25.8	74.9	29.4	69.0	39.8		72.4	41.7	

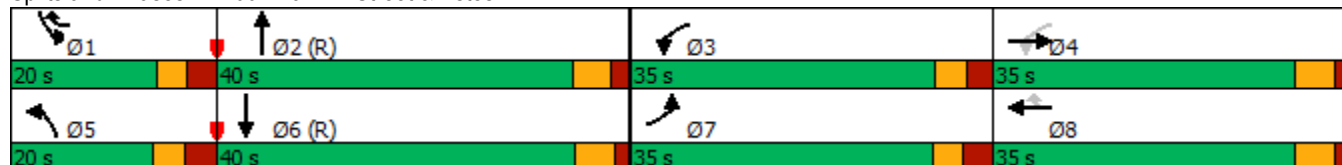
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	83.2	41.6		25.8	74.9	29.4	69.0	39.8		72.4	41.7	
LOS	F	D		C	E	C	E	D		E	D	
Approach Delay		62.0			54.0			42.7			45.0	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	328	286		63	255	56	51	207		83	326	
Queue Length 95th (ft)	#530	408		98	353	78	97	283		142	#465	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	412	625		514	411	533	197	1063		201	1193	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.95	0.65		0.27	0.73	0.17	0.31	0.53		0.50	0.70	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.95
Intersection Signal Delay: 50.9
Intersection Capacity Utilization 77.8%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: D
ICU Level of Service D

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	158	331	4	6	267	38	3	9	11	25	5	207
Future Volume (vph)	158	331	4	6	267	38	3	9	11	25	5	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.981			0.935				0.850
Flt Protected	0.950			0.950				0.994			0.960	
Satd. Flow (prot)	1736	3464	0	1752	3438	0	0	1715	0	0	1745	1545
Flt Permitted	0.950			0.531				0.951			0.986	
Satd. Flow (perm)	1736	3464	0	980	3438	0	0	1641	0	0	1792	1545
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	176	368	4	7	297	42	3	10	12	28	6	230
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	372	0	7	339	0	0	25	0	0	34	230
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	12.1	15.1		22.2	22.2		28.7	28.7		12.8	12.8	12.1
Total Split (s)	18.0	42.0		24.0	24.0		23.0	23.0		23.0	23.0	18.0
Total Split (%)	27.7%	64.6%		36.9%	36.9%		35.4%	35.4%		35.4%	35.4%	27.7%
Maximum Green (s)	12.9	36.9		18.8	18.8		17.3	17.3		17.2	17.2	12.9
Yellow Time (s)	3.0	3.8		3.8	3.8		3.3	3.3		3.8	3.8	3.0
All-Red Time (s)	2.1	1.3		1.4	1.4		2.4	2.4		2.0	2.0	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.2	-0.2			-0.7			-0.8	-0.8
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	4.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				10.0	10.0		16.0	16.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	11.7	57.8		38.1	38.1			7.8			7.9	17.6
Actuated g/C Ratio	0.18	0.89		0.59	0.59			0.12			0.12	0.27
v/c Ratio	0.57	0.12		0.01	0.17			0.13			0.16	0.55
Control Delay	27.3	1.4		10.0	8.4			27.2			27.5	23.5

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	27.3	1.4		10.0	8.4			27.2			27.5	23.5
LOS	C	A		A	A			C			C	C
Approach Delay		9.7			8.5			27.2			24.0	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	93	0		1	24			9			12	84
Queue Length 95th (ft)	118	25		8	69			28			35	104
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	359	3080		575	2017			454			496	459
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.49	0.12		0.01	0.17			0.06			0.07	0.50

Intersection Summary

Area Type: Other
 Cycle Length: 65
 Actuated Cycle Length: 65
 Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 65
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.57
 Intersection Signal Delay: 12.9
 Intersection Capacity Utilization 39.2%
 Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 		 	
Traffic Volume (vph)	5	362	307	5	4	4
Future Volume (vph)	5	362	307	5	4	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.997		0.932	
Flt Protected		0.999			0.976	
Satd. Flow (prot)	0	3435	3494	0	1694	0
Flt Permitted		0.999			0.976	
Satd. Flow (perm)	0	3435	3494	0	1694	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	3%	3%	2%	2%
Adj. Flow (vph)	6	402	341	6	4	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	408	347	0	8	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 23.5%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.2

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	5	362	307	5	4	4
Future Vol, veh/h	5	362	307	5	4	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	3	3	2	2
Mvmt Flow	6	402	341	6	4	4

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	347	0	-	0	557	174
Stage 1	-	-	-	-	344	-
Stage 2	-	-	-	-	213	-
Critical Hdwy	4.2	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.25	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1187	-	-	-	460	839
Stage 1	-	-	-	-	689	-
Stage 2	-	-	-	-	802	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1187	-	-	-	457	839
Mov Cap-2 Maneuver	-	-	-	-	457	-
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	802	-

Approach EB WB SB

HCM Control Delay, s	0.1	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1187	-	-	-	592
HCM Lane V/C Ratio	0.005	-	-	-	0.015
HCM Control Delay (s)	8	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	332	5	5	287	37	8	0	12	26	0	17
Future Volume (vph)	29	332	5	5	287	37	8	0	12	26	0	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.983			0.920				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1736	3464	0	1752	3445	0	0	1679	0	0	1719	1538
Flt Permitted	0.950			0.950				0.980			0.950	
Satd. Flow (perm)	1736	3464	0	1752	3445	0	0	1679	0	0	1719	1538
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	32	369	6	6	319	41	9	0	13	29	0	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	32	375	0	6	360	0	0	22	0	0	29	19
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 30.5%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	1.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	332	5	5	287	37	8	0	12	26	0	17
Future Vol, veh/h	29	332	5	5	287	37	8	0	12	26	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	4	3	3	3	2	2	2	5	5	5
Mvmt Flow	32	369	6	6	319	41	9	0	13	29	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	360	0	0	375	0	0	608	808	188	601	791	180
Stage 1	-	-	-	-	-	-	436	436	-	352	352	-
Stage 2	-	-	-	-	-	-	172	372	-	249	439	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.54	6.54	6.94	7.6	6.6	7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.52	4.02	3.32	3.55	4.05	3.35
Pot Cap-1 Maneuver	1181	-	-	1173	-	-	380	313	822	378	315	822
Stage 1	-	-	-	-	-	-	569	578	-	630	623	-
Stage 2	-	-	-	-	-	-	813	617	-	725	569	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1181	-	-	1173	-	-	362	303	822	363	305	822
Mov Cap-2 Maneuver	-	-	-	-	-	-	362	303	-	363	305	-
Stage 1	-	-	-	-	-	-	554	562	-	613	620	-
Stage 2	-	-	-	-	-	-	790	614	-	694	554	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.1	11.9	13.3
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	545	1181	-	-	1173	-	-	363	822
HCM Lane V/C Ratio	0.041	0.027	-	-	0.005	-	-	0.08	0.023
HCM Control Delay (s)	11.9	8.1	-	-	8.1	-	-	15.8	9.5
HCM Lane LOS	B	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	24	346	316	79	29	13
Future Volume (vph)	24	346	316	79	29	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.970			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1736	3471	3400	0	1719	1538
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1736	3471	3400	0	1719	1538
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	5%	5%
Adj. Flow (vph)	27	384	351	88	32	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	384	439	0	32	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.9%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.9

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations						
Traffic Vol, veh/h	24	346	316	79	29	13
Future Vol, veh/h	24	346	316	79	29	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	5	5
Mvmt Flow	27	384	351	88	32	14

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	439	0	-	0	641	220
Stage 1	-	-	-	-	395	-
Stage 2	-	-	-	-	246	-
Critical Hdwy	4.18	-	-	-	6.9	7
Critical Hdwy Stg 1	-	-	-	-	5.9	-
Critical Hdwy Stg 2	-	-	-	-	5.9	-
Follow-up Hdwy	2.24	-	-	-	3.55	3.35
Pot Cap-1 Maneuver	1103	-	-	-	400	775
Stage 1	-	-	-	-	641	-
Stage 2	-	-	-	-	763	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1103	-	-	-	390	775
Mov Cap-2 Maneuver	-	-	-	-	390	-
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	763	-

Approach EB WB SB

HCM Control Delay, s	0.5	0	13.4
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1 SBLn2

Capacity (veh/h)	1103	-	-	-	390	775
HCM Lane V/C Ratio	0.024	-	-	-	0.083	0.019
HCM Control Delay (s)	8.3	-	-	-	15.1	9.7
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	14	361	384	65	26	11
Future Volume (vph)	14	361	384	65	26	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.978		0.960	
Flt Protected		0.998			0.966	
Satd. Flow (prot)	0	4930	3395	0	1694	0
Flt Permitted		0.998			0.966	
Satd. Flow (perm)	0	4930	3395	0	1694	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Adj. Flow (vph)	16	401	427	72	29	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	417	499	0	41	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.3%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations 

Traffic Vol, veh/h	14	361	384	65	26	11

Future Vol, veh/h	14	361	384	65	26	11

Conflicting Peds, #/hr	0	0	0	0	0	0

Sign Control	Free	Free	Free	Free	Stop	Stop

RT Channelized	-	None	-	None	-	None

Storage Length	-	-	-	-	0	-

Veh in Median Storage, #	-	0	0	-	0	-

Grade, %	-	0	0	-	0	-

Peak Hour Factor	90	90	90	90	90	90

Heavy Vehicles, %	5	5	4	4	4	4

Mvmt Flow	16	401	427	72	29	12

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	499	0	0	655	250

Stage 1	-	-	-	463	-

Stage 2	-	-	-	192	-

Critical Hdwy	4.2	-	-	6.33	6.98

Critical Hdwy Stg 1	-	-	-	5.88	-

Critical Hdwy Stg 2	-	-	-	6.08	-

Follow-up Hdwy	2.25	-	-	3.69	3.34

Pot Cap-1 Maneuver	1041	-	-	423	744

Stage 1	-	-	-	575	-

Stage 2	-	-	-	777	-

Platoon blocked, %	-	-	-	-	-

Mov Cap-1 Maneuver	1041	-	-	415	744

Mov Cap-2 Maneuver	-	-	-	415	-

Stage 1	-	-	-	564	-

Stage 2	-	-	-	777	-

Approach	EB	WB	SB

HCM Control Delay, s	0.4	0	13.2

HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	1041	-	-	-	478

HCM Lane V/C Ratio	0.015	-	-	-	0.086

HCM Control Delay (s)	8.5	0.1	-	-	13.2

HCM Lane LOS	A	A	-	-	B

HCM 95th %tile Q(veh)	0	-	-	-	0.3

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	0	3	0	1	4	196	5	0	234	2
Future Volume (vph)	3	1	0	3	0	1	4	196	5	0	234	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.966			0.996			0.999	
Flt Protected		0.964			0.964			0.999				
Satd. Flow (prot)	0	1796	0	0	1735	0	0	1818	0	1845	1843	0
Flt Permitted		0.964			0.964			0.999				
Satd. Flow (perm)	0	1796	0	0	1735	0	0	1818	0	1845	1843	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	3	1	0	3	0	1	4	218	6	0	260	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	4	0	0	228	0	0	262	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 23.8%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	0	3	0	1	4	196	5	0	234	2
Future Vol, veh/h	3	1	0	3	0	1	4	196	5	0	234	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	3	3	3
Mvmt Flow	3	1	0	3	0	1	4	218	6	0	260	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	491	493	261	491	491	221	262	0	0	224	0	0
Stage 1	261	261	-	229	229	-	-	-	-	-	-	-
Stage 2	230	232	-	262	262	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	488	477	778	488	478	819	1291	-	-	1339	-	-
Stage 1	744	692	-	774	715	-	-	-	-	-	-	-
Stage 2	773	713	-	743	691	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	486	475	778	486	476	819	1291	-	-	1339	-	-
Mov Cap-2 Maneuver	486	475	-	486	476	-	-	-	-	-	-	-
Stage 1	741	692	-	771	712	-	-	-	-	-	-	-
Stage 2	769	710	-	742	691	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.5	11.7	0.2	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1291	-	-	483 541	1339	-	-
HCM Lane V/C Ratio	0.003	-	-	0.009 0.008	-	-	-
HCM Control Delay (s)	7.8	0	-	12.5 11.7	0	-	-
HCM Lane LOS	A	A	-	B B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

University Place TIA
302: Willow Ave & UPlace Access #7

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	7	0	8	6	179	15	9	227	3
Future Volume (vph)	2	0	2	7	0	8	6	179	15	9	227	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932				0.850		0.988			0.998	
Flt Protected		0.976			0.950		0.950			0.950		
Satd. Flow (prot)	0	1694	0	0	1641	1468	1752	1823	0	1752	1841	0
Flt Permitted		0.976			0.950		0.950			0.950		
Satd. Flow (perm)	0	1694	0	0	1641	1468	1752	1823	0	1752	1841	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	2	0	2	8	0	9	7	199	17	10	252	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	8	9	7	216	0	10	255	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.0%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.7

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

Lane Configurations												
Traffic Vol, veh/h	2	0	2	7	0	8	6	179	15	9	227	3
Future Vol, veh/h	2	0	2	7	0	8	6	179	15	9	227	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	3	3	3
Mvmt Flow	2	0	2	8	0	9	7	199	17	10	252	3

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	500	504	254	497	497	208	255	0
Stage 1	274	274	-	222	222	-	-	-
Stage 2	226	230	-	275	275	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.13	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.227	-
Pot Cap-1 Maneuver	481	470	785	471	463	813	1304	-
Stage 1	732	683	-	763	705	-	-	-
Stage 2	777	714	-	714	668	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	471	464	785	465	457	813	1304	-
Mov Cap-2 Maneuver	471	464	-	465	457	-	-	-
Stage 1	728	678	-	759	701	-	-	-
Stage 2	764	710	-	707	663	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.2	11.1	0.2	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1304	-	-	589 465 813	1348	-	-
HCM Lane V/C Ratio	0.005	-	-	0.008 0.017 0.011	0.007	-	-
HCM Control Delay (s)	7.8	-	-	11.2 12.9 9.5	7.7	-	-
HCM Lane LOS	A	-	-	B B A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1 0	0	-	-

University Place TIA
303: Future Access/Conner Drive & Willow Ave

Build (2026) AM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	89	18	27	194	110	12	3	28	17	4	33
Future Volume (vph)	82	89	18	27	194	110	12	3	28	17	4	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			0			100			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.975			0.946				0.850		0.917	
Flt Protected	0.950			0.950				0.961			0.984	
Satd. Flow (prot)	1736	1784	0	1752	1762	0	0	1773	1568	0	1620	0
Flt Permitted	0.950			0.950				0.961			0.984	
Satd. Flow (perm)	1736	1784	0	1752	1762	0	0	1773	1568	0	1620	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		345			318			321			387	
Travel Time (s)		6.7			6.2			8.8			10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	2%	2%	3%	3%	3%	6%	3%	6%
Adj. Flow (vph)	91	99	20	30	216	122	13	3	31	19	4	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	119	0	30	338	0	0	16	31	0	60	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.3%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	89	18	27	194	110	12	3	28	17	4	33
Future Vol, veh/h	82	89	18	27	194	110	12	3	28	17	4	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	2	2	3	3	3	6	3	6
Mvmt Flow	91	99	20	30	216	122	13	3	31	19	4	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	338	0	0	119	0	0	649	689	109	645	638	277
Stage 1	-	-	-	-	-	-	291	291	-	337	337	-
Stage 2	-	-	-	-	-	-	358	398	-	308	301	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.13	6.53	6.23	7.16	6.53	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.16	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.16	5.53	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.527	4.027	3.327	3.554	4.027	3.354
Pot Cap-1 Maneuver	1210	-	-	1463	-	-	381	367	942	380	393	752
Stage 1	-	-	-	-	-	-	715	670	-	669	639	-
Stage 2	-	-	-	-	-	-	658	601	-	694	663	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1210	-	-	1463	-	-	333	333	942	339	356	752
Mov Cap-2 Maneuver	-	-	-	-	-	-	333	333	-	339	356	-
Stage 1	-	-	-	-	-	-	661	620	-	619	626	-
Stage 2	-	-	-	-	-	-	609	588	-	617	613	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.6			0.6			11.6			12.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	333	942	1210	-	-	1463	-	-	513
HCM Lane V/C Ratio	0.05	0.033	0.075	-	-	0.021	-	-	0.117
HCM Control Delay (s)	16.4	9	8.2	-	-	7.5	-	-	12.9
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	0.2	-	-	0.1	-	-	0.4

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	108	26	35	304	27	45
Future Volume (vph)	108	26	35	304	27	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1762	0	1770	1863	1736	1553
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1762	0	1770	1863	1736	1553
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	4%	4%
Adj. Flow (vph)	120	29	39	338	30	50
Shared Lane Traffic (%)						
Lane Group Flow (vph)	149	0	39	338	30	50
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 26.0%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	108	26	35	304	27	45
Future Vol, veh/h	108	26	35	304	27	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	120	29	39	338	30	50

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	149
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1432
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1432
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	10.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	544	909	-	-	1432	-
HCM Lane V/C Ratio	0.055	0.055	-	-	0.027	-
HCM Control Delay (s)	12	9.2	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.1	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	149	4	35	335	4	35
Future Volume (vph)	149	4	35	335	4	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1804	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1804	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Adj. Flow (vph)	166	4	39	372	4	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	170	0	39	372	4	39
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.6%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	149	4	35	335	4	35
Future Vol, veh/h	149	4	35	335	4	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	166	4	39	372	4	39

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	170
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	4.12	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	2.218	-
Pot Cap-1 Maneuver	-	1407	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	1407	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	440	876	-	-	1407	-
HCM Lane V/C Ratio	0.01	0.044	-	-	0.028	-
HCM Control Delay (s)	13.3	9.3	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 		 	 			 	
Traffic Volume (vph)	106	12	441	5	12	9	729	1736	9	17	1680	97
Future Volume (vph)	106	12	441	5	12	9	729	1736	9	17	1680	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.953			0.999				0.850
Flt Protected		0.957			0.990		0.950			0.950		
Satd. Flow (prot)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Flt Permitted		0.957			0.990		0.950			0.950		
Satd. Flow (perm)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	118	13	490	6	13	10	810	1929	10	19	1867	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	131	490	0	29	0	810	1939	0	19	1867	108
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	25.0	25.0	41.0	20.0	20.0		41.0	120.0		15.0	94.0	25.0
Total Split (%)	13.9%	13.9%	22.8%	11.1%	11.1%		22.8%	66.7%		8.3%	52.2%	13.9%
Maximum Green (s)	18.4	18.4	34.3	13.3	13.3		34.3	113.9		8.5	87.9	18.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		17.6	65.2		9.5		46.6	131.6		9.4	89.0	111.6
Actuated g/C Ratio		0.10	0.36		0.05		0.26	0.73		0.05	0.49	0.62
v/c Ratio		0.75	0.49		0.34		0.91	0.75		0.21	1.07	0.11
Control Delay		104.3	38.2		92.7		79.2	19.7		77.3	73.4	9.7

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		104.3	38.2		92.7		79.2	19.7		77.3	73.4	9.7
LOS		F	D		F		E	B		E	E	A
Approach Delay		52.2			92.7			37.2			70.0	
Approach LOS		D			F			D			E	
Queue Length 50th (ft)		152	218		34		496	813		20	~1260	24
Queue Length 95th (ft)		233	273		73		#684	980		m28	#1392	m30
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		198	1009		135		887	2584		98	1749	1002
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.66	0.49		0.21		0.91	0.75		0.19	1.07	0.11

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 68 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 51.3
Intersection Capacity Utilization 92.9%
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

			
Ø2 (R)	Ø1	Ø3	Ø4
120 s	15 s	25 s	20 s
			
Ø5	Ø6 (R)		
41 s	94 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	218	0	1851	1576	207
Future Volume (vph)	0	218	0	1851	1576	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Flt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	242	0	2057	1751	230
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	242	0	2057	1751	230
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 63.7%
Analysis Period (min) 15

ICU Level of Service B

Intersection

Int Delay, s/veh 3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	218	0	1851	1576	207
Future Vol, veh/h	0	218	0	1851	1576	207
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	242	0	2057	1751	230

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	876	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	292	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	292	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	56.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 292	-
HCM Lane V/C Ratio	- 0.83	-
HCM Control Delay (s)	- 56.9	-
HCM Lane LOS	- F	-
HCM 95th %tile Q(veh)	- 6.9	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	448	112	34	36	52	23	53	1762	36	36	1713	349
Future Volume (vph)	448	112	34	36	52	23	53	1762	36	36	1713	349
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.965			0.954			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1807	0	1744	1751	0	1778	3546	0	1778	3557	1591
Flt Permitted	0.560			0.496			0.038			0.038		
Satd. Flow (perm)	1048	1807	0	910	1751	0	71	3546	0	71	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	498	124	38	40	58	26	59	1958	40	40	1903	388
Shared Lane Traffic (%)												
Lane Group Flow (vph)	498	162	0	40	84	0	59	1998	0	40	1903	388
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	35.0	43.0		15.0	23.0		15.0	107.0		15.0	107.0	35.0
Total Split (%)	19.4%	23.9%		8.3%	12.8%		8.3%	59.4%		8.3%	59.4%	19.4%
Maximum Green (s)	28.7	36.6		9.1	16.6		8.9	100.9		9.4	100.9	28.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.3
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	44.0	37.9		45.0	14.0		116.0	109.0		117.0	107.3	142.3
Actuated g/C Ratio	0.24	0.21		0.25	0.08		0.64	0.61		0.65	0.60	0.79
v/c Ratio	1.32	0.43		0.15	0.62		0.46	0.93		0.29	0.90	0.31
Control Delay	207.5	66.1		49.0	98.9		49.6	26.3		27.5	24.2	3.0

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

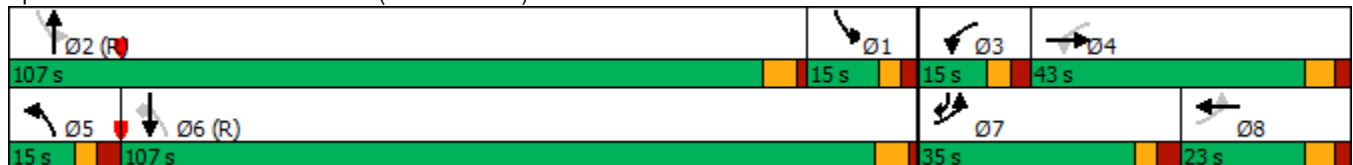
Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	5.5	0.0
Total Delay	207.5	66.1		49.0	98.9		49.6	26.3		27.5	29.8	3.0
LOS	F	E		D	F		D	C		C	C	A
Approach Delay		172.8			82.8			27.0			25.3	
Approach LOS		F			F			C			C	
Queue Length 50th (ft)	~649	170		35	98		16	1166		13	590	51
Queue Length 95th (ft)	#836	249		69	160		m43	#1388		m14	872	m58
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	378	393		278	175		141	2146		141	2120	1257
Starvation Cap Reductn	0	0		0	0		0	0		0	181	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.32	0.41		0.14	0.48		0.42	0.93		0.28	0.98	0.31

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 65 (36%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.32
Intersection Signal Delay: 46.2
Intersection Capacity Utilization 89.7%
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave



University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Build (2026) PM

01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	119	15	250	154	20	3	250	1793	191	12	1694	151
Future Volume (vph)	119	15	250	154	20	3	250	1793	191	12	1694	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1835	1560	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.039			0.059		
Satd. Flow (perm)	1744	1835	1560	3400	1845	1568	73	3539	1568	109	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		967			755			783			1413	
Travel Time (s)		18.8			14.7			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	132	17	278	171	22	3	278	1992	212	13	1882	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	17	278	171	22	3	278	1992	212	13	1882	168
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	19.0	44.0	26.2	15.6	40.6	13.4	26.2	107.0	15.6	13.4	94.2	19.0
Total Split (%)	10.6%	24.4%	14.6%	8.7%	22.6%	7.4%	14.6%	59.4%	8.7%	7.4%	52.3%	10.6%
Maximum Green (s)	12.6	37.5	19.9	9.0	34.1	7.0	19.9	100.5	9.0	7.0	87.7	12.6
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	14.0	11.1	47.9	12.0	9.1	14.1	142.3	139.3	155.3	144.3	105.1	124.1
Actuated g/C Ratio	0.08	0.06	0.27	0.07	0.05	0.08	0.79	0.77	0.86	0.80	0.58	0.69
v/c Ratio	0.98	0.15	0.67	0.76	0.24	0.02	0.68	0.73	0.16	0.08	0.91	0.15
Control Delay	151.1	81.7	66.6	102.6	88.2	55.0	69.2	4.9	1.8	11.5	37.6	12.7

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Build (2026) PM
01/15/2021

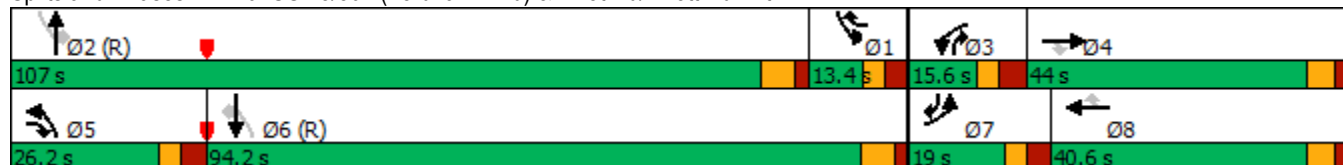
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	3.6	0.0
Total Delay	151.1	81.7	66.6	102.6	88.2	55.0	69.2	5.3	1.8	11.5	41.2	12.7
LOS	F	F	E	F	F	D	E	A	A	B	D	B
Approach Delay		93.3			100.3			12.2			38.7	
Approach LOS		F			F			B			D	
Queue Length 50th (ft)	159	19	286	105	26	3	274	262	25	5	678	70
Queue Length 95th (ft)	#311	48	382	#176	60	13	m278	m321	m27	m6	m691	m75
Internal Link Dist (ft)		887			675			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	135	397	415	226	364	122	408	2738	1352	164	2066	1091
Starvation Cap Reductn	0	0	0	0	0	0	0	297	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	125	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.98	0.04	0.67	0.76	0.06	0.02	0.68	0.82	0.16	0.08	0.97	0.15

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 79 (44%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 32.8
Intersection Capacity Utilization 86.4%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
ICU Level of Service E

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext



University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	95	98	233	117	90	118	1652	145	135	1602	18
Future Volume (vph)	109	95	98	233	117	90	118	1652	145	135	1602	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.924			0.935				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1721	0	3433	1742	0	1770	3539	1583	1770	3532	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1721	0	3433	1742	0	1770	3539	1583	1770	3532	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	121	106	109	259	130	100	131	1836	161	150	1780	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	215	0	259	230	0	131	1836	161	150	1800	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	26.0	30.0		35.0	39.0		26.0	92.0		23.0	89.0	
Total Split (%)	14.4%	16.7%		19.4%	21.7%		14.4%	51.1%		12.8%	49.4%	
Maximum Green (s)	19.6	23.1		28.2	32.3		19.2	85.2		16.3	82.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	17.3	29.1		20.7	32.4		19.3	91.8	180.0	18.4	90.9	
Actuated g/C Ratio	0.10	0.16		0.12	0.18		0.11	0.51	1.00	0.10	0.50	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.71	0.77		0.66	0.73		0.69	1.02	0.10	0.83	1.01	
Control Delay	100.7	90.7		84.2	84.1		97.6	57.6	0.1	111.8	66.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	100.7	90.7		84.2	84.1		97.6	57.6	0.1	111.8	66.7	
LOS	F	F		F	F		F	E	A	F	E	
Approach Delay		94.3			84.2			55.7			70.2	
Approach LOS		F			F			E			E	
Queue Length 50th (ft)	141	243		153	257		146	~1290	0	175	~1227	
Queue Length 95th (ft)	216	#366		200	364		m205	m#1419	m0	#312	#1385	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	206	281		572	330		207	1805	1583	185	1784	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.59	0.77		0.45	0.70		0.63	1.02	0.10	0.81	1.01	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 102 (57%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.02

Intersection Signal Delay: 66.9

Intersection LOS: E

Intersection Capacity Utilization 87.5%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	319	391	96	217	390	229	62	767	186	105	665	380
Future Volume (vph)	319	391	96	217	390	229	62	767	186	105	665	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.970				0.850		0.971			0.945	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1816	0	1725	1816	1544	1743	3385	0	1778	3361	0
Flt Permitted	0.950			0.086			0.950			0.950		
Satd. Flow (perm)	1778	1816	0	156	1816	1544	1743	3385	0	1778	3361	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	354	434	107	241	433	254	69	852	207	117	739	422
Shared Lane Traffic (%)												
Lane Group Flow (vph)	354	541	0	241	433	254	69	1059	0	117	1161	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	40.0	53.0		20.0	33.0	20.0	15.0	57.0		20.0	62.0	
Total Split (%)	26.7%	35.3%		13.3%	22.0%	13.3%	10.0%	38.0%		13.3%	41.3%	
Maximum Green (s)	34.1	47.1		14.4	27.1	14.1	8.8	51.3		14.1	56.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	32.8	48.0		65.0	32.2	50.7	9.4	51.5		13.5	55.6	
Actuated g/C Ratio	0.22	0.32		0.43	0.21	0.34	0.06	0.34		0.09	0.37	
v/c Ratio	0.91	0.93		0.98	1.11	0.49	0.63	0.91		0.74	0.93	
Control Delay	85.1	73.1		93.3	129.4	41.9	93.4	59.3		92.1	59.0	

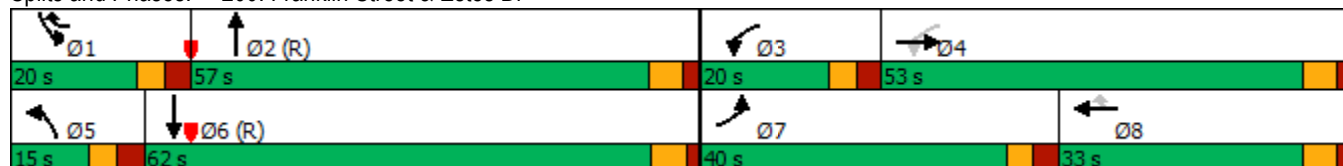
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	85.1	73.1		93.3	129.4	41.9	93.4	59.3		92.1	59.0	
LOS	F	E		F	F	D	F	E		F	E	
Approach Delay		77.9			96.1			61.4			62.0	
Approach LOS		E			F			E			E	
Queue Length 50th (ft)	335	514		~217	~514	194	67	518		112	563	
Queue Length 95th (ft)	#502	#739		#385	#768	264	#130	#628		#193	#680	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	414	581		245	389	537	116	1173		177	1277	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.86	0.93		0.98	1.11	0.47	0.59	0.90		0.66	0.91	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 104 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.11
Intersection Signal Delay: 72.7
Intersection Capacity Utilization 91.5%
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: E
ICU Level of Service F

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	293	386	3	12	448	31	6	8	7	54	8	382
Future Volume (vph)	293	386	3	12	448	31	6	8	7	54	8	382
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.990			0.955				0.850
Flt Protected	0.950			0.950				0.986			0.958	
Satd. Flow (prot)	1770	3536	0	1770	3504	0	0	1754	0	0	1776	1575
Flt Permitted	0.950			0.501				0.890			0.737	
Satd. Flow (perm)	1770	3536	0	933	3504	0	0	1584	0	0	1366	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	326	429	3	13	498	34	7	9	8	60	9	424
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	432	0	13	532	0	0	24	0	0	69	424
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	13.2	15.7		21.4	21.4		30.6	30.6		12.9	12.9	13.2
Total Split (s)	20.0	46.0		26.0	26.0		29.0	29.0		29.0	29.0	20.0
Total Split (%)	26.7%	61.3%		34.7%	34.7%		38.7%	38.7%		38.7%	38.7%	26.7%
Maximum Green (s)	13.8	40.3		20.6	20.6		23.4	23.4		23.1	23.1	13.8
Yellow Time (s)	3.0	3.7		3.9	3.9		3.6	3.6		3.9	3.9	3.0
All-Red Time (s)	3.2	2.0		1.5	1.5		2.0	2.0		2.0	2.0	3.2
Lost Time Adjust (s)	-1.2	-0.7		-0.4	-0.4			-0.6			-0.9	-1.2
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				9.0	9.0		18.0	18.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	20.2	59.0		32.8	32.8			9.5			9.6	32.2
Actuated g/C Ratio	0.27	0.79		0.44	0.44			0.13			0.13	0.43
v/c Ratio	0.69	0.16		0.03	0.35			0.12			0.40	0.63
Control Delay	29.2	4.1		16.9	16.9			29.2			36.4	19.9

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Build (2026) PM
01/15/2021

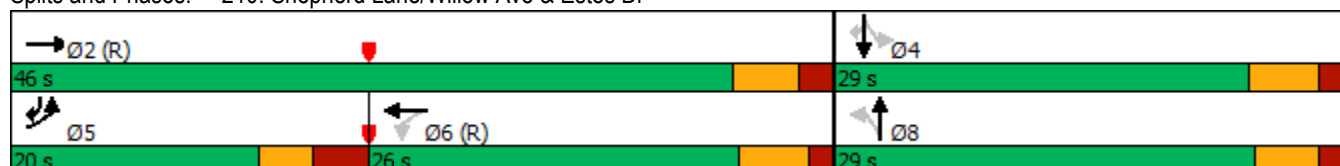
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	29.2	4.1		16.9	16.9			29.2			36.4	19.9
LOS	C	A		B	B			C			D	B
Approach Delay		14.9			16.9			29.2			22.2	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	191	51		4	87			10			30	140
Queue Length 95th (ft)	m252	m69		16	150			30			65	181
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	475	2781		408	1534			506			437	675
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.69	0.16		0.03	0.35			0.05			0.16	0.63

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 61 (81%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 17.7
Intersection Capacity Utilization 55.4%
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
ICU Level of Service B

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	14	433	478	13	13	13
Future Volume (vph)	14	433	478	13	13	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.996		0.932	
Flt Protected		0.998			0.976	
Satd. Flow (prot)	0	3498	3525	0	1694	0
Flt Permitted		0.998			0.976	
Satd. Flow (perm)	0	3498	3525	0	1694	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	16	481	531	14	14	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	497	545	0	28	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.1%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	14	433	478	13	13	13
Future Vol, veh/h	14	433	478	13	13	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	16	481	531	14	14	14

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	545	0	0	811	273
Stage 1	-	-	-	538	-
Stage 2	-	-	-	273	-
Critical Hdwy	4.16	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	5.84	-
Follow-up Hdwy	2.23	-	-	3.52	3.32
Pot Cap-1 Maneuver	1013	-	-	317	725
Stage 1	-	-	-	549	-
Stage 2	-	-	-	748	-
Platoon blocked, %	-	-	-	-	-
Mov Cap-1 Maneuver	1013	-	-	310	725
Mov Cap-2 Maneuver	-	-	-	310	-
Stage 1	-	-	-	537	-
Stage 2	-	-	-	748	-

Approach	EB	WB	SB

HCM Control Delay, s	0.4	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	1013	-	-	-	434
HCM Lane V/C Ratio	0.015	-	-	-	0.067
HCM Control Delay (s)	8.6	0.1	-	-	13.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	75	370	1	7	429	104	2	0	6	93	0	60
Future Volume (vph)	75	370	1	7	429	104	2	0	6	93	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.971			0.895				0.850
Flt Protected	0.950			0.950				0.989			0.950	
Satd. Flow (prot)	1770	3539	0	1770	3437	0	0	1649	0	0	1770	1583
Flt Permitted	0.950			0.950				0.989			0.950	
Satd. Flow (perm)	1770	3539	0	1770	3437	0	0	1649	0	0	1770	1583
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	83	411	1	8	477	116	2	0	7	103	0	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	83	412	0	8	593	0	0	9	0	0	103	67
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.2%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	75	370	1	7	429	104	2	0	6	93	0	60
Future Vol, veh/h	75	370	1	7	429	104	2	0	6	93	0	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	83	411	1	8	477	116	2	0	7	103	0	67

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	593	0	0	412	0	0	833	1187	206	923	1129	297
Stage 1	-	-	-	-	-	-	578	578	-	551	551	-
Stage 2	-	-	-	-	-	-	255	609	-	372	578	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	979	-	-	1143	-	-	261	187	800	225	203	699
Stage 1	-	-	-	-	-	-	468	499	-	486	514	-
Stage 2	-	-	-	-	-	-	727	484	-	621	499	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	979	-	-	1143	-	-	220	170	800	207	185	699
Mov Cap-2 Maneuver	-	-	-	-	-	-	220	170	-	207	185	-
Stage 1	-	-	-	-	-	-	428	457	-	445	510	-
Stage 2	-	-	-	-	-	-	653	481	-	564	457	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.5	0.1	12.6	27.7
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	482	979	-	-	1143	-	-	207	699
HCM Lane V/C Ratio	0.018	0.085	-	-	0.007	-	-	0.499	0.095
HCM Control Delay (s)	12.6	9	-	-	8.2	-	-	38.6	10.7
HCM Lane LOS	B	A	-	-	A	-	-	E	B
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-	2.5	0.3

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	64	405	493	209	99	47
Future Volume (vph)	64	405	493	209	99	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.955			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3380	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3380	0	1770	1583
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	71	450	548	232	110	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	450	780	0	110	52
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 39.3%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 3.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	64	405	493	209	99	47
Future Vol, veh/h	64	405	493	209	99	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	450	548	232	110	52

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	780	0	0 1031 390
Stage 1	-	-	- 664 -
Stage 2	-	-	- 367 -
Critical Hdwy	4.14	-	- 6.84 6.94
Critical Hdwy Stg 1	-	-	- 5.84 -
Critical Hdwy Stg 2	-	-	- 5.84 -
Follow-up Hdwy	2.22	-	- 3.52 3.32
Pot Cap-1 Maneuver	833	-	- 229 609
Stage 1	-	-	- 474 -
Stage 2	-	-	- 671 -
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	833	-	- 210 609
Mov Cap-2 Maneuver	-	-	- 210 -
Stage 1	-	-	- 434 -
Stage 2	-	-	- 671 -

Approach	EB	WB	SB
HCM Control Delay, s	1.3	0	30.6
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	833	-	-	-	210	609
HCM Lane V/C Ratio	0.085	-	-	-	0.524	0.086
HCM Control Delay (s)	9.7	-	-	-	39.6	11.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.3	-	-	-	2.7	0.3

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	34	470	667	171	89	35
Future Volume (vph)	34	470	667	171	89	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.969		0.962	
Flt Protected		0.997			0.965	
Satd. Flow (prot)	0	5021	3429	0	1729	0
Flt Permitted		0.997			0.965	
Satd. Flow (perm)	0	5021	3429	0	1729	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	38	522	741	190	99	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	560	931	0	138	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 49.0%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations 

Traffic Vol, veh/h	34	470	667	171	89	35

Future Vol, veh/h	34	470	667	171	89	35

Conflicting Peds, #/hr	0	0	0	0	0	0

Sign Control	Free	Free	Free	Free	Stop	Stop

RT Channelized	-	None	-	None	-	None

Storage Length	-	-	-	-	0	-

Veh in Median Storage, #	-	0	0	-	0	-

Grade, %	-	0	0	-	0	-

Peak Hour Factor	90	90	90	90	90	90

Heavy Vehicles, %	3	3	2	2	2	2

Mvmt Flow	38	522	741	190	99	39

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	931	0	0	1121	466

Stage 1	-	-	-	836	-

Stage 2	-	-	-	285	-

Critical Hdwy	4.16	-	-	6.29	6.94

Critical Hdwy Stg 1	-	-	-	5.84	-

Critical Hdwy Stg 2	-	-	-	6.04	-

Follow-up Hdwy	2.23	-	-	3.67	3.32

Pot Cap-1 Maneuver	724	-	-	232	543

Stage 1	-	-	-	376	-

Stage 2	-	-	-	701	-

Platoon blocked, %	-	-	-	-	-

Mov Cap-1 Maneuver	724	-	-	215	543

Mov Cap-2 Maneuver	-	-	-	215	-

Stage 1	-	-	-	348	-

Stage 2	-	-	-	701	-

Approach	EB	WB	SB

HCM Control Delay, s	0.9	0	33.7

HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	724	-	-	-	259

HCM Lane V/C Ratio	0.052	-	-	-	0.532

HCM Control Delay (s)	10.2	0.2	-	-	33.7

HCM Lane LOS	B	A	-	-	D

HCM 95th %tile Q(veh)	0.2	-	-	-	2.9

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	6	10	0	3	6	313	13	0	428	3
Future Volume (vph)	3	0	6	10	0	3	6	313	13	0	428	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	100			100			100			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.905			0.971			0.995			0.999	
Flt Protected		0.985			0.962			0.999				
Satd. Flow (prot)	0	1660	0	0	1740	0	0	1852	0	1863	1861	0
Flt Permitted		0.985			0.962			0.999				
Satd. Flow (perm)	0	1660	0	0	1740	0	0	1852	0	1863	1861	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	0	7	11	0	3	7	348	14	0	476	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	14	0	0	369	0	0	479	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 32.7%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.5

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

Lane Configurations												
Traffic Vol, veh/h	3	0	6	10	0	3	6	313	13	0	428	3
Future Vol, veh/h	3	0	6	10	0	3	6	313	13	0	428	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	7	11	0	3	7	348	14	0	476	3

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	849	854	478	850	848	355	479	0
Stage 1	478	478	-	369	369	-	-	-
Stage 2	371	376	-	481	479	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	281	296	587	280	298	689	1083	-
Stage 1	568	556	-	651	621	-	-	-
Stage 2	649	616	-	566	555	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	278	294	587	275	296	689	1083	-
Mov Cap-2 Maneuver	278	294	-	275	296	-	-	-
Stage 1	563	556	-	646	616	-	-	-
Stage 2	641	611	-	560	555	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	16.8	0.2	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1083	-	-	428	319	1197	-
HCM Lane V/C Ratio	0.006	-	-	0.023	0.045	-	-
HCM Control Delay (s)	8.3	0	-	13.6	16.8	0	-
HCM Lane LOS	A	A	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

University Place TIA
302: Willow Ave & UPlace Access #7

Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	5	22	0	25	4	278	37	24	404	5
Future Volume (vph)	5	1	5	22	0	25	4	278	37	24	404	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	100			100			0			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.938				0.850		0.982			0.998	
Flt Protected		0.977			0.950		0.950			0.950		
Satd. Flow (prot)	0	1707	0	0	1687	1509	1770	1829	0	1770	1859	0
Flt Permitted		0.977			0.950		0.950			0.950		
Satd. Flow (perm)	0	1707	0	0	1687	1509	1770	1829	0	1770	1859	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	6	1	6	24	0	28	4	309	41	27	449	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	24	28	4	350	0	27	455	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.5%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.3

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

Lane Configurations		↔			↔	↔	↔	↔		↔	↔	
Traffic Vol, veh/h	5	1	5	22	0	25	4	278	37	24	404	5
Future Vol, veh/h	5	1	5	22	0	25	4	278	37	24	404	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	7	7	7	2	2	2	2	2	2
Mvmt Flow	6	1	6	24	0	28	4	309	41	27	449	6

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	858	864	452	848	847	330	455	0
Stage 1	506	506	-	338	338	-	-	-
Stage 2	352	358	-	510	509	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.57	6.27	4.12	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.57	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.57	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.063	3.363	2.218	-
Pot Cap-1 Maneuver	277	292	608	276	293	700	1106	-
Stage 1	549	540	-	666	632	-	-	-
Stage 2	665	628	-	537	530	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	261	284	608	267	285	700	1106	-
Mov Cap-2 Maneuver	261	284	-	267	285	-	-	-
Stage 1	547	528	-	663	629	-	-	-
Stage 2	636	625	-	519	518	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	14.8	0.1	0.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1106	-	-	356 267 700	1209	-	-
HCM Lane V/C Ratio	0.004	-	-	0.034 0.092 0.04	0.022	-	-
HCM Control Delay (s)	8.3	-	-	15.5 19.8 10.4	8	-	-
HCM Lane LOS	A	-	-	C C B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.3 0.1	0.1	-	-

University Place TIA
303: Future Access/Conner Drive & Willow Ave

Build (2026) PM
01/15/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	219	45	65	274	45	40	9	95	80	11	119
Future Volume (vph)	44	219	45	65	274	45	40	9	95	80	11	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.979				0.850		0.924	
Flt Protected	0.950			0.950				0.961			0.981	
Satd. Flow (prot)	1770	1811	0	1752	1824	0	0	1773	1568	0	1688	0
Flt Permitted	0.950			0.950				0.961			0.981	
Satd. Flow (perm)	1770	1811	0	1752	1824	0	0	1773	1568	0	1688	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		345			318			413			387	
Travel Time (s)		6.7			6.2			11.3			10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Adj. Flow (vph)	49	243	50	72	304	50	44	10	106	89	12	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	293	0	72	354	0	0	54	106	0	233	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 49.5%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 10.1

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

Lane Configurations												
Traffic Vol, veh/h	44	219	45	65	274	45	40	9	95	80	11	119
Future Vol, veh/h	44	219	45	65	274	45	40	9	95	80	11	119
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2	3	3	3	2	3	2
Mvmt Flow	49	243	50	72	304	50	44	10	106	89	12	132

Major/Minor	Major1		Major2		Minor1		Minor2					
Conflicting Flow All	354	0	0	293	0	0	911	864	268	897	864	329
Stage 1	-	-	-	-	-	-	366	366	-	473	473	-
Stage 2	-	-	-	-	-	-	545	498	-	424	391	-
Critical Hdwy	4.12	-	-	4.13	-	-	7.13	6.53	6.23	7.12	6.53	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.12	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.12	5.53	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.527	4.027	3.327	3.518	4.027	3.318
Pot Cap-1 Maneuver	1205	-	-	1263	-	-	254	291	768	261	291	712
Stage 1	-	-	-	-	-	-	651	621	-	572	557	-
Stage 2	-	-	-	-	-	-	521	543	-	608	605	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1205	-	-	1263	-	-	185	263	768	203	263	712
Mov Cap-2 Maneuver	-	-	-	-	-	-	185	263	-	203	263	-
Stage 1	-	-	-	-	-	-	624	596	-	549	525	-
Stage 2	-	-	-	-	-	-	391	512	-	495	580	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	1.4	17.2	34
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	196	768	1205	-	-	1263	-	-	348
HCM Lane V/C Ratio	0.278	0.137	0.041	-	-	0.057	-	-	0.67
HCM Control Delay (s)	30.3	10.4	8.1	-	-	8	-	-	34
HCM Lane LOS	D	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1.1	0.5	0.1	-	-	0.2	-	-	4.6

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	328	66	89	292	92	157
Future Volume (vph)	328	66	89	292	92	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1820	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1820	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	364	73	99	324	102	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	437	0	99	324	102	174
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 41.3%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 4.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	328	66	89	292	92	157
Future Vol, veh/h	328	66	89	292	92	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	364	73	99	324	102	174

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	437
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1123
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1123
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2	14.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	397	649	-	-	1123	-
HCM Lane V/C Ratio	0.257	0.269	-	-	0.088	-
HCM Control Delay (s)	17.2	12.6	-	-	8.5	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1	1.1	-	-	0.3	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	475	10	86	368	13	119
Future Volume (vph)	475	10	86	368	13	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1857	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1857	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	528	11	96	409	14	132
Shared Lane Traffic (%)						
Lane Group Flow (vph)	539	0	96	409	14	132
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 43.7%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	475	10	86	368	13	119
Future Vol, veh/h	475	10	86	368	13	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	528	11	96	409	14	132

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	539
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1029
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1029
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	14.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	203	546	-	-	1029	-
HCM Lane V/C Ratio	0.071	0.242	-	-	0.093	-
HCM Control Delay (s)	24.1	13.7	-	-	8.9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.9	-	-	0.3	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	8	330	5	8	9	420	1774	3	7	1871	79
Future Volume (vph)	57	8	330	5	8	9	420	1774	3	7	1871	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.946							0.850
Flt Protected		0.958			0.988		0.950			0.950		
Satd. Flow (prot)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Flt Permitted		0.958			0.988		0.950			0.950		
Satd. Flow (perm)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	9%	9%	9%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	63	9	367	6	9	10	467	1971	3	8	2079	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	367	0	25	0	467	1974	0	8	2079	88
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	22.0	22.0	37.0	20.0	20.0		37.0	123.0		15.0	101.0	22.0
Total Split (%)	12.2%	12.2%	20.6%	11.1%	11.1%		20.6%	68.3%		8.3%	56.1%	12.2%
Maximum Green (s)	15.4	15.4	30.3	13.3	13.3		30.3	116.9		8.5	94.9	15.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		13.5	49.8		9.3		31.3	141.7		9.1	111.4	126.9
Actuated g/C Ratio		0.08	0.28		0.05		0.17	0.79		0.05	0.62	0.70
v/c Ratio		0.56	0.49		0.30		0.79	0.72		0.09	0.96	0.08
Control Delay		95.7	56.0		91.5		81.4	14.6		74.3	31.4	3.5

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		95.7	56.0		91.5		81.4	14.6		74.3	31.4	3.5
LOS		F	E		F		F	B		E	C	A
Approach Delay		62.5			91.5			27.4			30.5	
Approach LOS		E			F			C			C	
Queue Length 50th (ft)		84	206		29		274	514		9	~1213	11
Queue Length 95th (ft)		141	251		66		337	992		m11	#1583	m19
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		166	775		135		625	2759		97	2170	1138
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.43	0.47		0.19		0.75	0.72		0.08	0.96	0.08

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 32.1
Intersection Capacity Utilization 86.4%
Analysis Period (min) 15
Intersection LOS: C
ICU Level of Service E

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

 Ø2 (R)	 Ø1	 Ø4	 Ø3
123 s	15 s	20 s	22 s
 Ø5	 Ø6 (R)		
37 s	101 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	62	0	1840	1895	82
Future Volume (vph)	0	62	0	1840	1895	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1596	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1596	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	69	0	2044	2106	91
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	69	0	2044	2106	91
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 62.9%

ICU Level of Service B

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	62	0	1840	1895	82
Future Vol, veh/h	0	62	0	1840	1895	82
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	69	0	2044	2106	91

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 1053	-	0 -
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	- 6.96	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	- 3.33	-	-
Pot Cap-1 Maneuver	0 221	0 -	- 0
Stage 1	0 -	0 -	- 0
Stage 2	0 -	0 -	- 0
Platoon blocked, %			-
Mov Cap-1 Maneuver	- 221	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.5	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 221	-
HCM Lane V/C Ratio	- 0.312	-
HCM Control Delay (s)	- 28.5	-
HCM Lane LOS	- D	-
HCM 95th %tile Q(veh)	- 1.3	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	41	18	62	50	29	52	1739	49	13	1897	305
Future Volume (vph)	133	41	18	62	50	29	52	1739	49	13	1897	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.955			0.945			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1753	0	1761	1751	0	1778	3543	0	1778	3557	1591
Flt Permitted	0.534			0.676			0.033			0.047		
Satd. Flow (perm)	980	1753	0	1253	1751	0	62	3543	0	88	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	148	46	20	69	56	32	58	1932	54	14	2108	339
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	66	0	69	88	0	58	1986	0	14	2108	339
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	21.0	39.0		15.0	33.0		15.0	111.0		15.0	111.0	21.0
Total Split (%)	11.7%	21.7%		8.3%	18.3%		8.3%	61.7%		8.3%	61.7%	11.7%
Maximum Green (s)	14.7	32.6		9.1	26.6		8.9	104.9		9.4	104.9	14.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	30.2	20.7		30.2	14.8		130.8	129.7		132.8	123.4	143.6
Actuated g/C Ratio	0.17	0.12		0.17	0.08		0.73	0.72		0.74	0.69	0.80
v/c Ratio	0.64	0.33		0.29	0.61		0.45	0.78		0.10	0.86	0.27
Control Delay	76.5	76.4		62.4	96.9		50.0	8.7		5.6	13.6	1.9

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	1.6	0.0
Total Delay	76.5	76.4		62.4	96.9		50.0	8.7		5.6	15.2	1.9
LOS	E	E		E	F		D	A		A	B	A
Approach Delay		76.4			81.7			9.8			13.3	
Approach LOS		E			F			A			B	
Queue Length 50th (ft)	155	73		69	103		0	198		2	466	29
Queue Length 95th (ft)	223	124		115	164		m52	97		m3	1014	m32
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	235	331		242	272		143	2553		159	2439	1274
Starvation Cap Reductn	0	0		0	0		0	0		0	179	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.63	0.20		0.29	0.32		0.41	0.78		0.09	0.93	0.27

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 177 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.86
 Intersection Signal Delay: 16.8
 Intersection Capacity Utilization 74.8%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
 ICU Level of Service D

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave

 Ø1	 Ø2 (R)	 Ø3	 Ø4
15 s	111 s	15 s	39 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
15 s	111 s	21 s	33 s

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Build (2028) AM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	10	146	136	15	15	148	1617	136	2	1933	75
Future Volume (vph)	27	10	146	136	15	15	148	1617	136	2	1933	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1710	1835	1530	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.033			0.090		
Satd. Flow (perm)	1710	1835	1530	3400	1845	1568	61	3539	1568	166	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		958			778			783			1413	
Travel Time (s)		18.7			15.2			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	3%	5%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	30	11	162	151	17	17	164	1797	151	2	2148	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	11	162	151	17	17	164	1797	151	2	2148	83
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	13.6	43.5	16.7	13.6	43.5	13.4	16.7	109.5	13.6	13.4	106.2	13.6
Total Split (%)	7.6%	24.2%	9.3%	7.6%	24.2%	7.4%	9.3%	60.8%	7.6%	7.4%	59.0%	7.6%
Maximum Green (s)	7.2	37.0	10.4	7.0	37.0	7.0	10.4	103.0	7.0	7.0	99.7	7.2
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	8.6	8.8	28.6	11.3	8.8	16.8	148.0	145.0	163.3	150.0	125.1	138.7
Actuated g/C Ratio	0.05	0.05	0.16	0.06	0.05	0.09	0.82	0.81	0.91	0.83	0.70	0.77
v/c Ratio	0.37	0.12	0.67	0.71	0.19	0.12	0.61	0.63	0.11	0.01	0.87	0.07
Control Delay	96.3	84.8	83.4	98.1	87.0	72.7	66.5	5.3	1.1	3.0	11.5	1.8

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.7	0.0
Total Delay	96.3	84.8	83.4	98.1	87.0	72.7	66.5	5.4	1.1	3.0	12.2	1.8
LOS	F	F	F	F	F	E	E	A	A	A	B	A
Approach Delay		85.4			94.7			9.9			11.8	
Approach LOS		F			F			A			B	
Queue Length 50th (ft)	35	13	188	86	20	18	151	208	9	0	272	11
Queue Length 95th (ft)	75	37	252	#171	49	45	m216	272	m18	m0	350	m12
Internal Link Dist (ft)		878			698			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	81	392	243	213	394	146	267	2850	1422	212	2458	1219
Starvation Cap Reductn	0	0	0	0	0	0	0	257	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	98	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.37	0.03	0.67	0.71	0.04	0.12	0.61	0.69	0.11	0.01	0.91	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 175 (97%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 17.3
Intersection Capacity Utilization 84.7%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
ICU Level of Service E

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

											
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)		Ø7	Ø8	
13.4 s	109.5 s		13.6 s	43.5 s		16.7 s	106.2 s		13.6 s	43.5 s	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	76	53	50	203	94	103	80	1466	113	82	1730	7
Future Volume (vph)	76	53	50	203	94	103	80	1466	113	82	1730	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.927			0.922				0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1727	0	3367	1684	0	1770	3539	1583	1770	3536	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1727	0	3367	1684	0	1770	3539	1583	1770	3536	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	84	59	56	226	104	114	89	1629	126	91	1922	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	115	0	226	218	0	89	1629	126	91	1930	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	20.0	20.0		38.0	38.0		20.0	102.0		20.0	102.0	
Total Split (%)	11.1%	11.1%		21.1%	21.1%		11.1%	56.7%		11.1%	56.7%	
Maximum Green (s)	13.6	13.1		31.2	31.3		13.2	95.2		13.3	95.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	13.1	22.1		19.2	28.2		15.0	105.0	180.0	13.7	103.7	
Actuated g/C Ratio	0.07	0.12		0.11	0.16		0.08	0.58	1.00	0.08	0.58	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.66	0.54		0.63	0.83		0.61	0.79	0.08	0.68	0.95	
Control Delay	104.4	83.4		84.6	98.0		78.6	19.3	0.1	105.5	46.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	104.4	83.4		84.6	98.0		78.6	19.3	0.1	105.5	46.9	
LOS	F	F		F	F		E	B	A	F	D	
Approach Delay		92.3			91.2			20.9			49.6	
Approach LOS		F			F			C			D	
Queue Length 50th (ft)	98	128		134	252		105	861	0	106	1128	
Queue Length 95th (ft)	163	203		178	349		m166	707	0	174	#1383	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	147	212		617	308		147	2065	1583	148	2036	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.57	0.54		0.37	0.71		0.61	0.79	0.08	0.61	0.95	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 8 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.95

Intersection Signal Delay: 43.8

Intersection LOS: D

Intersection Capacity Utilization 87.6%

ICU Level of Service E

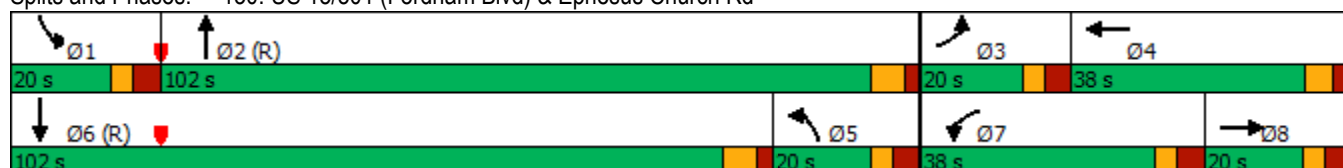
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	354	346	55	129	280	84	56	419	102	96	541	214
Future Volume (vph)	354	346	55	129	280	84	56	419	102	96	541	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.979				0.850		0.971			0.957	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1815	0	1692	1781	1514	1710	3320	0	1744	3339	0
Flt Permitted	0.950			0.252			0.950			0.950		
Satd. Flow (perm)	1761	1815	0	449	1781	1514	1710	3320	0	1744	3339	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	393	384	61	143	311	93	62	466	113	107	601	238
Shared Lane Traffic (%)												
Lane Group Flow (vph)	393	445	0	143	311	93	62	579	0	107	839	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	35.0	35.0		35.0	35.0	20.0	20.0	40.0		20.0	40.0	
Total Split (%)	26.9%	26.9%		26.9%	26.9%	15.4%	15.4%	30.8%		15.4%	30.8%	
Maximum Green (s)	29.1	29.1		29.4	29.1	14.1	13.8	34.3		14.1	34.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.2	45.6		56.9	26.7	44.2	10.0	40.6		12.5	45.7	
Actuated g/C Ratio	0.23	0.35		0.44	0.21	0.34	0.08	0.31		0.10	0.35	
v/c Ratio	0.96	0.70		0.47	0.85	0.18	0.47	0.56		0.64	0.72	
Control Delay	85.3	43.3		26.6	74.7	29.2	69.0	41.0		73.6	42.5	

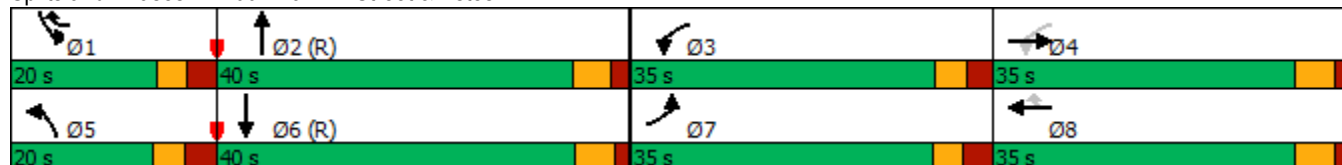
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	85.3	43.3		26.6	74.7	29.2	69.0	41.0		73.6	42.5	
LOS	F	D		C	E	C	E	D		E	D	
Approach Delay		63.0			54.4			43.7			46.0	
Approach LOS		E			D			D			D	
Queue Length 50th (ft)	330	316		65	268	56	51	218		88	333	
Queue Length 95th (ft)	#535	454		100	#379	79	97	292		149	#469	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	409	636		500	411	544	197	1036		201	1173	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.96	0.70		0.29	0.76	0.17	0.31	0.56		0.53	0.72	

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.96
Intersection Signal Delay: 51.8
Intersection Capacity Utilization 78.6%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: D
ICU Level of Service D

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	357	4	6	279	39	3	9	11	25	5	211
Future Volume (vph)	183	357	4	6	279	39	3	9	11	25	5	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.982			0.935				0.850
Flt Protected	0.950			0.950				0.994			0.960	
Satd. Flow (prot)	1736	3468	0	1752	3442	0	0	1715	0	0	1745	1545
Flt Permitted	0.950			0.516				0.951			0.986	
Satd. Flow (perm)	1736	3468	0	952	3442	0	0	1641	0	0	1792	1545
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	203	397	4	7	310	43	3	10	12	28	6	234
Shared Lane Traffic (%)												
Lane Group Flow (vph)	203	401	0	7	353	0	0	25	0	0	34	234
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	12.1	15.1		22.2	22.2		28.7	28.7		12.8	12.8	12.1
Total Split (s)	18.0	42.0		24.0	24.0		23.0	23.0		23.0	23.0	18.0
Total Split (%)	27.7%	64.6%		36.9%	36.9%		35.4%	35.4%		35.4%	35.4%	27.7%
Maximum Green (s)	12.9	36.9		18.8	18.8		17.3	17.3		17.2	17.2	12.9
Yellow Time (s)	3.0	3.8		3.8	3.8		3.3	3.3		3.8	3.8	3.0
All-Red Time (s)	2.1	1.3		1.4	1.4		2.4	2.4		2.0	2.0	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.2	-0.2			-0.7			-0.8	-0.8
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	4.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				10.0	10.0		16.0	16.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	12.2	57.8		37.6	37.6			7.8			7.9	18.1
Actuated g/C Ratio	0.19	0.89		0.58	0.58			0.12			0.12	0.28
v/c Ratio	0.62	0.13		0.01	0.18			0.13			0.16	0.55
Control Delay	28.8	1.3		10.5	8.9			27.2			27.5	22.8

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

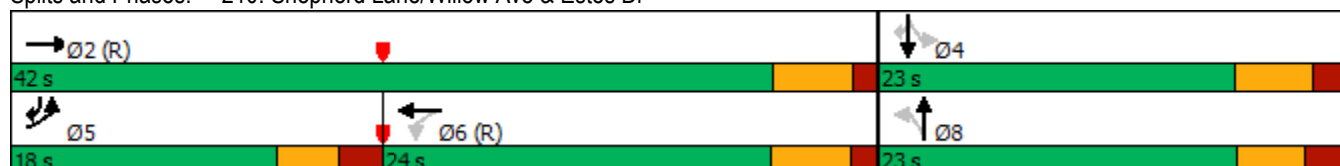
Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	28.8	1.3		10.5	8.9			27.2			27.5	22.8
LOS	C	A		B	A			C			C	C
Approach Delay		10.6			8.9			27.2			23.4	
Approach LOS		B			A			C			C	
Queue Length 50th (ft)	109	0		1	25			9			12	85
Queue Length 95th (ft)	m134	24		8	74			28			35	102
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	366	3084		551	1991			454			496	466
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.55	0.13		0.01	0.18			0.06			0.07	0.50

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBT, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.62
Intersection Signal Delay: 13.2
Intersection Capacity Utilization 39.8%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service A
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 		 	
Traffic Volume (vph)	7	386	319	7	4	5
Future Volume (vph)	7	386	319	7	4	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.997		0.919	
Flt Protected		0.999			0.980	
Satd. Flow (prot)	0	3435	3494	0	1678	0
Flt Permitted		0.999			0.980	
Satd. Flow (perm)	0	3435	3494	0	1678	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	3%	3%	2%	2%
Adj. Flow (vph)	8	429	354	8	4	6
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	437	362	0	10	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 25.6%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.2

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		↑↑	↑↑		↑↑	
Traffic Vol, veh/h	7	386	319	7	4	5
Future Vol, veh/h	7	386	319	7	4	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	3	3	2	2
Mvmt Flow	8	429	354	8	4	6

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	362	0	-	0	589	181
Stage 1	-	-	-	-	358	-
Stage 2	-	-	-	-	231	-
Critical Hdwy	4.2	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.25	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1172	-	-	-	439	831
Stage 1	-	-	-	-	678	-
Stage 2	-	-	-	-	785	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	1172	-	-	-	435	831
Mov Cap-2 Maneuver	-	-	-	-	435	-
Stage 1	-	-	-	-	672	-
Stage 2	-	-	-	-	785	-

Approach EB WB SB

HCM Control Delay, s	0.1	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	1172	-	-	-	592
HCM Lane V/C Ratio	0.007	-	-	-	0.017
HCM Control Delay (s)	8.1	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.1

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	348	5	5	300	44	8	0	12	28	0	18
Future Volume (vph)	37	348	5	5	300	44	8	0	12	28	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.981			0.920				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1736	3464	0	1752	3438	0	0	1679	0	0	1719	1538
Flt Permitted	0.950			0.950				0.980			0.950	
Satd. Flow (perm)	1736	3464	0	1752	3438	0	0	1679	0	0	1719	1538
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	41	387	6	6	333	49	9	0	13	31	0	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	41	393	0	6	382	0	0	22	0	0	31	20
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 31.0%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	37	348	5	5	300	44	8	0	12	28	0	18
Future Vol, veh/h	37	348	5	5	300	44	8	0	12	28	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	4	3	3	3	2	2	2	5	5	5
Mvmt Flow	41	387	6	6	333	49	9	0	13	31	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	382	0	0	393	0	0	651	866	197	646	845	191
Stage 1	-	-	-	-	-	-	472	472	-	370	370	-
Stage 2	-	-	-	-	-	-	179	394	-	276	475	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.54	6.54	6.94	7.6	6.6	7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.52	4.02	3.32	3.55	4.05	3.35
Pot Cap-1 Maneuver	1159	-	-	1155	-	-	354	290	811	351	293	809
Stage 1	-	-	-	-	-	-	542	557	-	614	611	-
Stage 2	-	-	-	-	-	-	805	604	-	698	548	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1159	-	-	1155	-	-	335	278	811	335	281	809
Mov Cap-2 Maneuver	-	-	-	-	-	-	335	278	-	335	281	-
Stage 1	-	-	-	-	-	-	523	538	-	593	608	-
Stage 2	-	-	-	-	-	-	781	601	-	662	529	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	0.1	12.3	14
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	517	1159	-	-	1155	-	-	335	809
HCM Lane V/C Ratio	0.043	0.035	-	-	0.005	-	-	0.093	0.025
HCM Control Delay (s)	12.3	8.2	-	-	8.1	-	-	16.8	9.6
HCM Lane LOS	B	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	32	356	335	99	29	14
Future Volume (vph)	32	356	335	99	29	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.966			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1736	3471	3386	0	1719	1538
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1736	3471	3386	0	1719	1538
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	5%	5%
Adj. Flow (vph)	36	396	372	110	32	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	396	482	0	32	16
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 29.1%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	32	356	335	99	29	14
Future Vol, veh/h	32	356	335	99	29	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	-	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	5	5
Mvmt Flow	36	396	372	110	32	16

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	482	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.18	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.24	-	-
Pot Cap-1 Maneuver	1063	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1063	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	14.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1063	-	-	-	356	751
HCM Lane V/C Ratio	0.033	-	-	-	0.091	0.021
HCM Control Delay (s)	8.5	-	-	-	16.1	9.9
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		  	  		  	
Traffic Volume (vph)	18	367	424	83	28	10
Future Volume (vph)	18	367	424	83	28	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.975		0.965	
Flt Protected		0.998			0.964	
Satd. Flow (prot)	0	4930	3384	0	1700	0
Flt Permitted		0.998			0.964	
Satd. Flow (perm)	0	4930	3384	0	1700	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Adj. Flow (vph)	20	408	471	92	31	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	428	563	0	42	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 30.6%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.8

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations 

Traffic Vol, veh/h 18 367 424 83 28 10

Future Vol, veh/h 18 367 424 83 28 10

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - 0 -

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 90 90 90 90 90 90

Heavy Vehicles, % 5 5 4 4 4 4

Mvmt Flow 20 408 471 92 31 11

Major/Minor Major1 Major2 Minor2

Conflicting Flow All 563 0 - 0 720 282

Stage 1 - - - - 517 -

Stage 2 - - - - 203 -

Critical Hdwy 4.2 - - - 6.33 6.98

Critical Hdwy Stg 1 - - - - 5.88 -

Critical Hdwy Stg 2 - - - - 6.08 -

Follow-up Hdwy 2.25 - - - 3.69 3.34

Pot Cap-1 Maneuver 984 - - - 389 709

Stage 1 - - - - 540 -

Stage 2 - - - - 767 -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver 984 - - - 379 709

Mov Cap-2 Maneuver - - - - 379 -

Stage 1 - - - - 526 -

Stage 2 - - - - 767 -

Approach EB WB SB

HCM Control Delay, s 0.5 0 14.2

HCM LOS B

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h) 984 - - - 432

HCM Lane V/C Ratio 0.02 - - - 0.098

HCM Control Delay (s) 8.7 0.1 - - 14.2

HCM Lane LOS A A - - B

HCM 95th %tile Q(veh) 0.1 - - - 0.3

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	0	3	0	0	4	221	6	0	238	2
Future Volume (vph)	3	1	0	3	0	0	4	221	6	0	238	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt								0.996			0.999	
Flt Protected		0.964			0.950			0.999				
Satd. Flow (prot)	0	1796	0	0	1770	0	0	1818	0	1845	1843	0
Flt Permitted		0.964			0.950			0.999				
Satd. Flow (perm)	0	1796	0	0	1770	0	0	1818	0	1845	1843	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	3	1	0	3	0	0	4	246	7	0	264	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	3	0	0	257	0	0	266	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.2%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	0	3	0	0	4	221	6	0	238	2
Future Vol, veh/h	3	1	0	3	0	0	4	221	6	0	238	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	3	3	3
Mvmt Flow	3	1	0	3	0	0	4	246	7	0	264	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	523	526	265	524	524	250	266	0	0	253	0	0
Stage 1	265	265	-	258	258	-	-	-	-	-	-	-
Stage 2	258	261	-	266	266	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	465	457	774	464	458	789	1286	-	-	1306	-	-
Stage 1	740	689	-	747	694	-	-	-	-	-	-	-
Stage 2	747	692	-	739	689	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	464	455	774	462	456	789	1286	-	-	1306	-	-
Mov Cap-2 Maneuver	464	455	-	462	456	-	-	-	-	-	-	-
Stage 1	737	689	-	744	691	-	-	-	-	-	-	-
Stage 2	744	689	-	738	689	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	12.8	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1286	-	-	462 462	1306	-	-
HCM Lane V/C Ratio	0.003	-	-	0.01 0.007	-	-	-
HCM Control Delay (s)	7.8	0	-	12.9 12.8	0	-	-
HCM Lane LOS	A	A	-	B B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

University Place TIA
302: Willow Ave & UPlace Access #7

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	7	0	7	6	200	18	12	231	3
Future Volume (vph)	2	0	2	7	0	7	6	200	18	12	231	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932				0.850		0.988			0.998	
Flt Protected		0.976			0.950		0.950			0.950		
Satd. Flow (prot)	0	1694	0	0	1641	1468	1752	1823	0	1752	1841	0
Flt Permitted		0.976			0.950		0.950			0.950		
Satd. Flow (perm)	0	1694	0	0	1641	1468	1752	1823	0	1752	1841	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	2	0	2	8	0	8	7	222	20	13	257	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	8	8	7	242	0	13	260	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.3%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.7

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

Lane Configurations												
Traffic Vol, veh/h	2	0	2	7	0	7	6	200	18	12	231	3
Future Vol, veh/h	2	0	2	7	0	7	6	200	18	12	231	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	3	3	3
Mvmt Flow	2	0	2	8	0	8	7	222	20	13	257	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	535	541	259	532	532	232	260	0	0	242	0	0
Stage 1	285	285	-	246	246	-	-	-	-	-	-	-
Stage 2	250	256	-	286	286	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	456	448	780	446	442	788	1299	-	-	1319	-	-
Stage 1	722	676	-	740	688	-	-	-	-	-	-	-
Stage 2	754	696	-	704	661	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	446	441	780	440	435	788	1299	-	-	1319	-	-
Mov Cap-2 Maneuver	446	441	-	440	435	-	-	-	-	-	-	-
Stage 1	718	669	-	736	685	-	-	-	-	-	-	-
Stage 2	743	693	-	695	654	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.4	11.5	0.2	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1299	-	-	568 440 788	1319	-	-
HCM Lane V/C Ratio	0.005	-	-	0.008 0.018 0.01	0.01	-	-
HCM Control Delay (s)	7.8	-	-	11.4 13.3 9.6	7.8	-	-
HCM Lane LOS	A	-	-	B B A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1 0	0	-	-

University Place TIA
303: Future Access/Conner Drive & Willow Ave

Build (2028) AM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	101	24	36	199	111	13	3	30	17	6	34
Future Volume (vph)	84	101	24	36	199	111	13	3	30	17	6	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			0			100			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.971			0.946				0.850		0.920	
Flt Protected	0.950			0.950				0.960			0.985	
Satd. Flow (prot)	1736	1777	0	1752	1762	0	0	1771	1568	0	1629	0
Flt Permitted	0.950			0.950				0.960			0.985	
Satd. Flow (perm)	1736	1777	0	1752	1762	0	0	1771	1568	0	1629	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		345			318			321			387	
Travel Time (s)		6.7			6.2			8.8			10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	2%	2%	3%	3%	3%	6%	3%	6%
Adj. Flow (vph)	93	112	27	40	221	123	14	3	33	19	7	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	139	0	40	344	0	0	17	33	0	64	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.9%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	84	101	24	36	199	111	13	3	30	17	6	34
Future Vol, veh/h	84	101	24	36	199	111	13	3	30	17	6	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	2	2	3	3	3	6	3	6
Mvmt Flow	93	112	27	40	221	123	14	3	33	19	7	38

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	344	0	0	139	0	0	697	736	126	693	688	283
Stage 1	-	-	-	-	-	-	312	312	-	363	363	-
Stage 2	-	-	-	-	-	-	385	424	-	330	325	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.13	6.53	6.23	7.16	6.53	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.16	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.16	5.53	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.527	4.027	3.327	3.554	4.027	3.354
Pot Cap-1 Maneuver	1204	-	-	1438	-	-	354	345	922	352	368	746
Stage 1	-	-	-	-	-	-	696	656	-	648	623	-
Stage 2	-	-	-	-	-	-	636	585	-	675	647	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1204	-	-	1438	-	-	305	309	922	310	330	746
Mov Cap-2 Maneuver	-	-	-	-	-	-	305	309	-	310	330	-
Stage 1	-	-	-	-	-	-	642	605	-	598	606	-
Stage 2	-	-	-	-	-	-	581	569	-	597	597	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0.8	12	13.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	306	922	1204	-	-	1438	-	-	481
HCM Lane V/C Ratio	0.058	0.036	0.078	-	-	0.028	-	-	0.132
HCM Control Delay (s)	17.5	9.1	8.2	-	-	7.6	-	-	13.6
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	0.3	-	-	0.1	-	-	0.5

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	113	35	47	317	29	48
Future Volume (vph)	113	35	47	317	29	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.968					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1752	0	1770	1863	1736	1553
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1752	0	1770	1863	1736	1553
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	4%	4%
Adj. Flow (vph)	126	39	52	352	32	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	0	52	352	32	53
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 26.7%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	113	35	47	317	29	48
Future Vol, veh/h	113	35	47	317	29	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	126	39	52	352	32	53

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	165
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1413
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1413
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	10.5
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	514	896	-	-	1413	-
HCM Lane V/C Ratio	0.063	0.06	-	-	0.037	-
HCM Control Delay (s)	12.5	9.3	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.1	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	155	6	47	360	4	37
Future Volume (vph)	155	6	47	360	4	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1800	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1800	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Adj. Flow (vph)	172	7	52	400	4	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	179	0	52	400	4	41
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.9%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	155	6	47	360	4	37
Future Vol, veh/h	155	6	47	360	4	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	172	7	52	400	4	41

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	179
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1397
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1397
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.9	9.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	402	867	-	-	1397	-
HCM Lane V/C Ratio	0.011	0.047	-	-	0.037	-
HCM Control Delay (s)	14.1	9.4	-	-	7.7	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0	0.1	-	-	0.1	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Build (2028) PM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 		 	 			 	
Traffic Volume (vph)	115	12	492	5	12	9	789	1762	9	17	1762	97
Future Volume (vph)	115	12	492	5	12	9	789	1762	9	17	1762	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	450		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.953			0.999				0.850
Flt Protected		0.957			0.990		0.950			0.950		
Satd. Flow (prot)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Flt Permitted		0.957			0.990		0.950			0.950		
Satd. Flow (perm)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	128	13	547	6	13	10	877	1958	10	19	1958	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	141	547	0	29	0	877	1968	0	19	1958	108
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	25.0	25.0	41.0	20.0	20.0		41.0	120.0		15.0	94.0	25.0
Total Split (%)	13.9%	13.9%	22.8%	11.1%	11.1%		22.8%	66.7%		8.3%	52.2%	13.9%
Maximum Green (s)	18.4	18.4	34.3	13.3	13.3		34.3	113.9		8.5	87.9	18.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		18.2	65.2		9.5		46.0	131.0		9.4	89.0	112.2
Actuated g/C Ratio		0.10	0.36		0.05		0.26	0.73		0.05	0.49	0.62
v/c Ratio		0.78	0.54		0.34		1.00	0.77		0.21	1.12	0.11
Control Delay		106.3	40.6		92.7		95.0	20.5		78.4	93.7	9.8

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		106.3	40.6		92.7		95.0	20.5		78.4	93.7	9.8
LOS		F	D		F		F	C		E	F	A
Approach Delay		54.0			92.7			43.4			89.2	
Approach LOS		D			F			D			F	
Queue Length 50th (ft)		164	250		34		~596	854		21	~1381	24
Queue Length 95th (ft)		#259	309		73		#771	1012		m27	#1506	m30
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							450			180		260
Base Capacity (vph)		198	1009		135		876	2572		98	1749	1002
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.71	0.54		0.21		1.00	0.77		0.19	1.12	0.11

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 68 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.12
Intersection Signal Delay: 61.9
Intersection Capacity Utilization 97.4%
Analysis Period (min) 15
Intersection LOS: E
ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

			
Ø2 (R)	Ø1	Ø3	Ø4
120 s	15 s	25 s	20 s
			
Ø5	Ø6 (R)		
41 s	94 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	254	0	1886	1622	232
Future Volume (vph)	0	254	0	1886	1622	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Flt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	282	0	2096	1802	258
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	282	0	2096	1802	258
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 67.2%
Analysis Period (min) 15

ICU Level of Service C

Intersection

Int Delay, s/veh 6.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	254	0	1886	1622	232
Future Vol, veh/h	0	254	0	1886	1622	232
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	282	0	2096	1802	258

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 901	- 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 ~ 281	0 -	- 0
Stage 1	0 -	0 -	- 0
Stage 2	0 -	0 -	- 0
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- ~ 281	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	94.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 281	-
HCM Lane V/C Ratio	- 1.004	-
HCM Control Delay (s)	- 94.9	-
HCM Lane LOS	- F	-
HCM 95th %tile Q(veh)	- 10.4	-

Notes

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

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Build (2028) PM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	521	113	36	37	54	24	54	1795	37	36	1781	375
Future Volume (vph)	521	113	36	37	54	24	54	1795	37	36	1781	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	160		0	160		0	240		0	240		520
Storage Lanes	1		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.964			0.953			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1805	0	1744	1749	0	1778	3546	0	1778	3557	1591
Flt Permitted	0.548			0.489			0.038			0.038		
Satd. Flow (perm)	1026	1805	0	898	1749	0	71	3546	0	71	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	579	126	40	41	60	27	60	1994	41	40	1979	417
Shared Lane Traffic (%)												
Lane Group Flow (vph)	579	166	0	41	87	0	60	2035	0	40	1979	417
Turn Type	D.P+P	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases	8			4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	35.0	43.0		15.0	23.0		15.0	107.0		15.0	107.0	35.0
Total Split (%)	19.4%	23.9%		8.3%	12.8%		8.3%	59.4%		8.3%	59.4%	19.4%
Maximum Green (s)	28.7	36.6		9.1	16.6		8.9	100.9		9.4	100.9	28.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.3
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	44.3	38.1		45.3	14.3		115.7	108.7		116.7	107.0	142.0
Actuated g/C Ratio	0.25	0.21		0.25	0.08		0.64	0.60		0.65	0.59	0.79
v/c Ratio	1.54	0.43		0.15	0.63		0.47	0.95		0.29	0.94	0.33
Control Delay	293.4	66.2		48.9	99.5		49.6	28.7		26.6	26.0	2.9

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

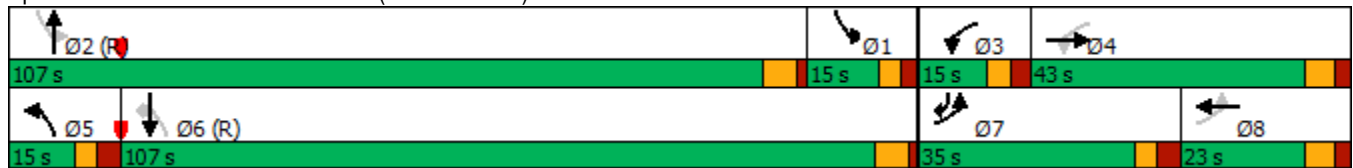
Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	15.1	0.0
Total Delay	293.4	66.2		48.9	99.5		49.6	28.7		26.6	41.0	2.9
LOS	F	E		D	F		D	C		C	D	A
Approach Delay		242.8			83.3			29.3			34.3	
Approach LOS		F			F			C			C	
Queue Length 50th (ft)	~846	175		36	101		19	1220		13	604	53
Queue Length 95th (ft)	#1046	255		70	165		m42	#1436		m14	m#1120	m58
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	160			160			240			240		520
Base Capacity (vph)	377	394		276	174		141	2141		141	2114	1255
Starvation Cap Reductn	0	0		0	0		0	0		0	184	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	1.54	0.42		0.15	0.50		0.43	0.95		0.28	1.03	0.33

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 65 (36%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.54
Intersection Signal Delay: 62.2
Intersection Capacity Utilization 94.7%
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave



University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Build (2028) PM

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	120	15	254	156	20	3	256	1889	195	12	1782	152
Future Volume (vph)	120	15	254	156	20	3	256	1889	195	12	1782	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1835	1560	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.040			0.046		
Satd. Flow (perm)	1744	1835	1560	3400	1845	1568	75	3539	1568	85	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		967			755			783			1413	
Travel Time (s)		18.8			14.7			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	133	17	282	173	22	3	284	2099	217	13	1980	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	17	282	173	22	3	284	2099	217	13	1980	169
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	19.0	44.0	26.2	15.6	40.6	13.4	26.2	107.0	15.6	13.4	94.2	19.0
Total Split (%)	10.6%	24.4%	14.6%	8.7%	22.6%	7.4%	14.6%	59.4%	8.7%	7.4%	52.3%	10.6%
Maximum Green (s)	12.6	37.5	19.9	9.0	34.1	7.0	19.9	100.5	9.0	7.0	87.7	12.6
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	14.0	11.1	49.3	12.0	9.1	14.1	142.3	139.3	155.3	144.3	103.8	122.8
Actuated g/C Ratio	0.08	0.06	0.27	0.07	0.05	0.08	0.79	0.77	0.86	0.80	0.58	0.68
v/c Ratio	0.99	0.15	0.66	0.77	0.24	0.02	0.67	0.77	0.16	0.09	0.97	0.16
Control Delay	152.9	81.7	65.3	103.3	88.2	55.0	66.1	5.8	2.0	13.0	42.0	13.4

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Build (2028) PM
02/11/2021

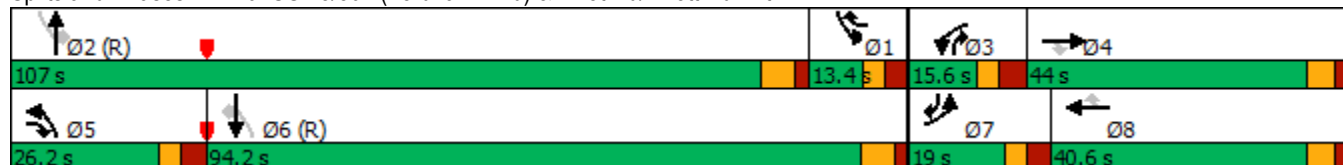
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.7	0.0	0.0	18.2	0.0
Total Delay	152.9	81.7	65.3	103.3	88.2	55.0	66.1	6.5	2.0	13.0	60.2	13.4
LOS	F	F	E	F	F	D	E	A	A	B	E	B
Approach Delay		92.9			100.9			12.6			56.3	
Approach LOS		F			F			B			E	
Queue Length 50th (ft)	160	19	289	106	26	3	278	372	29	5	724	72
Queue Length 95th (ft)	#313	48	386	#179	60	13	m264	m369	m30	m6	m695	m72
Internal Link Dist (ft)		887			675			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	135	397	426	226	364	122	422	2738	1352	145	2040	1079
Starvation Cap Reductn	0	0	0	0	0	0	0	291	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	139	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.99	0.04	0.66	0.77	0.06	0.02	0.67	0.86	0.16	0.09	1.04	0.16

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 79 (44%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 39.8
Intersection Capacity Utilization 89.3%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: D
ICU Level of Service E

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext



University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	95	102	246	118	91	120	1740	152	135	1674	18
Future Volume (vph)	110	95	102	246	118	91	120	1740	152	135	1674	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		0	280		0	420		460	300		0
Storage Lanes	1		0	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt		0.923			0.935				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1719	0	3433	1742	0	1770	3539	1583	1770	3532	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1719	0	3433	1742	0	1770	3539	1583	1770	3532	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	122	106	113	273	131	101	133	1933	169	150	1860	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	219	0	273	232	0	133	1933	169	150	1880	0
Turn Type	Prot	NA		Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8		7	4		5	2		1	6	
Permitted Phases									Free			
Detector Phase	3	8		7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9		13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	26.0	30.0		35.0	39.0		26.0	92.0		23.0	89.0	
Total Split (%)	14.4%	16.7%		19.4%	21.7%		14.4%	51.1%		12.8%	49.4%	
Maximum Green (s)	19.6	23.1		28.2	32.3		19.2	85.2		16.3	82.3	
Yellow Time (s)	3.0	3.0		3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9		3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9		-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0		3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0		0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	17.4	29.4		21.4	33.4		19.4	91.1	180.0	18.1	89.8	
Actuated g/C Ratio	0.10	0.16		0.12	0.19		0.11	0.51	1.00	0.10	0.50	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.71	0.78		0.67	0.72		0.70	1.08	0.11	0.84	1.07	
Control Delay	100.9	91.1		84.0	82.3		94.8	78.8	0.1	114.5	84.3	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	100.9	91.1		84.0	82.3		94.8	78.8	0.1	114.5	84.3	
LOS	F	F		F	F		F	E	A	F	F	
Approach Delay		94.6			83.2			73.8			86.5	
Approach LOS		F			F			E			F	
Queue Length 50th (ft)	142	246		161	257		148	~1420	0	177	~1352	
Queue Length 95th (ft)	217	#386		209	367		m195	m#1541	m0	#312	#1486	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100			280			420		460	300		
Base Capacity (vph)	206	281		572	333		207	1791	1583	182	1761	
Starvation Cap Reductn	0	0		0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0		0	0		0	0	0	0	0	
Storage Cap Reductn	0	0		0	0		0	0	0	0	0	
Reduced v/c Ratio	0.59	0.78		0.48	0.70		0.64	1.08	0.11	0.82	1.07	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 102 (57%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 1.08
 Intersection Signal Delay: 81.2
 Intersection Capacity Utilization 90.5%
 Analysis Period (min) 15
 ~ Volume exceeds capacity, queue is theoretically infinite.
 Queue shown is maximum after two cycles.
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: F
ICU Level of Service E

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd



University Place TIA
200: Franklin Street & Estes Dr

Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	321	420	96	230	429	235	62	771	196	109	668	382
Future Volume (vph)	321	420	96	230	429	235	62	771	196	109	668	382
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		0
Storage Lanes	1		0	1		1	1		0	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	0.95
Frt		0.972				0.850		0.970			0.945	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1820	0	1725	1816	1544	1743	3382	0	1778	3361	0
Flt Permitted	0.950			0.084			0.950			0.950		
Satd. Flow (perm)	1778	1820	0	153	1816	1544	1743	3382	0	1778	3361	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	357	467	107	256	477	261	69	857	218	121	742	424
Shared Lane Traffic (%)												
Lane Group Flow (vph)	357	574	0	256	477	261	69	1075	0	121	1166	0
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						
Detector Phase	7	4		3	8	1	5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	
Total Split (s)	40.0	53.0		20.0	33.0	20.0	15.0	57.0		20.0	62.0	
Total Split (%)	26.7%	35.3%		13.3%	22.0%	13.3%	10.0%	38.0%		13.3%	41.3%	
Maximum Green (s)	34.1	47.1		14.4	27.1	14.1	8.8	51.3		14.1	56.5	
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	32.9	48.0		64.8	31.9	50.5	9.4	51.6		13.7	55.8	
Actuated g/C Ratio	0.22	0.32		0.43	0.21	0.34	0.06	0.34		0.09	0.37	
v/c Ratio	0.92	0.99		1.06	1.24	0.50	0.63	0.93		0.75	0.93	
Control Delay	85.7	84.3		112.6	173.5	42.8	93.4	61.0		93.2	58.9	

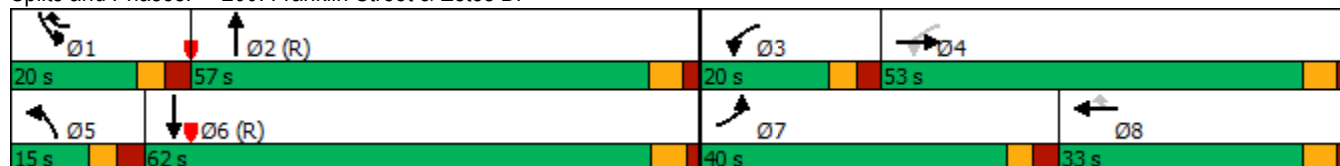
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	
Total Delay	85.7	84.3		112.6	173.5	42.8	93.4	61.0		93.2	58.9	
LOS	F	F		F	F	D	F	E		F	E	
Approach Delay		84.8			123.5			63.0			62.2	
Approach LOS		F			F			E			E	
Queue Length 50th (ft)	338	559		~249	~598	199	67	530		116	567	
Queue Length 95th (ft)	#508	#809		#418	#865	283	#130	#660		#203	#703	
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		
Base Capacity (vph)	414	582		241	385	534	116	1174		177	1277	
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	
Reduced v/c Ratio	0.86	0.99		1.06	1.24	0.49	0.59	0.92		0.68	0.91	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 104 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.24
Intersection Signal Delay: 81.2
Intersection Capacity Utilization 93.9%
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: F
ICU Level of Service F

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	311	411	3	12	474	33	6	8	7	55	8	414
Future Volume (vph)	311	411	3	12	474	33	6	8	7	55	8	414
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.990			0.955				0.850
Flt Protected	0.950			0.950				0.986			0.958	
Satd. Flow (prot)	1770	3536	0	1770	3504	0	0	1754	0	0	1776	1575
Flt Permitted	0.950			0.487				0.890			0.736	
Satd. Flow (perm)	1770	3536	0	907	3504	0	0	1584	0	0	1364	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	346	457	3	13	527	37	7	9	8	61	9	460
Shared Lane Traffic (%)												
Lane Group Flow (vph)	346	460	0	13	564	0	0	24	0	0	70	460
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	13.2	15.7		21.4	21.4		30.6	30.6		12.9	12.9	13.2
Total Split (s)	20.0	46.0		26.0	26.0		29.0	29.0		29.0	29.0	20.0
Total Split (%)	26.7%	61.3%		34.7%	34.7%		38.7%	38.7%		38.7%	38.7%	26.7%
Maximum Green (s)	13.8	40.3		20.6	20.6		23.4	23.4		23.1	23.1	13.8
Yellow Time (s)	3.0	3.7		3.9	3.9		3.6	3.6		3.9	3.9	3.0
All-Red Time (s)	3.2	2.0		1.5	1.5		2.0	2.0		2.0	2.0	3.2
Lost Time Adjust (s)	-1.2	-0.7		-0.4	-0.4			-0.6			-0.9	-1.2
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				9.0	9.0		18.0	18.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	21.7	59.0		31.3	31.3			9.6			9.6	33.7
Actuated g/C Ratio	0.29	0.79		0.42	0.42			0.13			0.13	0.45
v/c Ratio	0.68	0.17		0.03	0.39			0.12			0.40	0.65
Control Delay	28.5	4.1		17.9	18.3			29.2			36.5	19.5

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	28.5	4.1		17.9	18.3			29.2			36.5	19.5
LOS	C	A		B	B			C			D	B
Approach Delay		14.6			18.3			29.2			21.8	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	209	53		4	97			10			31	150
Queue Length 95th (ft)	m261	m73		17	165			29			65	190
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	511	2780		378	1462			506			436	707
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.68	0.17		0.03	0.39			0.05			0.16	0.65

Intersection Summary

Area Type: Other

Cycle Length: 75

Actuated Cycle Length: 75

Offset: 61 (81%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.68

Intersection Signal Delay: 17.8

Intersection LOS: B

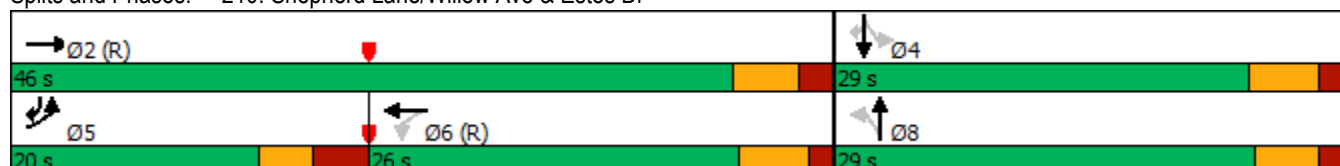
Intersection Capacity Utilization 58.1%

ICU Level of Service B

Analysis Period (min) 15

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 		 	
Traffic Volume (vph)	14	459	505	15	14	14
Future Volume (vph)	14	459	505	15	14	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.95	0.95	0.95	0.95	1.00	1.00
Frt			0.996		0.932	
Flt Protected		0.998			0.976	
Satd. Flow (prot)	0	3498	3525	0	1694	0
Flt Permitted		0.998			0.976	
Satd. Flow (perm)	0	3498	3525	0	1694	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	16	510	561	17	16	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	526	578	0	32	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 32.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations 

Traffic Vol, veh/h	14	459	505	15	14	14

Future Vol, veh/h	14	459	505	15	14	14

Conflicting Peds, #/hr	0	0	0	0	0	0

Sign Control	Free	Free	Free	Free	Stop	Stop

RT Channelized	-	None	-	None	-	None

Storage Length	-	-	-	-	0	-

Veh in Median Storage, #	-	0	0	-	0	-

Grade, %	-	0	0	-	0	-

Peak Hour Factor	90	90	90	90	90	90

Heavy Vehicles, %	3	3	2	2	2	2

Mvmt Flow	16	510	561	17	16	16

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	578	0	0	857	289

Stage 1	-	-	-	570	-

Stage 2	-	-	-	287	-

Critical Hdwy	4.16	-	-	6.84	6.94

Critical Hdwy Stg 1	-	-	-	5.84	-

Critical Hdwy Stg 2	-	-	-	5.84	-

Follow-up Hdwy	2.23	-	-	3.52	3.32

Pot Cap-1 Maneuver	985	-	-	296	708

Stage 1	-	-	-	529	-

Stage 2	-	-	-	736	-

Platoon blocked, %	-	-	-	-	-

Mov Cap-1 Maneuver	985	-	-	289	708

Mov Cap-2 Maneuver	-	-	-	289	-

Stage 1	-	-	-	517	-

Stage 2	-	-	-	736	-

Approach	EB	WB	SB

HCM Control Delay, s	0.4	0	14.5

HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	985	-	-	-	410

HCM Lane V/C Ratio	0.016	-	-	-	0.076

HCM Control Delay (s)	8.7	0.1	-	-	14.5

HCM Lane LOS	A	A	-	-	B

HCM 95th %tile Q(veh)	0	-	-	-	0.2

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	82	390	1	7	448	117	2	0	6	110	0	70
Future Volume (vph)	82	390	1	7	448	117	2	0	6	110	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.969			0.895				0.850
Flt Protected	0.950			0.950				0.989			0.950	
Satd. Flow (prot)	1770	3539	0	1770	3429	0	0	1649	0	0	1770	1583
Flt Permitted	0.950			0.950				0.989			0.950	
Satd. Flow (perm)	1770	3539	0	1770	3429	0	0	1649	0	0	1770	1583
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	91	433	1	8	498	130	2	0	7	122	0	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	434	0	8	628	0	0	9	0	0	122	78
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.4%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 6.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	390	1	7	448	117	2	0	6	110	0	70
Future Vol, veh/h	82	390	1	7	448	117	2	0	6	110	0	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	91	433	1	8	498	130	2	0	7	122	0	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	628	0	0	434	0	0	881	1260	217	978	1195	314
Stage 1	-	-	-	-	-	-	616	616	-	579	579	-
Stage 2	-	-	-	-	-	-	265	644	-	399	616	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	950	-	-	1122	-	-	241	169	787	205	185	682
Stage 1	-	-	-	-	-	-	445	480	-	468	499	-
Stage 2	-	-	-	-	-	-	717	466	-	598	480	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	950	-	-	1122	-	-	197	152	787	187	166	682
Mov Cap-2 Maneuver	-	-	-	-	-	-	197	152	-	187	166	-
Stage 1	-	-	-	-	-	-	402	434	-	423	496	-
Stage 2	-	-	-	-	-	-	631	463	-	536	434	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0.1	13.2	37.6
HCM LOS			B	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	450	950	-	-	1122	-	-	187	682
HCM Lane V/C Ratio	0.02	0.096	-	-	0.007	-	-	0.654	0.114
HCM Control Delay (s)	13.2	9.2	-	-	8.2	-	-	54.6	11
HCM Lane LOS	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.1	0.3	-	-	0	-	-	3.8	0.4

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	70	436	516	233	117	56
Future Volume (vph)	70	436	516	233	117	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			0	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.953			0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3373	0	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3373	0	1770	1583
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	78	484	573	259	130	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	484	832	0	130	62
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 42.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 5.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations						

Traffic Vol, veh/h	70	436	516	233	117	56

Future Vol, veh/h	70	436	516	233	117	56

Conflicting Peds, #/hr	0	0	0	0	0	0

Sign Control	Free	Free	Free	Free	Stop	Stop

RT Channelized	-	None	-	None	-	None

Storage Length	75	-	-	-	0	0

Veh in Median Storage, #	-	0	0	-	0	-

Grade, %	-	0	0	-	0	-

Peak Hour Factor	90	90	90	90	90	90

Heavy Vehicles, %	2	2	2	2	2	2

Mvmt Flow	78	484	573	259	130	62

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	832	0	0

Stage 1	-	-	-

Stage 2	-	-	-

Critical Hdwy	4.14	-	-

Critical Hdwy Stg 1	-	-	-

Critical Hdwy Stg 2	-	-	-

Follow-up Hdwy	2.22	-	-

Pot Cap-1 Maneuver	796	-	-

Stage 1	-	-	-

Stage 2	-	-	-

Platoon blocked, %	-	-	-

Mov Cap-1 Maneuver	796	-	-

Mov Cap-2 Maneuver	-	-	-

Stage 1	-	-	-

Stage 2	-	-	-

Approach	EB	WB	SB

HCM Control Delay, s	1.4	0	44.4

HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2

Capacity (veh/h)	796	-	-	-	186	585

HCM Lane V/C Ratio	0.098	-	-	-	0.699	0.106

HCM Control Delay (s)	10	-	-	-	59.9	11.9

HCM Lane LOS	B	-	-	-	F	B

HCM 95th %tile Q(veh)	0.3	-	-	-	4.3	0.4

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	38	515	708	190	104	41
Future Volume (vph)	38	515	708	190	104	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	0.91	0.91	0.95	0.95	1.00	1.00
Frt			0.968		0.962	
Flt Protected		0.997			0.965	
Satd. Flow (prot)	0	5021	3426	0	1729	0
Flt Permitted		0.997			0.965	
Satd. Flow (perm)	0	5021	3426	0	1729	0
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	42	572	787	211	116	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	614	998	0	162	0
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 54.1%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 5

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations		  	 		 	
Traffic Vol, veh/h	38	515	708	190	104	41
Future Vol, veh/h	38	515	708	190	104	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	42	572	787	211	116	46

Major/Minor Major1 Major2 Minor2

Conflicting Flow All	998	0	-	0	1206	499
Stage 1	-	-	-	-	893	-
Stage 2	-	-	-	-	313	-
Critical Hdwy	4.16	-	-	-	6.29	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	6.04	-
Follow-up Hdwy	2.23	-	-	-	3.67	3.32
Pot Cap-1 Maneuver	683	-	-	-	207	517
Stage 1	-	-	-	-	351	-
Stage 2	-	-	-	-	678	-
Platoon blocked, %	-	-	-	-	-	-
Mov Cap-1 Maneuver	683	-	-	-	188	517
Mov Cap-2 Maneuver	-	-	-	-	188	-
Stage 1	-	-	-	-	319	-
Stage 2	-	-	-	-	678	-

Approach EB WB SB

HCM Control Delay, s	1	0	51.1
HCM LOS			F

Minor Lane/Major Mvmt EBL EBT WBT WBR SBLn1

Capacity (veh/h)	683	-	-	-	229
HCM Lane V/C Ratio	0.062	-	-	-	0.704
HCM Control Delay (s)	10.6	0.3	-	-	51.1
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	4.6

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	6	11	0	3	6	331	15	0	460	3
Future Volume (vph)	3	0	6	11	0	3	6	331	15	0	460	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	100			100			100			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.905			0.973			0.994			0.999	
Flt Protected		0.985			0.962			0.999				
Satd. Flow (prot)	0	1660	0	0	1744	0	0	1850	0	1863	1861	0
Flt Permitted		0.985			0.962			0.999				
Satd. Flow (perm)	0	1660	0	0	1744	0	0	1850	0	1863	1861	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	0	7	12	0	3	7	368	17	0	511	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	15	0	0	392	0	0	514	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 34.4%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	6	11	0	3	6	331	15	0	460	3
Future Vol, veh/h	3	0	6	11	0	3	6	331	15	0	460	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	7	12	0	3	7	368	17	0	511	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	905	912	513	907	905	377	514	0	0	385	0	0
Stage 1	513	513	-	391	391	-	-	-	-	-	-	-
Stage 2	392	399	-	516	514	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	257	274	561	257	276	670	1052	-	-	1173	-	-
Stage 1	544	536	-	633	607	-	-	-	-	-	-	-
Stage 2	633	602	-	542	535	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	254	272	561	252	274	670	1052	-	-	1173	-	-
Mov Cap-2 Maneuver	254	272	-	252	274	-	-	-	-	-	-	-
Stage 1	540	536	-	628	602	-	-	-	-	-	-	-
Stage 2	625	597	-	536	535	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.2		18.1		0.1		0	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1052	-	-	400 291	1173	-	-
HCM Lane V/C Ratio	0.006	-	-	0.025 0.053	-	-	-
HCM Control Delay (s)	8.4	0	-	14.2 18.1	0	-	-
HCM Lane LOS	A	A	-	B C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.2	0	-	-

University Place TIA
302: Willow Ave & UPlace Access #7

Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1	4	26	0	30	4	292	41	26	433	5
Future Volume (vph)	4	1	4	26	0	30	4	292	41	26	433	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	100			100			0			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940				0.850		0.981			0.998	
Flt Protected		0.978			0.950		0.950			0.950		
Satd. Flow (prot)	0	1712	0	0	1687	1509	1770	1827	0	1770	1859	0
Flt Permitted		0.978			0.950		0.950			0.950		
Satd. Flow (perm)	0	1712	0	0	1687	1509	1770	1827	0	1770	1859	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	4	1	4	29	0	33	4	324	46	29	481	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	29	33	4	370	0	29	487	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 34.5%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1	4	26	0	30	4	292	41	26	433	5
Future Vol, veh/h	4	1	4	26	0	30	4	292	41	26	433	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	7	7	7	2	2	2	2	2	2
Mvmt Flow	4	1	4	29	0	33	4	324	46	29	481	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	914	920	484	900	900	347	487	0	0	370	0	0
Stage 1	542	542	-	355	355	-	-	-	-	-	-	-
Stage 2	372	378	-	545	545	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.57	6.27	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.57	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.57	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.063	3.363	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	254	271	583	254	273	685	1076	-	-	1189	-	-
Stage 1	525	520	-	652	621	-	-	-	-	-	-	-
Stage 2	648	615	-	514	510	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	236	263	583	246	265	685	1076	-	-	1189	-	-
Mov Cap-2 Maneuver	236	263	-	246	265	-	-	-	-	-	-	-
Stage 1	523	508	-	649	619	-	-	-	-	-	-	-
Stage 2	614	613	-	497	498	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.4		15.7		0.1		0.5	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1076	-	-	326	246	685	1189	-
HCM Lane V/C Ratio	0.004	-	-	0.031	0.117	0.049	0.024	-
HCM Control Delay (s)	8.4	-	-	16.4	21.6	10.5	8.1	-
HCM Lane LOS	A	-	-	C	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.2	0.1	-

University Place TIA
303: Future Access/Conner Drive & Willow Ave

Build (2028) PM
02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	232	49	72	294	46	49	12	111	82	11	121
Future Volume (vph)	45	232	49	72	294	46	49	12	111	82	11	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.980				0.850		0.924	
Flt Protected	0.950			0.950				0.961			0.981	
Satd. Flow (prot)	1770	1811	0	1752	1825	0	0	1773	1568	0	1688	0
Flt Permitted	0.950			0.950				0.961			0.981	
Satd. Flow (perm)	1770	1811	0	1752	1825	0	0	1773	1568	0	1688	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		345			318			413			387	
Travel Time (s)		6.7			6.2			11.3			10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Adj. Flow (vph)	50	258	54	80	327	51	54	13	123	91	12	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	312	0	80	378	0	0	67	123	0	237	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 50.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 13

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	232	49	72	294	46	49	12	111	82	11	121
Future Vol, veh/h	45	232	49	72	294	46	49	12	111	82	11	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2	3	3	3	2	3	2
Mvmt Flow	50	258	54	80	327	51	54	13	123	91	12	134

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	378	0	0	312	0	0	971	923	285	966	925	353
Stage 1	-	-	-	-	-	-	385	385	-	513	513	-
Stage 2	-	-	-	-	-	-	586	538	-	453	412	-
Critical Hdwy	4.12	-	-	4.13	-	-	7.13	6.53	6.23	7.12	6.53	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.12	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.12	5.53	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.527	4.027	3.327	3.518	4.027	3.318
Pot Cap-1 Maneuver	1180	-	-	1243	-	-	231	269	752	234	268	691
Stage 1	-	-	-	-	-	-	636	609	-	544	534	-
Stage 2	-	-	-	-	-	-	495	521	-	586	593	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1180	-	-	1243	-	-	165	241	752	172	240	691
Mov Cap-2 Maneuver	-	-	-	-	-	-	165	241	-	172	240	-
Stage 1	-	-	-	-	-	-	609	583	-	521	500	-
Stage 2	-	-	-	-	-	-	364	488	-	458	568	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	1.4	20.3	47.6
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	176	752	1180	-	-	1243	-	-	307
HCM Lane V/C Ratio	0.385	0.164	0.042	-	-	0.064	-	-	0.775
HCM Control Delay (s)	37.7	10.7	8.2	-	-	8.1	-	-	47.6
HCM Lane LOS	E	B	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	1.7	0.6	0.1	-	-	0.2	-	-	6.1

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	353	72	99	302	110	186
Future Volume (vph)	353	72	99	302	110	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1820	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1820	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	392	80	110	336	122	207
Shared Lane Traffic (%)						
Lane Group Flow (vph)	472	0	110	336	122	207
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 44.5%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 4.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	353	72	99	302	110	186
Future Vol, veh/h	353	72	99	302	110	186
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	392	80	110	336	122	207

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	472
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1090
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1090
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.1	15.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	373	624	-	-	1090	-
HCM Lane V/C Ratio	0.328	0.331	-	-	0.101	-
HCM Control Delay (s)	19.3	13.6	-	-	8.7	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.4	1.4	-	-	0.3	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	527	12	96	387	14	143
Future Volume (vph)	527	12	96	387	14	143
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1857	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1857	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	586	13	107	430	16	159
Shared Lane Traffic (%)						
Lane Group Flow (vph)	599	0	107	430	16	159
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 47.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 2.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	527	12	96	387	14	143
Future Vol, veh/h	527	12	96	387	14	143
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	75	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	586	13	107	430	16	159

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	599
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	978
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	978
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	16.4
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	173	506	-	-	978	-
HCM Lane V/C Ratio	0.09	0.314	-	-	0.109	-
HCM Control Delay (s)	27.9	15.3	-	-	9.1	-
HCM Lane LOS	D	C	-	-	A	-
HCM 95th %tile Q(veh)	0.3	1.3	-	-	0.4	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2024) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 		 	 			 	
Traffic Volume (vph)	59	8	323	5	8	9	340	1681	3	7	1798	79
Future Volume (vph)	59	8	323	5	8	9	340	1681	3	7	1798	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	700		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.946							0.850
Flt Protected		0.958			0.988		0.950			0.950		
Satd. Flow (prot)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Flt Permitted		0.958			0.988		0.950			0.950		
Satd. Flow (perm)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	9%	9%	9%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	66	9	359	6	9	10	378	1868	3	8	1998	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	75	359	0	25	0	378	1871	0	8	1998	88
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	17.0	17.0	30.0	13.7	13.7		30.0	135.8		13.5	119.3	17.0
Total Split (%)	9.4%	9.4%	16.7%	7.6%	7.6%		16.7%	75.4%		7.5%	66.3%	9.4%
Maximum Green (s)	10.4	10.4	23.3	7.0	7.0		23.3	129.7		7.0	113.2	10.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		11.4	40.5		8.7		24.2	145.0		8.5	121.2	134.6
Actuated g/C Ratio		0.06	0.22		0.05		0.13	0.81		0.05	0.67	0.75
v/c Ratio		0.69	0.59		0.32		0.83	0.66		0.10	0.85	0.08
Control Delay		112.1	66.5		94.0		91.6	10.7		70.0	13.3	2.3

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2024) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		112.1	66.5		94.0		91.6	10.7		70.0	13.3	2.3
LOS		F	E		F		F	B		E	B	A
Approach Delay		74.4			94.0			24.3			13.0	
Approach LOS		E			F			C			B	
Queue Length 50th (ft)		88	215		29		226	435		9	217	8
Queue Length 95th (ft)		#164	279		67		290	711		m12	367	m17
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							700			180		260
Base Capacity (vph)		115	622		78		472	2823		82	2360	1178
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.65	0.58		0.32		0.80	0.66		0.10	0.85	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 24.3
Intersection Capacity Utilization 82.3%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
ICU Level of Service E

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

 Ø2 (R)	 Ø1	 Ø4	 Ø3
135.8 s	13.5 s	13.7 s	17 s
 Ø5	 Ø6 (R)		
30 s	119.3 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	65	0	1749	1819	67
Future Volume (vph)	0	65	0	1749	1819	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1596	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1596	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	72	0	1943	2021	74
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	72	0	1943	2021	74
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 61.0%

ICU Level of Service B

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.5

Movement EBL EBR NBL NBT SBT SBR

Lane Configurations		↗		↗	↗	↗
Traffic Vol, veh/h	0	65	0	1749	1819	67
Future Vol, veh/h	0	65	0	1749	1819	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	72	0	1943	2021	74

Major/Minor Minor2 Major1 Major2

Conflicting Flow All	-	1011	-	0	-	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	6.96	-	-	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.33	-	-	-	-
Pot Cap-1 Maneuver	0	236	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	236	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach EB NB SB

HCM Control Delay, s	26.8	0	0
HCM LOS	D		

Minor Lane/Major Mvmt NBT EBLn1 SBT

Capacity (veh/h)	-	236	-
HCM Lane V/C Ratio	-	0.306	-
HCM Control Delay (s)	-	26.8	-
HCM Lane LOS	-	D	-
HCM 95th %tile Q(veh)	-	1.2	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Improved (2024) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	  	 
Traffic Volume (vph)	129	38	18	62	49	28	51	1651	47	13	1806	254
Future Volume (vph)	129	38	18	62	49	28	51	1651	47	13	1806	254
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	450		0	160		0	240		0	240		520
Storage Lanes	2		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.952			0.945			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3384	1748	0	1761	1751	0	1778	3543	0	1778	3557	1591
Flt Permitted	0.950			0.687			0.044			0.065		
Satd. Flow (perm)	3384	1748	0	1273	1751	0	82	3543	0	122	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	143	42	20	69	54	31	57	1834	52	14	2007	282
Shared Lane Traffic (%)												
Lane Group Flow (vph)	143	62	0	69	85	0	57	1886	0	14	2007	282
Turn Type	Prot	NA		D,P+P	NA		D,P+P	NA		D,P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases				4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	18.6	32.4		13.0	26.8		13.1	122.0		12.6	121.5	18.6
Total Split (%)	10.3%	18.0%		7.2%	14.9%		7.3%	67.8%		7.0%	67.5%	10.3%
Maximum Green (s)	12.3	26.0		7.1	20.4		7.0	115.9		7.0	115.4	12.3
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	12.4	18.9		26.9	14.5		134.1	133.1		136.1	127.1	144.3
Actuated g/C Ratio	0.07	0.10		0.15	0.08		0.74	0.74		0.76	0.71	0.80
v/c Ratio	0.62	0.34		0.33	0.60		0.40	0.72		0.09	0.80	0.22
Control Delay	93.1	78.0		66.4	96.8		33.1	8.7		4.5	12.0	2.2

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Improved (2024) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	1.1	0.0
Total Delay	93.1	78.0		66.4	96.8		33.1	8.7		4.5	13.0	2.2
LOS	F	E		E	F		C	A		A	B	A
Approach Delay		88.5			83.2			9.4			11.7	
Approach LOS		F			F			A			B	
Queue Length 50th (ft)	86	69		70	99		11	235		2	387	24
Queue Length 95th (ft)	127	119		118	160		m39	378		m3	846	m34
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	450			160			240			240		520
Base Capacity (vph)	255	266		212	212		142	2619		162	2511	1285
Starvation Cap Reductn	0	0		0	0		0	0		0	261	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.56	0.23		0.33	0.40		0.40	0.72		0.09	0.89	0.22

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 177 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 16.5
Intersection Capacity Utilization 68.6%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service C
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave

							
Ø1	Ø2 (R)					Ø3	Ø4
12.6 s	122 s					13 s	32.4 s
							
Ø5	Ø6 (R)					Ø7	Ø8
13.1 s	121.5 s					18.6 s	26.8 s

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Improved (2024) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	26	10	141	132	15	15	146	1526	136	2	1800	74
Future Volume (vph)	26	10	141	132	15	15	146	1526	136	2	1800	74
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1710	1835	1530	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.038			0.105		
Satd. Flow (perm)	1710	1835	1530	3400	1845	1568	71	3539	1568	194	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		958			778			783			1413	
Travel Time (s)		18.7			15.2			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	3%	5%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	29	11	157	147	17	17	162	1696	151	2	2000	82
Shared Lane Traffic (%)												
Lane Group Flow (vph)	29	11	157	147	17	17	162	1696	151	2	2000	82
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	13.6	43.5	17.2	13.6	43.5	13.4	17.2	109.5	13.6	13.4	105.7	13.6
Total Split (%)	7.6%	24.2%	9.6%	7.6%	24.2%	7.4%	9.6%	60.8%	7.6%	7.4%	58.7%	7.6%
Maximum Green (s)	7.2	37.0	10.9	7.0	37.0	7.0	10.9	103.0	7.0	7.0	99.2	7.2
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	8.6	8.8	27.8	11.3	8.8	16.8	148.0	145.0	163.3	150.0	125.9	139.5
Actuated g/C Ratio	0.05	0.05	0.15	0.06	0.05	0.09	0.82	0.81	0.91	0.83	0.70	0.78
v/c Ratio	0.36	0.12	0.67	0.69	0.19	0.12	0.61	0.60	0.11	0.01	0.81	0.07
Control Delay	95.7	84.8	84.2	97.0	87.0	72.7	58.6	6.1	1.7	3.5	9.6	2.5

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Improved (2024) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.2	0.0
Total Delay	95.7	84.8	84.2	97.0	87.0	72.7	58.6	6.2	1.7	3.5	9.8	2.5
LOS	F	F	F	F	F	E	E	A	A	A	A	A
Approach Delay		85.9			93.8			10.1			9.5	
Approach LOS		F			F			B			A	
Queue Length 50th (ft)	34	13	182	83	20	18	136	254	13	0	253	13
Queue Length 95th (ft)	74	37	245	#164	49	45	m233	290	m36	m0	333	m15
Internal Link Dist (ft)		878			698			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	81	392	235	213	394	146	266	2850	1422	234	2476	1226
Starvation Cap Reductn	0	0	0	0	0	0	0	267	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	87	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.36	0.03	0.67	0.69	0.04	0.12	0.61	0.66	0.11	0.01	0.84	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 175 (97%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 16.5
Intersection Capacity Utilization 80.8%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

											
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)		Ø7	Ø8	
13.4 s	109.5 s		13.6 s	43.5 s		17.2 s	105.7 s		13.6 s	43.5 s	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Improved (2024) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	53	47	186	93	102	78	1381	108	81	1616	7
Future Volume (vph)	76	53	47	186	93	102	78	1381	108	81	1616	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	280		0	420		460	300		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.922				0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3367	1684	0	1770	3539	1583	1770	3536	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	3367	1684	0	1770	3539	1583	1770	3536	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	84	59	52	207	103	113	87	1534	120	90	1796	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	59	52	207	216	0	87	1534	120	90	1804	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8	5	7	4		5	2		1	6	
Permitted Phases			8						Free			
Detector Phase	3	8	5	7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9	13.8	13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	17.0	36.9	17.3	19.1	39.0		17.3	101.7		22.3	106.7	
Total Split (%)	9.4%	20.5%	9.6%	10.6%	21.7%		9.6%	56.5%		12.4%	59.3%	
Maximum Green (s)	10.6	30.0	10.5	12.3	32.3		10.5	94.9		15.6	100.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9	3.8	3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9	0.0	-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0	6.8	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0	4.0	3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0	4.0	3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	11.5	25.8	34.5	14.0	28.3		12.3	105.7	180.0	14.5	107.9	
Actuated g/C Ratio	0.06	0.14	0.19	0.08	0.16		0.07	0.59	1.00	0.08	0.60	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Improved (2024) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.74	0.22	0.17	0.80	0.82		0.72	0.74	0.08	0.63	0.85	
Control Delay	117.2	68.2	42.7	102.9	96.6		93.8	17.2	0.1	99.1	35.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	117.2	68.2	42.7	102.9	96.6		93.8	17.2	0.1	99.1	35.4	
LOS	F	E	D	F	F		F	B	A	F	D	
Approach Delay		82.5			99.7			19.9			38.4	
Approach LOS		F			F			B			D	
Queue Length 50th (ft)	99	62	42	126	249		104	489	0	105	907	
Queue Length 95th (ft)	#188	109	75	#189	344		#190	530	0	171	1090	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100		100	280			420		460	300		
Base Capacity (vph)	118	330	303	263	318		120	2077	1583	170	2120	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.71	0.18	0.17	0.79	0.68		0.72	0.74	0.08	0.53	0.85	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 8 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.85

Intersection Signal Delay: 39.0

Intersection LOS: D

Intersection Capacity Utilization 84.4%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
22.3 s	101.7 s	17 s	39 s
 Ø6 (R)	 Ø5	 Ø7	 Ø8
106.7 s	17.3 s	19.1 s	36.9 s

University Place TIA
200: Franklin Street & Estes Dr

Improved (2024) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	350	300	55	125	269	83	56	415	86	89	536	212
Future Volume (vph)	350	300	55	125	269	83	56	415	86	89	536	212
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		350
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.977				0.850		0.974				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1811	0	1692	1781	1514	1710	3330	0	1744	3489	1561
Flt Permitted	0.950			0.339			0.950			0.950		
Satd. Flow (perm)	1761	1811	0	604	1781	1514	1710	3330	0	1744	3489	1561
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	389	333	61	139	299	92	62	461	96	99	596	236
Shared Lane Traffic (%)												
Lane Group Flow (vph)	389	394	0	139	299	92	62	557	0	99	596	236
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases				4		8						6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	12.9
Total Split (s)	42.0	62.9		13.1	34.0	17.0	15.4	37.0		17.0	38.6	42.0
Total Split (%)	32.3%	48.4%		10.1%	26.2%	13.1%	11.8%	28.5%		13.1%	29.7%	32.3%
Maximum Green (s)	36.1	57.0		7.5	28.1	11.1	9.2	31.3		11.1	33.1	36.1
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	3.0
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	2.9
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	32.9	49.3		58.8	25.9	42.1	9.4	40.0		11.2	44.5	81.4
Actuated g/C Ratio	0.25	0.38		0.45	0.20	0.32	0.07	0.31		0.09	0.34	0.63
v/c Ratio	0.87	0.57		0.39	0.84	0.19	0.50	0.54		0.66	0.50	0.24
Control Delay	66.9	34.5		22.7	73.6	31.9	72.3	42.1		78.7	38.9	13.1

University Place TIA
200: Franklin Street & Estes Dr

Improved (2024) AM
02/12/2021

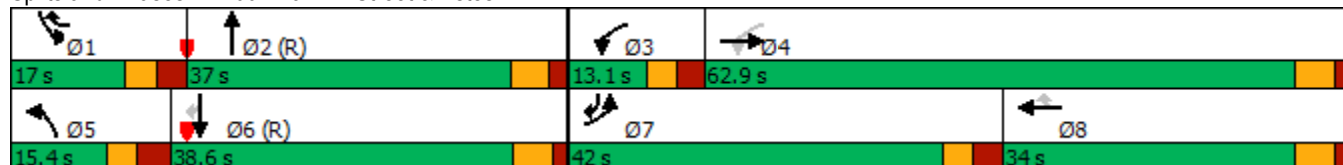
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	66.9	34.5		22.7	73.6	31.9	72.3	42.1		78.7	38.9	13.1
LOS	E	C		C	E	C	E	D		E	D	B
Approach Delay		50.6			53.0			45.1			36.6	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	311	256		62	256	58	51	215		81	223	90
Queue Length 95th (ft)	#430	325		0	#370	105	99	290		#151	303	144
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		350
Base Capacity (vph)	503	806		353	401	502	137	1039		163	1208	1029
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.77	0.49		0.39	0.75	0.18	0.45	0.54		0.61	0.49	0.23

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.87
Intersection Signal Delay: 45.3
Intersection Capacity Utilization 70.9%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: D
ICU Level of Service C

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Improved (2024) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	150	321	4	6	267	38	3	9	11	25	5	207
Future Volume (vph)	150	321	4	6	267	38	3	9	11	25	5	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.981			0.935				0.850
Flt Protected	0.950			0.950				0.994			0.960	
Satd. Flow (prot)	1736	3464	0	1752	3438	0	0	1715	0	0	1745	1545
Flt Permitted	0.950			0.536				0.951			0.986	
Satd. Flow (perm)	1736	3464	0	989	3438	0	0	1641	0	0	1792	1545
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	167	357	4	7	297	42	3	10	12	28	6	230
Shared Lane Traffic (%)												
Lane Group Flow (vph)	167	361	0	7	339	0	0	25	0	0	34	230
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	12.1	15.1		22.2	22.2		28.7	28.7		12.8	12.8	12.1
Total Split (s)	18.0	42.0		24.0	24.0		23.0	23.0		23.0	23.0	18.0
Total Split (%)	27.7%	64.6%		36.9%	36.9%		35.4%	35.4%		35.4%	35.4%	27.7%
Maximum Green (s)	12.9	36.9		18.8	18.8		17.3	17.3		17.2	17.2	12.9
Yellow Time (s)	3.0	3.8		3.8	3.8		3.3	3.3		3.8	3.8	3.0
All-Red Time (s)	2.1	1.3		1.4	1.4		2.4	2.4		2.0	2.0	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.2	-0.2			-0.7			-0.8	-0.8
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	4.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				10.0	10.0		16.0	16.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	11.5	57.8		38.3	38.3			7.8			7.9	17.4
Actuated g/C Ratio	0.18	0.89		0.59	0.59			0.12			0.12	0.27
v/c Ratio	0.55	0.12		0.01	0.17			0.13			0.16	0.56
Control Delay	22.6	3.2		9.7	8.3			27.2			27.5	23.9

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Improved (2024) AM
02/12/2021

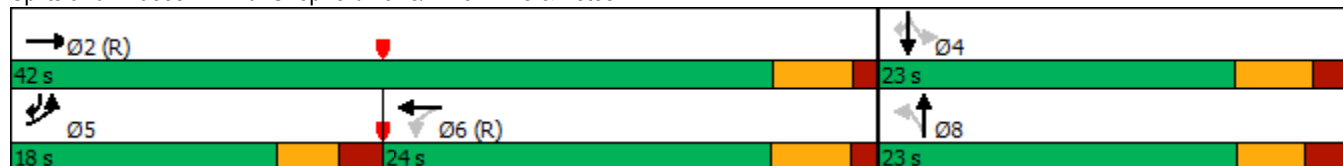
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	22.6	3.2		9.7	8.3			27.2			27.5	23.9
LOS	C	A		A	A			C			C	C
Approach Delay		9.3			8.3			27.2			24.4	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	50	0		1	24			9			12	84
Queue Length 95th (ft)	89	64		8	68			28			35	106
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	357	3080		582	2026			454			496	457
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.47	0.12		0.01	0.17			0.06			0.07	0.50

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 12.8
Intersection Capacity Utilization 39.2%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	357	308	5	0	3
Future Volume (vph)	0	357	308	5	0	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.997			0.865
Flt Protected						
Satd. Flow (prot)	0	3438	3494	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3438	3494	0	0	1611
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	3%	3%	2%	2%
Adj. Flow (vph)	0	397	342	6	0	3
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	397	348	0	0	3
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 18.7%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations   

Traffic Vol, veh/h 0 357 308 5 0 3

Future Vol, veh/h 0 357 308 5 0 3

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - - 0

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 90 90 90 90 90 90

Heavy Vehicles, % 5 5 3 3 2 2

Mvmt Flow 0 397 342 6 0 3

Major/Minor Major1 Major2 Minor2

Conflicting Flow All - 0 - 0 - 174

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 - - - 0 839

Stage 1 0 - - - 0 -

Stage 2 0 - - - 0 -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver - - - - - 839

Mov Cap-2 Maneuver - - - - -

Stage 1 - - - - -

Stage 2 - - - - -

Approach EB WB SB

HCM Control Delay, s 0 0 9.3

HCM LOS A

Minor Lane/Major Mvmt EBT WBT WBR SBLn1

Capacity (veh/h) - - - 839

HCM Lane V/C Ratio - - - 0.004

HCM Control Delay (s) - - - 9.3

HCM Lane LOS - - - A

HCM 95th %tile Q(veh) - - - 0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Improved (2024) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	41	311	5	5	287	31	8	0	12	59	0	18
Future Volume (vph)	41	311	5	5	287	31	8	0	12	59	0	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.986			0.920				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1736	3461	0	1752	3456	0	0	1679	0	0	1719	1538
Flt Permitted	0.950			0.950				0.980			0.950	
Satd. Flow (perm)	1736	3461	0	1752	3456	0	0	1679	0	0	1719	1538
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	46	346	6	6	319	34	9	0	13	66	0	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	46	352	0	6	353	0	0	22	0	0	66	20
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 30.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	41	311	5	5	287	31	8	0	12	59	0	18
Future Vol, veh/h	41	311	5	5	287	31	8	0	12	59	0	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	4	3	3	3	2	2	2	5	5	5
Mvmt Flow	46	346	6	6	319	34	9	0	13	66	0	20

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	353	0	0	352	0	0	613	806	176	613	792	177
Stage 1	-	-	-	-	-	-	441	441	-	348	348	-
Stage 2	-	-	-	-	-	-	172	365	-	265	444	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.54	6.54	6.94	7.6	6.6	7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.52	4.02	3.32	3.55	4.05	3.35
Pot Cap-1 Maneuver	1188	-	-	1196	-	-	377	314	837	370	314	826
Stage 1	-	-	-	-	-	-	565	575	-	633	625	-
Stage 2	-	-	-	-	-	-	813	622	-	709	566	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1188	-	-	1196	-	-	356	300	837	352	300	826
Mov Cap-2 Maneuver	-	-	-	-	-	-	356	300	-	352	300	-
Stage 1	-	-	-	-	-	-	543	553	-	608	622	-
Stage 2	-	-	-	-	-	-	789	619	-	671	544	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.1			11.9			15.7		
HCM LOS							B			C		

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	543	1188	-	-	1196	-	-	352	826
HCM Lane V/C Ratio	0.041	0.038	-	-	0.005	-	-	0.186	0.024
HCM Control Delay (s)	11.9	8.2	-	-	8	-	-	17.6	9.5
HCM Lane LOS	B	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.7	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	21	361	308	70	29	15
Future Volume (vph)	21	361	308	70	29	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1736	3471	3505	1568	1719	1538
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1736	3471	3505	1568	1719	1538
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	5%	5%
Adj. Flow (vph)	23	401	342	78	32	17
Shared Lane Traffic (%)						
Lane Group Flow (vph)	23	401	342	78	32	17
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.2%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations						

Traffic Vol, veh/h	21	361	308	70	29	15

Future Vol, veh/h	21	361	308	70	29	15

Conflicting Peds, #/hr	0	0	0	0	0	0

Sign Control	Free	Free	Free	Free	Stop	Stop

RT Channelized	-	None	-	None	-	None

Storage Length	75	-	-	0	0	0

Veh in Median Storage, #	-	0	0	-	0	-

Grade, %	-	0	0	-	0	-

Peak Hour Factor	90	90	90	90	90	90

Heavy Vehicles, %	4	4	3	3	5	5

Mvmt Flow	23	401	342	78	32	17

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	420	0	0	589	171

Stage 1	-	-	-	342	-

Stage 2	-	-	-	247	-

Critical Hdwy	4.18	-	-	6.9	7

Critical Hdwy Stg 1	-	-	-	5.9	-

Critical Hdwy Stg 2	-	-	-	5.9	-

Follow-up Hdwy	2.24	-	-	3.55	3.35

Pot Cap-1 Maneuver	1121	-	-	432	834

Stage 1	-	-	-	682	-

Stage 2	-	-	-	762	-

Platoon blocked, %	-	-	-	-	-

Mov Cap-1 Maneuver	1121	-	-	423	834

Mov Cap-2 Maneuver	-	-	-	423	-

Stage 1	-	-	-	668	-

Stage 2	-	-	-	762	-

Approach	EB	WB	SB

HCM Control Delay, s	0.5	0	12.6

HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2

Capacity (veh/h)	1121	-	-	-	423	834

HCM Lane V/C Ratio	0.021	-	-	-	0.076	0.02

HCM Control Delay (s)	8.3	-	-	-	14.2	9.4

HCM Lane LOS	A	-	-	-	B	A

HCM 95th %tile Q(veh)	0.1	-	-	-	0.2	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		  	 			
Traffic Volume (vph)	0	390	367	60	0	11
Future Volume (vph)	0	390	367	60	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			100	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	0				0	
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	4940	3471	1553	0	1580
Flt Permitted						
Satd. Flow (perm)	0	4940	3471	1553	0	1580
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Adj. Flow (vph)	0	433	408	67	0	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	433	408	67	0	12
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 20.1%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations		↑↑↑	↑↑	↑		↑

Traffic Vol, veh/h	0	390	367	60	0	11

Future Vol, veh/h	0	390	367	60	0	11

Conflicting Peds, #/hr	0	0	0	0	0	0

Sign Control	Free	Free	Free	Free	Stop	Stop

RT Channelized	-	None	-	None	-	None

Storage Length	-	-	-	100	-	0

Veh in Median Storage, #	-	0	0	-	0	-

Grade, %	-	0	0	-	0	-

Peak Hour Factor	90	90	90	90	90	90

Heavy Vehicles, %	5	5	4	4	4	4

Mvmt Flow	0	433	408	67	0	12

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	-	0	0

Stage 1	-	-	-

Stage 2	-	-	-

Critical Hdwy	-	-	6.98

Critical Hdwy Stg 1	-	-	-

Critical Hdwy Stg 2	-	-	-

Follow-up Hdwy	-	-	3.34

Pot Cap-1 Maneuver	0	-	0

Stage 1	0	-	0

Stage 2	0	-	0

Platoon blocked, %	-	-	-

Mov Cap-1 Maneuver	-	-	797

Mov Cap-2 Maneuver	-	-	-

Stage 1	-	-	-

Stage 2	-	-	-

Approach	EB	WB	SB

HCM Control Delay, s	0	0	9.6

HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	-	-	-	797

HCM Lane V/C Ratio	-	-	-	0.015

HCM Control Delay (s)	-	-	-	9.6

HCM Lane LOS	-	-	-	A

HCM 95th %tile Q(veh)	-	-	-	0

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Improved (2024) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	0	3	0	1	4	188	5	0	234	2
Future Volume (vph)	3	1	0	3	0	1	4	188	5	0	234	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.966			0.996			0.999	
Flt Protected		0.964			0.964			0.999				
Satd. Flow (prot)	0	1796	0	0	1735	0	0	1818	0	1845	1843	0
Flt Permitted		0.964			0.964			0.999				
Satd. Flow (perm)	0	1796	0	0	1735	0	0	1818	0	1845	1843	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	3	1	0	3	0	1	4	209	6	0	260	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	4	0	0	219	0	0	262	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 23.4%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	0	3	0	1	4	188	5	0	234	2
Future Vol, veh/h	3	1	0	3	0	1	4	188	5	0	234	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	3	3	3
Mvmt Flow	3	1	0	3	0	1	4	209	6	0	260	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	482	484	261	482	482	212	262	0	0	215	0	0
Stage 1	261	261	-	220	220	-	-	-	-	-	-	-
Stage 2	221	223	-	262	262	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	495	483	778	495	484	828	1291	-	-	1349	-	-
Stage 1	744	692	-	782	721	-	-	-	-	-	-	-
Stage 2	781	719	-	743	691	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	493	481	778	493	482	828	1291	-	-	1349	-	-
Mov Cap-2 Maneuver	493	481	-	493	482	-	-	-	-	-	-	-
Stage 1	741	692	-	779	718	-	-	-	-	-	-	-
Stage 2	777	716	-	742	691	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.4		11.6		0.2		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1291	-	-	490 548	1349	-	-
HCM Lane V/C Ratio	0.003	-	-	0.009 0.008	-	-	-
HCM Control Delay (s)	7.8	0	-	12.4 11.6	0	-	-
HCM Lane LOS	A	A	-	B B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

University Place TIA
302: Willow Ave & UPlace Access #7

Improved (2024) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	7	0	8	6	173	13	8	227	3
Future Volume (vph)	2	0	2	7	0	8	6	173	13	8	227	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932				0.850		0.990			0.998	
Flt Protected		0.976			0.950		0.950			0.950		
Satd. Flow (prot)	0	1694	0	0	1641	1468	1752	1826	0	1752	1841	0
Flt Permitted		0.976			0.950		0.950			0.950		
Satd. Flow (perm)	0	1694	0	0	1641	1468	1752	1826	0	1752	1841	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	2	0	2	8	0	9	7	192	14	9	252	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	8	9	7	206	0	9	255	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 26.6%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.7

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

Lane Configurations												
Traffic Vol, veh/h	2	0	2	7	0	8	6	173	13	8	227	3
Future Vol, veh/h	2	0	2	7	0	8	6	173	13	8	227	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	3	3	3
Mvmt Flow	2	0	2	8	0	9	7	192	14	9	252	3

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	490	492	254	486	486	199	255	0
Stage 1	272	272	-	213	213	-	-	-
Stage 2	218	220	-	273	273	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.13	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.227	-
Pot Cap-1 Maneuver	489	478	785	479	470	822	1304	-
Stage 1	734	685	-	771	711	-	-	-
Stage 2	784	721	-	716	670	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	479	472	785	473	464	822	1304	-
Mov Cap-2 Maneuver	479	472	-	473	464	-	-	-
Stage 1	730	680	-	767	707	-	-	-
Stage 2	771	717	-	709	665	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	10.9	0.2	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1304	-	-	595 473 822	1359	-	-
HCM Lane V/C Ratio	0.005	-	-	0.007 0.016 0.011	0.007	-	-
HCM Control Delay (s)	7.8	-	-	11.1 12.7 9.4	7.7	-	-
HCM Lane LOS	A	-	-	B B A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1 0	0	-	-

University Place TIA
303: Future Access/Conner Drive & Willow Ave

Improved (2024) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	85	16	23	192	109	13	3	28	17	4	33
Future Volume (vph)	82	85	16	23	192	109	13	3	28	17	4	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			0			100			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.976			0.946				0.850		0.917	
Flt Protected	0.950			0.950				0.960			0.984	
Satd. Flow (prot)	1736	1786	0	1752	1762	0	0	1771	1568	0	1620	0
Flt Permitted	0.950			0.950				0.960			0.984	
Satd. Flow (perm)	1736	1786	0	1752	1762	0	0	1771	1568	0	1620	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		345			318			321			387	
Travel Time (s)		6.7			6.2			8.8			10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	2%	2%	3%	3%	3%	6%	3%	6%
Adj. Flow (vph)	91	94	18	26	213	121	14	3	31	19	4	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	112	0	26	334	0	0	17	31	0	60	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	85	16	23	192	109	13	3	28	17	4	33
Future Vol, veh/h	82	85	16	23	192	109	13	3	28	17	4	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	2	2	3	3	3	6	3	6
Mvmt Flow	91	94	18	26	213	121	14	3	31	19	4	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	334	0	0	112	0	0	631	671	103	628	620	274
Stage 1	-	-	-	-	-	-	285	285	-	326	326	-
Stage 2	-	-	-	-	-	-	346	386	-	302	294	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.13	6.53	6.23	7.16	6.53	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.16	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.16	5.53	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.527	4.027	3.327	3.554	4.027	3.354
Pot Cap-1 Maneuver	1214	-	-	1471	-	-	392	376	949	390	403	755
Stage 1	-	-	-	-	-	-	720	674	-	678	647	-
Stage 2	-	-	-	-	-	-	668	608	-	699	668	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1214	-	-	1471	-	-	344	341	949	348	366	755
Mov Cap-2 Maneuver	-	-	-	-	-	-	344	341	-	348	366	-
Stage 1	-	-	-	-	-	-	666	623	-	627	635	-
Stage 2	-	-	-	-	-	-	620	597	-	622	618	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.7			0.5			11.5			12.8		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	343	949	1214	-	-	1471	-	-	522
HCM Lane V/C Ratio	0.052	0.033	0.075	-	-	0.017	-	-	0.115
HCM Control Delay (s)	16.1	8.9	8.2	-	-	7.5	-	-	12.8
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	0.2	-	-	0.1	-	-	0.4

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	107	23	62	292	32	46
Future Volume (vph)	107	23	62	292	32	46
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.976					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1766	0	1770	1863	1736	1553
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1766	0	1770	1863	1736	1553
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	4%	4%
Adj. Flow (vph)	119	26	69	324	36	51
Shared Lane Traffic (%)						
Lane Group Flow (vph)	145	0	69	324	36	51
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 25.4%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	107	23	62	292	32	46
Future Vol, veh/h	107	23	62	292	32	46
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	119	26	69	324	36	51

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	145
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1437
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1437
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.3	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	510	912	-	-	1437	-
HCM Lane V/C Ratio	0.07	0.056	-	-	0.048	-
HCM Control Delay (s)	12.6	9.2	-	-	7.6	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.2	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	149	4	0	354	0	36
Future Volume (vph)	149	4	0	354	0	36
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.865
Flt Protected						
Satd. Flow (prot)	1804	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	1804	0	0	1863	0	1611
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Adj. Flow (vph)	166	4	0	393	0	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	170	0	0	393	0	40
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 22.0%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	149	4	0	354	0	36
Future Vol, veh/h	149	4	0	354	0	36
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	166	4	0	393	0	40

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

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	876	-	-	-
HCM Lane V/C Ratio	0.046	-	-	-
HCM Control Delay (s)	9.3	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2024) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 		 	 			 	
Traffic Volume (vph)	107	12	423	5	12	9	730	1704	9	17	1642	97
Future Volume (vph)	107	12	423	5	12	9	730	1704	9	17	1642	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	700		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.953			0.999				0.850
Flt Protected		0.957			0.990		0.950			0.950		
Satd. Flow (prot)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Flt Permitted		0.957			0.990		0.950			0.950		
Satd. Flow (perm)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	119	13	470	6	13	10	811	1893	10	19	1824	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	132	470	0	29	0	811	1903	0	19	1824	108
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	19.0	19.0	48.0	13.7	13.7		48.0	133.8		13.5	99.3	19.0
Total Split (%)	10.6%	10.6%	26.7%	7.6%	7.6%		26.7%	74.3%		7.5%	55.2%	10.6%
Maximum Green (s)	12.4	12.4	41.3	7.0	7.0		41.3	127.7		7.0	93.2	12.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		14.0	59.0		8.7		44.0	136.9		8.5	96.1	115.1
Actuated g/C Ratio		0.08	0.33		0.05		0.24	0.76		0.05	0.53	0.64
v/c Ratio		0.96	0.52		0.37		0.97	0.71		0.23	0.97	0.11
Control Delay		145.2	45.0		96.8		90.4	14.5		79.4	42.1	11.0

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2024) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		145.2	45.0		96.8		90.4	14.5		79.4	42.1	11.0
LOS		F	D		F		F	B		E	D	B
Approach Delay		67.0			96.8			37.2			40.7	
Approach LOS		E			F			D			D	
Queue Length 50th (ft)		158	219		34		497	680		0	593	28
Queue Length 95th (ft)		#307	275		74		#641	763		m29	#1270	m39
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							700			180		260
Base Capacity (vph)		138	912		78		838	2690		83	1889	1012
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.96	0.52		0.37		0.97	0.71		0.23	0.97	0.11

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 68 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 42.2
Intersection Capacity Utilization 91.9%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: D
ICU Level of Service F

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

 Ø2 (R)	 Ø1	 Ø3	 Ø4
133.8 s	13.5 s	19 s	13.7 s
 Ø5	 Ø6 (R)		
48 s	99.3 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	210	0	1820	1546	208
Future Volume (vph)	0	210	0	1820	1546	208
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Flt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	233	0	2022	1718	231
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	233	0	2022	1718	231
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 62.4%
Analysis Period (min) 15

ICU Level of Service B

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	210	0	1820	1546	208
Future Vol, veh/h	0	210	0	1820	1546	208
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	233	0	2022	1718	231

Major/Minor	Minor2	Major1	Major2		
Conflicting Flow All	-	859	-	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	300	0	-	-
Stage 1	0	-	0	-	-
Stage 2	0	-	0	-	-
Platoon blocked, %				-	-
Mov Cap-1 Maneuver	-	300	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-
Stage 1	-	-	-	-	-
Stage 2	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	48.9	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 300	-
HCM Lane V/C Ratio	- 0.778	-
HCM Control Delay (s)	- 48.9	-
HCM Lane LOS	- E	-
HCM 95th %tile Q(veh)	- 6.1	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Improved (2024) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	  	 
Traffic Volume (vph)	426	111	34	35	52	23	53	1731	36	35	1685	349
Future Volume (vph)	426	111	34	35	52	23	53	1731	36	35	1685	349
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	450		0	160		0	240		0	240		520
Storage Lanes	2		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.965			0.954			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3450	1807	0	1744	1751	0	1778	3546	0	1778	3557	1591
Flt Permitted	0.950			0.482			0.036			0.036		
Satd. Flow (perm)	3450	1807	0	885	1751	0	67	3546	0	67	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	473	123	38	39	58	26	59	1923	40	39	1872	388
Shared Lane Traffic (%)												
Lane Group Flow (vph)	473	161	0	39	84	0	59	1963	0	39	1872	388
Turn Type	Prot	NA		D,P+P	NA		D,P+P	NA		D,P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases				4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	35.0	40.1		12.9	18.0		13.1	114.4		12.6	113.9	35.0
Total Split (%)	19.4%	22.3%		7.2%	10.0%		7.3%	63.6%		7.0%	63.3%	19.4%
Maximum Green (s)	28.7	33.7		7.0	11.6		7.0	108.3		7.0	107.8	28.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.3
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	28.6	35.4		41.7	12.1		119.3	114.2		120.3	111.2	144.8
Actuated g/C Ratio	0.16	0.20		0.23	0.07		0.66	0.63		0.67	0.62	0.80
v/c Ratio	0.86	0.45		0.16	0.71		0.49	0.87		0.34	0.85	0.30
Control Delay	90.1	68.8		51.7	112.6		49.2	23.0		25.8	18.4	2.6

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Improved (2024) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	2.1	0.0
Total Delay	90.1	68.8		51.7	112.6		49.2	23.0		25.8	20.5	2.6
LOS	F	E		D	F		D	C		C	C	A
Approach Delay		84.7			93.3			23.8			17.6	
Approach LOS		F			F			C			B	
Queue Length 50th (ft)	282	170		35	99		15	1071		11	573	40
Queue Length 95th (ft)	352	253		70	#178		m43	1187		m12	424	m49
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	450			160			240			240		520
Base Capacity (vph)	575	359		242	126		121	2250		116	2197	1291
Starvation Cap Reductn	0	0		0	0		0	0		0	196	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.82	0.45		0.16	0.67		0.49	0.87		0.34	0.94	0.30

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 65 (36%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Natural Cycle: 140

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 30.3

Intersection LOS: C

Intersection Capacity Utilization 79.5%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave



University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Improved (2024) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	119	15	249	154	20	3	248	1743	190	12	1666	150
Future Volume (vph)	119	15	249	154	20	3	248	1743	190	12	1666	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1835	1560	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.039			0.066		
Satd. Flow (perm)	1744	1835	1560	3400	1845	1568	73	3539	1568	122	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		967			755			783			1413	
Travel Time (s)		18.8			14.7			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	132	17	277	171	22	3	276	1937	211	13	1851	167
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	17	277	171	22	3	276	1937	211	13	1851	167
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	18.4	43.8	26.5	15.2	40.6	13.4	26.5	107.6	15.2	13.4	94.5	18.4
Total Split (%)	10.2%	24.3%	14.7%	8.4%	22.6%	7.4%	14.7%	59.8%	8.4%	7.4%	52.5%	10.2%
Maximum Green (s)	12.0	37.3	20.2	8.6	34.1	7.0	20.2	101.1	8.6	7.0	88.0	12.0
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	13.4	11.0	46.9	11.5	9.1	14.1	142.9	139.9	155.4	144.9	106.6	125.0
Actuated g/C Ratio	0.07	0.06	0.26	0.06	0.05	0.08	0.79	0.78	0.86	0.80	0.59	0.69
v/c Ratio	1.02	0.15	0.68	0.79	0.24	0.02	0.69	0.70	0.16	0.07	0.88	0.15
Control Delay	162.9	82.0	67.9	106.3	88.2	55.3	71.4	7.5	1.8	9.5	37.8	13.2

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Improved (2024) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.8	0.0
Total Delay	162.9	82.0	67.9	106.3	88.2	55.3	71.4	7.9	1.8	9.5	38.6	13.2
LOS	F	F	E	F	F	E	E	A	A	A	D	B
Approach Delay		97.9			103.5			14.6			36.4	
Approach LOS		F			F			B			D	
Queue Length 50th (ft)	~164	19	286	105	26	3	289	345	22	5	692	74
Queue Length 95th (ft)	#318	48	381	#180	60	13	m343	448	m35	m6	#1025	m99
Internal Link Dist (ft)		887			675			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	129	395	406	216	364	122	400	2750	1353	174	2095	1099
Starvation Cap Reductn	0	0	0	0	0	0	0	304	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	74	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.04	0.68	0.79	0.06	0.02	0.69	0.79	0.16	0.07	0.92	0.15

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 79 (44%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 33.7
Intersection Capacity Utilization 85.6%
Analysis Period (min) 15
Intersection LOS: C
ICU Level of Service E

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

														
Ø2 (R)						Ø1	Ø3	Ø4						
107.6 s						13.4 s	15.2 s	43.8 s						
														
Ø5	Ø6 (R)						Ø7	Ø8						
26.5 s	94.5 s						18.4 s	40.6 s						

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Improved (2024) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	94	98	226	116	90	116	1608	141	134	1580	18
Future Volume (vph)	109	94	98	226	116	90	116	1608	141	134	1580	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	280		0	420		460	300		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.934				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1740	0	1770	3539	1583	1770	3532	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	3433	1740	0	1770	3539	1583	1770	3532	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	121	104	109	251	129	100	129	1787	157	149	1756	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	104	109	251	229	0	129	1787	157	149	1776	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8	5	7	4		5	2		1	6	
Permitted Phases			8						Free			
Detector Phase	3	8	5	7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9	13.8	13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	19.0	36.9	20.0	20.0	37.9		20.0	101.1		22.0	103.1	
Total Split (%)	10.6%	20.5%	11.1%	11.1%	21.1%		11.1%	56.2%		12.2%	57.3%	
Maximum Green (s)	12.6	30.0	13.2	13.2	31.2		13.2	94.3		15.3	96.4	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9	3.8	3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9	0.0	-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0	6.8	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	3.0	4.0	3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0	4.0	3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	14.0	27.4	47.6	15.0	28.5		17.0	99.4	180.0	18.2	100.6	
Actuated g/C Ratio	0.08	0.15	0.26	0.08	0.16		0.09	0.55	1.00	0.10	0.56	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Improved (2024) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.88	0.37	0.26	0.88	0.83		0.77	0.92	0.10	0.83	0.90	
Control Delay	131.1	71.2	53.3	109.9	97.7		105.1	44.4	0.1	112.0	43.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	131.1	71.2	53.3	109.9	97.7		105.1	44.4	0.1	112.0	43.2	
LOS	F	E	D	F	F		F	D	A	F	D	
Approach Delay		87.1			104.1			44.9			48.5	
Approach LOS		F			F			D			D	
Queue Length 50th (ft)	144	111	101	154	264		149	1157	0	174	991	
Queue Length 95th (ft)	#277	174	161	#237	364		m#256	m1218	m0	#321	1111	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100		100	280			420		460	300		
Base Capacity (vph)	137	330	418	286	318		167	1953	1583	180	1973	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.88	0.32	0.26	0.88	0.72		0.77	0.92	0.10	0.83	0.90	

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 102 (57%), Referenced to phase 2:NBT and 6:SBT, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.92
 Intersection Signal Delay: 55.2
 Intersection Capacity Utilization 86.2%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

											
Ø1	Ø2 (R)	Ø3	Ø4	Ø5	Ø6 (R)	Ø7	Ø8				
22 s	101.1 s	19 s	37.9 s	20 s	103.1 s	20 s	36.9 s				

University Place TIA
200: Franklin Street & Estes Dr

Improved (2024) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	318	390	95	212	374	226	62	763	186	105	662	379
Future Volume (vph)	318	390	95	212	374	226	62	763	186	105	662	379
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		350
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.971				0.850		0.971				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1818	0	1725	1816	1544	1743	3385	0	1778	3557	1591
Flt Permitted	0.950			0.133			0.950			0.950		
Satd. Flow (perm)	1778	1818	0	242	1816	1544	1743	3385	0	1778	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	353	433	106	236	416	251	69	848	207	117	736	421
Shared Lane Traffic (%)												
Lane Group Flow (vph)	353	539	0	236	416	251	69	1055	0	117	736	421
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	Perm
Protected Phases	7	4		3	8	1	5	2		1	6	
Permitted Phases				4		8						6
Detector Phase	7	4		3	8	1	5	2		1	6	6
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	10.0
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	21.5
Total Split (s)	36.0	58.0		19.0	41.0	16.0	14.0	57.0		16.0	59.0	59.0
Total Split (%)	24.0%	38.7%		12.7%	27.3%	10.7%	9.3%	38.0%		10.7%	39.3%	39.3%
Maximum Green (s)	30.1	52.1		13.4	35.1	10.1	7.8	51.3		10.1	53.5	53.5
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	3.9
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	1.6
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.5
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	C-Min
Walk Time (s)		7.0			7.0			7.0			7.0	7.0
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	9.0
Pedestrian Calls (#/hr)		0			0			0			0	0
Act Effect Green (s)	31.2	52.0		66.8	35.6	51.8	8.8	52.1		11.2	54.4	53.9
Actuated g/C Ratio	0.21	0.35		0.45	0.24	0.35	0.06	0.35		0.07	0.36	0.36
v/c Ratio	0.96	0.86		0.93	0.97	0.47	0.68	0.90		0.89	0.57	0.74
Control Delay	95.2	59.8		72.9	88.7	40.0	99.3	57.7		120.4	40.7	51.2

University Place TIA
200: Franklin Street & Estes Dr

Improved (2024) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	95.2	59.8		72.9	88.7	40.0	99.3	57.7		120.4	40.7	51.2
LOS	F	E		E	F	D	F	E		F	D	D
Approach Delay		73.8			71.0			60.2			51.5	
Approach LOS		E			E			E			D	
Queue Length 50th (ft)	346	484		161	344	187	67	515		116	305	360
Queue Length 95th (ft)	#548	#673		#316	#633	256	#141	#622		#241	373	495
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		350
Base Capacity (vph)	371	642		254	435	532	104	1182		132	1297	575
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.95	0.84		0.93	0.96	0.47	0.66	0.89		0.89	0.57	0.73

Intersection Summary

Area Type: Other

Cycle Length: 150

Actuated Cycle Length: 150

Offset: 104 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 110

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.97

Intersection Signal Delay: 62.8

Intersection LOS: E

Intersection Capacity Utilization 87.6%

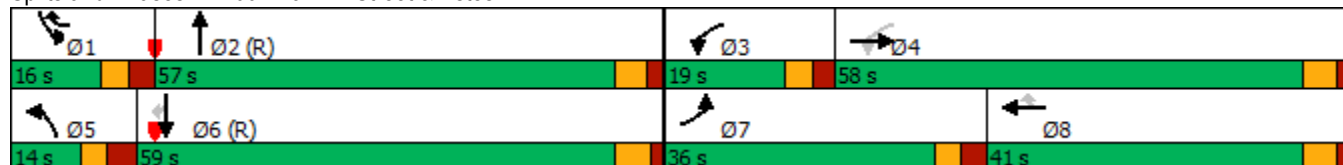
ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Improved (2024) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	293	385	3	12	437	31	6	8	7	53	8	369
Future Volume (vph)	293	385	3	12	437	31	6	8	7	53	8	369
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.990			0.955				0.850
Flt Protected	0.950			0.950				0.986			0.958	
Satd. Flow (prot)	1770	3536	0	1770	3504	0	0	1754	0	0	1776	1575
Flt Permitted	0.950			0.501				0.890			0.737	
Satd. Flow (perm)	1770	3536	0	933	3504	0	0	1584	0	0	1366	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	326	428	3	13	486	34	7	9	8	59	9	410
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	431	0	13	520	0	0	24	0	0	68	410
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	13.2	15.7		21.4	21.4		30.6	30.6		12.9	12.9	13.2
Total Split (s)	20.0	46.0		26.0	26.0		29.0	29.0		29.0	29.0	20.0
Total Split (%)	26.7%	61.3%		34.7%	34.7%		38.7%	38.7%		38.7%	38.7%	26.7%
Maximum Green (s)	13.8	40.3		20.6	20.6		23.4	23.4		23.1	23.1	13.8
Yellow Time (s)	3.0	3.7		3.9	3.9		3.6	3.6		3.9	3.9	3.0
All-Red Time (s)	3.2	2.0		1.5	1.5		2.0	2.0		2.0	2.0	3.2
Lost Time Adjust (s)	-1.2	-0.7		-0.4	-0.4			-0.6			-0.9	-1.2
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				9.0	9.0		18.0	18.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	20.0	59.1		33.1	33.1			9.5			9.5	31.9
Actuated g/C Ratio	0.27	0.79		0.44	0.44			0.13			0.13	0.43
v/c Ratio	0.69	0.15		0.03	0.34			0.12			0.39	0.61
Control Delay	31.1	4.0		16.8	16.7			29.3			36.4	19.6

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Improved (2024) PM
02/12/2021

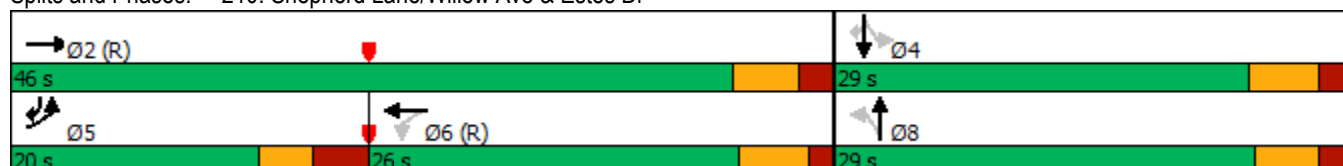
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	31.1	4.0		16.8	16.7			29.3			36.4	19.6
LOS	C	A		B	B			C			D	B
Approach Delay		15.6			16.7			29.3			22.0	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	184	51		4	85			10			30	134
Queue Length 95th (ft)	m247	m64		16	145			30			64	175
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	472	2784		411	1544			506			437	670
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.69	0.15		0.03	0.34			0.05			0.16	0.61

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 61 (81%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.69
Intersection Signal Delay: 17.8
Intersection Capacity Utilization 54.2%
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	445	468	14	0	12
Future Volume (vph)	0	445	468	14	0	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.996			0.865
Flt Protected						
Satd. Flow (prot)	0	3505	3525	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3505	3525	0	0	1611
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	494	520	16	0	13
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	494	536	0	0	13
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 23.4%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations   

Traffic Vol, veh/h 0 445 468 14 0 12

Future Vol, veh/h 0 445 468 14 0 12

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - - 0

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 90 90 90 90 90 90

Heavy Vehicles, % 3 3 2 2 2 2

Mvmt Flow 0 494 520 16 0 13

Major/Minor Major1 Major2 Minor2

Conflicting Flow All - 0 - 0 - 268

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 - - - 0 730

Stage 1 0 - - - 0 -

Stage 2 0 - - - 0 -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver - - - - - 730

Mov Cap-2 Maneuver - - - - -

Stage 1 - - - - -

Stage 2 - - - - -

Approach EB WB SB

HCM Control Delay, s 0 0 10

HCM LOS B

Minor Lane/Major Mvmt EBT WBT WBR SBLn1

Capacity (veh/h) - - - 730

HCM Lane V/C Ratio - - - 0.018

HCM Control Delay (s) - - - 10

HCM Lane LOS - - - B

HCM 95th %tile Q(veh) - - - 0.1

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Improved (2024) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	122	322	1	7	424	95	2	0	6	184	0	56
Future Volume (vph)	122	322	1	7	424	95	2	0	6	184	0	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.972			0.895				0.850
Flt Protected	0.950			0.950				0.989			0.950	
Satd. Flow (prot)	1770	3539	0	1770	3440	0	0	1649	0	0	1770	1583
Flt Permitted	0.950			0.950				0.989			0.950	
Satd. Flow (perm)	1770	3539	0	1770	3440	0	0	1649	0	0	1770	1583
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	136	358	1	8	471	106	2	0	7	204	0	62
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	359	0	8	577	0	0	9	0	0	204	62
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.4%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 27

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	122	322	1	7	424	95	2	0	6	184	0	56
Future Vol, veh/h	122	322	1	7	424	95	2	0	6	184	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	136	358	1	8	471	106	2	0	7	204	0	62

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	577	0	0	359	0	0	883	1224	180	991	1171	289
Stage 1	-	-	-	-	-	-	631	631	-	540	540	-
Stage 2	-	-	-	-	-	-	252	593	-	451	631	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	993	-	-	1196	-	-	240	178	832	~ 200	191	708
Stage 1	-	-	-	-	-	-	436	473	-	494	519	-
Stage 2	-	-	-	-	-	-	730	492	-	557	473	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	993	-	-	1196	-	-	195	153	832	~ 177	164	708
Mov Cap-2 Maneuver	-	-	-	-	-	-	195	153	-	~ 177	164	-
Stage 1	-	-	-	-	-	-	376	408	-	426	515	-
Stage 2	-	-	-	-	-	-	661	489	-	477	408	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0.1	13	131.9
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	458	993	-	-	1196	-	-	177	708
HCM Lane V/C Ratio	0.019	0.137	-	-	0.007	-	-	1.155	0.088
HCM Control Delay (s)	13	9.2	-	-	8	-	-	168.8	10.6
HCM Lane LOS	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0	-	-	10.6	0.3

Notes

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

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	64	448	482	210	94	44
Future Volume (vph)	64	448	482	210	94	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	71	498	536	233	104	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	498	536	233	104	49
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.1%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	64	448	482	210	94	44
Future Vol, veh/h	64	448	482	210	94	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	498	536	233	104	49

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	769	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	841	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	841	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	23.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	841	-	-	-	245	730
HCM Lane V/C Ratio	0.085	-	-	-	0.426	0.067
HCM Control Delay (s)	9.7	-	-	-	30.2	10.3
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.3	-	-	-	2	0.2

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		  	 			
Traffic Volume (vph)	0	542	659	180	0	33
Future Volume (vph)	0	542	659	180	0	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			100	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	5036	3539	1583	0	1611
Flt Permitted						
Satd. Flow (perm)	0	5036	3539	1583	0	1611
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	602	732	200	0	37
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	602	732	200	0	37
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.2%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	542	659	180	0	33
Future Vol, veh/h	0	542	659	180	0	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	602	732	200	0	37

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	631
HCM Lane V/C Ratio	-	-	-	0.058
HCM Control Delay (s)	-	-	-	11.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Improved (2024) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	6	9	0	3	6	313	13	0	415	3
Future Volume (vph)	3	0	6	9	0	3	6	313	13	0	415	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	100			100			100			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.905			0.969			0.995			0.999	
Flt Protected		0.985			0.963			0.999				
Satd. Flow (prot)	0	1660	0	0	1738	0	0	1852	0	1863	1861	0
Flt Permitted		0.985			0.963			0.999				
Satd. Flow (perm)	0	1660	0	0	1738	0	0	1852	0	1863	1861	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	0	7	10	0	3	7	348	14	0	461	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	13	0	0	369	0	0	464	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 32.1%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	6	9	0	3	6	313	13	0	415	3
Future Vol, veh/h	3	0	6	9	0	3	6	313	13	0	415	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	7	10	0	3	7	348	14	0	461	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	834	839	463	835	833	355	464	0	0	362	0	0
Stage 1	463	463	-	369	369	-	-	-	-	-	-	-
Stage 2	371	376	-	466	464	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	288	302	599	287	304	689	1097	-	-	1197	-	-
Stage 1	579	564	-	651	621	-	-	-	-	-	-	-
Stage 2	649	616	-	577	564	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	285	300	599	282	302	689	1097	-	-	1197	-	-
Mov Cap-2 Maneuver	285	300	-	282	302	-	-	-	-	-	-	-
Stage 1	574	564	-	646	616	-	-	-	-	-	-	-
Stage 2	641	611	-	571	564	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	13.4		16.3		0.2		0	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1097	-	-	438	331	1197	-
HCM Lane V/C Ratio	0.006	-	-	0.023	0.04	-	-
HCM Control Delay (s)	8.3	0	-	13.4	16.3	0	-
HCM Lane LOS	A	A	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

University Place TIA
302: Willow Ave & UPlace Access #7

Improved (2024) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1	4	21	0	23	4	279	36	24	393	5
Future Volume (vph)	4	1	4	21	0	23	4	279	36	24	393	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	100			100			0			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940				0.850		0.983			0.998	
Flt Protected		0.978			0.950		0.950			0.950		
Satd. Flow (prot)	0	1712	0	0	1687	1509	1770	1831	0	1770	1859	0
Flt Permitted		0.978			0.950		0.950			0.950		
Satd. Flow (perm)	0	1712	0	0	1687	1509	1770	1831	0	1770	1859	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	4	1	4	23	0	26	4	310	40	27	437	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	23	26	4	350	0	27	443	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.5%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1	4	21	0	23	4	279	36	24	393	5
Future Vol, veh/h	4	1	4	21	0	23	4	279	36	24	393	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	7	7	7	2	2	2	2	2	2
Mvmt Flow	4	1	4	23	0	26	4	310	40	27	437	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	845	852	440	835	835	330	443	0	0	350	0	0
Stage 1	494	494	-	338	338	-	-	-	-	-	-	-
Stage 2	351	358	-	497	497	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.57	6.27	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.57	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.57	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.063	3.363	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	283	297	617	281	298	700	1117	-	-	1209	-	-
Stage 1	557	546	-	666	632	-	-	-	-	-	-	-
Stage 2	666	628	-	546	537	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	267	289	617	273	290	700	1117	-	-	1209	-	-
Mov Cap-2 Maneuver	267	289	-	273	290	-	-	-	-	-	-	-
Stage 1	555	534	-	663	629	-	-	-	-	-	-	-
Stage 2	639	625	-	529	525	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.3	14.6	0.1	0.5
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1117	-	-	361	273	700	1209	-	-
HCM Lane V/C Ratio	0.004	-	-	0.028	0.085	0.037	0.022	-	-
HCM Control Delay (s)	8.2	-	-	15.3	19.4	10.3	8	-	-
HCM Lane LOS	A	-	-	C	C	B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.3	0.1	0.1	-	-

University Place TIA
303: Future Access/Conner Drive & Willow Ave

Improved (2024) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	43	218	45	66	266	45	38	9	89	80	10	118
Future Volume (vph)	43	218	45	66	266	45	38	9	89	80	10	118
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.978				0.850		0.923	
Flt Protected	0.950			0.950				0.961			0.981	
Satd. Flow (prot)	1770	1811	0	1752	1822	0	0	1773	1568	0	1686	0
Flt Permitted	0.950			0.950				0.961			0.981	
Satd. Flow (perm)	1770	1811	0	1752	1822	0	0	1773	1568	0	1686	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		345			318			413			387	
Travel Time (s)		6.7			6.2			11.3			10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Adj. Flow (vph)	48	242	50	73	296	50	42	10	99	89	11	131
Shared Lane Traffic (%)												
Lane Group Flow (vph)	48	292	0	73	346	0	0	52	99	0	231	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 48.9%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	9.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	218	45	66	266	45	38	9	89	80	10	118
Future Vol, veh/h	43	218	45	66	266	45	38	9	89	80	10	118
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2	3	3	3	2	3	2
Mvmt Flow	48	242	50	73	296	50	42	10	99	89	11	131

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	346	0	0	292	0	0	901	855	267	885	855	321
Stage 1	-	-	-	-	-	-	363	363	-	467	467	-
Stage 2	-	-	-	-	-	-	538	492	-	418	388	-
Critical Hdwy	4.12	-	-	4.13	-	-	7.13	6.53	6.23	7.12	6.53	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.12	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.12	5.53	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.527	4.027	3.327	3.518	4.027	3.318
Pot Cap-1 Maneuver	1213	-	-	1264	-	-	258	294	769	266	294	720
Stage 1	-	-	-	-	-	-	654	623	-	576	560	-
Stage 2	-	-	-	-	-	-	525	546	-	612	607	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1213	-	-	1264	-	-	190	266	769	209	266	720
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	266	-	209	266	-
Stage 1	-	-	-	-	-	-	628	598	-	553	528	-
Stage 2	-	-	-	-	-	-	396	514	-	504	583	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	1.4	16.9	32
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	201	769	1213	-	-	1264	-	-	356
HCM Lane V/C Ratio	0.26	0.129	0.039	-	-	0.058	-	-	0.649
HCM Control Delay (s)	29.1	10.4	8.1	-	-	8	-	-	32
HCM Lane LOS	D	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1	0.4	0.1	-	-	0.2	-	-	4.3

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	322	65	175	279	98	148
Future Volume (vph)	322	65	175	279	98	148
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1820	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1820	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	358	72	194	310	109	164
Shared Lane Traffic (%)						
Lane Group Flow (vph)	430	0	194	310	109	164
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 46.0%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 5.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	322	65	175	279	98	148
Future Vol, veh/h	322	65	175	279	98	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	358	72	194	310	109	164

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	430
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1129
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1129
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	16.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	314	655	-	-	1129	-
HCM Lane V/C Ratio	0.347	0.251	-	-	0.172	-
HCM Control Delay (s)	22.4	12.3	-	-	8.9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.5	1	-	-	0.6	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	459	11	0	454	0	112
Future Volume (vph)	459	11	0	454	0	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.865
Flt Protected						
Satd. Flow (prot)	1857	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	1857	0	0	1863	0	1611
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	510	12	0	504	0	124
Shared Lane Traffic (%)						
Lane Group Flow (vph)	522	0	0	504	0	124
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 38.4%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	459	11	0	454	0	112
Future Vol, veh/h	459	11	0	454	0	112
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	510	12	0	504	0	124

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

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	559	-	-	-
HCM Lane V/C Ratio	0.223	-	-	-
HCM Control Delay (s)	13.3	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.8	-	-	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2026) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	58	8	321	5	8	9	360	1712	3	7	1829	79
Future Volume (vph)	58	8	321	5	8	9	360	1712	3	7	1829	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	700		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.946							0.850
Flt Protected		0.958			0.988		0.950			0.950		
Satd. Flow (prot)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Flt Permitted		0.958			0.988		0.950			0.950		
Satd. Flow (perm)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	9%	9%	9%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	64	9	357	6	9	10	400	1902	3	8	2032	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	73	357	0	25	0	400	1905	0	8	2032	88
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	18.0	18.0	27.0	13.7	13.7		27.0	134.8		13.5	121.3	18.0
Total Split (%)	10.0%	10.0%	15.0%	7.6%	7.6%		15.0%	74.9%		7.5%	67.4%	10.0%
Maximum Green (s)	11.4	11.4	20.3	7.0	7.0		20.3	128.7		7.0	115.2	11.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		11.8	40.7		8.7		23.9	144.6		8.5	121.0	134.9
Actuated g/C Ratio		0.07	0.23		0.05		0.13	0.80		0.05	0.67	0.75
v/c Ratio		0.65	0.58		0.32		0.89	0.68		0.10	0.86	0.07
Control Delay		107.0	66.6		94.0		97.1	11.3		71.1	13.0	2.3

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2026) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		107.0	66.6		94.0		97.1	11.3		71.1	13.0	2.3
LOS		F	E		F		F	B		E	B	A
Approach Delay		73.4			94.0			26.2			12.7	
Approach LOS		E			F			C			B	
Queue Length 50th (ft)		85	217		29		246	468		9	216	9
Queue Length 95th (ft)		147	282		67		#358	755		m12	365	m16
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							700			180		260
Base Capacity (vph)		125	612		78		451	2814		82	2356	1185
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.58	0.58		0.32		0.89	0.68		0.10	0.86	0.07

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 120

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.89

Intersection Signal Delay: 24.9

Intersection LOS: C

Intersection Capacity Utilization 83.6%

ICU Level of Service E

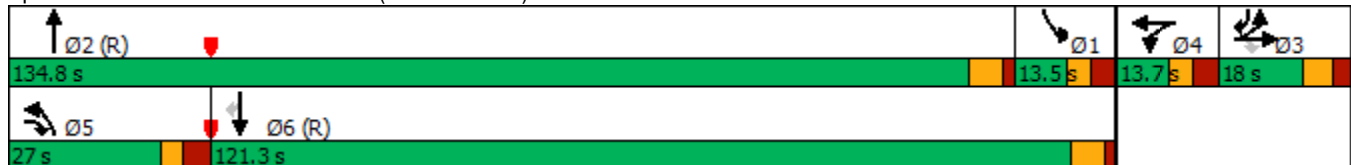
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	63	0	1779	1852	71
Future Volume (vph)	0	63	0	1779	1852	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	400			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1596	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1596	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	70	0	1977	2058	79
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	70	0	1977	2058	79
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 61.8%
Analysis Period (min) 15

ICU Level of Service B

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	63	0	1779	1852	71
Future Vol, veh/h	0	63	0	1779	1852	71
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	70	0	1977	2058	79

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 1029	-	0 -
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	- 6.96	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	- 3.33	-	-
Pot Cap-1 Maneuver	0 229	0	- -
Stage 1	0	0	- -
Stage 2	0	0	- -
Platoon blocked, %			- -
Mov Cap-1 Maneuver	- 229	-	- -
Mov Cap-2 Maneuver	-	-	- -
Stage 1	-	-	- -
Stage 2	-	-	- -

Approach	EB	NB	SB
HCM Control Delay, s	27.5	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 229	-
HCM Lane V/C Ratio	- 0.306	-
HCM Control Delay (s)	- 27.5	-
HCM Lane LOS	- D	-
HCM 95th %tile Q(veh)	- 1.2	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Improved (2026) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 	 		 	 		 	  		 	  	 
Traffic Volume (vph)	124	41	18	62	49	28	51	1681	47	13	1843	270
Future Volume (vph)	124	41	18	62	49	28	51	1681	47	13	1843	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	450		0	160		0	240		0	240		520
Storage Lanes	2		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.955			0.945			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3384	1753	0	1761	1751	0	1778	3543	0	1778	3557	1591
Flt Permitted	0.950			0.669			0.039			0.061		
Satd. Flow (perm)	3384	1753	0	1240	1751	0	73	3543	0	114	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	138	46	20	69	54	31	57	1868	52	14	2048	300
Shared Lane Traffic (%)												
Lane Group Flow (vph)	138	66	0	69	85	0	57	1920	0	14	2048	300
Turn Type	Prot	NA		D,P+P	NA		D,P+P	NA		D,P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases				4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	18.4	32.4		13.0	27.0		13.1	122.0		12.6	121.5	18.4
Total Split (%)	10.2%	18.0%		7.2%	15.0%		7.3%	67.8%		7.0%	67.5%	10.2%
Maximum Green (s)	12.1	26.0		7.1	20.6		7.0	115.9		7.0	115.4	12.1
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	12.2	18.7		26.7	14.5		134.3	133.3		136.3	127.3	144.2
Actuated g/C Ratio	0.07	0.10		0.15	0.08		0.75	0.74		0.76	0.71	0.80
v/c Ratio	0.61	0.36		0.33	0.60		0.42	0.73		0.09	0.81	0.24
Control Delay	92.9	79.1		66.9	96.8		38.4	8.5		4.5	12.2	2.2

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Improved (2026) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	1.4	0.0
Total Delay	92.9	79.1		66.9	96.8		38.4	8.5		4.5	13.6	2.2
LOS	F	E		E	F		D	A		A	B	A
Approach Delay		88.4			83.4			9.3			12.1	
Approach LOS		F			F			A			B	
Queue Length 50th (ft)	82	74		71	99		12	243		2	390	26
Queue Length 95th (ft)	123	125		118	160		m46	177		m3	908	m34
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	450			160			240			240		520
Base Capacity (vph)	251	266		207	214		136	2623		156	2515	1285
Starvation Cap Reductn	0	0		0	0		0	0		0	266	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.55	0.25		0.33	0.40		0.42	0.73		0.09	0.91	0.23

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 177 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.81
Intersection Signal Delay: 16.6
Intersection Capacity Utilization 69.5%
Analysis Period (min) 15
Intersection LOS: B
ICU Level of Service C
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave

											
Ø1	Ø2 (R)					Ø3	Ø4				
12.6 s	122 s					13 s	32.4 s				
											
Ø5	Ø6 (R)					Ø7	Ø8				
13.1 s	121.5 s					18.4 s	27 s				

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Improved (2026) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	27	10	142	133	15	15	146	1552	136	2	1851	75
Future Volume (vph)	27	10	142	133	15	15	146	1552	136	2	1851	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1710	1835	1530	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.033			0.101		
Satd. Flow (perm)	1710	1835	1530	3400	1845	1568	61	3539	1568	186	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		958			778			783			1413	
Travel Time (s)		18.7			15.2			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	3%	5%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	30	11	158	148	17	17	162	1724	151	2	2057	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	11	158	148	17	17	162	1724	151	2	2057	83
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	14.0	43.5	17.2	13.6	43.1	13.4	17.2	109.5	13.6	13.4	105.7	14.0
Total Split (%)	7.8%	24.2%	9.6%	7.6%	23.9%	7.4%	9.6%	60.8%	7.6%	7.4%	58.7%	7.8%
Maximum Green (s)	7.6	37.0	10.9	7.0	36.6	7.0	10.9	103.0	7.0	7.0	99.2	7.6
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	8.8	9.0	27.9	11.4	8.8	16.8	147.8	144.7	163.1	149.8	125.7	139.5
Actuated g/C Ratio	0.05	0.05	0.16	0.06	0.05	0.09	0.82	0.80	0.91	0.83	0.70	0.78
v/c Ratio	0.36	0.12	0.67	0.69	0.19	0.12	0.63	0.61	0.11	0.01	0.83	0.07
Control Delay	95.1	84.4	83.9	96.7	87.0	72.7	62.2	6.3	1.7	3.0	10.2	2.6

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Improved (2026) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.3	0.0
Total Delay	95.1	84.4	83.9	96.7	87.0	72.7	62.2	6.4	1.7	3.0	10.5	2.6
LOS	F	F	F	F	F	E	E	A	A	A	B	A
Approach Delay		85.6			93.6			10.5			10.2	
Approach LOS		F			F			B			B	
Queue Length 50th (ft)	35	13	183	84	20	18	147	257	13	0	258	13
Queue Length 95th (ft)	75	37	245	#165	49	45	m235	305	m37	m0	337	m15
Internal Link Dist (ft)		878			698			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	85	392	237	215	390	146	259	2845	1420	227	2470	1228
Starvation Cap Reductn	0	0	0	0	0	0	0	262	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	91	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.03	0.67	0.69	0.04	0.12	0.63	0.67	0.11	0.01	0.86	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 175 (97%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.83
Intersection Signal Delay: 17.0
Intersection Capacity Utilization 82.2%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

								
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)	Ø7
13.4 s	109.5 s		13.6 s	43.5 s		17.2 s	105.7 s	14 s
								43.1 s

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Improved (2026) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	53	48	193	94	102	78	1407	109	81	1660	7
Future Volume (vph)	76	53	48	193	94	102	78	1407	109	81	1660	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	280		0	420		460	300		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.922				0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3367	1684	0	1770	3539	1583	1770	3536	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	3367	1684	0	1770	3539	1583	1770	3536	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	84	59	53	214	104	113	87	1563	121	90	1844	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	59	53	214	217	0	87	1563	121	90	1852	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8	5	7	4		5	2		1	6	
Permitted Phases			8						Free			
Detector Phase	3	8	5	7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9	13.8	13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	17.0	36.9	17.3	19.6	39.5		17.3	101.2		22.3	106.2	
Total Split (%)	9.4%	20.5%	9.6%	10.9%	21.9%		9.6%	56.2%		12.4%	59.0%	
Maximum Green (s)	10.6	30.0	10.5	12.8	32.8		10.5	94.4		15.6	99.5	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9	3.8	3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9	0.0	-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0	6.8	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0	4.0	3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0	4.0	3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	11.5	25.5	34.2	14.4	28.5		12.3	105.5	180.0	14.5	107.7	
Actuated g/C Ratio	0.06	0.14	0.19	0.08	0.16		0.07	0.59	1.00	0.08	0.60	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Improved (2026) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.74	0.22	0.18	0.79	0.82		0.72	0.75	0.08	0.63	0.88	
Control Delay	117.2	68.5	42.6	101.9	96.2		93.1	17.8	0.1	99.1	37.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	117.2	68.5	42.6	101.9	96.2		93.1	17.8	0.1	99.1	37.2	
LOS	F	E	D	F	F		F	B	A	F	D	
Approach Delay		82.4			99.0			20.2			40.0	
Approach LOS		F			F			C			D	
Queue Length 50th (ft)	99	62	43	130	251		104	505	0	105	959	
Queue Length 95th (ft)	#188	109	76	#193	344		#190	597	0	171	1160	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100		100	280			420		460	300		
Base Capacity (vph)	118	330	301	273	322		120	2074	1583	170	2116	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.71	0.18	0.18	0.78	0.67		0.72	0.75	0.08	0.53	0.88	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 8 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 39.7

Intersection LOS: D

Intersection Capacity Utilization 85.6%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
22.3 s	101.2 s	17 s	39.5 s
 Ø6 (R)	 Ø5	 Ø7	 Ø8
106.2 s	17.3 s	19.6 s	36.9 s

University Place TIA
200: Franklin Street & Estes Dr

Improved (2026) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	352	312	55	126	267	83	56	417	90	91	538	213
Future Volume (vph)	352	312	55	126	267	83	56	417	90	91	538	213
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		350
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.978				0.850		0.973				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1813	0	1692	1781	1514	1710	3327	0	1744	3489	1561
Flt Permitted	0.950			0.321			0.950			0.950		
Satd. Flow (perm)	1761	1813	0	572	1781	1514	1710	3327	0	1744	3489	1561
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	391	347	61	140	297	92	62	463	100	101	598	237
Shared Lane Traffic (%)												
Lane Group Flow (vph)	391	408	0	140	297	92	62	563	0	101	598	237
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases				4		8						6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	12.9
Total Split (s)	42.0	61.6		14.4	34.0	17.0	15.4	37.0		17.0	38.6	42.0
Total Split (%)	32.3%	47.4%		11.1%	26.2%	13.1%	11.8%	28.5%		13.1%	29.7%	32.3%
Maximum Green (s)	36.1	55.7		8.8	28.1	11.1	9.2	31.3		11.1	33.1	36.1
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	3.0
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	2.9
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	33.0	48.9		58.8	25.8	41.9	9.3	40.1		11.1	44.5	81.6
Actuated g/C Ratio	0.25	0.38		0.45	0.20	0.32	0.07	0.31		0.09	0.34	0.63
v/c Ratio	0.87	0.60		0.41	0.84	0.19	0.51	0.55		0.68	0.50	0.24
Control Delay	66.9	35.6		22.8	73.5	31.9	72.8	42.2		79.9	38.8	13.0

University Place TIA
200: Franklin Street & Estes Dr

Improved (2026) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	66.9	35.6		22.8	73.5	31.9	72.8	42.2		79.9	38.8	13.0
LOS	E	D		C	E	C	E	D		E	D	B
Approach Delay		50.9			52.8			45.2			36.7	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	313	268		62	254	58	51	218		83	223	90
Queue Length 95th (ft)	#435	346		0	#366	105	99	293		#155	304	145
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		350
Base Capacity (vph)	504	790		347	401	500	136	1037		163	1208	1030
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.78	0.52		0.40	0.74	0.18	0.46	0.54		0.62	0.50	0.23

Intersection Summary

Area Type: Other

Cycle Length: 130

Actuated Cycle Length: 130

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 100

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.87

Intersection Signal Delay: 45.4

Intersection LOS: D

Intersection Capacity Utilization 70.9%

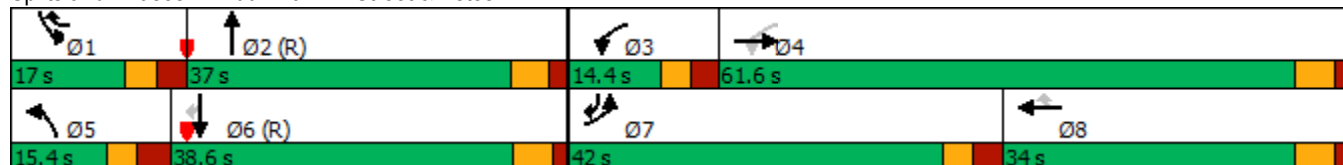
ICU Level of Service C

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Improved (2026) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	158	331	4	6	267	38	3	9	11	25	5	206
Future Volume (vph)	158	331	4	6	267	38	3	9	11	25	5	206
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.981			0.935				0.850
Flt Protected	0.950			0.950				0.994			0.960	
Satd. Flow (prot)	1736	3464	0	1752	3438	0	0	1715	0	0	1745	1545
Flt Permitted	0.950			0.531				0.951			0.986	
Satd. Flow (perm)	1736	3464	0	980	3438	0	0	1641	0	0	1792	1545
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	176	368	4	7	297	42	3	10	12	28	6	229
Shared Lane Traffic (%)												
Lane Group Flow (vph)	176	372	0	7	339	0	0	25	0	0	34	229
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	12.1	15.1		22.2	22.2		28.7	28.7		12.8	12.8	12.1
Total Split (s)	18.0	42.0		24.0	24.0		23.0	23.0		23.0	23.0	18.0
Total Split (%)	27.7%	64.6%		36.9%	36.9%		35.4%	35.4%		35.4%	35.4%	27.7%
Maximum Green (s)	12.9	36.9		18.8	18.8		17.3	17.3		17.2	17.2	12.9
Yellow Time (s)	3.0	3.8		3.8	3.8		3.3	3.3		3.8	3.8	3.0
All-Red Time (s)	2.1	1.3		1.4	1.4		2.4	2.4		2.0	2.0	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.2	-0.2			-0.7			-0.8	-0.8
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	4.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				10.0	10.0		16.0	16.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	11.7	57.8		38.1	38.1			7.8			7.9	17.6
Actuated g/C Ratio	0.18	0.89		0.59	0.59			0.12			0.12	0.27
v/c Ratio	0.57	0.12		0.01	0.17			0.13			0.16	0.55
Control Delay	22.6	2.9		10.0	8.4			27.2			27.5	23.5

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Improved (2026) AM
02/12/2021

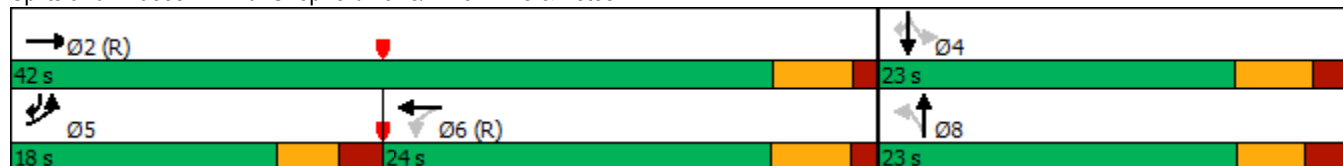
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	22.6	2.9		10.0	8.4			27.2			27.5	23.5
LOS	C	A		A	A			C			C	C
Approach Delay		9.3			8.5			27.2			24.0	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	56	0		1	24			9			12	84
Queue Length 95th (ft)	85	58		8	69			28			35	104
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	359	3080		575	2017			454			496	459
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.49	0.12		0.01	0.17			0.06			0.07	0.50

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 65
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.57
Intersection Signal Delay: 12.7
Intersection Capacity Utilization 39.1%
Analysis Period (min) 15

Intersection LOS: B
ICU Level of Service A

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	367	307	5	0	4
Future Volume (vph)	0	367	307	5	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.997			0.865
Flt Protected						
Satd. Flow (prot)	0	3438	3494	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3438	3494	0	0	1611
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	3%	3%	2%	2%
Adj. Flow (vph)	0	408	341	6	0	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	408	347	0	0	4
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 18.6%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations   

Traffic Vol, veh/h 0 367 307 5 0 4

Future Vol, veh/h 0 367 307 5 0 4

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - - 0

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 90 90 90 90 90 90

Heavy Vehicles, % 5 5 3 3 2 2

Mvmt Flow 0 408 341 6 0 4

Major/Minor Major1 Major2 Minor2

Conflicting Flow All - 0 - 0 - 174

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 - - - 0 839

Stage 1 0 - - - 0 -

Stage 2 0 - - - 0 -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver - - - - - 839

Mov Cap-2 Maneuver - - - - -

Stage 1 - - - - -

Stage 2 - - - - -

Approach EB WB SB

HCM Control Delay, s 0 0 9.3

HCM LOS A

Minor Lane/Major Mvmt EBT WBT WBR SBLn1

Capacity (veh/h) - - - 839

HCM Lane V/C Ratio - - - 0.005

HCM Control Delay (s) - - - 9.3

HCM Lane LOS - - - A

HCM 95th %tile Q(veh) - - - 0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Improved (2026) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	48	314	5	5	287	33	8	0	12	56	0	17
Future Volume (vph)	48	314	5	5	287	33	8	0	12	56	0	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.984			0.920				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1736	3461	0	1752	3449	0	0	1679	0	0	1719	1538
Flt Permitted	0.950			0.950				0.980			0.950	
Satd. Flow (perm)	1736	3461	0	1752	3449	0	0	1679	0	0	1719	1538
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	53	349	6	6	319	37	9	0	13	62	0	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	53	355	0	6	356	0	0	22	0	0	62	19
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 30.2%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 2.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	48	314	5	5	287	33	8	0	12	56	0	17
Future Vol, veh/h	48	314	5	5	287	33	8	0	12	56	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	4	3	3	3	2	2	2	5	5	5
Mvmt Flow	53	349	6	6	319	37	9	0	13	62	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	356	0	0	355	0	0	630	826	178	631	811	178
Stage 1	-	-	-	-	-	-	458	458	-	350	350	-
Stage 2	-	-	-	-	-	-	172	368	-	281	461	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.54	6.54	6.94	7.6	6.6	7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.52	4.02	3.32	3.55	4.05	3.35
Pot Cap-1 Maneuver	1185	-	-	1193	-	-	366	306	834	359	306	825
Stage 1	-	-	-	-	-	-	552	565	-	631	624	-
Stage 2	-	-	-	-	-	-	813	620	-	694	556	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1185	-	-	1193	-	-	344	291	834	340	291	825
Mov Cap-2 Maneuver	-	-	-	-	-	-	344	291	-	340	291	-
Stage 1	-	-	-	-	-	-	527	540	-	603	621	-
Stage 2	-	-	-	-	-	-	790	617	-	652	531	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	0.1	12.1	15.9
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	531	1185	-	-	1193	-	-	340	825
HCM Lane V/C Ratio	0.042	0.045	-	-	0.005	-	-	0.183	0.023
HCM Control Delay (s)	12.1	8.2	-	-	8	-	-	17.9	9.5
HCM Lane LOS	B	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.7	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	24	358	312	79	29	13
Future Volume (vph)	24	358	312	79	29	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1736	3471	3505	1568	1719	1538
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1736	3471	3505	1568	1719	1538
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	5%	5%
Adj. Flow (vph)	27	398	347	88	32	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	27	398	347	88	32	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.3%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	0.9					
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	24	358	312	79	29	13
Future Vol, veh/h	24	358	312	79	29	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	5	5
Mvmt Flow	27	398	347	88	32	14

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	435	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.18	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.24	-	-
Pot Cap-1 Maneuver	1107	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1107	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.5	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1107	-	-	-	415	830
HCM Lane V/C Ratio	0.024	-	-	-	0.078	0.017
HCM Control Delay (s)	8.3	-	-	-	14.4	9.4
HCM Lane LOS	A	-	-	-	B	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	387	380	67	0	11
Future Volume (vph)	0	387	380	67	0	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			100	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	0				0	
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	4940	3471	1553	0	1580
Flt Permitted						
Satd. Flow (perm)	0	4940	3471	1553	0	1580
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Adj. Flow (vph)	0	430	422	74	0	12
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	430	422	74	0	12
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 20.5%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR

Lane Configurations		↑↑↑	↑↑	↑		↑

Traffic Vol, veh/h	0	387	380	67	0	11

Future Vol, veh/h	0	387	380	67	0	11

Conflicting Peds, #/hr	0	0	0	0	0	0

Sign Control	Free	Free	Free	Free	Stop	Stop

RT Channelized	-	None	-	None	-	None

Storage Length	-	-	-	100	-	0

Veh in Median Storage, #	-	0	0	-	0	-

Grade, %	-	0	0	-	0	-

Peak Hour Factor	90	90	90	90	90	90

Heavy Vehicles, %	5	5	4	4	4	4

Mvmt Flow	0	430	422	74	0	12

Major/Minor	Major1	Major2	Minor2

Conflicting Flow All	-	0	0

Stage 1	-	-	-

Stage 2	-	-	-

Critical Hdwy	-	-	-

Critical Hdwy Stg 1	-	-	-

Critical Hdwy Stg 2	-	-	-

Follow-up Hdwy	-	-	-

Pot Cap-1 Maneuver	0	-	0

Stage 1	0	-	0

Stage 2	0	-	0

Platoon blocked, %	-	-	-

Mov Cap-1 Maneuver	-	-	-

Mov Cap-2 Maneuver	-	-	-

Stage 1	-	-	-

Stage 2	-	-	-

Approach	EB	WB	SB

HCM Control Delay, s	0	0	9.6

HCM LOS			A

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1

Capacity (veh/h)	-	-	-	788

HCM Lane V/C Ratio	-	-	-	0.016

HCM Control Delay (s)	-	-	-	9.6

HCM Lane LOS	-	-	-	A

HCM 95th %tile Q(veh)	-	-	-	0

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Improved (2026) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	0	3	0	1	4	196	5	0	233	2
Future Volume (vph)	3	1	0	3	0	1	4	196	5	0	233	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.966			0.996			0.999	
Flt Protected		0.964			0.964			0.999				
Satd. Flow (prot)	0	1796	0	0	1735	0	0	1818	0	1845	1843	0
Flt Permitted		0.964			0.964			0.999				
Satd. Flow (perm)	0	1796	0	0	1735	0	0	1818	0	1845	1843	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	3	1	0	3	0	1	4	218	6	0	259	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	4	0	0	228	0	0	261	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 23.8%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	0	3	0	1	4	196	5	0	233	2
Future Vol, veh/h	3	1	0	3	0	1	4	196	5	0	233	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	3	3	3
Mvmt Flow	3	1	0	3	0	1	4	218	6	0	259	2

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	490	492	260	490	490	221	261	0	0	224	0	0
Stage 1	260	260	-	229	229	-	-	-	-	-	-	-
Stage 2	230	232	-	261	261	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	489	478	779	489	479	819	1292	-	-	1339	-	-
Stage 1	745	693	-	774	715	-	-	-	-	-	-	-
Stage 2	773	713	-	744	692	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	487	476	779	487	477	819	1292	-	-	1339	-	-
Mov Cap-2 Maneuver	487	476	-	487	477	-	-	-	-	-	-	-
Stage 1	742	693	-	771	712	-	-	-	-	-	-	-
Stage 2	769	710	-	743	692	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	12.5		11.7		0.2		0	
HCM LOS	B		B					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1292	-	-	484 542	1339	-	-
HCM Lane V/C Ratio	0.003	-	-	0.009 0.008	-	-	-
HCM Control Delay (s)	7.8	0	-	12.5 11.7	0	-	-
HCM Lane LOS	A	A	-	B B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

University Place TIA
302: Willow Ave & UPlace Access #7

Improved (2026) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	7	0	8	6	179	15	9	226	3
Future Volume (vph)	2	0	2	7	0	8	6	179	15	9	226	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932				0.850		0.988			0.998	
Flt Protected		0.976			0.950		0.950			0.950		
Satd. Flow (prot)	0	1694	0	0	1641	1468	1752	1823	0	1752	1841	0
Flt Permitted		0.976			0.950		0.950			0.950		
Satd. Flow (perm)	0	1694	0	0	1641	1468	1752	1823	0	1752	1841	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	2	0	2	8	0	9	7	199	17	10	251	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	8	9	7	216	0	10	254	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 27.0%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.7

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

Lane Configurations												
Traffic Vol, veh/h	2	0	2	7	0	8	6	179	15	9	226	3
Future Vol, veh/h	2	0	2	7	0	8	6	179	15	9	226	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	3	3	3
Mvmt Flow	2	0	2	8	0	9	7	199	17	10	251	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	499	503	253	496	496	208	254	0	0	216	0	0
Stage 1	273	273	-	222	222	-	-	-	-	-	-	-
Stage 2	226	230	-	274	274	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.13	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.227	-	-	2.227	-	-
Pot Cap-1 Maneuver	482	471	786	471	464	813	1305	-	-	1348	-	-
Stage 1	733	684	-	763	705	-	-	-	-	-	-	-
Stage 2	777	714	-	715	669	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	472	465	786	465	458	813	1305	-	-	1348	-	-
Mov Cap-2 Maneuver	472	465	-	465	458	-	-	-	-	-	-	-
Stage 1	729	679	-	759	701	-	-	-	-	-	-	-
Stage 2	764	710	-	708	664	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.1	11.1	0.2	0.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1305	-	-	590 465 813	1348	-	-
HCM Lane V/C Ratio	0.005	-	-	0.008 0.017 0.011	0.007	-	-
HCM Control Delay (s)	7.8	-	-	11.1 12.9 9.5	7.7	-	-
HCM Lane LOS	A	-	-	B B A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1 0	0	-	-

University Place TIA
303: Future Access/Conner Drive & Willow Ave

Improved (2026) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	82	89	18	27	193	110	12	3	28	17	4	33
Future Volume (vph)	82	89	18	27	193	110	12	3	28	17	4	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			0			100			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.975			0.946				0.850		0.917	
Flt Protected	0.950			0.950				0.961			0.984	
Satd. Flow (prot)	1736	1784	0	1752	1762	0	0	1773	1568	0	1620	0
Flt Permitted	0.950			0.950				0.961			0.984	
Satd. Flow (perm)	1736	1784	0	1752	1762	0	0	1773	1568	0	1620	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		345			318			321			387	
Travel Time (s)		6.7			6.2			8.8			10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	2%	2%	3%	3%	3%	6%	3%	6%
Adj. Flow (vph)	91	99	20	30	214	122	13	3	31	19	4	37
Shared Lane Traffic (%)												
Lane Group Flow (vph)	91	119	0	30	336	0	0	16	31	0	60	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.3%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	3.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	82	89	18	27	193	110	12	3	28	17	4	33
Future Vol, veh/h	82	89	18	27	193	110	12	3	28	17	4	33
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	2	2	3	3	3	6	3	6
Mvmt Flow	91	99	20	30	214	122	13	3	31	19	4	37

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	336	0	0	119	0	0	647	687	109	643	636	275
Stage 1	-	-	-	-	-	-	291	291	-	335	335	-
Stage 2	-	-	-	-	-	-	356	396	-	308	301	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.13	6.53	6.23	7.16	6.53	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.16	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.16	5.53	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.527	4.027	3.327	3.554	4.027	3.354
Pot Cap-1 Maneuver	1212	-	-	1463	-	-	383	368	942	381	394	754
Stage 1	-	-	-	-	-	-	715	670	-	671	641	-
Stage 2	-	-	-	-	-	-	659	602	-	694	663	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1212	-	-	1463	-	-	335	333	942	339	357	754
Mov Cap-2 Maneuver	-	-	-	-	-	-	335	333	-	339	357	-
Stage 1	-	-	-	-	-	-	661	620	-	621	628	-
Stage 2	-	-	-	-	-	-	610	589	-	617	613	-

Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.6			0.6			11.5			12.9		
HCM LOS							B			B		

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	335	942	1212	-	-	1463	-	-	514
HCM Lane V/C Ratio	0.05	0.033	0.075	-	-	0.021	-	-	0.117
HCM Control Delay (s)	16.3	9	8.2	-	-	7.5	-	-	12.9
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	0.2	-	-	0.1	-	-	0.4

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	108	26	70	300	30	44
Future Volume (vph)	108	26	70	300	30	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.974					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1762	0	1770	1863	1736	1553
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1762	0	1770	1863	1736	1553
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	4%	4%
Adj. Flow (vph)	120	29	78	333	33	49
Shared Lane Traffic (%)						
Lane Group Flow (vph)	149	0	78	333	33	49
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.8%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 2.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	108	26	70	300	30	44
Future Vol, veh/h	108	26	70	300	30	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	120	29	78	333	33	49

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	149
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1432
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1432
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.4	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	492	909	-	-	1432	-
HCM Lane V/C Ratio	0.068	0.054	-	-	0.054	-
HCM Control Delay (s)	12.8	9.2	-	-	7.7	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.2	0.2	-	-	0.2	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	148	4	0	370	0	35
Future Volume (vph)	148	4	0	370	0	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.865
Flt Protected						
Satd. Flow (prot)	1804	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	1804	0	0	1863	0	1611
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Adj. Flow (vph)	164	4	0	411	0	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	168	0	0	411	0	39
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 22.8%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh	0.6					
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↔			↑		↗
Traffic Vol, veh/h	148	4	0	370	0	35
Future Vol, veh/h	148	4	0	370	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	164	4	0	411	0	39

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

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	878	-	-	-
HCM Lane V/C Ratio	0.044	-	-	-
HCM Control Delay (s)	9.3	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2026) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	106	12	440	5	12	9	729	1736	9	17	1680	97
Future Volume (vph)	106	12	440	5	12	9	729	1736	9	17	1680	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	700		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.953			0.999				0.850
Flt Protected		0.957			0.990		0.950			0.950		
Satd. Flow (prot)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Flt Permitted		0.957			0.990		0.950			0.950		
Satd. Flow (perm)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	118	13	489	6	13	10	810	1929	10	19	1867	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	131	489	0	29	0	810	1939	0	19	1867	108
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	19.0	19.0	47.0	13.7	13.7		47.0	133.8		13.5	100.3	19.0
Total Split (%)	10.6%	10.6%	26.1%	7.6%	7.6%		26.1%	74.3%		7.5%	55.7%	10.6%
Maximum Green (s)	12.4	12.4	40.3	7.0	7.0		40.3	127.7		7.0	94.2	12.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		14.0	58.8		8.7		43.8	136.9		8.5	96.2	115.2
Actuated g/C Ratio		0.08	0.33		0.05		0.24	0.76		0.05	0.53	0.64
v/c Ratio		0.95	0.54		0.37		0.97	0.72		0.23	0.99	0.11
Control Delay		143.6	46.3		96.8		90.6	15.0		79.4	45.8	11.0

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2026) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		143.6	46.3		96.8		90.6	15.0		79.4	45.8	11.0
LOS		F	D		F		F	B		E	D	B
Approach Delay		66.8			96.8			37.3			44.2	
Approach LOS		E			F			D			D	
Queue Length 50th (ft)		157	232		34		~508	710		21	672	28
Queue Length 95th (ft)		#305	291		74		#651	794		m29	#1313	m39
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							700			180		260
Base Capacity (vph)		138	911		78		836	2690		83	1891	1013
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.95	0.54		0.37		0.97	0.72		0.23	0.99	0.11

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 68 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 150
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.99
Intersection Signal Delay: 43.6
Intersection Capacity Utilization 92.9%
Analysis Period (min) 15
Intersection LOS: D
ICU Level of Service F

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

			
Ø2 (R)	Ø1	Ø3	Ø4
133.8 s	13.5 s	19 s	13.7 s
			
Ø5	Ø6 (R)		
47 s	100.3 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	218	0	1851	1576	207
Future Volume (vph)	0	218	0	1851	1576	207
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Flt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	242	0	2057	1751	230
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	242	0	2057	1751	230
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 63.7%

ICU Level of Service B

Analysis Period (min) 15

Intersection

Int Delay, s/veh 3.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↗↗	↗↗	↗
Traffic Vol, veh/h	0	218	0	1851	1576	207
Future Vol, veh/h	0	218	0	1851	1576	207
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	242	0	2057	1751	230

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	-	876	-	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	292	0	-	-	0
Stage 1	0	-	0	-	-	0
Stage 2	0	-	0	-	-	0
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	-	292	-	-	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	56.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 292	-
HCM Lane V/C Ratio	- 0.83	-
HCM Control Delay (s)	- 56.9	-
HCM Lane LOS	- F	-
HCM 95th %tile Q(veh)	- 6.9	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Improved (2026) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	  	 
Traffic Volume (vph)	448	112	34	36	52	23	53	1762	36	36	1713	350
Future Volume (vph)	448	112	34	36	52	23	53	1762	36	36	1713	350
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	450		0	160		0	240		0	240		520
Storage Lanes	2		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.965			0.954			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3450	1807	0	1744	1751	0	1778	3546	0	1778	3557	1591
Flt Permitted	0.950			0.481			0.036			0.036		
Satd. Flow (perm)	3450	1807	0	883	1751	0	67	3546	0	67	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	498	124	38	40	58	26	59	1958	40	40	1903	389
Shared Lane Traffic (%)												
Lane Group Flow (vph)	498	162	0	40	84	0	59	1998	0	40	1903	389
Turn Type	Prot	NA		D,P+P	NA		D,P+P	NA		D,P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases				4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	35.1	39.3		12.9	17.1		13.1	115.2		12.6	114.7	35.1
Total Split (%)	19.5%	21.8%		7.2%	9.5%		7.3%	64.0%		7.0%	63.7%	19.5%
Maximum Green (s)	28.8	32.9		7.0	10.7		7.0	109.1		7.0	108.6	28.8
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.3
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	29.2	35.5		41.8	11.6		119.2	114.1		120.2	111.1	145.3
Actuated g/C Ratio	0.16	0.20		0.23	0.06		0.66	0.63		0.67	0.62	0.81
v/c Ratio	0.89	0.46		0.17	0.75		0.49	0.89		0.34	0.87	0.30
Control Delay	92.4	69.0		52.2	118.2		49.6	23.6		24.9	18.4	2.4

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Improved (2026) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	2.9	0.0
Total Delay	92.4	69.0		52.2	118.2		49.6	23.6		24.9	21.3	2.4
LOS	F	E		D	F		D	C		C	C	A
Approach Delay		86.6			96.9			24.3			18.2	
Approach LOS		F			F			C			B	
Queue Length 50th (ft)	300	173		36	99		15	1099		11	526	38
Queue Length 95th (ft)	#387	256		72	#189		m43	1219		m11	380	m46
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	450			160			240			240		520
Base Capacity (vph)	576	356		242	117		121	2248		117	2195	1292
Starvation Cap Reductn	0	0		0	0		0	0		0	197	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.86	0.46		0.17	0.72		0.49	0.89		0.34	0.95	0.30

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 65 (36%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 140
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.89
 Intersection Signal Delay: 31.3
 Intersection Capacity Utilization 81.0%
 Analysis Period (min) 15
 # 95th percentile volume exceeds capacity, queue may be longer.
 Queue shown is maximum after two cycles.
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
 ICU Level of Service D

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave



University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Improved (2026) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	119	15	250	154	20	3	250	1793	191	12	1695	151
Future Volume (vph)	119	15	250	154	20	3	250	1793	191	12	1695	151
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1835	1560	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.039			0.059		
Satd. Flow (perm)	1744	1835	1560	3400	1845	1568	73	3539	1568	109	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		967			755			783			1413	
Travel Time (s)		18.8			14.7			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	132	17	278	171	22	3	278	1992	212	13	1883	168
Shared Lane Traffic (%)												
Lane Group Flow (vph)	132	17	278	171	22	3	278	1992	212	13	1883	168
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	18.4	43.8	26.6	15.2	40.6	13.4	26.6	107.6	15.2	13.4	94.4	18.4
Total Split (%)	10.2%	24.3%	14.8%	8.4%	22.6%	7.4%	14.8%	59.8%	8.4%	7.4%	52.4%	10.2%
Maximum Green (s)	12.0	37.3	20.3	8.6	34.1	7.0	20.3	101.1	8.6	7.0	87.9	12.0
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	13.4	11.0	47.3	11.5	9.1	14.1	142.9	139.9	155.4	144.9	106.2	124.6
Actuated g/C Ratio	0.07	0.06	0.26	0.06	0.05	0.08	0.79	0.78	0.86	0.80	0.59	0.69
v/c Ratio	1.02	0.15	0.68	0.79	0.24	0.02	0.69	0.72	0.16	0.08	0.90	0.15
Control Delay	162.9	82.0	67.5	106.3	88.2	55.3	69.6	7.9	1.7	9.9	39.0	13.5

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Improved (2026) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.9	0.0
Total Delay	162.9	82.0	67.5	106.3	88.2	55.3	69.6	8.3	1.7	9.9	39.9	13.5
LOS	F	F	E	F	F	E	E	A	A	A	D	B
Approach Delay		97.6			103.5			14.6			37.6	
Approach LOS		F			F			B			D	
Queue Length 50th (ft)	~164	19	287	105	26	3	292	370	20	5	706	76
Queue Length 95th (ft)	#318	48	382	#180	60	13	m338	476	m33	m6	#1298	m97
Internal Link Dist (ft)		887			675			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	129	395	409	216	364	122	404	2750	1353	164	2088	1096
Starvation Cap Reductn	0	0	0	0	0	0	0	300	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	63	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.02	0.04	0.68	0.79	0.06	0.02	0.69	0.81	0.16	0.08	0.93	0.15

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 79 (44%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 34.0
Intersection Capacity Utilization 86.5%
Analysis Period (min) 15

Intersection LOS: C
ICU Level of Service E

- ~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
- # 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
- m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

 Ø2 (R)	 Ø1	 Ø3	 Ø4
107.6 s	13.4 s	15.2 s	43.8 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
26.6 s	94.4 s	18.4 s	40.6 s

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Improved (2026) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	109	95	98	233	117	90	118	1652	145	135	1603	18
Future Volume (vph)	109	95	98	233	117	90	118	1652	145	135	1603	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	280		0	420		460	300		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.935				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1742	0	1770	3539	1583	1770	3532	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	3433	1742	0	1770	3539	1583	1770	3532	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	121	106	109	259	130	100	131	1836	161	150	1781	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	121	106	109	259	230	0	131	1836	161	150	1801	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8	5	7	4		5	2		1	6	
Permitted Phases			8						Free			
Detector Phase	3	8	5	7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9	13.8	13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	18.4	36.9	19.4	20.0	38.5		19.4	101.1		22.0	103.7	
Total Split (%)	10.2%	20.5%	10.8%	11.1%	21.4%		10.8%	56.2%		12.2%	57.6%	
Maximum Green (s)	12.0	30.0	12.6	13.2	31.8		12.6	94.3		15.3	97.0	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9	3.8	3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9	0.0	-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0	6.8	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	3.0	4.0	3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0	4.0	3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	13.4	27.1	47.7	15.0	28.7		17.4	99.4	180.0	18.5	100.5	
Actuated g/C Ratio	0.07	0.15	0.26	0.08	0.16		0.10	0.55	1.00	0.10	0.56	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Improved (2026) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.92	0.38	0.26	0.91	0.83		0.77	0.94	0.10	0.83	0.91	
Control Delay	140.2	71.7	53.5	114.0	96.9		102.8	46.4	0.1	110.8	44.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	140.2	71.7	53.5	114.0	96.9		102.8	46.4	0.1	110.8	44.5	
LOS	F	E	D	F	F		F	D	A	F	D	
Approach Delay		90.5			105.9			46.3			49.6	
Approach LOS		F			F			D			D	
Queue Length 50th (ft)	145	114	101	159	266		153	1189	0	174	1011	
Queue Length 95th (ft)	#284	177	161	#246	365		m#258	m#1276	m0	#324	1134	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100		100	280			420		460	300		
Base Capacity (vph)	131	330	419	286	324		170	1955	1583	182	1972	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.92	0.32	0.26	0.91	0.71		0.77	0.94	0.10	0.82	0.91	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 102 (57%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.94

Intersection Signal Delay: 56.6

Intersection LOS: E

Intersection Capacity Utilization 87.5%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
22 s	101.1 s	18.4 s	38.5 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
19.4 s	103.7 s	20 s	36.9 s

University Place TIA
200: Franklin Street & Estes Dr

Improved (2026) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	319	390	96	217	390	229	62	767	186	105	665	380
Future Volume (vph)	319	390	96	217	390	229	62	767	186	105	665	380
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		350
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.970				0.850		0.971				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1816	0	1725	1816	1544	1743	3385	0	1778	3557	1591
Flt Permitted	0.950			0.144			0.950			0.950		
Satd. Flow (perm)	1778	1816	0	262	1816	1544	1743	3385	0	1778	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	354	433	107	241	433	254	69	852	207	117	739	422
Shared Lane Traffic (%)												
Lane Group Flow (vph)	354	540	0	241	433	254	69	1059	0	117	739	422
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases				4		8						6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	12.9
Total Split (s)	36.0	58.8		19.2	42.0	16.0	17.5	56.0		16.0	54.5	36.0
Total Split (%)	24.0%	39.2%		12.8%	28.0%	10.7%	11.7%	37.3%		10.7%	36.3%	24.0%
Maximum Green (s)	30.1	52.9		13.6	36.1	10.1	11.3	50.3		10.1	49.0	30.1
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	3.0
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	2.9
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	31.0	53.2		67.8	36.8	53.0	10.5	51.0		11.2	54.4	89.4
Actuated g/C Ratio	0.21	0.35		0.45	0.25	0.35	0.07	0.34		0.07	0.36	0.60
v/c Ratio	0.97	0.84		0.93	0.97	0.47	0.57	0.92		0.89	0.57	0.45
Control Delay	97.5	57.4		69.7	89.2	39.3	85.3	60.8		120.4	41.7	19.6

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	97.5	57.4		69.7	89.2	39.3	85.3	60.8		120.4	41.7	19.6
LOS	F	E		E	F	D	F	E		F	D	B
Approach Delay		73.3			70.5			62.3			41.6	
Approach LOS		E			E			E			D	
Queue Length 50th (ft)	347	482		165	362	189	67	523		116	315	230
Queue Length 95th (ft)	#550	#645		#294	#657	266	120	#655		#241	393	327
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		350
Base Capacity (vph)	367	651		260	447	545	145	1152		132	1288	949
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.96	0.83		0.93	0.97	0.47	0.48	0.92		0.89	0.57	0.44

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 104 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.97
Intersection Signal Delay: 60.2
Intersection Capacity Utilization 88.0%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: E
ICU Level of Service E

Splits and Phases: 200: Franklin Street & Estes Dr

				
Ø1	Ø2 (R)		Ø3	Ø4
16 s	56 s		19.2 s	58.8 s
				
Ø5	Ø6 (R)		Ø7	Ø8
17.5 s	54.5 s		36 s	42 s

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Improved (2026) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	293	385	3	12	448	31	6	8	7	54	8	382
Future Volume (vph)	293	385	3	12	448	31	6	8	7	54	8	382
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.990			0.955				0.850
Flt Protected	0.950			0.950				0.986			0.958	
Satd. Flow (prot)	1770	3536	0	1770	3504	0	0	1754	0	0	1776	1575
Flt Permitted	0.950			0.501				0.890			0.737	
Satd. Flow (perm)	1770	3536	0	933	3504	0	0	1584	0	0	1366	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	326	428	3	13	498	34	7	9	8	60	9	424
Shared Lane Traffic (%)												
Lane Group Flow (vph)	326	431	0	13	532	0	0	24	0	0	69	424
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	13.2	15.7		21.4	21.4		30.6	30.6		12.9	12.9	13.2
Total Split (s)	20.0	46.0		26.0	26.0		29.0	29.0		29.0	29.0	20.0
Total Split (%)	26.7%	61.3%		34.7%	34.7%		38.7%	38.7%		38.7%	38.7%	26.7%
Maximum Green (s)	13.8	40.3		20.6	20.6		23.4	23.4		23.1	23.1	13.8
Yellow Time (s)	3.0	3.7		3.9	3.9		3.6	3.6		3.9	3.9	3.0
All-Red Time (s)	3.2	2.0		1.5	1.5		2.0	2.0		2.0	2.0	3.2
Lost Time Adjust (s)	-1.2	-0.7		-0.4	-0.4			-0.6			-0.9	-1.2
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				9.0	9.0		18.0	18.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	20.2	59.0		32.8	32.8			9.5			9.6	32.2
Actuated g/C Ratio	0.27	0.79		0.44	0.44			0.13			0.13	0.43
v/c Ratio	0.69	0.15		0.03	0.35			0.12			0.40	0.63
Control Delay	32.0	3.9		16.9	16.9			29.2			36.4	19.9

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Improved (2026) PM
02/12/2021

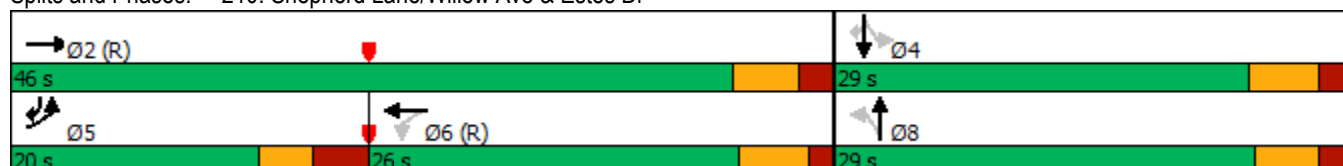
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	32.0	3.9		16.9	16.9			29.2			36.4	19.9
LOS	C	A		B	B			C			D	B
Approach Delay		16.0			16.9			29.2			22.2	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	187	51		4	87			10			30	140
Queue Length 95th (ft)	m266	m63		16	150			30			65	181
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	475	2781		408	1534			506			437	675
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.69	0.15		0.03	0.35			0.05			0.16	0.63

Intersection Summary

Area Type: Other
 Cycle Length: 75
 Actuated Cycle Length: 75
 Offset: 61 (81%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
 Natural Cycle: 70
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.69
 Intersection Signal Delay: 18.1
 Intersection Capacity Utilization 55.4%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
 ICU Level of Service B

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	446	478	13	0	13
Future Volume (vph)	0	446	478	13	0	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.996			0.865
Flt Protected						
Satd. Flow (prot)	0	3505	3525	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3505	3525	0	0	1611
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	496	531	14	0	14
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	496	545	0	0	14
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 23.6%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑			↑
Traffic Vol, veh/h	0	446	478	13	0	13
Future Vol, veh/h	0	446	478	13	0	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	496	531	14	0	14

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	725
HCM Lane V/C Ratio	-	-	-	0.02
HCM Control Delay (s)	-	-	-	10.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.1

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Improved (2026) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	122	323	1	7	429	95	2	0	6	194	0	60
Future Volume (vph)	122	323	1	7	429	95	2	0	6	194	0	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.973			0.895				0.850
Flt Protected	0.950			0.950				0.989			0.950	
Satd. Flow (prot)	1770	3539	0	1770	3444	0	0	1649	0	0	1770	1583
Flt Permitted	0.950			0.950				0.989			0.950	
Satd. Flow (perm)	1770	3539	0	1770	3444	0	0	1649	0	0	1770	1583
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	136	359	1	8	477	106	2	0	7	216	0	67
Shared Lane Traffic (%)												
Lane Group Flow (vph)	136	360	0	8	583	0	0	9	0	0	216	67
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 49.1%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 32.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	122	323	1	7	429	95	2	0	6	194	0	60
Future Vol, veh/h	122	323	1	7	429	95	2	0	6	194	0	60
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	-	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	136	359	1	8	477	106	2	0	7	216	0	67

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	583	0	0	360	0	0	887	1231	180	998	1178	292
Stage 1	-	-	-	-	-	-	632	632	-	546	546	-
Stage 2	-	-	-	-	-	-	255	599	-	452	632	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	987	-	-	1195	-	-	239	176	832	~ 198	189	704
Stage 1	-	-	-	-	-	-	435	472	-	490	516	-
Stage 2	-	-	-	-	-	-	727	489	-	557	472	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	987	-	-	1195	-	-	193	151	832	~ 175	162	704
Mov Cap-2 Maneuver	-	-	-	-	-	-	193	151	-	~ 175	162	-
Stage 1	-	-	-	-	-	-	375	407	-	422	512	-
Stage 2	-	-	-	-	-	-	654	486	-	476	407	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.5	0.1	13.1	152.6
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	455	987	-	-	1195	-	-	175	704
HCM Lane V/C Ratio	0.02	0.137	-	-	0.007	-	-	1.232	0.095
HCM Control Delay (s)	13.1	9.2	-	-	8	-	-	196.5	10.6
HCM Lane LOS	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.1	0.5	-	-	0	-	-	11.9	0.3

Notes

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

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	64	459	484	209	99	47
Future Volume (vph)	64	459	484	209	99	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	71	510	538	232	110	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	71	510	538	232	110	52
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 32.4%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	64	459	484	209	99	47
Future Vol, veh/h	64	459	484	209	99	47
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	71	510	538	232	110	52

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	770	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	840	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	840	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	24.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	840	-	-	-	242	729
HCM Lane V/C Ratio	0.085	-	-	-	0.455	0.072
HCM Control Delay (s)	9.7	-	-	-	31.7	10.3
HCM Lane LOS	A	-	-	-	D	B
HCM 95th %tile Q(veh)	0.3	-	-	-	2.2	0.2

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	558	658	180	0	35
Future Volume (vph)	0	558	658	180	0	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			100	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	5036	3539	1583	0	1611
Flt Permitted						
Satd. Flow (perm)	0	5036	3539	1583	0	1611
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	620	731	200	0	39
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	620	731	200	0	39
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 28.2%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	558	658	180	0	35
Future Vol, veh/h	0	558	658	180	0	35
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	620	731	200	0	39

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	631
HCM Lane V/C Ratio	-	-	-	0.062
HCM Control Delay (s)	-	-	-	11.1
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Improved (2026) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	6	10	0	3	6	313	13	0	428	3
Future Volume (vph)	3	0	6	10	0	3	6	313	13	0	428	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	100			100			100			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.905			0.971			0.995			0.999	
Flt Protected		0.985			0.962			0.999				
Satd. Flow (prot)	0	1660	0	0	1740	0	0	1852	0	1863	1861	0
Flt Permitted		0.985			0.962			0.999				
Satd. Flow (perm)	0	1660	0	0	1740	0	0	1852	0	1863	1861	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	0	7	11	0	3	7	348	14	0	476	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	14	0	0	369	0	0	479	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 32.7%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.5

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

Lane Configurations												
Traffic Vol, veh/h	3	0	6	10	0	3	6	313	13	0	428	3
Future Vol, veh/h	3	0	6	10	0	3	6	313	13	0	428	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	7	11	0	3	7	348	14	0	476	3

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	849	854	478	850	848	355	479	0
Stage 1	478	478	-	369	369	-	-	-
Stage 2	371	376	-	481	479	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-
Pot Cap-1 Maneuver	281	296	587	280	298	689	1083	-
Stage 1	568	556	-	651	621	-	-	-
Stage 2	649	616	-	566	555	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	278	294	587	275	296	689	1083	-
Mov Cap-2 Maneuver	278	294	-	275	296	-	-	-
Stage 1	563	556	-	646	616	-	-	-
Stage 2	641	611	-	560	555	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	16.8	0.2	0
HCM LOS	B	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1083	-	-	428	319	1197	-
HCM Lane V/C Ratio	0.006	-	-	0.023	0.045	-	-
HCM Control Delay (s)	8.3	0	-	13.6	16.8	0	-
HCM Lane LOS	A	A	-	B	C	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.1	0	-

University Place TIA
302: Willow Ave & UPlace Access #7

Improved (2026) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	5	1	5	22	0	25	4	278	37	24	404	5
Future Volume (vph)	5	1	5	22	0	25	4	278	37	24	404	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	100			100			0			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.938				0.850		0.982			0.998	
Flt Protected		0.977			0.950		0.950			0.950		
Satd. Flow (prot)	0	1707	0	0	1687	1509	1770	1829	0	1770	1859	0
Flt Permitted		0.977			0.950		0.950			0.950		
Satd. Flow (perm)	0	1707	0	0	1687	1509	1770	1829	0	1770	1859	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	6	1	6	24	0	28	4	309	41	27	449	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	13	0	0	24	28	4	350	0	27	455	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 33.5%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.3

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

Lane Configurations												
Traffic Vol, veh/h	5	1	5	22	0	25	4	278	37	24	404	5
Future Vol, veh/h	5	1	5	22	0	25	4	278	37	24	404	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	7	7	7	2	2	2	2	2	2
Mvmt Flow	6	1	6	24	0	28	4	309	41	27	449	6

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	858	864	452	848	847	330	455	0
Stage 1	506	506	-	338	338	-	-	-
Stage 2	352	358	-	510	509	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.57	6.27	4.12	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.57	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.57	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.063	3.363	2.218	-
Pot Cap-1 Maneuver	277	292	608	276	293	700	1106	-
Stage 1	549	540	-	666	632	-	-	-
Stage 2	665	628	-	537	530	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	261	284	608	267	285	700	1106	-
Mov Cap-2 Maneuver	261	284	-	267	285	-	-	-
Stage 1	547	528	-	663	629	-	-	-
Stage 2	636	625	-	519	518	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	15.5	14.8	0.1	0.4
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1106	-	-	356 267 700	1209	-	-
HCM Lane V/C Ratio	0.004	-	-	0.034 0.092 0.04	0.022	-	-
HCM Control Delay (s)	8.3	-	-	15.5 19.8 10.4	8	-	-
HCM Lane LOS	A	-	-	C C B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.3 0.1	0.1	-	-

University Place TIA
303: Future Access/Conner Drive & Willow Ave

Improved (2026) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	219	45	65	274	45	40	10	95	80	11	119
Future Volume (vph)	44	219	45	65	274	45	40	10	95	80	11	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.979				0.850		0.924	
Flt Protected	0.950			0.950				0.962			0.981	
Satd. Flow (prot)	1770	1811	0	1752	1824	0	0	1775	1568	0	1688	0
Flt Permitted	0.950			0.950				0.962			0.981	
Satd. Flow (perm)	1770	1811	0	1752	1824	0	0	1775	1568	0	1688	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		345			318			413			387	
Travel Time (s)		6.7			6.2			11.3			10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Adj. Flow (vph)	49	243	50	72	304	50	44	11	106	89	12	132
Shared Lane Traffic (%)												
Lane Group Flow (vph)	49	293	0	72	354	0	0	55	106	0	233	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 49.5%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 10.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	44	219	45	65	274	45	40	10	95	80	11	119
Future Vol, veh/h	44	219	45	65	274	45	40	10	95	80	11	119
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2	3	3	3	2	3	2
Mvmt Flow	49	243	50	72	304	50	44	11	106	89	12	132

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	354	0	0	293	0	0	911	864	268	898	864	329
Stage 1	-	-	-	-	-	-	366	366	-	473	473	-
Stage 2	-	-	-	-	-	-	545	498	-	425	391	-
Critical Hdwy	4.12	-	-	4.13	-	-	7.13	6.53	6.23	7.12	6.53	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.12	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.12	5.53	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.527	4.027	3.327	3.518	4.027	3.318
Pot Cap-1 Maneuver	1205	-	-	1263	-	-	254	291	768	260	291	712
Stage 1	-	-	-	-	-	-	651	621	-	572	557	-
Stage 2	-	-	-	-	-	-	521	543	-	607	605	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1205	-	-	1263	-	-	185	263	768	201	263	712
Mov Cap-2 Maneuver	-	-	-	-	-	-	185	263	-	201	263	-
Stage 1	-	-	-	-	-	-	624	596	-	549	525	-
Stage 2	-	-	-	-	-	-	391	512	-	493	580	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	1.4	17.3	34.5
HCM LOS			C	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	197	768	1205	-	-	1263	-	-	346
HCM Lane V/C Ratio	0.282	0.137	0.041	-	-	0.057	-	-	0.674
HCM Control Delay (s)	30.3	10.4	8.1	-	-	8	-	-	34.5
HCM Lane LOS	D	B	A	-	-	A	-	-	D
HCM 95th %tile Q(veh)	1.1	0.5	0.1	-	-	0.2	-	-	4.7

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	328	66	176	279	105	157
Future Volume (vph)	328	66	176	279	105	157
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1820	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1820	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	364	73	196	310	117	174
Shared Lane Traffic (%)						
Lane Group Flow (vph)	437	0	196	310	117	174
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 46.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 5.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	328	66	176	279	105	157
Future Vol, veh/h	328	66	176	279	105	157
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	364	73	196	310	117	174

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	437
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1123
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1123
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.4	16.9
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	311	649	-	-	1123	-
HCM Lane V/C Ratio	0.375	0.269	-	-	0.174	-
HCM Control Delay (s)	23.4	12.6	-	-	8.9	-
HCM Lane LOS	C	B	-	-	A	-
HCM 95th %tile Q(veh)	1.7	1.1	-	-	0.6	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	475	10	0	455	0	119
Future Volume (vph)	475	10	0	455	0	119
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.865
Flt Protected						
Satd. Flow (prot)	1857	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	1857	0	0	1863	0	1611
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	528	11	0	506	0	132
Shared Lane Traffic (%)						
Lane Group Flow (vph)	539	0	0	506	0	132
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 39.6%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	475	10	0	455	0	119
Future Vol, veh/h	475	10	0	455	0	119
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	528	11	0	506	0	132

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

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	546	-	-	-
HCM Lane V/C Ratio	0.242	-	-	-
HCM Control Delay (s)	13.7	-	-	-
HCM Lane LOS	B	-	-	-
HCM 95th %tile Q(veh)	0.9	-	-	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2028) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	57	8	330	5	8	9	420	1774	3	7	1871	79
Future Volume (vph)	57	8	330	5	8	9	420	1774	3	7	1871	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	850		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.946							0.850
Flt Protected		0.958			0.988		0.950			0.950		
Satd. Flow (prot)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Flt Permitted		0.958			0.988		0.950			0.950		
Satd. Flow (perm)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1260			978	
Travel Time (s)		7.2			17.0			19.1			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	9%	9%	9%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	63	9	367	6	9	10	467	1971	3	8	2079	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	367	0	25	0	467	1974	0	8	2079	88
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	15.0	15.0	33.0	13.7	13.7		33.0	137.8		13.5	118.3	15.0
Total Split (%)	8.3%	8.3%	18.3%	7.6%	7.6%		18.3%	76.6%		7.5%	65.7%	8.3%
Maximum Green (s)	8.4	8.4	26.3	7.0	7.0		26.3	131.7		7.0	112.2	8.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		10.2	43.4		8.7		28.1	146.1		8.5	118.4	130.7
Actuated g/C Ratio		0.06	0.24		0.05		0.16	0.81		0.05	0.66	0.73
v/c Ratio		0.73	0.56		0.32		0.88	0.69		0.10	0.90	0.08
Control Delay		120.3	63.9		94.0		92.3	10.8		72.4	17.3	2.6

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2028) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		120.3	63.9		94.0		92.3	10.8		72.4	17.3	2.6
LOS		F	E		F		F	B		E	B	A
Approach Delay		73.2			94.0			26.4			16.9	
Approach LOS		E			F			C			B	
Queue Length 50th (ft)		86	219		29		282	458		9	295	11
Queue Length 95th (ft)		#178	284		67		#376	762		m12	408	m16
Internal Link Dist (ft)		288			543			1180			898	
Turn Bay Length (ft)							850			180		260
Base Capacity (vph)		100	658		78		538	2845		82	2306	1140
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.72	0.56		0.32		0.87	0.69		0.10	0.90	0.08

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 140
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 26.7
Intersection Capacity Utilization 86.4%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: C
ICU Level of Service E

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

			
Ø2 (R)	Ø1	Ø4	Ø3
137.8 s	13.5 s	13.7 s	15 s
			
Ø5	Ø6 (R)		
33 s	118.3 s		

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	63	0	1840	1894	83
Future Volume (vph)	0	63	0	1840	1894	83
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	400			275
Storage Lanes	0	1	0			1
Taper Length (ft)	0		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1596	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1596	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	70	0	2044	2104	92
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	70	0	2044	2104	92
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 62.9%

ICU Level of Service B

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.5

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	63	0	1840	1894	83
Future Vol, veh/h	0	63	0	1840	1894	83
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	70	0	2044	2104	92

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 1052	-	0 -
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	- 6.96	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	- 3.33	-	-
Pot Cap-1 Maneuver	0 221	0 -	-
Stage 1	0 -	0 -	-
Stage 2	0 -	0 -	-
Platoon blocked, %			-
Mov Cap-1 Maneuver	- 221	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.7	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 221	-
HCM Lane V/C Ratio	- 0.317	-
HCM Control Delay (s)	- 28.7	-
HCM Lane LOS	- D	-
HCM 95th %tile Q(veh)	- 1.3	-

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Improved (2028) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	  	 
Traffic Volume (vph)	133	41	18	62	50	29	52	1739	49	13	1897	305
Future Volume (vph)	133	41	18	62	50	29	52	1739	49	13	1897	305
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	450		0	160		0	240		0	240		520
Storage Lanes	2		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.955			0.945			0.996				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3384	1753	0	1761	1751	0	1778	3543	0	1778	3557	1591
Flt Permitted	0.950			0.672			0.032			0.052		
Satd. Flow (perm)	3384	1753	0	1246	1751	0	60	3543	0	97	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	148	46	20	69	56	32	58	1932	54	14	2108	339
Shared Lane Traffic (%)												
Lane Group Flow (vph)	148	66	0	69	88	0	58	1986	0	14	2108	339
Turn Type	Prot	NA		D,P+P	NA		D,P+P	NA		D,P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases				4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	19.0	32.4		13.0	26.4		13.1	122.0		12.6	121.5	19.0
Total Split (%)	10.6%	18.0%		7.2%	14.7%		7.3%	67.8%		7.0%	67.5%	10.6%
Maximum Green (s)	12.7	26.0		7.1	20.0		7.0	115.9		7.0	115.4	12.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.1
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.2
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	12.7	19.5		27.5	14.8		133.5	132.5		135.5	126.6	144.1
Actuated g/C Ratio	0.07	0.11		0.15	0.08		0.74	0.74		0.75	0.70	0.80
v/c Ratio	0.62	0.35		0.32	0.61		0.46	0.76		0.10	0.84	0.27
Control Delay	92.9	77.7		65.8	97.0		50.2	10.2		4.7	13.4	2.2

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Improved (2028) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	2.6	0.0
Total Delay	92.9	77.7		65.8	97.0		50.2	10.2		4.7	15.9	2.2
LOS	F	E		E	F		D	B		A	B	A
Approach Delay		88.2			83.3			11.3			14.0	
Approach LOS		F			F			B			B	
Queue Length 50th (ft)	89	73		70	103		21	245		2	441	29
Queue Length 95th (ft)	130	124		117	164		m52	765		m2	1048	m33
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	450			160			240			240		520
Base Capacity (vph)	263	266		213	208		125	2607		143	2502	1285
Starvation Cap Reductn	0	0		0	0		0	0		0	274	0
Spillback Cap Reductn	0	0		0	0		0	0		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.56	0.25		0.32	0.42		0.46	0.76		0.10	0.95	0.26

Intersection Summary

Area Type: Other
 Cycle Length: 180
 Actuated Cycle Length: 180
 Offset: 177 (98%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
 Natural Cycle: 150
 Control Type: Actuated-Coordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 18.4
 Intersection Capacity Utilization 71.2%
 Analysis Period (min) 15
 m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
 ICU Level of Service C

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave

											
Ø1	Ø2 (R)					Ø3	Ø4				
12.6 s	122 s					13 s	32.4 s				
											
Ø5	Ø6 (R)					Ø7	Ø8				
13.1 s	121.5 s					19 s	26.4 s				

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Improved (2028) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations				 				 			 	
Traffic Volume (vph)	27	10	146	136	15	15	148	1617	136	2	1933	75
Future Volume (vph)	27	10	146	136	15	15	148	1617	136	2	1933	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1710	1835	1530	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.033			0.090		
Satd. Flow (perm)	1710	1835	1530	3400	1845	1568	61	3539	1568	166	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		958			778			783			1413	
Travel Time (s)		18.7			15.2			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	3%	5%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	30	11	162	151	17	17	164	1797	151	2	2148	83
Shared Lane Traffic (%)												
Lane Group Flow (vph)	30	11	162	151	17	17	164	1797	151	2	2148	83
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	14.0	43.5	16.6	13.6	43.1	13.4	16.6	109.5	13.6	13.4	106.3	14.0
Total Split (%)	7.8%	24.2%	9.2%	7.6%	23.9%	7.4%	9.2%	60.8%	7.6%	7.4%	59.1%	7.8%
Maximum Green (s)	7.6	37.0	10.3	7.0	36.6	7.0	10.3	103.0	7.0	7.0	99.8	7.6
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead	Lead	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	8.8	9.0	28.9	11.4	8.8	16.8	147.8	144.7	163.1	149.8	124.7	138.5
Actuated g/C Ratio	0.05	0.05	0.16	0.06	0.05	0.09	0.82	0.80	0.91	0.83	0.69	0.77
v/c Ratio	0.36	0.12	0.66	0.70	0.19	0.12	0.61	0.63	0.11	0.01	0.88	0.07
Control Delay	95.1	84.4	82.7	97.5	87.0	72.7	60.9	6.8	1.8	4.5	13.7	3.4

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Improved (2028) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.8	0.0
Total Delay	95.1	84.4	82.7	97.5	87.0	72.7	60.9	7.0	1.8	4.5	14.5	3.4
LOS	F	F	F	F	F	E	E	A	A	A	B	A
Approach Delay		84.6			94.3			10.8			14.0	
Approach LOS		F			F			B			B	
Queue Length 50th (ft)	35	13	188	85	20	18	151	269	13	0	310	15
Queue Length 95th (ft)	75	37	252	#171	49	45	m230	356	m39	m0	421	m19
Internal Link Dist (ft)		878			698			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	85	392	245	215	390	146	269	2845	1420	212	2451	1220
Starvation Cap Reductn	0	0	0	0	0	0	0	255	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	101	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.35	0.03	0.66	0.70	0.04	0.12	0.61	0.69	0.11	0.01	0.91	0.07

Intersection Summary

Area Type: Other
Cycle Length: 180
Actuated Cycle Length: 180
Offset: 175 (97%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green
Natural Cycle: 145
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 18.8
Intersection Capacity Utilization 84.7%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
ICU Level of Service E

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

											
Ø1	Ø2 (R)		Ø3	Ø4		Ø5	Ø6 (R)	Ø7	Ø8		
13.4 s	109.5 s		13.6 s	43.5 s		16.6 s	106.3 s	14 s	43.1 s		

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Improved (2028) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	76	53	50	203	94	103	80	1466	113	82	1730	7
Future Volume (vph)	76	53	50	203	94	103	80	1466	113	82	1730	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	280		0	420		460	300		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.922				0.850		0.999	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3367	1684	0	1770	3539	1583	1770	3536	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	3367	1684	0	1770	3539	1583	1770	3536	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	4%	4%	4%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	84	59	56	226	104	114	89	1629	126	91	1922	8
Shared Lane Traffic (%)												
Lane Group Flow (vph)	84	59	56	226	218	0	89	1629	126	91	1930	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8	5	7	4		5	2		1	6	
Permitted Phases			8						Free			
Detector Phase	3	8	5	7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9	13.8	13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	17.0	36.9	16.0	19.0	38.9		16.0	106.2		17.9	108.1	
Total Split (%)	9.4%	20.5%	8.9%	10.6%	21.6%		8.9%	59.0%		9.9%	60.1%	
Maximum Green (s)	10.6	30.0	9.2	12.2	32.2		9.2	99.4		11.2	101.4	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9	3.8	3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9	0.0	-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0	6.8	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lag	Lead	Lag		Lag	Lag		Lead	Lead	
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	3.0	4.0	3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0	4.0	3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	11.5	25.9	33.3	14.0	28.4		11.0	106.8	180.0	13.3	109.1	
Actuated g/C Ratio	0.06	0.14	0.18	0.08	0.16		0.06	0.59	1.00	0.07	0.61	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Improved (2028) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.74	0.22	0.19	0.87	0.82		0.82	0.78	0.08	0.70	0.90	
Control Delay	117.2	68.1	43.9	110.8	97.0		108.3	17.7	0.1	107.3	38.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	117.2	68.1	43.9	110.8	97.0		108.3	17.7	0.1	107.3	38.5	
LOS	F	E	D	F	F		F	B	A	F	D	
Approach Delay		82.0			104.0			20.8			41.6	
Approach LOS		F			F			C			D	
Queue Length 50th (ft)	99	62	46	138	252		107	748	0	105	1030	
Queue Length 95th (ft)	#188	109	81	#217	347		m#209	583	0	#199	#1236	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100		100	280			420		460	300		
Base Capacity (vph)	118	330	292	261	317		108	2099	1583	135	2143	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.71	0.18	0.19	0.87	0.69		0.82	0.78	0.08	0.67	0.90	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 8 (4%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.90

Intersection Signal Delay: 41.0

Intersection LOS: D

Intersection Capacity Utilization 87.6%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

 Ø1	 Ø2 (R)	 Ø3	 Ø4
17.9 s	106.2 s	17 s	38.9 s
 Ø6 (R)	 Ø5	 Ø7	 Ø8
108.1 s	16 s	19 s	36.9 s

University Place TIA
200: Franklin Street & Estes Dr

Improved (2028) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	354	346	55	129	279	84	56	419	102	96	541	214
Future Volume (vph)	354	346	55	129	279	84	56	419	102	96	541	214
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		350
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.979				0.850		0.971				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1761	1815	0	1692	1781	1514	1710	3320	0	1744	3489	1561
Flt Permitted	0.950			0.282			0.950			0.950		
Satd. Flow (perm)	1761	1815	0	502	1781	1514	1710	3320	0	1744	3489	1561
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	393	384	61	143	310	93	62	466	113	107	601	238
Shared Lane Traffic (%)												
Lane Group Flow (vph)	393	445	0	143	310	93	62	579	0	107	601	238
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases				4		8						6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	12.9
Total Split (s)	41.0	60.1		14.9	34.0	17.0	15.4	38.0		17.0	39.6	41.0
Total Split (%)	31.5%	46.2%		11.5%	26.2%	13.1%	11.8%	29.2%		13.1%	30.5%	31.5%
Maximum Green (s)	35.1	54.2		9.3	28.1	11.1	9.2	32.3		11.1	34.1	35.1
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	3.0
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	2.9
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	33.0	49.1		59.2	26.2	42.6	9.3	39.4		11.5	44.2	81.3
Actuated g/C Ratio	0.25	0.38		0.46	0.20	0.33	0.07	0.30		0.09	0.34	0.63
v/c Ratio	0.88	0.65		0.45	0.87	0.19	0.51	0.58		0.70	0.51	0.24
Control Delay	67.5	37.5		23.7	76.0	31.5	72.8	43.0		81.0	38.9	13.1

University Place TIA
200: Franklin Street & Estes Dr

Improved (2028) AM
02/12/2021

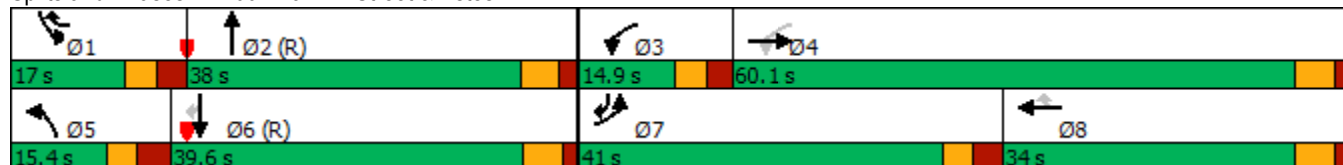
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	67.5	37.5		23.7	76.0	31.5	72.8	43.0		81.0	38.9	13.1
LOS	E	D		C	E	C	E	D		F	D	B
Approach Delay		51.6			54.7			45.8			37.2	
Approach LOS		D			D			D			D	
Queue Length 50th (ft)	313	294		63	264	55	51	232		88	229	93
Queue Length 95th (ft)	#464	393		100	#391	93	99	299		#169	302	146
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		350
Base Capacity (vph)	492	769		325	397	505	136	1015		164	1195	1016
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.80	0.58		0.44	0.78	0.18	0.46	0.57		0.65	0.50	0.23

Intersection Summary

Area Type: Other
Cycle Length: 130
Actuated Cycle Length: 130
Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.88
Intersection Signal Delay: 46.3
Intersection Capacity Utilization 71.8%
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: D
ICU Level of Service C

Splits and Phases: 200: Franklin Street & Estes Dr



University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Improved (2028) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	183	357	4	6	278	39	3	9	11	25	5	211
Future Volume (vph)	183	357	4	6	278	39	3	9	11	25	5	211
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			0			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.982			0.935				0.850
Flt Protected	0.950			0.950				0.994			0.960	
Satd. Flow (prot)	1736	3468	0	1752	3442	0	0	1715	0	0	1745	1545
Flt Permitted	0.950			0.516				0.951			0.986	
Satd. Flow (perm)	1736	3468	0	952	3442	0	0	1641	0	0	1792	1545
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	4%	4%	4%	4%	4%	4%
Adj. Flow (vph)	203	397	4	7	309	43	3	10	12	28	6	234
Shared Lane Traffic (%)												
Lane Group Flow (vph)	203	401	0	7	352	0	0	25	0	0	34	234
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	12.1	15.1		22.2	22.2		28.7	28.7		12.8	12.8	12.1
Total Split (s)	18.0	42.0		24.0	24.0		23.0	23.0		23.0	23.0	18.0
Total Split (%)	27.7%	64.6%		36.9%	36.9%		35.4%	35.4%		35.4%	35.4%	27.7%
Maximum Green (s)	12.9	36.9		18.8	18.8		17.3	17.3		17.2	17.2	12.9
Yellow Time (s)	3.0	3.8		3.8	3.8		3.3	3.3		3.8	3.8	3.0
All-Red Time (s)	2.1	1.3		1.4	1.4		2.4	2.4		2.0	2.0	2.1
Lost Time Adjust (s)	-0.1	-0.1		-0.2	-0.2			-0.7			-0.8	-0.8
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	4.3
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		1.0	1.0		1.0	1.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				10.0	10.0		16.0	16.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	12.2	57.8		37.6	37.6			7.8			7.9	18.1
Actuated g/C Ratio	0.19	0.89		0.58	0.58			0.12			0.12	0.28
v/c Ratio	0.62	0.13		0.01	0.18			0.13			0.16	0.55
Control Delay	24.4	2.5		10.5	8.9			27.2			27.5	22.8

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Improved (2028) AM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	24.4	2.5		10.5	8.9			27.2			27.5	22.8
LOS	C	A		B	A			C			C	C
Approach Delay		9.9			8.9			27.2			23.4	
Approach LOS		A			A			C			C	
Queue Length 50th (ft)	75	0		1	25			9			12	85
Queue Length 95th (ft)	98	52		8	74			28			35	102
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	366	3084		551	1991			454			496	466
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.55	0.13		0.01	0.18			0.06			0.07	0.50

Intersection Summary

Area Type: Other

Cycle Length: 65

Actuated Cycle Length: 65

Offset: 0 (0%), Referenced to phase 2:EBT and 6:WBTL, Start of Green

Natural Cycle: 65

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.62

Intersection Signal Delay: 12.8

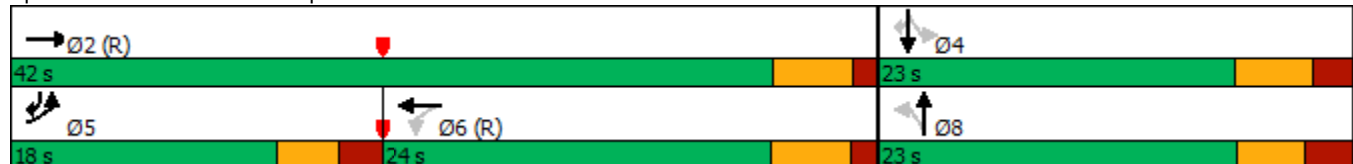
Intersection LOS: B

Intersection Capacity Utilization 39.7%

ICU Level of Service A

Analysis Period (min) 15

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	393	319	7	0	4
Future Volume (vph)	0	393	319	7	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.997			0.865
Flt Protected						
Satd. Flow (prot)	0	3438	3494	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3438	3494	0	0	1611
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	3%	3%	2%	2%
Adj. Flow (vph)	0	437	354	8	0	4
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	437	362	0	0	4
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 19.0%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations   

Traffic Vol, veh/h 0 393 319 7 0 4

Future Vol, veh/h 0 393 319 7 0 4

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - - 0

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 90 90 90 90 90 90

Heavy Vehicles, % 5 5 3 3 2 2

Mvmt Flow 0 437 354 8 0 4

Major/Minor Major1 Major2 Minor2

Conflicting Flow All - 0 - 0 - 181

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 - - - 0 831

Stage 1 0 - - - 0 -

Stage 2 0 - - - 0 -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver - - - - - 831

Mov Cap-2 Maneuver - - - - -

Stage 1 - - - - -

Stage 2 - - - - -

Approach EB WB SB

HCM Control Delay, s 0 0 9.4

HCM LOS A

Minor Lane/Major Mvmt EBT WBT WBR SBLn1

Capacity (veh/h) - - - 831

HCM Lane V/C Ratio - - - 0.005

HCM Control Delay (s) - - - 9.4

HCM Lane LOS - - - A

HCM 95th %tile Q(veh) - - - 0

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Improved (2028) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	61	327	5	5	301	40	8	0	12	59	0	17
Future Volume (vph)	61	327	5	5	301	40	8	0	12	59	0	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		100	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	100			100			0			0		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998				0.850		0.920				0.850
Flt Protected	0.950			0.950				0.980			0.950	
Satd. Flow (prot)	1736	3464	0	1752	3505	1568	0	1679	0	0	1719	1538
Flt Permitted	0.950			0.950				0.980			0.950	
Satd. Flow (perm)	1736	3464	0	1752	3505	1568	0	1679	0	0	1719	1538
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	2%	2%	2%	5%	5%	5%
Adj. Flow (vph)	68	363	6	6	334	44	9	0	13	66	0	19
Shared Lane Traffic (%)												
Lane Group Flow (vph)	68	369	0	6	334	44	0	22	0	0	66	19
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 30.4%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	61	327	5	5	301	40	8	0	12	59	0	17
Future Vol, veh/h	61	327	5	5	301	40	8	0	12	59	0	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	100	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	4	3	3	3	2	2	2	5	5	5
Mvmt Flow	68	363	6	6	334	44	9	0	13	66	0	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	378	0	0	369	0	0	681	892	185	664	851	167
Stage 1	-	-	-	-	-	-	502	502	-	346	346	-
Stage 2	-	-	-	-	-	-	179	390	-	318	505	-
Critical Hdwy	4.18	-	-	4.16	-	-	7.54	6.54	6.94	7.6	6.6	7
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.6	5.6	-
Follow-up Hdwy	2.24	-	-	2.23	-	-	3.52	4.02	3.32	3.55	4.05	3.35
Pot Cap-1 Maneuver	1163	-	-	1179	-	-	336	280	826	340	290	839
Stage 1	-	-	-	-	-	-	520	540	-	635	626	-
Stage 2	-	-	-	-	-	-	805	606	-	659	531	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1163	-	-	1179	-	-	312	262	826	318	272	839
Mov Cap-2 Maneuver	-	-	-	-	-	-	312	262	-	318	272	-
Stage 1	-	-	-	-	-	-	490	509	-	598	623	-
Stage 2	-	-	-	-	-	-	783	603	-	610	500	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.3	0.1	12.6	17
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	498	1163	-	-	1179	-	-	318	839
HCM Lane V/C Ratio	0.045	0.058	-	-	0.005	-	-	0.206	0.023
HCM Control Delay (s)	12.6	8.3	-	-	8.1	-	-	19.2	9.4
HCM Lane LOS	B	A	-	-	A	-	-	C	A
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	0.8	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	32	366	332	99	29	14
Future Volume (vph)	32	366	332	99	29	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				0	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1736	3471	3505	1568	1719	1538
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1736	3471	3505	1568	1719	1538
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	5%	5%
Adj. Flow (vph)	36	407	369	110	32	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	36	407	369	110	32	16
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 25.8%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	32	366	332	99	29	14
Future Vol, veh/h	32	366	332	99	29	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	5	5
Mvmt Flow	36	407	369	110	32	16

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	479	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.18	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.24	-	-
Pot Cap-1 Maneuver	1066	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	1066	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	13.3
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1066	-	-	-	384	816
HCM Lane V/C Ratio	0.033	-	-	-	0.084	0.019
HCM Control Delay (s)	8.5	-	-	-	15.2	9.5
HCM Lane LOS	A	-	-	-	C	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3	0.1

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	395	421	86	0	10
Future Volume (vph)	0	395	421	86	0	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			100	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	0				0	
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	4940	3471	1553	0	1580
Flt Permitted						
Satd. Flow (perm)	0	4940	3471	1553	0	1580
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	4%	4%	4%	4%
Adj. Flow (vph)	0	439	468	96	0	11
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	439	468	96	0	11
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 21.6%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations ↑↑↑ ↑↑ ↑

Traffic Vol, veh/h 0 395 421 86 0 10

Future Vol, veh/h 0 395 421 86 0 10

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - 100 - 0

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 90 90 90 90 90 90

Heavy Vehicles, % 5 5 4 4 4 4

Mvmt Flow 0 439 468 96 0 11

Major/Minor Major1 Major2 Minor2

Conflicting Flow All - 0 - 0 - 234

Stage 1 - - - - -

Stage 2 - - - - -

Critical Hdwy - - - - - 6.98

Critical Hdwy Stg 1 - - - - -

Critical Hdwy Stg 2 - - - - -

Follow-up Hdwy - - - - - 3.34

Pot Cap-1 Maneuver 0 - - - 0 762

Stage 1 0 - - - 0 -

Stage 2 0 - - - 0 -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver - - - - - 762

Mov Cap-2 Maneuver - - - - -

Stage 1 - - - - -

Stage 2 - - - - -

Approach EB WB SB

HCM Control Delay, s 0 0 9.8

HCM LOS A

Minor Lane/Major Mvmt EBT WBT WBR SBLn1

Capacity (veh/h) - - - 762

HCM Lane V/C Ratio - - - 0.015

HCM Control Delay (s) - - - 9.8

HCM Lane LOS - - - A

HCM 95th %tile Q(veh) - - - 0

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Improved (2028) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	1	0	3	0	1	4	220	7	0	238	2
Future Volume (vph)	3	1	0	3	0	1	4	220	7	0	238	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	0			0			0			25		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt					0.966			0.996			0.999	
Flt Protected		0.964			0.964			0.999				
Satd. Flow (prot)	0	1796	0	0	1735	0	0	1818	0	1845	1843	0
Flt Permitted		0.964			0.964			0.999				
Satd. Flow (perm)	0	1796	0	0	1735	0	0	1818	0	1845	1843	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	3%	3%	3%
Adj. Flow (vph)	3	1	0	3	0	1	4	244	8	0	264	2
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	4	0	0	256	0	0	266	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 25.2%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	1	0	3	0	1	4	220	7	0	238	2
Future Vol, veh/h	3	1	0	3	0	1	4	220	7	0	238	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	4	4	4	3	3	3
Mvmt Flow	3	1	0	3	0	1	4	244	8	0	264	2

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	522	525	265	522	522	248	266	0	0	252	0	0
Stage 1	265	265	-	256	256	-	-	-	-	-	-	-
Stage 2	257	260	-	266	266	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.14	-	-	4.13	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.236	-	-	2.227	-	-
Pot Cap-1 Maneuver	465	458	774	465	459	791	1286	-	-	1307	-	-
Stage 1	740	689	-	749	696	-	-	-	-	-	-	-
Stage 2	748	693	-	739	689	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	463	456	774	463	457	791	1286	-	-	1307	-	-
Mov Cap-2 Maneuver	463	456	-	463	457	-	-	-	-	-	-	-
Stage 1	737	689	-	746	693	-	-	-	-	-	-	-
Stage 2	744	690	-	738	689	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	12.9	12	0.1	0
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1286	-	-	461 517	1307	-	-
HCM Lane V/C Ratio	0.003	-	-	0.01 0.009	-	-	-
HCM Control Delay (s)	7.8	0	-	12.9 12	0	-	-
HCM Lane LOS	A	A	-	B B	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0	0	-	-

University Place TIA
302: Willow Ave & UPlace Access #7

Improved (2028) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	2	0	2	7	0	7	6	200	18	12	231	3
Future Volume (vph)	2	0	2	7	0	7	6	200	18	12	231	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	0			0			25			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.932				0.850		0.988			0.998	
Flt Protected		0.976			0.950		0.950			0.950		
Satd. Flow (prot)	0	1694	0	0	1641	1468	1752	1823	0	1752	1841	0
Flt Permitted		0.976			0.950		0.950			0.950		
Satd. Flow (perm)	0	1694	0	0	1641	1468	1752	1823	0	1752	1841	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	2	0	2	8	0	8	7	222	20	13	257	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	4	0	0	8	8	7	242	0	13	260	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 28.3%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.7

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

Lane Configurations												
Traffic Vol, veh/h	2	0	2	7	0	7	6	200	18	12	231	3
Future Vol, veh/h	2	0	2	7	0	7	6	200	18	12	231	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	10	10	10	3	3	3	3	3	3
Mvmt Flow	2	0	2	8	0	8	7	222	20	13	257	3

Major/Minor	Minor2		Minor1		Major1		Major2	
Conflicting Flow All	535	541	259	532	532	232	260	0
Stage 1	285	285	-	246	246	-	-	-
Stage 2	250	256	-	286	286	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.2	6.6	6.3	4.13	-
Critical Hdwy Stg 1	6.12	5.52	-	6.2	5.6	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.2	5.6	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.59	4.09	3.39	2.227	-
Pot Cap-1 Maneuver	456	448	780	446	442	788	1299	-
Stage 1	722	676	-	740	688	-	-	-
Stage 2	754	696	-	704	661	-	-	-
Platoon blocked, %								-
Mov Cap-1 Maneuver	446	441	780	440	435	788	1299	-
Mov Cap-2 Maneuver	446	441	-	440	435	-	-	-
Stage 1	718	669	-	736	685	-	-	-
Stage 2	743	693	-	695	654	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	11.4	11.5	0.2	0.4
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1299	-	-	568 440 788	1319	-	-
HCM Lane V/C Ratio	0.005	-	-	0.008 0.018 0.01	0.01	-	-
HCM Control Delay (s)	7.8	-	-	11.4 13.3 9.6	7.8	-	-
HCM Lane LOS	A	-	-	B B A	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0 0.1 0	0	-	-

University Place TIA
303: Future Access/Conner Drive & Willow Ave

Improved (2028) AM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	84	101	24	36	199	111	13	4	30	17	6	34
Future Volume (vph)	84	101	24	36	199	111	13	4	30	17	6	34
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			0			100			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.971			0.946				0.850		0.920	
Flt Protected	0.950			0.950				0.963			0.985	
Satd. Flow (prot)	1736	1777	0	1752	1762	0	0	1776	1568	0	1629	0
Flt Permitted	0.950			0.950				0.963			0.985	
Satd. Flow (perm)	1736	1777	0	1752	1762	0	0	1776	1568	0	1629	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		345			318			321			387	
Travel Time (s)		6.7			6.2			8.8			10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	4%	4%	3%	3%	2%	2%	3%	3%	3%	6%	3%	6%
Adj. Flow (vph)	93	112	27	40	221	123	14	4	33	19	7	38
Shared Lane Traffic (%)												
Lane Group Flow (vph)	93	139	0	40	344	0	0	18	33	0	64	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 41.9%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh	3.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	84	101	24	36	199	111	13	4	30	17	6	34
Future Vol, veh/h	84	101	24	36	199	111	13	4	30	17	6	34
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	4	4	3	3	2	2	3	3	3	6	3	6
Mvmt Flow	93	112	27	40	221	123	14	4	33	19	7	38

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	344	0	0	139	0	0	697	736	126	693	688	283
Stage 1	-	-	-	-	-	-	312	312	-	363	363	-
Stage 2	-	-	-	-	-	-	385	424	-	330	325	-
Critical Hdwy	4.14	-	-	4.13	-	-	7.13	6.53	6.23	7.16	6.53	6.26
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.16	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.16	5.53	-
Follow-up Hdwy	2.236	-	-	2.227	-	-	3.527	4.027	3.327	3.554	4.027	3.354
Pot Cap-1 Maneuver	1204	-	-	1438	-	-	354	345	922	352	368	746
Stage 1	-	-	-	-	-	-	696	656	-	648	623	-
Stage 2	-	-	-	-	-	-	636	585	-	675	647	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1204	-	-	1438	-	-	305	309	922	309	330	746
Mov Cap-2 Maneuver	-	-	-	-	-	-	305	309	-	309	330	-
Stage 1	-	-	-	-	-	-	642	605	-	598	606	-
Stage 2	-	-	-	-	-	-	581	569	-	596	597	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.3	0.8	12.1	13.6
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	306	922	1204	-	-	1438	-	-	480
HCM Lane V/C Ratio	0.062	0.036	0.078	-	-	0.028	-	-	0.132
HCM Control Delay (s)	17.5	9.1	8.2	-	-	7.6	-	-	13.6
HCM Lane LOS	C	A	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.2	0.1	0.3	-	-	0.1	-	-	0.5

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	113	35	94	313	33	48
Future Volume (vph)	113	35	94	313	33	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.968					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1752	0	1770	1863	1736	1553
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1752	0	1770	1863	1736	1553
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	4%	4%
Adj. Flow (vph)	126	39	104	348	37	53
Shared Lane Traffic (%)						
Lane Group Flow (vph)	165	0	104	348	37	53
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 26.6%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	113	35	94	313	33	48
Future Vol, veh/h	113	35	94	313	33	48
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	4	4
Mvmt Flow	126	39	104	348	37	53

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	165
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	4.12
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	2.218
Pot Cap-1 Maneuver	-	-	1413
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	1413
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.8	11.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBT	EBR	WBL	WBT
Capacity (veh/h)	448	896	-	-	1413	-
HCM Lane V/C Ratio	0.082	0.06	-	-	0.074	-
HCM Control Delay (s)	13.8	9.3	-	-	7.8	-
HCM Lane LOS	B	A	-	-	A	-
HCM 95th %tile Q(veh)	0.3	0.2	-	-	0.2	-

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	155	6	0	407	0	37
Future Volume (vph)	155	6	0	407	0	37
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			100		0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.995					0.865
Flt Protected						
Satd. Flow (prot)	1800	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	1800	0	0	1863	0	1611
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	2%	2%	2%	2%
Adj. Flow (vph)	172	7	0	452	0	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	179	0	0	452	0	41
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 24.8%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	155	6	0	407	0	37
Future Vol, veh/h	155	6	0	407	0	37
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	5	5	2	2	2	2
Mvmt Flow	172	7	0	452	0	41

Major/Minor	Major1	Major2	Minor1
Conflicting Flow All	0	0	- - - 176
Stage 1	-	-	- - -
Stage 2	-	-	- - -
Critical Hdwy	-	-	- - - 6.22
Critical Hdwy Stg 1	-	-	- - -
Critical Hdwy Stg 2	-	-	- - -
Follow-up Hdwy	-	-	- - - 3.318
Pot Cap-1 Maneuver	-	-	0 - 0 867
Stage 1	-	-	0 - 0
Stage 2	-	-	0 - 0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	- - - 867
Mov Cap-2 Maneuver	-	-	- - -
Stage 1	-	-	- - -
Stage 2	-	-	- - -

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

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	867	-	-	-
HCM Lane V/C Ratio	0.047	-	-	-
HCM Control Delay (s)	9.4	-	-	-
HCM Lane LOS	A	-	-	-
HCM 95th %tile Q(veh)	0.1	-	-	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2028) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 		 	 			 	
Traffic Volume (vph)	114	12	493	5	12	9	787	1764	9	17	1762	97
Future Volume (vph)	114	12	493	5	12	9	787	1764	9	17	1762	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	850		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.953			0.999				0.850
Flt Protected		0.957			0.990		0.950			0.950		
Satd. Flow (prot)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Flt Permitted		0.957			0.990		0.950			0.950		
Satd. Flow (perm)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1377			978	
Travel Time (s)		7.2			17.0			20.9			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	127	13	548	6	13	10	874	1960	10	19	1958	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	140	548	0	29	0	874	1970	0	19	1958	108
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	19.0	19.0	48.0	13.7	13.7		48.0	133.8		13.5	99.3	19.0
Total Split (%)	10.6%	10.6%	26.7%	7.6%	7.6%		26.7%	74.3%		7.5%	55.2%	10.6%
Maximum Green (s)	12.4	12.4	41.3	7.0	7.0		41.3	127.7		7.0	93.2	12.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		14.0	60.7		8.7		45.7	136.9		8.5	94.3	113.3
Actuated g/C Ratio		0.08	0.34		0.05		0.25	0.76		0.05	0.52	0.63
v/c Ratio		1.01	0.58		0.37		1.00	0.73		0.23	1.06	0.11
Control Delay		158.4	47.4		96.8		96.0	15.4		79.2	66.0	11.3

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2028) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		158.4	47.4		96.8		96.0	15.4		79.2	66.0	11.3
LOS		F	D		F		F	B		E	E	B
Approach Delay		70.0			96.8			40.1			63.3	
Approach LOS		E			F			D			E	
Queue Length 50th (ft)		~171	264		34		~584	735		21	~1313	30
Queue Length 95th (ft)		#329	327		74		#721	822		m28	#1441	m38
Internal Link Dist (ft)		288			543			1297			898	
Turn Bay Length (ft)							850			180		260
Base Capacity (vph)		138	940		78		872	2690		83	1854	996
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		1.01	0.58		0.37		1.00	0.73		0.23	1.06	0.11

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 68 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 52.6

Intersection LOS: D

Intersection Capacity Utilization 97.3%

ICU Level of Service F

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

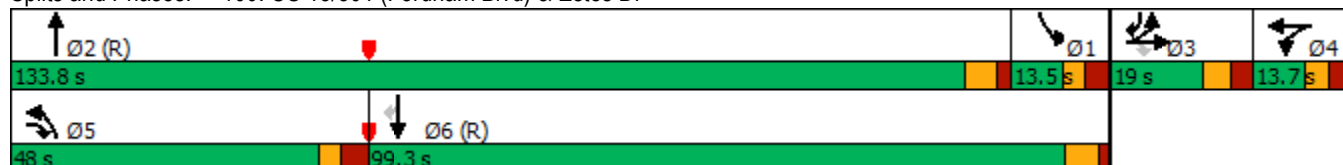
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr



						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (vph)	0	254	0	1887	1622	232
Future Volume (vph)	0	254	0	1887	1622	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	0			275
Storage Lanes	0	1	0			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected						
Satd. Flow (prot)	0	1611	0	3539	3539	1583
Flt Permitted						
Satd. Flow (perm)	0	1611	0	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	282	0	2097	1802	258
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	282	0	2097	1802	258
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 67.2%
Analysis Period (min) 15

ICU Level of Service C

Intersection

Int Delay, s/veh 6.4

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	254	0	1887	1622	232
Future Vol, veh/h	0	254	0	1887	1622	232
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	-	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	282	0	2097	1802	258

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	- 901	- 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 ~ 281	0 -	- 0
Stage 1	0 -	0 -	- 0
Stage 2	0 -	0 -	- 0
Platoon blocked, %		- -	- -
Mov Cap-1 Maneuver	- ~ 281	- -	- -
Mov Cap-2 Maneuver	- -	- -	- -
Stage 1	- -	- -	- -
Stage 2	- -	- -	- -

Approach	EB	NB	SB
HCM Control Delay, s	94.9	0	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBT EBLn1	SBT
Capacity (veh/h)	- 281	-
HCM Lane V/C Ratio	- 1.004	-
HCM Control Delay (s)	- 94.9	-
HCM Lane LOS	- F	-
HCM 95th %tile Q(veh)	- 10.4	-

Notes

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

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Improved (2028) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	 			 	 		 	  		 	  	
Traffic Volume (vph)	519	113	36	37	54	24	54	1796	37	36	1781	375
Future Volume (vph)	519	113	36	37	54	24	54	1796	37	36	1781	375
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			-1%	
Storage Length (ft)	450		0	160		0	240		0	240		520
Storage Lanes	2		0	1		0	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	0.97	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.964			0.953			0.997				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	3450	1805	0	1744	1749	0	1778	3546	0	1778	3557	1591
Flt Permitted	0.950			0.489			0.037			0.037		
Satd. Flow (perm)	3450	1805	0	898	1749	0	69	3546	0	69	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		469			518			948			783	
Travel Time (s)		9.1			10.1			14.4			11.9	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	577	126	40	41	60	27	60	1996	41	40	1979	417
Shared Lane Traffic (%)												
Lane Group Flow (vph)	577	166	0	41	87	0	60	2037	0	40	1979	417
Turn Type	Prot	NA		D.P+P	NA		D.P+P	NA		D.P+P	NA	pm+ov
Protected Phases	7	4		3	8		5	2		1	6	7
Permitted Phases				4			6			2		6
Detector Phase	7	4		3	8		5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.3	32.4		12.9	13.4		13.1	18.1		12.6	20.1	13.3
Total Split (s)	38.0	41.1		12.9	16.0		13.1	113.4		12.6	112.9	38.0
Total Split (%)	21.1%	22.8%		7.2%	8.9%		7.3%	63.0%		7.0%	62.7%	21.1%
Maximum Green (s)	31.7	34.7		7.0	9.6		7.0	107.3		7.0	106.8	31.7
Yellow Time (s)	3.0	3.9		3.0	3.9		3.0	4.6		3.0	4.6	3.0
All-Red Time (s)	3.3	2.5		2.9	2.5		3.1	1.5		2.6	1.5	3.3
Lost Time Adjust (s)	-1.3	-1.4		-0.9	-1.4		-1.1	-1.1		-0.6	-1.1	-1.3
Total Lost Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lag		Lead	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None		None	C-Max		None	C-Max	None
Walk Time (s)		4.0									5.0	
Flash Dont Walk (s)		22.0									9.0	
Pedestrian Calls (#/hr)		0									0	
Act Effect Green (s)	32.6	38.2		44.5	10.9		116.5	111.4		117.5	108.4	146.0
Actuated g/C Ratio	0.18	0.21		0.25	0.06		0.65	0.62		0.65	0.60	0.81
v/c Ratio	0.92	0.43		0.16	0.83		0.50	0.93		0.34	0.92	0.32
Control Delay	93.6	66.6		50.7	131.5		48.2	28.0		25.2	22.1	2.2

University Place TIA
110: US 15/501 (Fordham Blvd) & Willow Ave

Improved (2028) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.4		0.0	12.4	0.0
Total Delay	93.6	66.6		50.7	131.5		48.2	28.5		25.2	34.5	2.2
LOS	F	E		D	F		D	C		C	C	A
Approach Delay		87.6			105.6			29.0			28.8	
Approach LOS		F			F			C			C	
Queue Length 50th (ft)	350	175		37	104		16	1175		11	557	38
Queue Length 95th (ft)	#457	259		72	#212		m41	m1290		m12	m537	m45
Internal Link Dist (ft)		389			438			868			703	
Turn Bay Length (ft)	450			160			240			240		520
Base Capacity (vph)	632	383		258	106		121	2195		117	2142	1294
Starvation Cap Reductn	0	0		0	0		0	0		0	193	0
Spillback Cap Reductn	0	0		0	0		0	22		0	0	0
Storage Cap Reductn	0	0		0	0		0	0		0	0	0
Reduced v/c Ratio	0.91	0.43		0.16	0.82		0.50	0.94		0.34	1.02	0.32

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 65 (36%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.93

Intersection Signal Delay: 38.8

Intersection LOS: D

Intersection Capacity Utilization 84.0%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 110: US 15/501 (Fordham Blvd) & Willow Ave



University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Improved (2028) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	120	15	254	156	20	3	256	1888	195	12	1782	152
Future Volume (vph)	120	15	254	156	20	3	256	1888	195	12	1782	152
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			0%			0%			0%	
Storage Length (ft)	0		150	350		150	320		150	200		180
Storage Lanes	1		1	2		1	1		1	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Frt			0.850			0.850			0.850			0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1744	1835	1560	3400	1845	1568	1770	3539	1568	1752	3539	1583
Flt Permitted	0.950			0.950			0.039			0.048		
Satd. Flow (perm)	1744	1835	1560	3400	1845	1568	73	3539	1568	89	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		967			755			783			1413	
Travel Time (s)		18.8			14.7			11.9			21.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	133	17	282	173	22	3	284	2098	217	13	1980	169
Shared Lane Traffic (%)												
Lane Group Flow (vph)	133	17	282	173	22	3	284	2098	217	13	1980	169
Turn Type	Prot	NA	pm+ov	Prot	NA	pm+ov	D.P+P	NA	pm+ov	D.P+P	NA	pm+ov
Protected Phases	7	4	5	3	8	1	5	2	3	1	6	7
Permitted Phases			4			8	6		2	2		6
Detector Phase	7	4	5	3	8	1	5	2	3	1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0	7.0	7.0	12.0	7.0	7.0	12.0	7.0
Minimum Split (s)	13.4	43.5	13.3	13.6	40.5	13.4	13.3	42.5	13.6	13.4	36.5	13.4
Total Split (s)	18.0	43.7	26.0	14.8	40.5	13.4	26.0	108.1	14.8	13.4	95.5	18.0
Total Split (%)	10.0%	24.3%	14.4%	8.2%	22.5%	7.4%	14.4%	60.1%	8.2%	7.4%	53.1%	10.0%
Maximum Green (s)	11.6	37.2	19.7	8.2	34.0	7.0	19.7	101.6	8.2	7.0	89.0	11.6
Yellow Time (s)	3.0	3.8	3.0	3.0	3.8	3.0	3.0	4.5	3.0	3.0	4.5	3.0
All-Red Time (s)	3.4	2.7	3.3	3.6	2.7	3.4	3.3	2.0	3.6	3.4	2.0	3.4
Lost Time Adjust (s)	-1.4	-1.5	-1.3	-1.6	-1.5	-1.4	-1.3	-1.5	-1.6	-1.4	-1.5	-1.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
Lead/Lag	Lead	Lag	Lead	Lead	Lag	Lag	Lead	Lead	Lead	Lag	Lag	Lead
Lead-Lag Optimize?				Yes	Yes				Yes			
Vehicle Extension (s)	2.0	2.0	2.0	2.0	2.0	2.0	2.0	6.0	2.0	2.0	6.0	2.0
Recall Mode	None	None	None	None	None	None	None	C-Max	None	None	C-Max	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		30.0			27.0			29.0			23.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	13.0	11.0	49.6	11.1	9.1	14.1	143.3	140.3	155.4	145.3	104.3	122.3
Actuated g/C Ratio	0.07	0.06	0.28	0.06	0.05	0.08	0.80	0.78	0.86	0.81	0.58	0.68
v/c Ratio	1.06	0.15	0.66	0.83	0.24	0.02	0.67	0.76	0.16	0.09	0.97	0.16
Control Delay	172.8	82.0	64.9	111.2	88.2	55.7	67.2	8.5	1.9	10.9	45.3	14.6

University Place TIA
120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Improved (2028) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	8.7	0.0
Total Delay	172.8	82.0	64.9	111.2	88.2	55.7	67.2	9.1	1.9	10.9	54.0	14.6
LOS	F	F	E	F	F	E	E	A	A	B	D	B
Approach Delay		98.8			107.8			14.9			50.6	
Approach LOS		F			F			B			D	
Queue Length 50th (ft)	~171	19	288	107	26	3	300	430	25	4	766	84
Queue Length 95th (ft)	#325	48	386	#189	60	13	m324	500	m32	m5	m#1411	m96
Internal Link Dist (ft)		887			675			703			1333	
Turn Bay Length (ft)			150	350		150	320		150	200		180
Base Capacity (vph)	125	394	429	209	363	122	425	2758	1353	149	2050	1075
Starvation Cap Reductn	0	0	0	0	0	0	0	296	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	93	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	1.06	0.04	0.66	0.83	0.06	0.02	0.67	0.85	0.16	0.09	1.01	0.16

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 79 (44%), Referenced to phase 2:NBSB and 6:NBSB, Start of Green

Natural Cycle: 145

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.06

Intersection Signal Delay: 39.3

Intersection LOS: D

Intersection Capacity Utilization 89.3%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext



University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Improved (2028) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	95	102	246	118	91	120	1739	152	135	1674	18
Future Volume (vph)	110	95	102	246	118	91	120	1739	152	135	1674	18
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	100		100	280		0	420		460	300		0
Storage Lanes	1		1	2		0	1		1	1		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	0.97	1.00	1.00	1.00	0.95	1.00	1.00	0.95	0.95
Frt			0.850		0.935				0.850		0.998	
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1770	1863	1583	3433	1742	0	1770	3539	1583	1770	3532	0
Flt Permitted	0.950			0.950			0.950			0.950		
Satd. Flow (perm)	1770	1863	1583	3433	1742	0	1770	3539	1583	1770	3532	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		556			579			1413			630	
Travel Time (s)		15.2			11.3			21.4			9.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	122	106	113	273	131	101	133	1932	169	150	1860	20
Shared Lane Traffic (%)												
Lane Group Flow (vph)	122	106	113	273	232	0	133	1932	169	150	1880	0
Turn Type	Prot	NA	pm+ov	Prot	NA		Prot	NA	Free	Prot	NA	
Protected Phases	3	8	5	7	4		5	2		1	6	
Permitted Phases			8						Free			
Detector Phase	3	8	5	7	4		5	2		1	6	
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	
Minimum Split (s)	13.4	36.9	13.8	13.8	37.7		13.8	30.8		13.7	28.7	
Total Split (s)	18.4	36.9	19.4	19.4	37.9		19.4	102.7		21.0	104.3	
Total Split (%)	10.2%	20.5%	10.8%	10.8%	21.1%		10.8%	57.1%		11.7%	57.9%	
Maximum Green (s)	12.0	30.0	12.6	12.6	31.2		12.6	95.9		14.3	97.6	
Yellow Time (s)	3.0	3.0	3.0	3.0	3.8		3.0	4.5		3.0	4.5	
All-Red Time (s)	3.4	3.9	3.8	3.8	2.9		3.8	2.3		3.7	2.2	
Lost Time Adjust (s)	-1.4	-1.9	0.0	-1.8	-1.7		-1.8	-1.8		-1.7	-1.7	
Total Lost Time (s)	5.0	5.0	6.8	5.0	5.0		5.0	5.0		5.0	5.0	
Lead/Lag	Lead	Lag	Lead	Lead	Lag		Lead	Lag		Lead	Lag	
Lead-Lag Optimize?	Yes	Yes	Yes	Yes	Yes		Yes	Yes		Yes	Yes	
Vehicle Extension (s)	2.0	3.0	4.0	3.0	2.0		4.0	6.0		2.0	6.0	
Minimum Gap (s)	2.0	3.0	4.0	3.0	2.0		4.0	6.0		2.0	6.0	
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	60.0	
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		23.0			24.0			17.0			15.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effct Green (s)	13.4	27.6	47.9	14.4	28.6		17.1	99.6	180.0	18.3	100.9	
Actuated g/C Ratio	0.07	0.15	0.27	0.08	0.16		0.10	0.55	1.00	0.10	0.56	

University Place TIA
130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Improved (2028) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
v/c Ratio	0.93	0.37	0.27	1.00	0.84		0.79	0.99	0.11	0.83	0.95	
Control Delay	141.8	71.2	53.6	133.5	98.1		102.9	53.5	0.1	111.4	48.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Total Delay	141.8	71.2	53.6	133.5	98.1		102.9	53.5	0.1	111.4	48.9	
LOS	F	E	D	F	F		F	D	A	F	D	
Approach Delay		90.6			117.3			52.4			53.6	
Approach LOS		F			F			D			D	
Queue Length 50th (ft)	146	113	105	169	268		154	~1257	0	177	1098	
Queue Length 95th (ft)	#286	177	167	#275	370		m#244	m#1370	m0	#336	#1293	
Internal Link Dist (ft)		476			499			1333			550	
Turn Bay Length (ft)	100		100	280			420		460	300		
Base Capacity (vph)	131	330	421	274	318		168	1958	1583	180	1979	
Starvation Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0		0	0	0	0	0	
Reduced v/c Ratio	0.93	0.32	0.27	1.00	0.73		0.79	0.99	0.11	0.83	0.95	

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 102 (57%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 1.00

Intersection Signal Delay: 61.8

Intersection LOS: E

Intersection Capacity Utilization 90.1%

ICU Level of Service E

Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.

Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

				
Ø1	Ø2 (R)		Ø3	Ø4
21 s	102.7 s		18.4 s	37.9 s
				
Ø5	Ø6 (R)		Ø7	Ø8
19.4 s	104.3 s		19.4 s	36.9 s

University Place TIA
200: Franklin Street & Estes Dr

Improved (2028) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	321	420	96	230	429	235	62	771	196	109	668	382
Future Volume (vph)	321	420	96	230	429	235	62	771	196	109	668	382
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			5%			3%			-1%	
Storage Length (ft)	525		0	150		0	150		0	300		350
Storage Lanes	1		0	1		1	1		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	0.95	1.00	0.95	1.00
Frt		0.972				0.850		0.970				0.850
Flt Protected	0.950			0.950			0.950			0.950		
Satd. Flow (prot)	1778	1820	0	1725	1816	1544	1743	3382	0	1778	3557	1591
Flt Permitted	0.950			0.096			0.950			0.950		
Satd. Flow (perm)	1778	1820	0	174	1816	1544	1743	3382	0	1778	3557	1591
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			35			35	
Link Distance (ft)		850			1373			680			643	
Travel Time (s)		16.6			26.7			13.2			12.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	357	467	107	256	477	261	69	857	218	121	742	424
Shared Lane Traffic (%)												
Lane Group Flow (vph)	357	574	0	256	477	261	69	1075	0	121	742	424
Turn Type	Prot	NA		D,P+P	NA	pm+ov	Prot	NA		Prot	NA	pm+ov
Protected Phases	7	4		3	8	1	5	2		1	6	7
Permitted Phases				4		8						6
Detector Phase	7	4		3	8	1	5	2		1	6	7
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0	7.0	7.0	10.0		7.0	10.0	7.0
Minimum Split (s)	12.9	33.9		12.6	30.9	12.9	13.2	35.7		12.9	21.5	12.9
Total Split (s)	35.0	57.2		21.8	44.0	16.0	17.5	55.0		16.0	53.5	35.0
Total Split (%)	23.3%	38.1%		14.5%	29.3%	10.7%	11.7%	36.7%		10.7%	35.7%	23.3%
Maximum Green (s)	29.1	51.3		16.2	38.1	10.1	11.3	49.3		10.1	48.0	29.1
Yellow Time (s)	3.0	3.9		3.0	3.9	3.0	3.0	3.7		3.0	3.9	3.0
All-Red Time (s)	2.9	2.0		2.6	2.0	2.9	3.2	2.0		2.9	1.6	2.9
Lost Time Adjust (s)	-0.9	-0.9		-0.6	-0.9	-0.9	-1.2	-0.7		-0.9	-0.5	0.0
Total Lost Time (s)	5.0	5.0		5.0	5.0	5.0	5.0	5.0		5.0	5.0	5.9
Lead/Lag	Lead	Lag		Lead	Lag	Lead	Lead	Lag		Lead	Lag	Lead
Lead-Lag Optimize?	Yes	Yes		Yes	Yes	Yes	Yes	Yes		Yes	Yes	Yes
Vehicle Extension (s)	2.0	2.0		2.0	2.0	2.0	1.0	2.0		2.0	2.0	2.0
Recall Mode	None	None		None	None	None	None	C-Min		None	C-Min	None
Walk Time (s)		7.0			7.0			7.0			7.0	
Flash Dont Walk (s)		21.0			18.0			23.0			9.0	
Pedestrian Calls (#/hr)		0			0			0			0	
Act Effect Green (s)	30.5	52.2		69.5	39.0	55.0	10.5	49.5		11.0	52.6	87.3
Actuated g/C Ratio	0.20	0.35		0.46	0.26	0.37	0.07	0.33		0.07	0.35	0.58
v/c Ratio	0.99	0.91		0.99	1.01	0.46	0.57	0.96		0.93	0.60	0.46
Control Delay	103.1	65.9		88.3	95.9	38.6	85.3	68.8		129.8	43.2	20.9

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0	0.0	0.0	0.0		0.0	0.0	0.0
Total Delay	103.1	65.9		88.3	95.9	38.6	85.3	68.8		129.8	43.2	20.9
LOS	F	E		F	F	D	F	E		F	D	C
Approach Delay		80.2			78.9			69.8			44.0	
Approach LOS		F			E			E			D	
Queue Length 50th (ft)	~356	535		~203	~408	193	67	541		120	320	239
Queue Length 95th (ft)	#568	#757		#373	#726	282	120	#684		#251	399	340
Internal Link Dist (ft)		770			1293			600			563	
Turn Bay Length (ft)	525			150			150			300		350
Base Capacity (vph)	361	633		259	472	566	145	1127		130	1247	925
Starvation Cap Reductn	0	0		0	0	0	0	0		0	0	0
Spillback Cap Reductn	0	0		0	0	0	0	0		0	0	0
Storage Cap Reductn	0	0		0	0	0	0	0		0	0	0
Reduced v/c Ratio	0.99	0.91		0.99	1.01	0.46	0.48	0.95		0.93	0.60	0.46

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Offset: 104 (69%), Referenced to phase 2:NBT and 6:SBT, Start of Green
Natural Cycle: 120
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.01
Intersection Signal Delay: 66.5
Intersection Capacity Utilization 91.0%
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Intersection LOS: E
ICU Level of Service E

Splits and Phases: 200: Franklin Street & Estes Dr

 Ø1	 Ø2 (R)	 Ø3	 Ø4
16 s	55 s	21.8 s	57.2 s
 Ø5	 Ø6 (R)	 Ø7	 Ø8
17.5 s	53.5 s	35 s	44 s

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Improved (2028) PM

02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	311	411	3	12	474	33	6	8	7	55	8	414
Future Volume (vph)	311	411	3	12	474	33	6	8	7	55	8	414
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			0%			-2%			1%	
Storage Length (ft)	100		0	0		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.999			0.990			0.955				0.850
Flt Protected	0.950			0.950				0.986			0.958	
Satd. Flow (prot)	1770	3536	0	1770	3504	0	0	1754	0	0	1776	1575
Flt Permitted	0.950			0.487				0.890			0.736	
Satd. Flow (perm)	1770	3536	0	907	3504	0	0	1584	0	0	1364	1575
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			25			35	
Link Distance (ft)		1373			158			390			189	
Travel Time (s)		26.7			3.1			10.6			3.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	346	457	3	13	527	37	7	9	8	61	9	460
Shared Lane Traffic (%)												
Lane Group Flow (vph)	346	460	0	13	564	0	0	24	0	0	70	460
Turn Type	Prot	NA		Perm	NA		Perm	NA		Perm	NA	pm+ov
Protected Phases	5	2			6			8			4	5
Permitted Phases				6			8			4		4
Detector Phase	5	2		6	6		8	8		4	4	5
Switch Phase												
Minimum Initial (s)	7.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	7.0
Minimum Split (s)	13.2	15.7		21.4	21.4		30.6	30.6		12.9	12.9	13.2
Total Split (s)	20.0	46.0		26.0	26.0		29.0	29.0		29.0	29.0	20.0
Total Split (%)	26.7%	61.3%		34.7%	34.7%		38.7%	38.7%		38.7%	38.7%	26.7%
Maximum Green (s)	13.8	40.3		20.6	20.6		23.4	23.4		23.1	23.1	13.8
Yellow Time (s)	3.0	3.7		3.9	3.9		3.6	3.6		3.9	3.9	3.0
All-Red Time (s)	3.2	2.0		1.5	1.5		2.0	2.0		2.0	2.0	3.2
Lost Time Adjust (s)	-1.2	-0.7		-0.4	-0.4			-0.6			-0.9	-1.2
Total Lost Time (s)	5.0	5.0		5.0	5.0			5.0			5.0	5.0
Lead/Lag	Lead			Lag	Lag							Lead
Lead-Lag Optimize?	Yes			Yes	Yes							Yes
Vehicle Extension (s)	1.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	1.0
Recall Mode	None	C-Min		C-Min	C-Min		None	None		None	None	None
Walk Time (s)				7.0	7.0		7.0	7.0				
Flash Dont Walk (s)				9.0	9.0		18.0	18.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effect Green (s)	21.7	59.0		31.3	31.3			9.6			9.6	33.7
Actuated g/C Ratio	0.29	0.79		0.42	0.42			0.13			0.13	0.45
v/c Ratio	0.68	0.17		0.03	0.39			0.12			0.40	0.65
Control Delay	29.4	4.0		17.9	18.3			29.2			36.5	19.5

University Place TIA
210: Shepherd Lane/Willow Ave & Estes Dr

Improved (2028) PM
02/12/2021

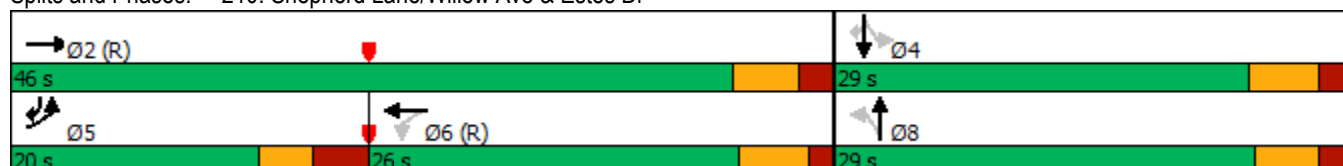
												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	0.0
Total Delay	29.4	4.0		17.9	18.3			29.2			36.5	19.5
LOS	C	A		B	B			C			D	B
Approach Delay		14.9			18.3			29.2			21.8	
Approach LOS		B			B			C			C	
Queue Length 50th (ft)	205	53		4	97			10			31	150
Queue Length 95th (ft)	m266	m66		17	165			29			65	190
Internal Link Dist (ft)		1293			78			310			109	
Turn Bay Length (ft)	100											
Base Capacity (vph)	511	2780		378	1462			506			436	707
Starvation Cap Reductn	0	0		0	0			0			0	0
Spillback Cap Reductn	0	0		0	0			0			0	0
Storage Cap Reductn	0	0		0	0			0			0	0
Reduced v/c Ratio	0.68	0.17		0.03	0.39			0.05			0.16	0.65

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 75
Offset: 61 (81%), Referenced to phase 2:EBT and 6:WBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.68
Intersection Signal Delay: 18.0
Intersection Capacity Utilization 58.1%
Analysis Period (min) 15
m Volume for 95th percentile queue is metered by upstream signal.

Intersection LOS: B
ICU Level of Service B

Splits and Phases: 210: Shepherd Lane/Willow Ave & Estes Dr



						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	473	505	15	0	14
Future Volume (vph)	0	473	505	15	0	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	0.95	0.95	0.95	1.00	1.00
Frt			0.996			0.865
Flt Protected						
Satd. Flow (prot)	0	3505	3525	0	0	1611
Flt Permitted						
Satd. Flow (perm)	0	3505	3525	0	0	1611
Link Speed (mph)		35	35		25	
Link Distance (ft)		158	588		170	
Travel Time (s)		3.1	11.5		4.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	526	561	17	0	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	526	578	0	0	16
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 24.4%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.1

Movement EBL EBT WBT WBR SBL SBR

Lane Configurations   

Traffic Vol, veh/h 0 473 505 15 0 14

Future Vol, veh/h 0 473 505 15 0 14

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - - - - 0

Veh in Median Storage, # - 0 0 - 0 -

Grade, % - 0 0 - 0 -

Peak Hour Factor 90 90 90 90 90 90

Heavy Vehicles, % 3 3 2 2 2 2

Mvmt Flow 0 526 561 17 0 16

Major/Minor Major1 Major2 Minor2

Conflicting Flow All - 0 - 0 - 289

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 - - - 0 708

Stage 1 0 - - - 0 -

Stage 2 0 - - - 0 -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver - - - - - 708

Mov Cap-2 Maneuver - - - - -

Stage 1 - - - - -

Stage 2 - - - - -

Approach EB WB SB

HCM Control Delay, s 0 0 10.2

HCM LOS B

Minor Lane/Major Mvmt EBT WBT WBR SBLn1

Capacity (veh/h) - - - 708

HCM Lane V/C Ratio - - - 0.022

HCM Control Delay (s) - - - 10.2

HCM Lane LOS - - - B

HCM 95th %tile Q(veh) - - - 0.1

University Place TIA
212: Driveway/UPlace Access #4 & Estes Dr

Improved (2028) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		 			 			 			 	
Traffic Volume (vph)	135	337	1	7	448	106	2	0	6	229	0	70
Future Volume (vph)	135	337	1	7	448	106	2	0	6	229	0	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75		0	75		100	0		0	0		0
Storage Lanes	1		0	1		1	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	0.95	0.95	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt						0.850		0.895				0.850
Flt Protected	0.950			0.950				0.989			0.950	
Satd. Flow (prot)	1770	3539	0	1770	3539	1583	0	1649	0	0	1770	1583
Flt Permitted	0.950			0.950				0.989			0.950	
Satd. Flow (perm)	1770	3539	0	1770	3539	1583	0	1649	0	0	1770	1583
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		588			545			323			374	
Travel Time (s)		11.5			10.6			8.8			10.2	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	150	374	1	8	498	118	2	0	7	254	0	78
Shared Lane Traffic (%)												
Lane Group Flow (vph)	150	375	0	8	498	118	0	9	0	0	254	78
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 49.2%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 52.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	135	337	1	7	448	106	2	0	6	229	0	70
Future Vol, veh/h	135	337	1	7	448	106	2	0	6	229	0	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	75	-	-	75	-	100	-	-	-	-	-	0
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	150	374	1	8	498	118	2	0	7	254	0	78

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	616	0	0	375	0	0	940	1307	188	1001	1189	249
Stage 1	-	-	-	-	-	-	675	675	-	514	514	-
Stage 2	-	-	-	-	-	-	265	632	-	487	675	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	960	-	-	1180	-	-	218	158	822	~ 197	187	751
Stage 1	-	-	-	-	-	-	410	451	-	511	534	-
Stage 2	-	-	-	-	-	-	717	472	-	531	451	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	960	-	-	1180	-	-	171	132	822	~ 171	157	751
Mov Cap-2 Maneuver	-	-	-	-	-	-	171	132	-	~ 171	157	-
Stage 1	-	-	-	-	-	-	346	381	-	431	530	-
Stage 2	-	-	-	-	-	-	638	469	-	444	381	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.7	0.1	13.7	230.3
HCM LOS			B	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	421	960	-	-	1180	-	-	171	751
HCM Lane V/C Ratio	0.021	0.156	-	-	0.007	-	-	1.488	0.104
HCM Control Delay (s)	13.7	9.4	-	-	8.1	-	-	297.6	10.3
HCM Lane LOS	B	A	-	-	A	-	-	F	B
HCM 95th %tile Q(veh)	0.1	0.6	-	-	0	-	-	16.3	0.3

Notes

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

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		 	 			
Traffic Volume (vph)	70	502	505	232	117	56
Future Volume (vph)	70	502	505	232	117	56
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	75			0	0	0
Storage Lanes	1			1	1	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.95	0.95	1.00	1.00	1.00
Frt				0.850		0.850
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	3539	3539	1583	1770	1583
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	3539	3539	1583	1770	1583
Link Speed (mph)		35	35		25	
Link Distance (ft)		545	196		293	
Travel Time (s)		10.6	3.8		8.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	78	558	561	258	130	62
Shared Lane Traffic (%)						
Lane Group Flow (vph)	78	558	561	258	130	62
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 34.3%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	70	502	505	232	117	56
Future Vol, veh/h	70	502	505	232	117	56
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	75	-	-	0	0	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	78	558	561	258	130	62

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	819	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	4.14	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	2.22	-	-
Pot Cap-1 Maneuver	805	-	-
Stage 1	-	-	-
Stage 2	-	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	805	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	32.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	805	-	-	-	218	716
HCM Lane V/C Ratio	0.097	-	-	-	0.596	0.087
HCM Control Delay (s)	9.9	-	-	-	43.3	10.5
HCM Lane LOS	A	-	-	-	E	B
HCM 95th %tile Q(veh)	0.3	-	-	-	3.4	0.3

						
Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (vph)	0	619	696	200	0	41
Future Volume (vph)	0	619	696	200	0	41
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0			100	0	0
Storage Lanes	0			1	0	1
Taper Length (ft)	100				100	
Lane Util. Factor	1.00	0.91	0.95	1.00	1.00	1.00
Frt				0.850		0.865
Flt Protected						
Satd. Flow (prot)	0	5036	3539	1583	0	1611
Flt Permitted						
Satd. Flow (perm)	0	5036	3539	1583	0	1611
Link Speed (mph)		35	35		25	
Link Distance (ft)		196	368		377	
Travel Time (s)		3.8	7.2		10.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	688	773	222	0	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	688	773	222	0	46
Sign Control		Free	Free		Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 29.2%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 0.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑↑	↑↑	↑		↑
Traffic Vol, veh/h	0	619	696	200	0	41
Future Vol, veh/h	0	619	696	200	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	100	-	0
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	688	773	222	0	46

Major/Minor	Major1	Major2	Minor2
Conflicting Flow All	-	0	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	-	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	-	-
Pot Cap-1 Maneuver	0	-	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	-	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

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

Minor Lane/Major Mvmt	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	-	-	-	611
HCM Lane V/C Ratio	-	-	-	0.075
HCM Control Delay (s)	-	-	-	11.4
HCM Lane LOS	-	-	-	B
HCM 95th %tile Q(veh)	-	-	-	0.2

University Place TIA
301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Improved (2028) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	3	0	6	11	0	4	6	330	16	0	460	3
Future Volume (vph)	3	0	6	11	0	4	6	330	16	0	460	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	0		0	45		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	100			100			100			0		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.905			0.966			0.994			0.999	
Flt Protected		0.985			0.964			0.999				
Satd. Flow (prot)	0	1660	0	0	1735	0	0	1850	0	1863	1861	0
Flt Permitted		0.985			0.964			0.999				
Satd. Flow (perm)	0	1660	0	0	1735	0	0	1850	0	1863	1861	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		152			142			189			181	
Travel Time (s)		4.1			3.9			3.7			3.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	3	0	7	12	0	4	7	367	18	0	511	3
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	10	0	0	16	0	0	392	0	0	514	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 34.4%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh	0.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	3	0	6	11	0	4	6	330	16	0	460	3
Future Vol, veh/h	3	0	6	11	0	4	6	330	16	0	460	3
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	45	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	3	0	7	12	0	4	7	367	18	0	511	3

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	905	912	513	906	904	376	514	0	0	385	0	0
Stage 1	513	513	-	390	390	-	-	-	-	-	-	-
Stage 2	392	399	-	516	514	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	257	274	561	257	277	670	1052	-	-	1173	-	-
Stage 1	544	536	-	634	608	-	-	-	-	-	-	-
Stage 2	633	602	-	542	535	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	254	272	561	252	275	670	1052	-	-	1173	-	-
Mov Cap-2 Maneuver	254	272	-	252	275	-	-	-	-	-	-	-
Stage 1	540	536	-	629	603	-	-	-	-	-	-	-
Stage 2	624	597	-	536	535	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	14.2		17.6		0.1		0	
HCM LOS	B		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1052	-	-	400 302	1173	-	-
HCM Lane V/C Ratio	0.006	-	-	0.025 0.055	-	-	-
HCM Control Delay (s)	8.4	0	-	14.2 17.6	0	-	-
HCM Lane LOS	A	A	-	B C	A	-	-
HCM 95th %tile Q(veh)	0	-	-	0.1 0.2	0	-	-

University Place TIA
302: Willow Ave & UPlace Access #7

Improved (2028) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	4	1	4	26	0	30	4	292	41	26	433	5
Future Volume (vph)	4	1	4	26	0	30	4	292	41	26	433	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	45		0	75		0
Storage Lanes	0		0	0		1	1		0	1		0
Taper Length (ft)	100			100			0			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.940				0.850		0.981			0.998	
Flt Protected		0.978			0.950		0.950			0.950		
Satd. Flow (prot)	0	1712	0	0	1687	1509	1770	1827	0	1770	1859	0
Flt Permitted		0.978			0.950		0.950			0.950		
Satd. Flow (perm)	0	1712	0	0	1687	1509	1770	1827	0	1770	1859	0
Link Speed (mph)		25			25			35			35	
Link Distance (ft)		160			227			181			345	
Travel Time (s)		4.4			6.2			3.5			6.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	4	1	4	29	0	33	4	324	46	29	481	6
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	9	0	0	29	33	4	370	0	29	487	0
Sign Control		Stop			Stop			Free			Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 34.5%

Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh	1.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1	4	26	0	30	4	292	41	26	433	5
Future Vol, veh/h	4	1	4	26	0	30	4	292	41	26	433	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	45	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	7	7	7	2	2	2	2	2	2
Mvmt Flow	4	1	4	29	0	33	4	324	46	29	481	6

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	914	920	484	900	900	347	487	0	0	370	0	0
Stage 1	542	542	-	355	355	-	-	-	-	-	-	-
Stage 2	372	378	-	545	545	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.17	6.57	6.27	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.17	5.57	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.17	5.57	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.563	4.063	3.363	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	254	271	583	254	273	685	1076	-	-	1189	-	-
Stage 1	525	520	-	652	621	-	-	-	-	-	-	-
Stage 2	648	615	-	514	510	-	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	236	263	583	246	265	685	1076	-	-	1189	-	-
Mov Cap-2 Maneuver	236	263	-	246	265	-	-	-	-	-	-	-
Stage 1	523	508	-	649	619	-	-	-	-	-	-	-
Stage 2	614	613	-	497	498	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	16.4		15.7		0.1		0.5	
HCM LOS	C		C					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	1076	-	-	326	246	685	1189	-
HCM Lane V/C Ratio	0.004	-	-	0.031	0.117	0.049	0.024	-
HCM Control Delay (s)	8.4	-	-	16.4	21.6	10.5	8.1	-
HCM Lane LOS	A	-	-	C	C	B	A	-
HCM 95th %tile Q(veh)	0	-	-	0.1	0.4	0.2	0.1	-

University Place TIA
303: Future Access/Conner Drive & Willow Ave

Improved (2028) PM
02/12/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	45	232	49	72	294	46	49	12	111	82	11	121
Future Volume (vph)	45	232	49	72	294	46	49	12	111	82	11	121
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	125		0	100		0	0		0	0		0
Storage Lanes	1		0	1		0	0		1	0		0
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.974			0.980				0.850		0.924	
Flt Protected	0.950			0.950				0.961			0.981	
Satd. Flow (prot)	1770	1811	0	1752	1825	0	0	1773	1568	0	1688	0
Flt Permitted	0.950			0.950				0.961			0.981	
Satd. Flow (perm)	1770	1811	0	1752	1825	0	0	1773	1568	0	1688	0
Link Speed (mph)		35			35			25			25	
Link Distance (ft)		345			318			413			387	
Travel Time (s)		6.7			6.2			11.3			10.6	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%	3%	3%	3%	2%	3%	2%
Adj. Flow (vph)	50	258	54	80	327	51	54	13	123	91	12	134
Shared Lane Traffic (%)												
Lane Group Flow (vph)	50	312	0	80	378	0	0	67	123	0	237	0
Sign Control		Free			Free			Stop			Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 50.8%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 13

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	45	232	49	72	294	46	49	12	111	82	11	121
Future Vol, veh/h	45	232	49	72	294	46	49	12	111	82	11	121
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	100	-	-	-	-	0	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	3	3	2	2	3	3	3	2	3	2
Mvmt Flow	50	258	54	80	327	51	54	13	123	91	12	134

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	378	0	0	312	0	0	971	923	285	966	925	353
Stage 1	-	-	-	-	-	-	385	385	-	513	513	-
Stage 2	-	-	-	-	-	-	586	538	-	453	412	-
Critical Hdwy	4.12	-	-	4.13	-	-	7.13	6.53	6.23	7.12	6.53	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.13	5.53	-	6.12	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.13	5.53	-	6.12	5.53	-
Follow-up Hdwy	2.218	-	-	2.227	-	-	3.527	4.027	3.327	3.518	4.027	3.318
Pot Cap-1 Maneuver	1180	-	-	1243	-	-	231	269	752	234	268	691
Stage 1	-	-	-	-	-	-	636	609	-	544	534	-
Stage 2	-	-	-	-	-	-	495	521	-	586	593	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1180	-	-	1243	-	-	165	241	752	172	240	691
Mov Cap-2 Maneuver	-	-	-	-	-	-	165	241	-	172	240	-
Stage 1	-	-	-	-	-	-	609	583	-	521	500	-
Stage 2	-	-	-	-	-	-	364	488	-	458	568	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.1	1.4	20.3	47.6
HCM LOS			C	E

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	176	752	1180	-	-	1243	-	-	307
HCM Lane V/C Ratio	0.385	0.164	0.042	-	-	0.064	-	-	0.775
HCM Control Delay (s)	37.7	10.7	8.2	-	-	8.1	-	-	47.6
HCM Lane LOS	E	B	A	-	-	A	-	-	E
HCM 95th %tile Q(veh)	1.7	0.6	0.1	-	-	0.2	-	-	6.1

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	353	72	195	288	124	185
Future Volume (vph)	353	72	195	288	124	185
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	100		0	0
Storage Lanes		0	1		1	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.977					0.850
Flt Protected			0.950		0.950	
Satd. Flow (prot)	1820	0	1770	1863	1770	1583
Flt Permitted			0.950		0.950	
Satd. Flow (perm)	1820	0	1770	1863	1770	1583
Link Speed (mph)	35			35	25	
Link Distance (ft)	318			751	309	
Travel Time (s)	6.2			14.6	8.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	392	80	217	320	138	206
Shared Lane Traffic (%)						
Lane Group Flow (vph)	472	0	217	320	138	206
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other
Control Type: Unsignalized
Intersection Capacity Utilization 50.6%
Analysis Period (min) 15

ICU Level of Service A

Intersection

Int Delay, s/veh 6.5

Movement EBT EBR WBL WBT NBL NBR

Lane Configurations      

Traffic Vol, veh/h 353 72 195 288 124 185

Future Vol, veh/h 353 72 195 288 124 185

Conflicting Peds, #/hr 0 0 0 0 0 0

Sign Control Free Free Free Free Stop Stop

RT Channelized - None - None - None

Storage Length - - 100 - 0 0

Veh in Median Storage, # 0 - - 0 0 -

Grade, % 0 - - 0 0 -

Peak Hour Factor 90 90 90 90 90 90

Heavy Vehicles, % 2 2 2 2 2 2

Mvmt Flow 392 80 217 320 138 206

Major/Minor Major1 Major2 Minor1

Conflicting Flow All 0 0 472 0 1186 432

Stage 1 - - - - 432 -

Stage 2 - - - - 754 -

Critical Hdwy - - 4.12 - 6.42 6.22

Critical Hdwy Stg 1 - - - - 5.42 -

Critical Hdwy Stg 2 - - - - 5.42 -

Follow-up Hdwy - - 2.218 - 3.518 3.318

Pot Cap-1 Maneuver - - 1090 - 208 624

Stage 1 - - - - 655 -

Stage 2 - - - - 465 -

Platoon blocked, % - - - - -

Mov Cap-1 Maneuver - - 1090 - 167 624

Mov Cap-2 Maneuver - - - - 284 -

Stage 1 - - - - 655 -

Stage 2 - - - - 372 -

Approach EB WB NB

HCM Control Delay, s 0 3.7 19.8

HCM LOS C

Minor Lane/Major Mvmt NBLn1 NBLn2 EBT EBR WBL WBT

Capacity (veh/h) 284 624 - - 1090 -

HCM Lane V/C Ratio 0.485 0.329 - - 0.199 -

HCM Control Delay (s) 29.1 13.6 - - 9.1 -

HCM Lane LOS D B - - A -

HCM 95th %tile Q(veh) 2.5 1.4 - - 0.7 -

						
Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	526	12	0	483	0	142
Future Volume (vph)	526	12	0	483	0	142
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	75		0	0
Storage Lanes		0	0		0	1
Taper Length (ft)			100		100	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	0.997					0.865
Flt Protected						
Satd. Flow (prot)	1857	0	0	1863	0	1611
Flt Permitted						
Satd. Flow (perm)	1857	0	0	1863	0	1611
Link Speed (mph)	35			35	25	
Link Distance (ft)	751			469	267	
Travel Time (s)	14.6			9.1	7.3	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	584	13	0	537	0	158
Shared Lane Traffic (%)						
Lane Group Flow (vph)	597	0	0	537	0	158
Sign Control	Free			Free	Stop	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 43.9%

ICU Level of Service A

Analysis Period (min) 15

Intersection

Int Delay, s/veh 1.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	526	12	0	483	0	142
Future Vol, veh/h	526	12	0	483	0	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	-	0
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	584	13	0	537	0	158

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

Approach	EB	WB	NB
HCM Control Delay, s	0	0	15.3
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBT
Capacity (veh/h)	507	-	-	-
HCM Lane V/C Ratio	0.311	-	-	-
HCM Control Delay (s)	15.3	-	-	-
HCM Lane LOS	C	-	-	-
HCM 95th %tile Q(veh)	1.3	-	-	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2028) AM - Access #1 Left-Over

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 		 	 			 	
Traffic Volume (vph)	57	8	330	5	8	9	353	1842	3	7	1871	79
Future Volume (vph)	57	8	330	5	8	9	353	1842	3	7	1871	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	800		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	0			0			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.946							0.850
Flt Protected		0.958			0.988		0.950			0.950		
Satd. Flow (prot)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Flt Permitted		0.958			0.988		0.950			0.950		
Satd. Flow (perm)	0	1734	2707	0	1621	0	3400	3505	0	1752	3505	1568
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	5%	5%	5%	9%	9%	9%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	63	9	367	6	9	10	392	2047	3	8	2079	88
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	72	367	0	25	0	392	2050	0	8	2079	88
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	16.0	16.0	30.0	13.7	13.7		30.0	136.8		13.5	120.3	16.0
Total Split (%)	8.9%	8.9%	16.7%	7.6%	7.6%		16.7%	76.0%		7.5%	66.8%	8.9%
Maximum Green (s)	9.4	9.4	23.3	7.0	7.0		23.3	130.7		7.0	114.2	9.4
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lag	Lag	Lead	Lead	Lead		Lead	Lead		Lag	Lag	Lag
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		10.7	40.2		8.7		24.5	145.7		8.5	121.6	134.3
Actuated g/C Ratio		0.06	0.22		0.05		0.14	0.81		0.05	0.68	0.75
v/c Ratio		0.71	0.61		0.32		0.85	0.72		0.10	0.88	0.08
Control Delay		115.5	67.5		94.0		92.9	11.9		71.4	14.5	2.3

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2028) AM - Access #1 Left-Over

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		115.5	67.5		94.0		92.9	11.9		71.4	14.5	2.3
LOS		F	E		F		F	B		E	B	A
Approach Delay		75.4			94.0			24.9			14.2	
Approach LOS		E			F			C			B	
Queue Length 50th (ft)		85	222		29		236	517		9	274	11
Queue Length 95th (ft)		#166	288		67		#312	853		m12	385	m15
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							800			180		260
Base Capacity (vph)		107	614		78		474	2836		82	2367	1173
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.67	0.60		0.32		0.83	0.72		0.10	0.88	0.08

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 0 (0%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 130

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.88

Intersection Signal Delay: 25.1

Intersection LOS: C

Intersection Capacity Utilization 84.5%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

 Ø2 (R)		 Ø1	 Ø4	 Ø3
136.8 s		13.5 s	13.7 s	16 s
 Ø5	 Ø6 (R)			
30 s	120.3 s			

University Place TIA
101: US 15/501 (Fordham Blvd) & UPlace Access #1

Improved (2028) AM - Access #1 Left-Over

02/11/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	63	68	1840	1894	84
Future Volume (vph)	0	63	68	1840	1894	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	300			275
Storage Lanes	0	1	1			1
Taper Length (ft)	0		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1596	1770	3539	3539	1583
Flt Permitted			0.950			
Satd. Flow (perm)	0	1596	1770	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	0	70	76	2044	2104	93
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	70	76	2044	2104	93
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 62.9%

ICU Level of Service B

Analysis Period (min) 15

Intersection

Int Delay, s/veh 0.9

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	0	63	68	1840	1894	84
Future Vol, veh/h	0	63	68	1840	1894	84
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	300	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	0	70	76	2044	2104	93

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	1052	2104
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.96	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.33	2.22
Pot Cap-1 Maneuver	0	221	258
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	221	258
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	28.7	0.9	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	258	-	221	-
HCM Lane V/C Ratio	0.293	-	0.317	-
HCM Control Delay (s)	24.6	-	28.7	-
HCM Lane LOS	C	-	D	-
HCM 95th %tile Q(veh)	1.2	-	1.3	-

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2028) PM - Access #1 Left-Over

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	114	12	493	5	12	9	631	1920	9	17	1762	97
Future Volume (vph)	114	12	493	5	12	9	631	1920	9	17	1762	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Storage Length (ft)	0		0	0		0	650		0	180		260
Storage Lanes	0		2	0		0	2		0	1		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	1.00	1.00	0.97	0.95	0.95	1.00	0.95	1.00
Frt			0.850		0.953			0.999				0.850
Flt Protected		0.957			0.990		0.950			0.950		
Satd. Flow (prot)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Flt Permitted		0.957			0.990		0.950			0.950		
Satd. Flow (perm)	0	1783	2787	0	1621	0	3433	3536	0	1770	3539	1583
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		368			623			1008			978	
Travel Time (s)		7.2			17.0			15.3			14.8	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	127	13	548	6	13	10	701	2133	10	19	1958	108
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	140	548	0	29	0	701	2143	0	19	1958	108
Turn Type	Split	NA	pm+ov	Split	NA		Prot	NA		Prot	NA	pm+ov
Protected Phases	3	3	5	4	4		5	2		1	6	3
Permitted Phases			3									6
Detector Phase	3	3	5	4	4		5	2		1	6	3
Switch Phase												
Minimum Initial (s)	7.0	7.0	7.0	7.0	7.0		7.0	12.0		7.0	12.0	7.0
Minimum Split (s)	13.6	13.6	13.7	13.7	13.7		13.7	18.1		13.5	18.1	13.6
Total Split (s)	19.4	19.4	42.0	13.7	13.7		42.0	133.4		13.5	104.9	19.4
Total Split (%)	10.8%	10.8%	23.3%	7.6%	7.6%		23.3%	74.1%		7.5%	58.3%	10.8%
Maximum Green (s)	12.8	12.8	35.3	7.0	7.0		35.3	127.3		7.0	98.8	12.8
Yellow Time (s)	3.8	3.8	3.0	3.2	3.2		3.0	4.4		3.0	4.6	3.8
All-Red Time (s)	2.8	2.8	3.7	3.5	3.5		3.7	1.7		3.5	1.5	2.8
Lost Time Adjust (s)		-1.6	-1.7		-1.7		-1.7	-1.1		-1.5	-1.1	-1.6
Total Lost Time (s)		5.0	5.0		5.0		5.0	5.0		5.0	5.0	5.0
Lead/Lag	Lead	Lead	Lead	Lag	Lag		Lead	Lead		Lag	Lag	Lead
Lead-Lag Optimize?												
Vehicle Extension (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Minimum Gap (s)	2.0	2.0	3.0	1.0	1.0		3.0	6.0		3.0	6.0	2.0
Time Before Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	15.0		0.0	15.0	0.0
Time To Reduce (s)	0.0	0.0	0.0	0.0	0.0		0.0	30.0		0.0	30.0	0.0
Recall Mode	None	None	None	None	None		None	C-Max		None	C-Max	None
Act Effect Green (s)		14.4	53.6		8.7		38.2	136.5		8.5	101.4	120.8
Actuated g/C Ratio		0.08	0.30		0.05		0.21	0.76		0.05	0.56	0.67
v/c Ratio		0.99	0.66		0.37		0.96	0.80		0.23	0.98	0.10
Control Delay		151.0	54.3		96.8		94.2	18.3		76.6	39.1	8.0

University Place TIA
100: US 15/501 (Fordham Blvd) & Estes Dr

Improved (2028) PM - Access #1 Left-Over

02/11/2021

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Queue Delay		0.0	0.0		0.0		0.0	0.0		0.0	0.0	0.0
Total Delay		151.0	54.3		96.8		94.2	18.3		76.6	39.1	8.0
LOS		F	D		F		F	B		E	D	A
Approach Delay		74.0			96.8			37.0			37.8	
Approach LOS		E			F			D			D	
Queue Length 50th (ft)		168	279		34		431	906		21	685	24
Queue Length 95th (ft)		#324	346		74		#571	1014		m28	#1368	m30
Internal Link Dist (ft)		288			543			928			898	
Turn Bay Length (ft)							650			180		260
Base Capacity (vph)		142	830		78		729	2682		83	1993	1062
Starvation Cap Reductn		0	0		0		0	0		0	0	0
Spillback Cap Reductn		0	0		0		0	0		0	0	0
Storage Cap Reductn		0	0		0		0	0		0	0	0
Reduced v/c Ratio		0.99	0.66		0.37		0.96	0.80		0.23	0.98	0.10

Intersection Summary

Area Type: Other

Cycle Length: 180

Actuated Cycle Length: 180

Offset: 68 (38%), Referenced to phase 2:NBT and 6:SBT, Start of Green

Natural Cycle: 150

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 42.1

Intersection LOS: D

Intersection Capacity Utilization 92.8%

ICU Level of Service F

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 100: US 15/501 (Fordham Blvd) & Estes Dr

			
Ø2 (R)	Ø1	Ø3	Ø4
133.4 s	13.5 s	19.4 s	13.7 s
			
Ø5	Ø6 (R)		
42 s	104.9 s		

University Place TIA
101: US 15/501 (Fordham Blvd) & UPlace Access #1

Improved (2028) PM - Access #1 Left-Over

02/11/2021

						
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	0	254	156	1887	1622	232
Future Volume (vph)	0	254	156	1887	1622	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0	300			275
Storage Lanes	0	1	1			1
Taper Length (ft)	100		100			
Lane Util. Factor	1.00	1.00	1.00	0.95	0.95	1.00
Frt		0.865				0.850
Flt Protected			0.950			
Satd. Flow (prot)	0	1611	1770	3539	3539	1583
Flt Permitted			0.950			
Satd. Flow (perm)	0	1611	1770	3539	3539	1583
Link Speed (mph)	25			45	45	
Link Distance (ft)	507			978	948	
Travel Time (s)	13.8			14.8	14.4	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%
Adj. Flow (vph)	0	282	173	2097	1802	258
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	282	173	2097	1802	258
Sign Control	Stop			Free	Free	

Intersection Summary

Area Type: Other

Control Type: Unsignalized

Intersection Capacity Utilization 67.2%

ICU Level of Service C

Analysis Period (min) 15

Intersection

Int Delay, s/veh 7.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗	↘	↗↘	↗↘	↗
Traffic Vol, veh/h	0	254	156	1887	1622	232
Future Vol, veh/h	0	254	156	1887	1622	232
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Stop	-	None	-	Free
Storage Length	-	0	300	-	-	275
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	282	173	2097	1802	258

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	901	1802
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.94	4.14
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.32	2.22
Pot Cap-1 Maneuver	0 ~ 281	338	-
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	- ~ 281	338	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	94.9	2	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT
Capacity (veh/h)	338	-	281	-
HCM Lane V/C Ratio	0.513	-	1.004	-
HCM Control Delay (s)	26.3	-	94.9	-
HCM Lane LOS	D	-	F	-
HCM 95th %tile Q(veh)	2.8	-	10.4	-

Notes

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

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 						 	
Traffic Volume (vph)	0	0	395	0	353	0	0	0	0	0	1876	87
Future Volume (vph)	0	0	395	0	353	0	0	0	0	0	1876	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	650		0	180		260
Storage Lanes	0		2	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850									0.850
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	3505	0	0	0	0	0	3539	1583
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	3505	0	0	0	0	0	3539	1583
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		368			469			1008			398	
Travel Time (s)		7.2			9.1			15.3			6.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	3%	2%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	0	0	439	0	392	0	0	0	0	0	2084	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	439	0	392	0	0	0	0	0	2084	97
Turn Type			Prot		NA						NA	Perm
Protected Phases			8		8						6	
Permitted Phases												6
Detector Phase			8		8						6	6
Switch Phase												
Minimum Initial (s)			7.0		7.0						12.0	12.0
Minimum Split (s)			14.0		14.0						19.0	19.0
Total Split (s)			16.0		16.0						44.0	44.0
Total Split (%)			26.7%		26.7%						73.3%	73.3%
Maximum Green (s)			9.0		9.0						37.0	37.0
Yellow Time (s)			5.0		5.0						5.0	5.0
All-Red Time (s)			2.0		2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	-2.0
Total Lost Time (s)			5.0		5.0						5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						6.0	6.0
Minimum Gap (s)			3.0		3.0						6.0	6.0
Time Before Reduce (s)			0.0		0.0						15.0	15.0
Time To Reduce (s)			0.0		0.0						30.0	30.0
Recall Mode			None		None						C-Min	C-Min
Act Effect Green (s)			11.0		11.0						39.0	39.0
Actuated g/C Ratio			0.18		0.18						0.65	0.65
v/c Ratio			0.86		0.61						0.91	0.09
Control Delay			43.4		27.2						8.7	0.9
Queue Delay			0.0		0.0						0.0	0.0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay			43.4		27.2						8.7	0.9
LOS			D		C						A	A
Approach Delay		43.4			27.2						8.3	
Approach LOS		D			C						A	
Queue Length 50th (ft)			88		69						21	2
Queue Length 95th (ft)			#168		109						#50	m3
Internal Link Dist (ft)		288			389			928			318	
Turn Bay Length (ft)												260
Base Capacity (vph)			510		642						2300	1028
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.86		0.61						0.91	0.09

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 16 (27%), Referenced to phase 6: SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.91

Intersection Signal Delay: 15.9

Intersection LOS: B

Intersection Capacity Utilization 74.0%

ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1000: US 15/501 (Fordham Blvd) & Estes Dr/Estes Dr NBR



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	7	0	0	0	22	0	1899	11	0	0	0
Future Volume (vph)	0	7	0	0	0	22	0	1899	11	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt						0.865			0.850			
Flt Protected												
Satd. Flow (prot)	0	1845	0	0	0	1588	0	3505	1568	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1845	0	0	0	1588	0	3505	1568	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		432			519			436			638	
Travel Time (s)		8.4			14.2			6.6			9.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	8	0	0	0	24	0	2110	12	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	8	0	0	0	24	0	2110	12	0	0	0
Turn Type		NA				Perm		NA	Perm			
Protected Phases		4						2				
Permitted Phases						8			2			
Detector Phase		4				8		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		14.0				14.0		19.0	19.0			
Total Split (s)		14.0				14.0		76.0	76.0			
Total Split (%)		15.6%				15.6%		84.4%	84.4%			
Maximum Green (s)		7.0				7.0		69.0	69.0			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0	3.0			
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		9.0				9.0		82.4	82.4			
Actuated g/C Ratio		0.10				0.10		0.92	0.92			
v/c Ratio		0.04				0.15		0.66	0.01			
Control Delay		37.3				39.6		3.9	1.7			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		37.3				39.6		3.9	1.7			
LOS		D				D		A	A			
Approach Delay		37.3			39.6			3.9				
Approach LOS		D			D			A				
Queue Length 50th (ft)		4				13		0	0			
Queue Length 95th (ft)		18				37		330	4			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		352			439			356			558	
Turn Bay Length (ft)												
Base Capacity (vph)		184				158		3209	1435			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.04				0.15		0.66	0.01			

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 31 (34%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.66

Intersection Signal Delay: 4.4

Intersection Capacity Utilization 66.7%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service C

Splits and Phases: 1001: US 15/501 (Fordham Blvd) & Estes Dr SBL/Estes Dr

 Ø2 (R)	 Ø4
76 s	14 s
	 Ø8
	14 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											  	
Traffic Volume (vph)	0	0	63	13	68	0	0	0	0	0	1894	84
Future Volume (vph)	0	0	63	13	68	0	0	0	0	0	1894	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	0		275
Storage Lanes	0		1	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.865									0.850
Flt Protected					0.992							
Satd. Flow (prot)	0	0	1611	0	1830	0	0	0	0	0	3539	1583
Flt Permitted					0.992							
Satd. Flow (perm)	0	0	1611	0	1830	0	0	0	0	0	3539	1583
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		507			375			348			494	
Travel Time (s)		13.8			7.3			5.3			7.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	3%	2%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	0	0	70	14	76	0	0	0	0	0	2104	93
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	70	0	90	0	0	0	0	0	2104	93
Turn Type			Perm	Perm	NA						NA	Perm
Protected Phases					8						6	
Permitted Phases			4	8								6
Detector Phase			4	8	8						6	6
Switch Phase												
Minimum Initial (s)			7.0	7.0	7.0						12.0	12.0
Minimum Split (s)			14.0	14.0	14.0						19.0	19.0
Total Split (s)			14.0	14.0	14.0						46.0	46.0
Total Split (%)			23.3%	23.3%	23.3%						76.7%	76.7%
Maximum Green (s)			7.0	7.0	7.0						39.0	39.0
Yellow Time (s)			5.0	5.0	5.0						5.0	5.0
All-Red Time (s)			2.0	2.0	2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	-2.0
Total Lost Time (s)			5.0		5.0						5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0	3.0	3.0						3.0	3.0
Recall Mode			None	None	None						C-Min	C-Min
Act Effect Green (s)			9.0		9.0						44.8	44.8
Actuated g/C Ratio			0.15		0.15						0.75	0.75
v/c Ratio			0.29		0.33						0.80	0.08
Control Delay			26.3		26.6						10.1	3.4
Queue Delay			0.0		0.0						0.0	0.0
Total Delay			26.3		26.6						10.1	3.4
LOS			C		C						B	A
Approach Delay		26.3			26.6						9.8	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		C			C						A	
Queue Length 50th (ft)			23		30						246	9
Queue Length 95th (ft)			55		66						#365	20
Internal Link Dist (ft)		427			295			268			414	
Turn Bay Length (ft)												275
Base Capacity (vph)			241		274						2642	1181
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.29		0.33						0.80	0.08

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.80

Intersection Signal Delay: 11.0

Intersection LOS: B

Intersection Capacity Utilization 76.5%

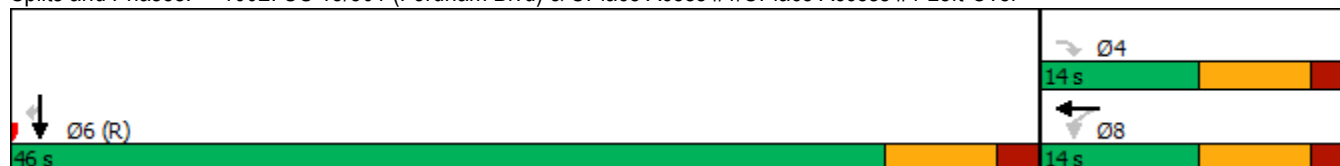
ICU Level of Service D

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1002: US 15/501 (Fordham Blvd) & UPlace Access #1/UPlace Access #1 Left-Over



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations			 		 						 	
Traffic Volume (vph)	0	0	619	0	631	0	0	0	0	0	1767	109
Future Volume (vph)	0	0	619	0	631	0	0	0	0	0	1767	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	650		0	180		260
Storage Lanes	0		2	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.850									0.850
Flt Protected												
Satd. Flow (prot)	0	0	2787	0	3505	0	0	0	0	0	3539	1583
Flt Permitted												
Satd. Flow (perm)	0	0	2787	0	3505	0	0	0	0	0	3539	1583
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			35			45			45	
Link Distance (ft)		368			469			1008			398	
Travel Time (s)		7.2			9.1			15.3			6.0	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	3%	2%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	0	0	688	0	701	0	0	0	0	0	1963	121
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	688	0	701	0	0	0	0	0	1963	121
Turn Type			Prot		NA						NA	Perm
Protected Phases			8		8						6	
Permitted Phases												6
Detector Phase			8		8						6	6
Switch Phase												
Minimum Initial (s)			7.0		7.0						12.0	12.0
Minimum Split (s)			14.0		14.0						19.0	19.0
Total Split (s)			20.0		20.0						40.0	40.0
Total Split (%)			33.3%		33.3%						66.7%	66.7%
Maximum Green (s)			13.0		13.0						33.0	33.0
Yellow Time (s)			5.0		5.0						5.0	5.0
All-Red Time (s)			2.0		2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	-2.0
Total Lost Time (s)			5.0		5.0						5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0		3.0						6.0	6.0
Minimum Gap (s)			3.0		3.0						6.0	6.0
Time Before Reduce (s)			0.0		0.0						15.0	15.0
Time To Reduce (s)			0.0		0.0						30.0	30.0
Recall Mode			None		None						C-Min	C-Min
Act Effect Green (s)			15.0		15.0						35.0	35.0
Actuated g/C Ratio			0.25		0.25						0.58	0.58
v/c Ratio			0.99		0.80						0.95	0.13
Control Delay			57.2		29.8						15.3	2.4
Queue Delay			0.0		0.0						0.0	0.0

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay			57.2		29.8						15.3	2.4
LOS			E		C						B	A
Approach Delay		57.2			29.8						14.5	
Approach LOS		E			C						B	
Queue Length 50th (ft)			140		124						64	7
Queue Length 95th (ft)			#252		#203						#497	m10
Internal Link Dist (ft)		288			389			928			318	
Turn Bay Length (ft)												260
Base Capacity (vph)			696		876						2064	923
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.99		0.80						0.95	0.13

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 15 (25%), Referenced to phase 6: SBT, Start of Green

Natural Cycle: 75

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.99

Intersection Signal Delay: 26.1

Intersection LOS: C

Intersection Capacity Utilization 78.8%

ICU Level of Service D

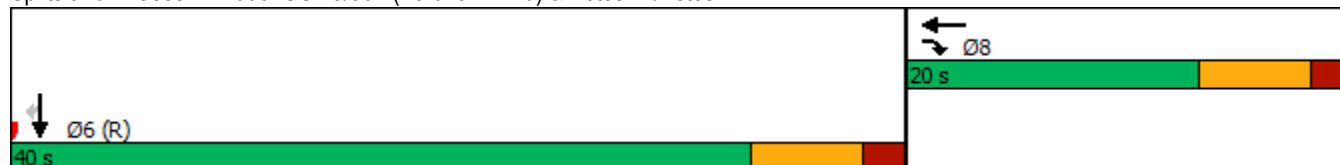
Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Splits and Phases: 1000: US 15/501 (Fordham Blvd) & Estes Dr/Estes Dr NBR



												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	0	17	0	0	0	26	0	2034	21	0	0	0
Future Volume (vph)	0	17	0	0	0	26	0	2034	21	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			1%			0%			0%	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	1.00	1.00	1.00
Frt						0.865			0.850			
Flt Protected												
Satd. Flow (prot)	0	1845	0	0	0	1588	0	3505	1568	0	0	0
Flt Permitted												
Satd. Flow (perm)	0	1845	0	0	0	1588	0	3505	1568	0	0	0
Right Turn on Red	No		No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		35			25			45			45	
Link Distance (ft)		432			519			436			638	
Travel Time (s)		8.4			14.2			6.6			9.7	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	0	19	0	0	0	29	0	2260	23	0	0	0
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	19	0	0	0	29	0	2260	23	0	0	0
Turn Type		NA				Perm		NA	Perm			
Protected Phases		4						2				
Permitted Phases						8			2			
Detector Phase		4				8		2	2			
Switch Phase												
Minimum Initial (s)		7.0				7.0		12.0	12.0			
Minimum Split (s)		14.0				14.0		19.0	19.0			
Total Split (s)		14.0				14.0		76.0	76.0			
Total Split (%)		15.6%				15.6%		84.4%	84.4%			
Maximum Green (s)		7.0				7.0		69.0	69.0			
Yellow Time (s)		5.0				5.0		5.0	5.0			
All-Red Time (s)		2.0				2.0		2.0	2.0			
Lost Time Adjust (s)		-2.0				-2.0		-2.0	-2.0			
Total Lost Time (s)		5.0				5.0		5.0	5.0			
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)		3.0				3.0		3.0	3.0			
Recall Mode		None				None		C-Max	C-Max			
Act Effct Green (s)		9.0				9.0		82.4	82.4			
Actuated g/C Ratio		0.10				0.10		0.92	0.92			
v/c Ratio		0.10				0.18		0.70	0.02			
Control Delay		38.4				40.2		4.6	1.6			
Queue Delay		0.0				0.0		0.0	0.0			
Total Delay		38.4				40.2		4.6	1.6			
LOS		D				D		A	A			
Approach Delay		38.4			40.2			4.6				
Approach LOS		D			D			A				
Queue Length 50th (ft)		10				15		0	0			
Queue Length 95th (ft)		31				42		403	6			

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Internal Link Dist (ft)		352			439			356			558	
Turn Bay Length (ft)												
Base Capacity (vph)		184				158		3209	1435			
Starvation Cap Reductn		0				0		0	0			
Spillback Cap Reductn		0				0		0	0			
Storage Cap Reductn		0				0		0	0			
Reduced v/c Ratio		0.10				0.18		0.70	0.02			

Intersection Summary

Area Type: Other

Cycle Length: 90

Actuated Cycle Length: 90

Offset: 72 (80%), Referenced to phase 2:NBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.70

Intersection Signal Delay: 5.3

Intersection Capacity Utilization 70.4%

Analysis Period (min) 15

Intersection LOS: A

ICU Level of Service C

Splits and Phases: 1001: US 15/501 (Fordham Blvd) & Estes Dr SBL/Estes Dr

 Ø2 (R)	 Ø4
76 s	14 s
	 Ø8
	14 s

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											 	
Traffic Volume (vph)	0	0	254	17	156	0	0	0	0	0	1622	232
Future Volume (vph)	0	0	254	17	156	0	0	0	0	0	1622	232
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0	200		0	0		275
Storage Lanes	0		1	0		0	0		0	0		1
Taper Length (ft)	100			100			100			100		
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00
Frt			0.865									0.850
Flt Protected					0.995							
Satd. Flow (prot)	0	0	1611	0	1835	0	0	0	0	0	3539	1583
Flt Permitted					0.995							
Satd. Flow (perm)	0	0	1611	0	1835	0	0	0	0	0	3539	1583
Right Turn on Red			No	No		No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			35			45			45	
Link Distance (ft)		507			375			348			494	
Travel Time (s)		13.8			7.3			5.3			7.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles (%)	2%	3%	2%	3%	3%	3%	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	0	0	282	19	173	0	0	0	0	0	1802	258
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	282	0	192	0	0	0	0	0	1802	258
Turn Type			Perm	Perm	NA						NA	Perm
Protected Phases					8						6	
Permitted Phases			4	8								6
Detector Phase			4	8	8						6	6
Switch Phase												
Minimum Initial (s)			7.0	7.0	7.0						12.0	12.0
Minimum Split (s)			14.0	14.0	14.0						19.0	19.0
Total Split (s)			19.0	19.0	19.0						41.0	41.0
Total Split (%)			31.7%	31.7%	31.7%						68.3%	68.3%
Maximum Green (s)			12.0	12.0	12.0						34.0	34.0
Yellow Time (s)			5.0	5.0	5.0						5.0	5.0
All-Red Time (s)			2.0	2.0	2.0						2.0	2.0
Lost Time Adjust (s)			-2.0		-2.0						-2.0	-2.0
Total Lost Time (s)			5.0		5.0						5.0	5.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)			3.0	3.0	3.0						3.0	3.0
Recall Mode			None	None	None						C-Min	C-Min
Act Effct Green (s)			13.6		13.6						36.4	36.4
Actuated g/C Ratio			0.23		0.23						0.61	0.61
v/c Ratio			0.77		0.46						0.84	0.27
Control Delay			38.5		24.0						14.6	6.6
Queue Delay			0.0		0.0						0.0	0.0
Total Delay			38.5		24.0						14.6	6.6
LOS			D		C						B	A
Approach Delay		38.5			24.0						13.6	

												
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Approach LOS		D			C						B	
Queue Length 50th (ft)			95		60						242	39
Queue Length 95th (ft)			#201		113						344	71
Internal Link Dist (ft)		427			295			268			414	
Turn Bay Length (ft)												275
Base Capacity (vph)			375		428						2144	959
Starvation Cap Reductn			0		0						0	0
Spillback Cap Reductn			0		0						0	0
Storage Cap Reductn			0		0						0	0
Reduced v/c Ratio			0.75		0.45						0.84	0.27

Intersection Summary

Area Type: Other

Cycle Length: 60

Actuated Cycle Length: 60

Offset: 0 (0%), Referenced to phase 6:SBT, Start of Green

Natural Cycle: 60

Control Type: Actuated-Coordinated

Maximum v/c Ratio: 0.84

Intersection Signal Delay: 17.2

Intersection LOS: B

Intersection Capacity Utilization 82.2%

ICU Level of Service E

Analysis Period (min) 15

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

Splits and Phases: 1002: US 15/501 (Fordham Blvd) & UPlace Access #1/UPlace Access #1 Left-Over



Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	175	218	218	95	291	370	403	391	64	385	399	96
Average Queue (ft)	63	110	105	25	166	225	138	129	8	219	232	21
95th Queue (ft)	133	185	185	68	285	327	300	287	49	366	371	79
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)		0	0									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)						0	0			20	9	
Queuing Penalty (veh)						0	1			1	7	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Access #1

Movement											
Directions Served											
Maximum Queue (ft)											
Average Queue (ft)											
95th Queue (ft)											
Link Distance (ft)											
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)											
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	170	148	120	177	84	229	248	36	215	239	81
Average Queue (ft)	84	51	48	86	32	86	99	9	73	90	20
95th Queue (ft)	153	109	100	157	70	186	200	31	163	183	60
Link Distance (ft)		370		466		892	892		720	720	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	2	0	0	2		0			0		
Queuing Penalty (veh)	1	0	0	1		0			0		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	R
Maximum Queue (ft)	133	268	207	53	66	162	165	36
Average Queue (ft)	41	133	95	7	15	39	38	4
95th Queue (ft)	98	233	170	32	49	119	120	20
Link Distance (ft)		897		720	720	1295	1295	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	160		320					180
Storage Blk Time (%)		9				0	0	
Queuing Penalty (veh)		3				0	0	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	L	T	TR
Maximum Queue (ft)	65	192	238	290	291	164	285	298	399	546	539
Average Queue (ft)	17	87	119	175	145	64	153	168	101	318	314
95th Queue (ft)	50	161	233	263	256	136	262	276	276	530	526
Link Distance (ft)		498			499		1295	1295		583	583
Upstream Blk Time (%)										0	0
Queuing Penalty (veh)										0	0
Storage Bay Dist (ft)	100		280	280		420			300		
Storage Blk Time (%)	0	11	0	0	1					11	
Queuing Penalty (veh)	0	2	0	1	1					8	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	400	343	250	343	142	166	257	234	168	342	348
Average Queue (ft)	236	179	82	169	48	49	149	121	77	186	189
95th Queue (ft)	367	302	183	293	111	114	229	211	146	297	304
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	525		150			150			300		
Storage Blk Time (%)			1	18		0	9			1	
Queuing Penalty (veh)			2	20		0	5			1	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	169	87	87	27	120	108	64	63	179
Average Queue (ft)	78	12	17	2	36	28	17	17	91
95th Queue (ft)	137	51	58	15	89	78	46	49	156
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					0	0		0	5
Queuing Penalty (veh)					0	0		0	6
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	4	0							
Queuing Penalty (veh)	5	0							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	EB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	6	4	2	26
Average Queue (ft)	0	0	0	2
95th Queue (ft)	4	4	2	15
Link Distance (ft)	107	107	515	118
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	LT	R
Maximum Queue (ft)	28	18	7	35	14	30
Average Queue (ft)	3	1	0	14	1	7
95th Queue (ft)	16	9	7	37	7	27
Link Distance (ft)			471	267	327	327
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	75	75				
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	26	9	17	55	27
Average Queue (ft)	3	0	1	14	4
95th Queue (ft)	17	6	11	43	19
Link Distance (ft)		124	124	246	246
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	75				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	WB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	56	25	47	82
Average Queue (ft)	6	1	3	33
95th Queue (ft)	32	16	23	66
Link Distance (ft)	124	250	250	323
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	NB	SB	SB
Directions Served	LTR	LTR	L	TR
Maximum Queue (ft)	27	57	5	22
Average Queue (ft)	3	3	0	1
95th Queue (ft)	18	27	4	12
Link Distance (ft)	109	112		119
Upstream Blk Time (%)		0		
Queuing Penalty (veh)		0		
Storage Bay Dist (ft)			45	
Storage Blk Time (%)			0	0
Queuing Penalty (veh)			0	0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	R	L	TR	L
Maximum Queue (ft)	31	46	31	20	3	17
Average Queue (ft)	4	10	5	1	0	1
95th Queue (ft)	20	35	22	11	3	10
Link Distance (ft)	126	192	192		119	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				45		75
Storage Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	

Intersection: 303: Willow Ave & Conner Drive

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	63	8	53
Average Queue (ft)	20	0	23
95th Queue (ft)	52	5	49
Link Distance (ft)		251	354
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	2	38	57	57
Average Queue (ft)	0	7	26	24
95th Queue (ft)	2	29	52	51
Link Distance (ft)	251		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	38	29	57
Average Queue (ft)	6	5	21
95th Queue (ft)	28	22	47
Link Distance (ft)		228	228
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	75		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 67

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	235	207	190	106	391	421	395	383	111	353	369	147
Average Queue (ft)	111	107	101	30	216	265	169	160	18	216	229	34
95th Queue (ft)	194	186	179	76	347	385	321	307	70	337	349	117
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)	0	0										
Queuing Penalty (veh)	0	0										
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)					0	0	0			22	8	
Queuing Penalty (veh)					0	3	1			4	8	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Access #1

Movement	EB
Directions Served	R
Maximum Queue (ft)	38
Average Queue (ft)	2
95th Queue (ft)	22
Link Distance (ft)	471
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	260	378	84	154	90	283	301	106	343	359	97
Average Queue (ft)	203	177	28	74	29	115	124	32	184	204	30
95th Queue (ft)	288	364	67	136	68	248	260	83	352	371	78
Link Distance (ft)		370		466		892	892		720	720	
Upstream Blk Time (%)		2									
Queuing Penalty (veh)		8									
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	30	4		1		1			5		
Queuing Penalty (veh)	38	10		0		0			2		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd

Movement	EB	EB	NB	NB	NB	SB	SB	SB
Directions Served	L	R	L	T	T	T	T	R
Maximum Queue (ft)	260	395	207	151	171	380	446	280
Average Queue (ft)	153	206	100	60	75	189	212	65
95th Queue (ft)	260	334	177	143	174	326	366	232
Link Distance (ft)		897		720	720	1295	1295	
Upstream Blk Time (%)								
Queuing Penalty (veh)								
Storage Bay Dist (ft)	160		320					180
Storage Blk Time (%)	12	22				8	8	
Queuing Penalty (veh)	26	29				0	14	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	200	396	309	354	365	190	414	431	62	345	533	565
Average Queue (ft)	108	205	172	222	145	91	215	238	2	114	304	322
95th Queue (ft)	203	374	270	314	271	169	408	432	37	241	493	510
Link Distance (ft)		498			499		1295	1295			583	583
Upstream Blk Time (%)		0			0						0	0
Queuing Penalty (veh)		0			0						0	0
Storage Bay Dist (ft)	100		280	280		420			460	300		
Storage Blk Time (%)	14	45	0	3	1		0	0		0	10	
Queuing Penalty (veh)	25	37	0	5	5		0	0		0	10	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	440	503	250	671	286	250	506	464	287	500	558
Average Queue (ft)	253	294	179	328	142	92	305	276	91	298	349
95th Queue (ft)	385	457	299	593	247	224	444	408	188	432	502
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)										0	0
Queuing Penalty (veh)										0	0
Storage Bay Dist (ft)	525		150			150			300		
Storage Blk Time (%)	0	0	14	40		1	36			7	
Queuing Penalty (veh)	1	1	45	79		4	22			7	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	199	278	77	39	171	134	59	116	192
Average Queue (ft)	132	48	26	6	79	55	17	50	134
95th Queue (ft)	203	170	62	26	158	119	46	95	204
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					4	1		0	16
Queuing Penalty (veh)					5	2		1	37
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	16	0							
Queuing Penalty (veh)	22	0							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	40	92	32
Average Queue (ft)	2	7	5
95th Queue (ft)	17	51	24
Link Distance (ft)	107	515	118
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	LT	R
Maximum Queue (ft)	39	27	4	28	63	66
Average Queue (ft)	10	2	0	6	23	27
95th Queue (ft)	33	14	4	25	52	54
Link Distance (ft)			471	267	327	327
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	75	75				
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	40	25	54	87	42
Average Queue (ft)	6	1	3	38	17
95th Queue (ft)	28	12	28	70	43
Link Distance (ft)		124	124	246	246
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)	75				
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (ft)	70	5	30	54	98
Average Queue (ft)	8	0	1	3	37
95th Queue (ft)	38	5	17	24	73
Link Distance (ft)	124	124	250	250	323
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	32	20	78	104
Average Queue (ft)	7	1	5	11
95th Queue (ft)	26	11	38	56
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)			0	0
Queuing Penalty (veh)			0	1
Storage Bay Dist (ft)				
Storage Blk Time (%)				1
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	30	79	54	29	12	32	5
Average Queue (ft)	7	32	15	2	0	6	0
95th Queue (ft)	28	62	43	15	7	23	5
Link Distance (ft)	126	192	192		119		283
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)				45		75	
Storage Blk Time (%)				0	0		
Queuing Penalty (veh)				0	0		

Intersection: 303: Willow Ave & Conner Drive

Movement	EB	SB
Directions Served	L	LR
Maximum Queue (ft)	45	129
Average Queue (ft)	10	59
95th Queue (ft)	35	103
Link Distance (ft)		354
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)	125	
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	31	53	113	70
Average Queue (ft)	2	17	51	37
95th Queue (ft)	14	46	90	59
Link Distance (ft)	251		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	112	68	33	65
Average Queue (ft)	11	23	8	30
95th Queue (ft)	75	55	30	53
Link Distance (ft)	677		228	228
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		75		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Network Summary

Network wide Queuing Penalty: 451

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	169	256	255	98	345	402	406	412	88	552	566	332
Average Queue (ft)	67	135	129	23	181	234	157	153	8	319	333	49
95th Queue (ft)	136	219	214	65	303	341	338	337	49	503	508	208
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)	0	0	0				0	0				
Queuing Penalty (veh)	0	1	0				0	0				
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)					0	0	0			28	24	
Queuing Penalty (veh)					0	0	2			2	19	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Access #1

Movement											
Directions Served											
Maximum Queue (ft)											
Average Queue (ft)											
95th Queue (ft)											
Link Distance (ft)											
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)											
Storage Blk Time (%)											
Queuing Penalty (veh)											

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	182	138	137	194	167	286	307	50	284	312	94
Average Queue (ft)	80	55	56	86	46	105	119	11	122	141	29
95th Queue (ft)	157	114	115	160	109	224	240	36	243	268	73
Link Distance (ft)		370		466		892	892		700	700	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	2	0	0	2		1			0		
Queuing Penalty (veh)	1	0	0	1		0			0		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	67	246	234	210	246	53	50	228	165	183	41	17
Average Queue (ft)	20	43	116	102	147	11	10	116	69	81	7	1
95th Queue (ft)	54	169	206	210	226	37	34	197	142	155	26	11
Link Distance (ft)	890	890				714			700	700		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		3	6		0					1		
Queuing Penalty (veh)		4	1		0					1		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	369	404	231
Average Queue (ft)	168	179	20
95th Queue (ft)	315	340	111
Link Distance (ft)	1286	1286	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	7	10	
Queuing Penalty (veh)	0	7	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	L	T	TR
Maximum Queue (ft)	175	237	202	260	323	164	332	346	399	616	606
Average Queue (ft)	70	109	79	139	174	67	187	202	140	456	445
95th Queue (ft)	143	196	189	231	297	133	303	318	346	676	660
Link Distance (ft)		498			499		1286	1286		583	583
Upstream Blk Time (%)					0					3	4
Queuing Penalty (veh)					0					0	0
Storage Bay Dist (ft)	100		280	280		420			300		
Storage Blk Time (%)	8	16		0	2					21	
Queuing Penalty (veh)	8	12		0	3					17	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	448	374	238	387	127	171	283	253	201	350	354
Average Queue (ft)	246	207	94	193	45	54	164	139	79	205	210
95th Queue (ft)	377	337	217	333	100	123	261	229	156	322	329
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	525		150			150			300		
Storage Blk Time (%)		0	1	21		0	13		0	1	
Queuing Penalty (veh)		0	3	24		0	7		0	1	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	189	61	87	29	130	116	56	70	176
Average Queue (ft)	85	11	22	3	44	30	17	23	91
95th Queue (ft)	154	42	65	16	101	84	46	57	156
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					1	0			5
Queuing Penalty (veh)					1	0			6
Storage Bay Dist (ft)	300								
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	SB
Directions Served	LT	LR
Maximum Queue (ft)	6	26
Average Queue (ft)	0	2
95th Queue (ft)	6	13
Link Distance (ft)	107	118
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	LTR	LT	R
Maximum Queue (ft)	28	21	38	12	35
Average Queue (ft)	4	2	13	1	7
95th Queue (ft)	18	12	38	7	27
Link Distance (ft)			267	327	327
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	75	75			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	29	4	24	52	30
Average Queue (ft)	2	0	1	13	4
95th Queue (ft)	15	4	11	41	22
Link Distance (ft)		124	124	246	246
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	75				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (ft)	43	5	31	66	97
Average Queue (ft)	4	0	1	3	35
95th Queue (ft)	23	5	16	30	74
Link Distance (ft)	124	124	250	250	323
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	NB	SB	SB
Directions Served	LTR	LTR	L	TR
Maximum Queue (ft)	25	32	9	9
Average Queue (ft)	3	2	0	0
95th Queue (ft)	16	16	6	5
Link Distance (ft)	109	112		119
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)			45	
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	L	L
Maximum Queue (ft)	31	50	31	17	23
Average Queue (ft)	3	9	3	1	1
95th Queue (ft)	17	36	19	8	10
Link Distance (ft)	126	192	192		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				45	75
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 303: Willow Ave & Conner Drive

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	64	6	66
Average Queue (ft)	20	0	30
95th Queue (ft)	52	4	57
Link Distance (ft)		251	354
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	2	39	64	53
Average Queue (ft)	0	6	28	24
95th Queue (ft)	2	27	54	51
Link Distance (ft)	251		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	36	29	55
Average Queue (ft)	7	4	20
95th Queue (ft)	29	20	44
Link Distance (ft)		228	228
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	75		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 123

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	224	222	220	94	404	485	494	472	258	558	559	360
Average Queue (ft)	107	113	111	28	251	302	207	207	32	335	347	81
95th Queue (ft)	190	198	194	72	375	426	398	385	144	507	517	288
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)	0	0	0									
Queuing Penalty (veh)	0	0	0									
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)					0	0	0			33	27	
Queuing Penalty (veh)					0	2	2			6	27	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Acess #1

Movement	EB	NB	NB
Directions Served	R	T	T
Maximum Queue (ft)	75	84	80
Average Queue (ft)	6	8	8
95th Queue (ft)	45	133	121
Link Distance (ft)	471	919	919
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	259	439	93	167	230	576	602	112	349	358	94
Average Queue (ft)	214	196	30	74	46	211	229	34	180	200	24
95th Queue (ft)	291	400	74	143	129	479	491	85	332	344	66
Link Distance (ft)		370		466		892	892		702	702	
Upstream Blk Time (%)		3				1	1				
Queuing Penalty (veh)		11				7	7				
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	31	4		1		8			3		
Queuing Penalty (veh)	42	9		0		4			1		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	444	386	150	178	200	109	21	350	284	283	140	245
Average Queue (ft)	272	162	137	68	126	25	2	168	72	85	14	24
95th Queue (ft)	473	372	171	172	199	73	12	299	195	205	67	131
Link Distance (ft)	897	897				690			702	702		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		2	25			0		2	0	3		
Queuing Penalty (veh)		4	4			0		15	0	4		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	630	686	280
Average Queue (ft)	461	498	124
95th Queue (ft)	658	694	323
Link Distance (ft)	1287	1287	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	29	30	
Queuing Penalty (veh)	3	46	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	200	415	236	263	309	332	546	553	186	400	608	610
Average Queue (ft)	134	205	107	160	171	114	296	323	12	217	472	494
95th Queue (ft)	220	380	213	235	277	251	522	544	142	424	694	707
Link Distance (ft)		498			499		1287	1287			583	583
Upstream Blk Time (%)		2									8	9
Queuing Penalty (veh)		0									0	0
Storage Bay Dist (ft)	100		280	280		420			460	300		
Storage Blk Time (%)	28	41	0	0	1		2	2		2	26	
Queuing Penalty (veh)	50	45	0	0	3		2	3		11	34	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	449	499	250	1009	789	250	511	470	352	559	596
Average Queue (ft)	275	325	210	620	310	99	334	304	101	315	374
95th Queue (ft)	422	480	315	1202	930	240	470	435	225	475	548
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)				4	2					0	1
Queuing Penalty (veh)				15	7					0	0
Storage Bay Dist (ft)	525		150			150			300		
Storage Blk Time (%)	0	0	27	57		0	39			9	
Queuing Penalty (veh)	0	1	97	119		2	24			9	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	199	266	92	35	185	157	51	117	198
Average Queue (ft)	130	50	30	7	98	68	15	53	138
95th Queue (ft)	201	165	74	26	183	139	40	98	209
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					9	3		1	17
Queuing Penalty (veh)					14	4		2	39
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	16	0							
Queuing Penalty (veh)	25	0							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	27	204	31
Average Queue (ft)	1	24	6
95th Queue (ft)	13	140	25
Link Distance (ft)	107	515	118
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	L	TR	LTR	LT	R
Maximum Queue (ft)	57	12	27	15	31	58	62
Average Queue (ft)	12	0	2	1	6	24	25
95th Queue (ft)	37	12	16	11	25	52	52
Link Distance (ft)		515		471	267	327	327
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75		75				
Storage Blk Time (%)	0						
Queuing Penalty (veh)	0						

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	TR	L	R
Maximum Queue (ft)	39	11	25	70	95	42
Average Queue (ft)	6	0	1	6	36	16
95th Queue (ft)	28	8	15	36	71	42
Link Distance (ft)		471	124	124	246	246
Upstream Blk Time (%)				0		
Queuing Penalty (veh)				0		
Storage Bay Dist (ft)	75					
Storage Blk Time (%)		0				
Queuing Penalty (veh)		0				

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	WB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	84	21	37	106
Average Queue (ft)	11	1	1	41
95th Queue (ft)	49	11	16	80
Link Distance (ft)	124	250	250	323
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	41	20	90	125
Average Queue (ft)	10	1	9	16
95th Queue (ft)	33	10	54	75
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)			0	0
Queuing Penalty (veh)			2	2
Storage Bay Dist (ft)				
Storage Blk Time (%)				2
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	38	89	60	21	6	32	1
Average Queue (ft)	8	34	15	2	0	5	0
95th Queue (ft)	30	70	45	12	4	22	1
Link Distance (ft)	126	192	192		119		283
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)				45		75	
Storage Blk Time (%)				0		0	
Queuing Penalty (veh)				0		0	

Intersection: 303: Willow Ave & Conner Drive

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	46	2	135
Average Queue (ft)	10	0	62
95th Queue (ft)	37	2	105
Link Distance (ft)		251	354
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	17	50	110	72
Average Queue (ft)	1	16	47	37
95th Queue (ft)	9	44	82	59
Link Distance (ft)	251		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	72	74	20	30	69
Average Queue (ft)	4	25	1	8	33
95th Queue (ft)	39	59	14	29	57
Link Distance (ft)	677		370	228	228
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		1	0		
Queuing Penalty (veh)		2	0		

Network Summary

Network wide Queuing Penalty: 709

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	167	228	220	92	347	380	368	362	116	582	592	360
Average Queue (ft)	74	130	127	24	186	240	161	152	9	352	364	61
95th Queue (ft)	144	215	208	67	311	342	311	303	58	556	561	251
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)		0	0									
Queuing Penalty (veh)		0	0									
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)						0	0			30	28	
Queuing Penalty (veh)						0	0			2	22	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Acess #1

Movement	EB	NB	SB
Directions Served	R	T	T
Maximum Queue (ft)	12	5	4
Average Queue (ft)	1	0	0
95th Queue (ft)	21	5	4
Link Distance (ft)	471	919	892
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	178	157	139	189	129	282	287	46	286	310	104
Average Queue (ft)	78	58	61	85	45	107	117	13	126	144	28
95th Queue (ft)	150	124	117	160	99	226	232	39	249	264	76
Link Distance (ft)		370		466		892	892		700	700	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	1	0	0	2		1			1		
Queuing Penalty (veh)	1	0	0	1		0			0		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	81	260	235	192	226	57	57	243	202	209	66	20
Average Queue (ft)	26	46	119	89	141	14	13	112	78	90	8	1
95th Queue (ft)	67	176	204	197	216	42	39	204	158	168	38	9
Link Distance (ft)	890	890				714			700	700		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		4	5					0	0	2		
Queuing Penalty (veh)		5	0					0	0	2		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	377	406	257
Average Queue (ft)	179	192	25
95th Queue (ft)	334	361	136
Link Distance (ft)	1286	1286	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	9	12	
Queuing Penalty (veh)	0	9	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	L	T	TR
Maximum Queue (ft)	179	212	203	281	370	148	363	389	400	609	610
Average Queue (ft)	70	102	78	141	188	61	199	218	154	473	462
95th Queue (ft)	135	180	191	233	323	125	320	335	381	697	688
Link Distance (ft)		498			499		1286	1286		583	583
Upstream Blk Time (%)					0					6	7
Queuing Penalty (veh)					0					0	0
Storage Bay Dist (ft)	100		280	280		420			300		
Storage Blk Time (%)	8	16		0	3		0	0		22	
Queuing Penalty (veh)	8	12		0	6		0	0		18	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	448	379	250	403	143	130	305	280	204	378	376
Average Queue (ft)	259	197	83	195	52	47	167	139	77	206	217
95th Queue (ft)	400	324	192	346	112	105	252	236	149	320	337
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	525		150			150			300		
Storage Blk Time (%)	0	0	0	21		0	13			1	
Queuing Penalty (veh)	0	0	1	26		0	7			1	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	171	56	95	26	146	123	60	68	171
Average Queue (ft)	78	10	24	3	43	33	17	24	88
95th Queue (ft)	144	36	70	17	103	87	45	57	149
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					1	0			4
Queuing Penalty (veh)					1	0			5
Storage Bay Dist (ft)	300								
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	3	25	23
Average Queue (ft)	0	1	1
95th Queue (ft)	4	16	12
Link Distance (ft)	107	515	118
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	LT	R
Maximum Queue (ft)	22	1	18	3	50	9	30
Average Queue (ft)	3	0	1	0	15	0	8
95th Queue (ft)	15	1	9	3	42	5	29
Link Distance (ft)		515		471	267	327	327
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75		75				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	30	19	44	45	30
Average Queue (ft)	2	1	2	14	3
95th Queue (ft)	16	10	22	41	17
Link Distance (ft)		124	124	246	246
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)	75				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	WB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	52	20	42	91
Average Queue (ft)	6	1	3	34
95th Queue (ft)	31	12	27	69
Link Distance (ft)	124	250	250	323
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	NB	SB
Directions Served	LTR	LTR	TR
Maximum Queue (ft)	28	14	15
Average Queue (ft)	3	1	1
95th Queue (ft)	18	9	11
Link Distance (ft)	109	112	119
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	R	L	TR	L
Maximum Queue (ft)	31	48	31	26	3	26
Average Queue (ft)	4	8	4	2	0	2
95th Queue (ft)	21	33	21	13	3	12
Link Distance (ft)	126	192	192		119	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				45		75
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 303: Willow Ave & Conner Drive

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	60	11	73
Average Queue (ft)	20	1	30
95th Queue (ft)	50	8	57
Link Distance (ft)		251	354
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	2	33	69	60
Average Queue (ft)	0	6	28	23
95th Queue (ft)	2	26	55	52
Link Distance (ft)	251		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	43	29	46
Average Queue (ft)	7	5	20
95th Queue (ft)	30	22	44
Link Distance (ft)		228	228
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	75		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Network Summary

Network wide Queuing Penalty: 129

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	238	223	224	87	409	459	477	480	211	577	601	360
Average Queue (ft)	114	112	112	30	246	293	220	221	26	352	370	73
95th Queue (ft)	198	193	190	75	376	418	400	405	115	548	556	269
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)	0	0	0									
Queuing Penalty (veh)	0	0	0									
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)					0	1	0			34	29	
Queuing Penalty (veh)					0	6	1			6	28	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Aceso #1

Movement	EB
Directions Served	R
Maximum Queue (ft)	117
Average Queue (ft)	13
95th Queue (ft)	75
Link Distance (ft)	471
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	259	433	101	185	232	551	568	83	346	356	86
Average Queue (ft)	212	198	35	75	52	230	247	34	192	210	27
95th Queue (ft)	292	400	82	155	137	482	502	75	334	344	70
Link Distance (ft)		370		466		892	892		702	702	
Upstream Blk Time (%)		3									
Queuing Penalty (veh)		11									
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	32	5		2		10			4		
Queuing Penalty (veh)	43	14		1		5			1		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	495	394	150	185	214	91	27	325	325	292	190	247
Average Queue (ft)	276	170	137	69	125	22	3	167	75	84	15	20
95th Queue (ft)	512	373	171	174	200	64	15	289	211	211	81	113
Link Distance (ft)	897	897				690			702	702		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		2	26					1	0	3		
Queuing Penalty (veh)		4	4					9	0	6		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	663	693	280
Average Queue (ft)	479	514	132
95th Queue (ft)	674	707	334
Link Distance (ft)	1287	1287	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	30	31	
Queuing Penalty (veh)	4	47	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	200	423	210	253	324	423	673	687	336	400	611	610
Average Queue (ft)	126	209	115	164	163	122	334	361	26	232	501	508
95th Queue (ft)	217	377	214	239	284	304	624	641	220	438	710	707
Link Distance (ft)		498			499		1287	1287			583	583
Upstream Blk Time (%)		1									11	13
Queuing Penalty (veh)		0									0	0
Storage Bay Dist (ft)	100		280	280		420			460	300		
Storage Blk Time (%)	25	44		0	2		4	4		1	28	
Queuing Penalty (veh)	46	48		1	5		5	5		10	37	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	502	543	250	1090	881	250	510	469	358	540	607
Average Queue (ft)	274	324	216	706	356	100	333	305	113	328	396
95th Queue (ft)	431	489	314	1298	1034	237	468	432	246	487	570
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)				4	3		0			0	1
Queuing Penalty (veh)				17	12		0			0	0
Storage Bay Dist (ft)	525		150			150			300		
Storage Blk Time (%)	0	0	25	61		1	39			9	
Queuing Penalty (veh)	1	2	92	127		4	24			9	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	195	213	92	44	177	138	58	117	198
Average Queue (ft)	131	46	28	7	95	69	16	53	137
95th Queue (ft)	196	138	72	30	178	133	44	100	205
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					9	3		0	16
Queuing Penalty (veh)					13	5		1	37
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	15	0							
Queuing Penalty (veh)	24	1							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	50	186	31
Average Queue (ft)	3	20	6
95th Queue (ft)	27	104	24
Link Distance (ft)	107	515	118
Upstream Blk Time (%)	0		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	LTR	LT	R
Maximum Queue (ft)	62	27	13	30	33	64	62
Average Queue (ft)	14	2	0	1	7	25	29
95th Queue (ft)	43	14	9	16	27	56	55
Link Distance (ft)			471	471	267	327	327
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75	75					
Storage Blk Time (%)	0		0				
Queuing Penalty (veh)	0		0				

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	48	29	68	97	38
Average Queue (ft)	10	2	7	39	18
95th Queue (ft)	35	21	43	76	43
Link Distance (ft)		124	124	246	246
Upstream Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)	75				
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (ft)	73	3	38	73	102
Average Queue (ft)	9	0	1	3	40
95th Queue (ft)	41	3	30	38	78
Link Distance (ft)	124	124	250	250	323
Upstream Blk Time (%)	0		0	0	
Queuing Penalty (veh)	0		0	0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	37	14	84	112
Average Queue (ft)	8	1	8	14
95th Queue (ft)	29	7	50	70
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)			0	1
Queuing Penalty (veh)			1	4
Storage Bay Dist (ft)				
Storage Blk Time (%)				3
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	35	86	56	17	9	30	7
Average Queue (ft)	10	32	17	1	0	7	1
95th Queue (ft)	34	69	46	8	4	25	10
Link Distance (ft)	126	192	192		119		283
Upstream Blk Time (%)		0					
Queuing Penalty (veh)		0					
Storage Bay Dist (ft)				45		75	
Storage Blk Time (%)				0			0
Queuing Penalty (veh)				0			0

Intersection: 303: Willow Ave & Conner Drive

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	43	7	131
Average Queue (ft)	16	0	56
95th Queue (ft)	42	4	96
Link Distance (ft)		251	354
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	28	48	113	71
Average Queue (ft)	1	16	50	37
95th Queue (ft)	13	43	87	59
Link Distance (ft)	251		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	26	75	31	70
Average Queue (ft)	2	26	8	32
95th Queue (ft)	19	59	29	58
Link Distance (ft)	677		228	228
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		75		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		1		

Network Summary

Network wide Queuing Penalty: 722

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	152	254	250	79	320	369	399	408	84	634	644	360
Average Queue (ft)	66	140	138	22	178	235	157	152	9	378	386	61
95th Queue (ft)	129	231	228	62	297	334	334	329	50	598	604	242
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)		1	0									
Queuing Penalty (veh)		1	0									
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)					0	0	0			30	28	
Queuing Penalty (veh)					0	1	0			2	23	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Access #1

Movement	EB
Directions Served	R
Maximum Queue (ft)	8
Average Queue (ft)	0
95th Queue (ft)	8
Link Distance (ft)	471
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	184	140	147	161	121	277	294	52	327	352	98
Average Queue (ft)	83	60	58	85	50	108	123	14	140	159	29
95th Queue (ft)	154	122	117	150	103	230	244	41	279	300	74
Link Distance (ft)		370		466		892	892		700	700	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	2	0	0	1		1			1		
Queuing Penalty (veh)	1	0	0	1		0			0		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	80	238	233	239	265	82	52	245	177	190	51	14
Average Queue (ft)	28	45	116	117	160	16	11	119	79	92	7	1
95th Queue (ft)	70	174	204	258	274	57	37	211	161	170	29	8
Link Distance (ft)	890	890				714			700	700		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		2	7	0	1	0				2		
Queuing Penalty (veh)		3	1	0	0	0				2		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	458	474	280
Average Queue (ft)	218	231	28
95th Queue (ft)	391	415	147
Link Distance (ft)	1286	1286	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	13	16	
Queuing Penalty (veh)	0	12	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	L	T	TR
Maximum Queue (ft)	168	222	218	292	363	170	367	376	400	626	616
Average Queue (ft)	66	98	85	148	192	71	211	229	132	510	501
95th Queue (ft)	133	182	200	251	328	140	344	360	342	720	716
Link Distance (ft)		498			499		1286	1286		583	583
Upstream Blk Time (%)					0					10	10
Queuing Penalty (veh)					0					0	0
Storage Bay Dist (ft)	100		280	280		420			300		
Storage Blk Time (%)	7	15	0	0	3		0	0	0	26	
Queuing Penalty (veh)	7	11	0	0	6		0	0	0	21	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	422	378	250	412	123	166	281	261	173	372	387
Average Queue (ft)	260	199	93	197	47	51	162	140	80	212	224
95th Queue (ft)	385	323	214	344	104	111	245	230	153	321	338
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	525		150			150			300		
Storage Blk Time (%)			0	21		0	12			1	
Queuing Penalty (veh)			1	26		0	7			1	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	166	132	98	31	148	116	53	66	125
Average Queue (ft)	79	17	24	4	47	32	16	23	85
95th Queue (ft)	144	69	72	19	112	92	43	55	131
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					1	0			4
Queuing Penalty (veh)					1	0			5
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	5	0							
Queuing Penalty (veh)	8	0							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	WB	SB
Directions Served	T	TR	LR
Maximum Queue (ft)	3	36	20
Average Queue (ft)	0	1	1
95th Queue (ft)	3	21	9
Link Distance (ft)	107	515	118
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	NB	SB	SB
Directions Served	L	L	LTR	LT	R
Maximum Queue (ft)	31	21	37	9	30
Average Queue (ft)	4	1	15	0	6
95th Queue (ft)	19	11	39	6	26
Link Distance (ft)			267	327	327
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	75	75			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	28	8	23	49	30
Average Queue (ft)	2	0	1	12	5
95th Queue (ft)	14	6	12	39	23
Link Distance (ft)		124	124	246	246
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	75				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	WB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	44	39	90	98
Average Queue (ft)	6	2	6	37
95th Queue (ft)	29	19	47	74
Link Distance (ft)	124	250	250	323
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	NB	SB	SB
Directions Served	LTR	LTR	L	TR
Maximum Queue (ft)	28	46	3	75
Average Queue (ft)	4	2	0	9
95th Queue (ft)	19	21	3	43
Link Distance (ft)	109	112		119
Upstream Blk Time (%)		0		0
Queuing Penalty (veh)		0		0
Storage Bay Dist (ft)			45	
Storage Blk Time (%)				1
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	SB	SB
Directions Served	LTR	LT	R	L	L	TR
Maximum Queue (ft)	30	50	30	23	21	2
Average Queue (ft)	3	11	4	1	1	0
95th Queue (ft)	19	38	21	11	10	2
Link Distance (ft)	126	192	192			283
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				45	75	
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 303: Willow Ave & Conner Drive

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	57	7	64
Average Queue (ft)	19	0	30
95th Queue (ft)	49	5	55
Link Distance (ft)		251	354
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	2	33	59	53
Average Queue (ft)	0	6	26	24
95th Queue (ft)	2	26	52	49
Link Distance (ft)	251		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	36	33	55
Average Queue (ft)	6	5	21
95th Queue (ft)	28	23	45
Link Distance (ft)		228	228
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	75		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 143

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	232	219	216	95	425	481	482	479	255	696	701	360
Average Queue (ft)	115	114	112	29	255	305	214	218	34	432	446	106
95th Queue (ft)	206	193	189	74	378	426	400	400	146	658	679	347
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)	0	0	0							0	0	
Queuing Penalty (veh)	0	0	0							0	3	
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)					0	1	0			39	36	
Queuing Penalty (veh)					0	5	1			7	35	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Access #1

Movement	EB	NB	NB	SB	SB
Directions Served	R	T	T	T	T
Maximum Queue (ft)	149	47	48	24	31
Average Queue (ft)	20	3	3	2	2
95th Queue (ft)	95	40	40	31	28
Link Distance (ft)	471	919	919	892	892
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	259	371	94	165	295	671	699	130	351	371	103
Average Queue (ft)	214	199	34	76	64	290	310	41	206	228	32
95th Queue (ft)	295	386	79	142	195	615	636	103	345	364	78
Link Distance (ft)		370		466		892	892		702	702	
Upstream Blk Time (%)		4				0	0				
Queuing Penalty (veh)		14				1	2				
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	33	5		1		14			4		
Queuing Penalty (veh)	45	13		0		8			2		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	501	370	150	204	233	78	23	337	343	318	182	299
Average Queue (ft)	303	147	138	84	138	23	3	176	86	92	16	22
95th Queue (ft)	599	352	167	202	226	62	14	300	237	231	85	122
Link Distance (ft)	897	897				690			702	702		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		2	24					1	0	4		
Queuing Penalty (veh)		4	4					10	0	7		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	693	727	280
Average Queue (ft)	516	551	120
95th Queue (ft)	670	700	323
Link Distance (ft)	1287	1287	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	30	31	
Queuing Penalty (veh)	4	48	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	200	420	224	304	363	459	709	734	447	400	620	622
Average Queue (ft)	131	208	120	177	175	130	368	396	54	229	542	543
95th Queue (ft)	221	381	219	271	322	316	692	709	326	447	701	709
Link Distance (ft)		498			499		1287	1287			583	583
Upstream Blk Time (%)		1			0						16	20
Queuing Penalty (veh)		0			0						0	0
Storage Bay Dist (ft)	100		280	280		420			460	300		
Storage Blk Time (%)	23	43	0	0	3		7	7		1	33	
Queuing Penalty (veh)	42	48	0	0	8		8	9		9	44	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	484	590	250	1106	877	250	514	476	375	524	565
Average Queue (ft)	280	348	222	751	361	94	340	311	101	328	386
95th Queue (ft)	450	548	308	1312	1058	225	478	442	220	478	550
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)		0		6	2		0			0	1
Queuing Penalty (veh)		0		22	10		0			0	0
Storage Bay Dist (ft)	525		150			150			300		
Storage Blk Time (%)	0	2	29	63		0	39			10	
Queuing Penalty (veh)	1	5	108	132		0	24			10	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	195	257	106	38	181	152	61	109	125
Average Queue (ft)	127	56	35	6	94	68	16	54	106
95th Queue (ft)	195	179	83	26	180	140	45	100	136
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					10	4		1	15
Queuing Penalty (veh)					15	6		3	35
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	16	0							
Queuing Penalty (veh)	27	1							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (ft)	26	13	40	211	31
Average Queue (ft)	4	1	1	43	6
95th Queue (ft)	35	17	40	235	26
Link Distance (ft)	107	107	515	515	118
Upstream Blk Time (%)	2	0		2	
Queuing Penalty (veh)	4	0		5	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	LTR	LT	R
Maximum Queue (ft)	48	28	60	69	33	66	65
Average Queue (ft)	11	3	5	10	8	24	27
95th Queue (ft)	35	17	72	104	29	55	56
Link Distance (ft)			471	471	267	327	327
Upstream Blk Time (%)			0	0			
Queuing Penalty (veh)			0	0			
Storage Bay Dist (ft)	75	75					
Storage Blk Time (%)	0		0				
Queuing Penalty (veh)	0		0				

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	46	33	89	94	43
Average Queue (ft)	7	2	8	39	16
95th Queue (ft)	29	18	49	74	42
Link Distance (ft)		124	124	246	246
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)	75				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (ft)	88	2	26	40	104
Average Queue (ft)	12	0	1	2	43
95th Queue (ft)	52	2	18	26	84
Link Distance (ft)	124	124	250	250	323
Upstream Blk Time (%)	0				
Queuing Penalty (veh)	0				
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	28	20	104	135
Average Queue (ft)	7	1	8	52
95th Queue (ft)	26	10	49	132
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)			0	5
Queuing Penalty (veh)			1	21
Storage Bay Dist (ft)				
Storage Blk Time (%)				11
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	33	87	54	15	4	64	124
Average Queue (ft)	7	34	17	1	0	8	17
95th Queue (ft)	27	75	46	9	4	41	104
Link Distance (ft)	126	192	192		119		283
Upstream Blk Time (%)		0					1
Queuing Penalty (veh)		0					2
Storage Bay Dist (ft)				45		75	
Storage Blk Time (%)				0		0	2
Queuing Penalty (veh)				0		0	1

Intersection: 303: Willow Ave & Conner Drive

Movement	EB	WB	SB
Directions Served	L	TR	LR
Maximum Queue (ft)	52	25	143
Average Queue (ft)	12	1	62
95th Queue (ft)	40	26	109
Link Distance (ft)		251	354
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		1	
Storage Bay Dist (ft)	125		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	15	50	3	109	75
Average Queue (ft)	1	16	0	50	38
95th Queue (ft)	8	43	3	87	61
Link Distance (ft)	251		677	274	274
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)		100			
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	133	66	36	89
Average Queue (ft)	17	24	8	35
95th Queue (ft)	114	55	29	81
Link Distance (ft)	677		228	228
Upstream Blk Time (%)				0
Queuing Penalty (veh)				0
Storage Bay Dist (ft)		75		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Network Summary

Network wide Queuing Penalty: 816

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	166	257	259	75	314	374	402	398	82	565	583	360
Average Queue (ft)	70	137	133	22	167	222	160	152	8	350	364	68
95th Queue (ft)	140	227	223	57	289	327	321	314	47	546	553	269
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)	0	1	1									
Queuing Penalty (veh)	0	1	1									
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)						0	0			29	27	
Queuing Penalty (veh)						0	1			2	21	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Access #1

Movement	EB	SB
Directions Served	R	T
Maximum Queue (ft)	78	4
Average Queue (ft)	5	0
95th Queue (ft)	42	3
Link Distance (ft)	471	892
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	213	199	132	183	112	277	300	49	296	293	104
Average Queue (ft)	108	64	54	90	43	109	120	12	130	147	31
95th Queue (ft)	193	146	107	165	91	225	237	37	262	274	77
Link Distance (ft)		370		466		892	892		700	700	
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	5	1	0	3		0			1		
Queuing Penalty (veh)	3	1	0	2		0			0		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	81	265	239	220	260	64	42	221	168	181	49	20
Average Queue (ft)	23	54	123	109	153	14	10	117	68	79	7	1
95th Queue (ft)	62	194	211	227	241	45	32	203	141	153	28	10
Link Distance (ft)	890	890				714			700	700		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		3	7		0					1		
Queuing Penalty (veh)		4	1		0					1		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	371	410	155
Average Queue (ft)	164	177	15
95th Queue (ft)	318	342	85
Link Distance (ft)	1286	1286	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	7	10	
Queuing Penalty (veh)	0	7	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	L	T	TR
Maximum Queue (ft)	182	214	196	270	327	170	349	372	399	601	606
Average Queue (ft)	74	101	76	141	171	69	192	207	126	448	431
95th Queue (ft)	143	183	186	224	287	140	309	323	321	663	643
Link Distance (ft)		498			499		1286	1286		583	583
Upstream Blk Time (%)										3	3
Queuing Penalty (veh)										0	0
Storage Bay Dist (ft)	100		280	280		420			300		
Storage Blk Time (%)	9	14		0	1		0	0	0	20	
Queuing Penalty (veh)	9	10		0	2		0	0	0	16	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	406	377	159	365	153	136	270	248	188	333	355
Average Queue (ft)	253	197	63	195	49	44	163	138	81	202	212
95th Queue (ft)	375	323	124	320	113	99	247	224	152	303	330
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	525		500			150			300		
Storage Blk Time (%)						0	13			1	
Queuing Penalty (veh)						0	7			1	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	173	59	88	35	127	103	51	74	174
Average Queue (ft)	77	14	24	3	47	32	16	24	91
95th Queue (ft)	140	45	70	18	108	83	43	60	154
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					1	0			5
Queuing Penalty (veh)					1	0			6
Storage Bay Dist (ft)	500								
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	EB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	22	8	9	32
Average Queue (ft)	1	0	0	6
95th Queue (ft)	13	8	7	26
Link Distance (ft)	107	107	515	118
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	LT	R
Maximum Queue (ft)	24	2	18	11	39	56	59
Average Queue (ft)	5	0	1	0	14	20	15
95th Queue (ft)	20	2	9	8	38	48	44
Link Distance (ft)		515		471	267	327	327
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75		75				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	SB	SB
Directions Served	L	TR	L	R
Maximum Queue (ft)	36	36	54	50
Average Queue (ft)	5	2	21	14
95th Queue (ft)	24	18	49	43
Link Distance (ft)		124	246	246
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	75			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	EB	EB	WB	WB	SB
Directions Served	LT	T	T	T	TR	LR
Maximum Queue (ft)	48	2	3	14	33	64
Average Queue (ft)	5	0	0	1	2	19
95th Queue (ft)	27	2	3	11	21	46
Link Distance (ft)	124	124	124	250	250	323
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	28	29	32	10
Average Queue (ft)	3	4	1	0
95th Queue (ft)	17	19	13	7
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	L	L
Maximum Queue (ft)	30	43	45	24	16
Average Queue (ft)	3	6	9	1	1
95th Queue (ft)	18	28	34	12	9
Link Distance (ft)	126	192	192		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				45	75
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 303: Future Access/Conner Drive & Willow Ave

Movement	EB	WB	WB	NB	NB	SB
Directions Served	L	L	TR	LT	R	LTR
Maximum Queue (ft)	71	23	13	38	52	71
Average Queue (ft)	20	2	1	14	18	30
95th Queue (ft)	54	13	6	40	47	57
Link Distance (ft)			240	284	284	353
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	125	100				
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	34	52	64
Average Queue (ft)	4	19	27
95th Queue (ft)	21	47	53
Link Distance (ft)		274	274
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	33	29	45
Average Queue (ft)	5	3	21
95th Queue (ft)	23	17	43
Link Distance (ft)		228	228
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	75		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Network Summary

Network wide Queuing Penalty: 99

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	276	228	230	96	500	550	1006	987	279	706	726	360
Average Queue (ft)	122	125	123	28	494	547	950	842	28	443	459	120
95th Queue (ft)	231	212	213	74	542	566	1164	1211	128	676	695	368
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)	2	0	0				44	3		0	0	
Queuing Penalty (veh)	3	0	0				0	0		0	2	
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)					35	66	0			41	37	
Queuing Penalty (veh)					294	563	2			7	36	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Acess #1

Movement	EB
Directions Served	R
Maximum Queue (ft)	261
Average Queue (ft)	88
95th Queue (ft)	230
Link Distance (ft)	471
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	260	386	87	186	245	498	535	94	355	362	115
Average Queue (ft)	256	373	35	87	46	218	237	31	212	235	43
95th Queue (ft)	269	390	76	163	137	452	463	73	352	372	96
Link Distance (ft)		370		466		892	892		702	702	
Upstream Blk Time (%)		64									
Queuing Penalty (veh)		365									
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	82	4		3	0	9			6		
Queuing Penalty (veh)	118	16		1	0	5			2		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	521	429	250	244	278	78	22	308	268	242	131	225
Average Queue (ft)	321	164	185	111	164	20	2	160	69	79	13	26
95th Queue (ft)	648	405	272	241	264	55	13	275	174	178	66	129
Link Distance (ft)	897	897				690			702	702		
Upstream Blk Time (%)	1	0										
Queuing Penalty (veh)	0	0										
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		7	26	0	0			1	0	2		
Queuing Penalty (veh)		17	4	0	0			5	0	3		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	693	748	280
Average Queue (ft)	531	579	136
95th Queue (ft)	672	715	344
Link Distance (ft)	1287	1287	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	31	33	
Queuing Penalty (veh)	4	50	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	200	393	216	258	296	294	513	538	78	400	622	622
Average Queue (ft)	122	199	103	161	155	107	301	335	8	251	566	580
95th Queue (ft)	211	348	209	233	260	224	521	544	116	454	708	683
Link Distance (ft)		498			499		1287	1287			583	583
Upstream Blk Time (%)											25	35
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	100		280	280		420			460	300		
Storage Blk Time (%)	21	42	0	0	1		2	2		2	38	
Queuing Penalty (veh)	41	45	0	0	2		3	3		16	51	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	587	721	439	662	358	250	516	479	377	527	603
Average Queue (ft)	339	470	173	356	136	107	334	314	119	329	386
95th Queue (ft)	603	784	372	606	272	251	465	442	263	476	545
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)		7								0	1
Queuing Penalty (veh)		0								0	0
Storage Bay Dist (ft)	525		500			150			300		
Storage Blk Time (%)	0	14		6		1	40			10	
Queuing Penalty (veh)	0	45		13		4	25			11	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	270	83	97	33	173	126	51	118	201
Average Queue (ft)	137	26	31	5	82	60	17	42	135
95th Queue (ft)	222	66	76	23	160	121	46	89	203
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					4	1		0	16
Queuing Penalty (veh)					6	2		1	33
Storage Bay Dist (ft)	500								
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	EB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	75	9	98	45
Average Queue (ft)	10	0	7	18
95th Queue (ft)	43	9	48	43
Link Distance (ft)	107	107	515	118
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	LTR	LT	R
Maximum Queue (ft)	58	31	14	37	31	104	60
Average Queue (ft)	15	2	0	2	8	45	28
95th Queue (ft)	41	15	10	18	28	86	52
Link Distance (ft)			471	471	267	327	327
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75	75					
Storage Blk Time (%)	0		0				
Queuing Penalty (veh)	0		0				

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	60	50	108	134	62
Average Queue (ft)	19	3	13	52	26
95th Queue (ft)	51	25	63	101	51
Link Distance (ft)		124	124	246	246
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)	75				
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	WB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	90	32	92	148
Average Queue (ft)	21	2	7	54
95th Queue (ft)	70	19	44	115
Link Distance (ft)	124	250	250	323
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	32	41	92	115
Average Queue (ft)	7	11	8	10
95th Queue (ft)	27	36	51	55
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)			0	0
Queuing Penalty (veh)			1	1
Storage Bay Dist (ft)				
Storage Blk Time (%)				1
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	R	L	TR	L
Maximum Queue (ft)	36	63	65	24	14	28
Average Queue (ft)	9	17	20	1	0	5
95th Queue (ft)	32	47	52	11	8	21
Link Distance (ft)	126	192	192		119	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				45		75
Storage Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	

Intersection: 303: Future Access/Conner Drive & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LTR
Maximum Queue (ft)	69	131	56	2	62	115	223
Average Queue (ft)	14	17	14	0	27	44	86
95th Queue (ft)	47	86	43	2	53	88	193
Link Distance (ft)		274		240	374	374	353
Upstream Blk Time (%)		0					0
Queuing Penalty (veh)		0					0
Storage Bay Dist (ft)	125		100				
Storage Blk Time (%)		1	0				
Queuing Penalty (veh)		0	0				

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	227	58	248	265
Average Queue (ft)	117	20	91	139
95th Queue (ft)	293	50	255	311
Link Distance (ft)	240		274	274
Upstream Blk Time (%)	7		13	22
Queuing Penalty (veh)	28		0	0
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	686	68	36	243	245
Average Queue (ft)	581	21	2	138	228
95th Queue (ft)	838	58	22	322	274
Link Distance (ft)	677		370	228	228
Upstream Blk Time (%)	29			54	95
Queuing Penalty (veh)	138			0	0
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		2	0		

Network Summary

Network wide Queuing Penalty: 1972

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	143	237	247	84	316	366	422	417	135	662	706	360
Average Queue (ft)	65	131	128	23	184	235	153	156	11	394	408	95
95th Queue (ft)	129	215	215	61	290	331	322	318	66	664	683	330
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)		0	0				0			0	1	
Queuing Penalty (veh)		0	0				0			1	7	
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)						0	0			31	29	
Queuing Penalty (veh)						0	1			2	23	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Acess #1

Movement	EB	SB	SB
Directions Served	R	T	T
Maximum Queue (ft)	58	18	30
Average Queue (ft)	5	1	2
95th Queue (ft)	43	18	30
Link Distance (ft)	471	892	892
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	228	217	142	187	119	283	307	49	326	326	110
Average Queue (ft)	114	68	60	92	46	108	124	13	141	163	32
95th Queue (ft)	207	165	117	163	93	228	248	40	278	297	85
Link Distance (ft)		370		466		892	892		700	700	
Upstream Blk Time (%)		0									
Queuing Penalty (veh)		0									
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	7	0	1	2		1			1		
Queuing Penalty (veh)	4	1	0	1		0			0		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	83	279	236	233	267	71	60	227	181	192	65	20
Average Queue (ft)	28	48	124	122	167	14	14	117	74	86	8	1
95th Queue (ft)	69	186	211	240	258	49	43	202	150	163	39	10
Link Distance (ft)	890	890				714			700	700		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		2	8			0				1		
Queuing Penalty (veh)		3	1			0				2		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	572	594	279
Average Queue (ft)	210	226	30
95th Queue (ft)	413	435	148
Link Distance (ft)	1286	1286	
Upstream Blk Time (%)	0	0	
Queuing Penalty (veh)	0	0	
Storage Bay Dist (ft)			180
Storage Blk Time (%)	12	15	
Queuing Penalty (veh)	0	11	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	L	T	TR
Maximum Queue (ft)	190	257	215	294	368	155	344	357	400	613	612
Average Queue (ft)	81	109	82	145	182	64	201	216	142	500	482
95th Queue (ft)	159	210	191	242	315	131	313	327	356	709	698
Link Distance (ft)		498			499		1286	1286		583	583
Upstream Blk Time (%)					0					7	8
Queuing Penalty (veh)					0					0	0
Storage Bay Dist (ft)	100		280	280		420			300		
Storage Blk Time (%)	12	18		0	3					23	
Queuing Penalty (veh)	12	14		0	5					19	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	431	381	156	357	132	134	282	238	167	370	375
Average Queue (ft)	258	209	70	198	51	50	166	142	74	208	221
95th Queue (ft)	386	340	131	321	109	106	253	224	140	323	338
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	525		500			150			300		
Storage Blk Time (%)	0					0	14			2	
Queuing Penalty (veh)	0					1	8			1	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	177	67	111	31	156	109	57	65	178
Average Queue (ft)	79	11	24	3	46	28	14	23	94
95th Queue (ft)	147	43	72	19	109	79	42	56	157
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					1	0			5
Queuing Penalty (veh)					1	0			6
Storage Bay Dist (ft)	500								
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	EB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	45	5	45	31
Average Queue (ft)	2	0	2	6
95th Queue (ft)	20	5	24	25
Link Distance (ft)	107	107	515	118
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	LTR	LT	R
Maximum Queue (ft)	35	21	5	11	33	58	59
Average Queue (ft)	5	1	0	0	13	18	15
95th Queue (ft)	21	10	5	8	37	46	44
Link Distance (ft)			471	471	267	327	327
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75	75					
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	37	10	42	60	54
Average Queue (ft)	5	0	2	23	15
95th Queue (ft)	24	7	22	51	43
Link Distance (ft)		124	124	246	246
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)	75				
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	WB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	52	14	51	59
Average Queue (ft)	6	1	2	19
95th Queue (ft)	29	13	27	44
Link Distance (ft)	124	250	250	323
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	28	29	22	12
Average Queue (ft)	3	4	1	0
95th Queue (ft)	16	19	12	9
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	R	L	TR	L
Maximum Queue (ft)	30	47	53	18	2	19
Average Queue (ft)	4	7	8	1	0	1
95th Queue (ft)	20	32	35	11	2	11
Link Distance (ft)	126	192	192		119	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				45		75
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 303: Future Access/Conner Drive & Willow Ave

Movement	EB	WB	WB	NB	NB	SB
Directions Served	L	L	TR	LT	R	LTR
Maximum Queue (ft)	66	23	9	40	55	70
Average Queue (ft)	19	2	0	13	19	30
95th Queue (ft)	51	13	4	38	47	60
Link Distance (ft)			240	284	284	353
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	125	100				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	33	54	66
Average Queue (ft)	5	19	26
95th Queue (ft)	24	47	54
Link Distance (ft)		274	274
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	100		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	7	37	28	62
Average Queue (ft)	0	6	3	20
95th Queue (ft)	7	26	16	47
Link Distance (ft)	677		228	228
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		75		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 127

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	244	243	247	105	500	550	1012	979	279	816	842	360
Average Queue (ft)	112	129	129	31	479	532	861	742	31	558	592	127
95th Queue (ft)	207	216	215	80	572	614	1305	1261	138	886	953	380
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)	0	0	0				39	3		2	11	
Queuing Penalty (veh)	1	0	1				0	0		14	100	
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)					31	61	0			44	42	
Queuing Penalty (veh)					266	526	2			7	41	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Acess #1

Movement	EB	SB	SB
Directions Served	R	T	T
Maximum Queue (ft)	319	56	57
Average Queue (ft)	148	5	5
95th Queue (ft)	375	51	53
Link Distance (ft)	471	892	892
Upstream Blk Time (%)	4		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	260	388	104	208	176	508	540	127	383	393	127
Average Queue (ft)	257	374	34	88	46	208	223	37	213	240	42
95th Queue (ft)	266	384	82	174	126	431	448	91	371	383	101
Link Distance (ft)		370		466		892	892		702	702	
Upstream Blk Time (%)		65									
Queuing Penalty (veh)		386									
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	82	3		4		7			6		
Queuing Penalty (veh)	120	15		1		4			2		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	466	428	250	260	290	77	19	330	228	243	91	198
Average Queue (ft)	259	174	188	116	163	22	1	169	64	75	12	20
95th Queue (ft)	527	392	275	250	272	58	9	286	175	187	64	110
Link Distance (ft)	897	897				690			702	702		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		7	29	0	1			1	0	2		
Queuing Penalty (veh)		18	4	0	0			6	0	4		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	724	776	280
Average Queue (ft)	547	593	145
95th Queue (ft)	684	732	351
Link Distance (ft)	1287	1287	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	32	34	
Queuing Penalty (veh)	4	51	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	200	412	220	262	323	290	556	574	167	400	620	615
Average Queue (ft)	134	225	114	164	161	101	291	318	7	252	576	583
95th Queue (ft)	225	408	210	237	281	204	524	548	112	461	688	671
Link Distance (ft)		498			499		1287	1287			583	583
Upstream Blk Time (%)		1			0						25	33
Queuing Penalty (veh)		0			0						0	0
Storage Bay Dist (ft)	100		280	280		420			460	300		
Storage Blk Time (%)	27	45	0	0	2		2	2		2	38	
Queuing Penalty (veh)	51	49	0	0	4		3	3		12	52	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	595	756	572	928	525	250	526	478	375	530	594
Average Queue (ft)	353	495	306	578	231	100	337	313	116	326	387
95th Queue (ft)	621	805	654	1115	751	237	475	442	256	463	559
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)		6		2	1		0			0	0
Queuing Penalty (veh)		0		10	5		0			0	0
Storage Bay Dist (ft)	525		500			150			300		
Storage Blk Time (%)	0	16	1	29		2	40			10	
Queuing Penalty (veh)	1	52	3	63		9	25			10	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	260	124	88	35	176	136	49	117	195
Average Queue (ft)	136	29	30	6	88	61	14	42	141
95th Queue (ft)	221	82	75	25	167	124	41	88	209
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					6	1		0	18
Queuing Penalty (veh)					10	2		1	40
Storage Bay Dist (ft)	500								
Storage Blk Time (%)									
Queuing Penalty (veh)									

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	EB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	79	28	159	61
Average Queue (ft)	9	1	15	20
95th Queue (ft)	45	16	94	48
Link Distance (ft)	107	107	515	118
Upstream Blk Time (%)	0	0		0
Queuing Penalty (veh)	1	0		0
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	LTR	LT	R
Maximum Queue (ft)	57	24	5	19	35	114	67
Average Queue (ft)	15	1	0	1	6	49	30
95th Queue (ft)	41	9	5	11	27	92	55
Link Distance (ft)			471	471	267	327	327
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75	75					
Storage Blk Time (%)	0						
Queuing Penalty (veh)	0						

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	68	47	104	131	64
Average Queue (ft)	18	2	13	53	27
95th Queue (ft)	50	23	60	97	53
Link Distance (ft)		124	124	246	246
Upstream Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		
Storage Bay Dist (ft)	75				
Storage Blk Time (%)	0				
Queuing Penalty (veh)	1				

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	WB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	90	29	75	160
Average Queue (ft)	21	2	6	57
95th Queue (ft)	69	21	38	114
Link Distance (ft)	124	250	250	323
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	30	50	94	118
Average Queue (ft)	7	13	7	15
95th Queue (ft)	27	40	46	70
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)			0	0
Queuing Penalty (veh)			1	1
Storage Bay Dist (ft)				
Storage Blk Time (%)				2
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	R	L	TR	L
Maximum Queue (ft)	40	61	68	18	5	24
Average Queue (ft)	10	20	21	1	0	4
95th Queue (ft)	35	51	53	10	5	17
Link Distance (ft)	126	192	192		119	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				45		75
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 303: Future Access/Conner Drive & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LTR
Maximum Queue (ft)	87	179	43	6	72	117	242
Average Queue (ft)	13	34	11	0	29	50	98
95th Queue (ft)	57	143	36	4	59	102	232
Link Distance (ft)		274		240	374	374	353
Upstream Blk Time (%)		0					3
Queuing Penalty (veh)		1					0
Storage Bay Dist (ft)	125		100				
Storage Blk Time (%)		3					
Queuing Penalty (veh)		1					

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	242	76	8	254	263
Average Queue (ft)	130	23	0	116	155
95th Queue (ft)	312	59	8	302	337
Link Distance (ft)	240		677	274	274
Upstream Blk Time (%)	11			23	33
Queuing Penalty (veh)	45			0	0
Storage Bay Dist (ft)		100			
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		0	0		

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	690	78	32	244	250
Average Queue (ft)	594	21	1	157	223
95th Queue (ft)	825	58	19	332	282
Link Distance (ft)	677		370	228	228
Upstream Blk Time (%)	32			65	92
Queuing Penalty (veh)	157			0	0
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		1	0		
Queuing Penalty (veh)		2	0		

Network Summary

Network wide Queuing Penalty: 2188

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	184	238	237	83	397	448	449	454	137	777	802	360
Average Queue (ft)	73	129	129	21	221	272	173	170	14	482	496	88
95th Queue (ft)	151	210	210	62	352	390	359	348	85	766	792	314
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)	0	0	0							0	2	
Queuing Penalty (veh)	0	0	0							1	19	
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)					0	0	0			35	34	
Queuing Penalty (veh)					0	3	1			2	27	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Access #1

Movement	EB	SB	SB
Directions Served	R	T	T
Maximum Queue (ft)	88	67	75
Average Queue (ft)	9	6	5
95th Queue (ft)	57	59	50
Link Distance (ft)	471	892	892
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			0
Queuing Penalty (veh)			0

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	230	209	128	163	127	315	313	47	307	327	103
Average Queue (ft)	126	66	59	86	45	118	130	12	138	159	33
95th Queue (ft)	223	159	114	153	96	251	259	38	273	295	80
Link Distance (ft)		370		466		892	892		700	700	
Upstream Blk Time (%)		0									
Queuing Penalty (veh)		0									
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	11	1	0	2	0	1			1		
Queuing Penalty (veh)	6	1	0	1	0	0			0		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	84	270	230	235	263	126	55	238	216	202	85	52
Average Queue (ft)	25	52	123	126	172	33	11	126	82	93	8	3
95th Queue (ft)	66	195	207	284	309	212	37	215	165	170	47	33
Link Distance (ft)	890	890				714			700	700		
Upstream Blk Time (%)						0						
Queuing Penalty (veh)						0						
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		3	6	2	4			0		2		
Queuing Penalty (veh)		4	1	1	1			0		2		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	429	453	233
Average Queue (ft)	223	238	27
95th Queue (ft)	392	420	140
Link Distance (ft)	1286	1286	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	15	18	
Queuing Penalty (veh)	0	14	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	L	T	TR
Maximum Queue (ft)	170	235	215	284	339	181	360	379	400	612	610
Average Queue (ft)	73	109	96	153	179	76	212	230	153	519	514
95th Queue (ft)	143	206	205	236	296	155	339	352	365	709	711
Link Distance (ft)		498			499		1286	1286		583	583
Upstream Blk Time (%)					0					11	12
Queuing Penalty (veh)					0					0	0
Storage Bay Dist (ft)	100		280	280		420			300		
Storage Blk Time (%)	9	17	0	0	2		0			27	
Queuing Penalty (veh)	9	13	0	0	4		0			22	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	477	479	250	462	128	209	306	281	188	377	397
Average Queue (ft)	272	231	98	208	49	57	170	149	79	219	226
95th Queue (ft)	423	386	219	377	106	130	263	241	149	337	350
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)											
Queuing Penalty (veh)											
Storage Bay Dist (ft)	525		150			150			300		
Storage Blk Time (%)	1	0	2	23		0	14			2	
Queuing Penalty (veh)	2	1	4	29		0	8			2	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	181	160	123	24	166	112	57	72	118
Average Queue (ft)	85	24	26	3	50	33	16	22	85
95th Queue (ft)	150	94	82	18	119	86	43	57	131
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					1	0			4
Queuing Penalty (veh)					1	0			5
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	6	0							
Queuing Penalty (veh)	10	0							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	WB	SB
Directions Served	LT	TR	LR
Maximum Queue (ft)	44	44	31
Average Queue (ft)	4	2	7
95th Queue (ft)	25	20	27
Link Distance (ft)	107	515	118
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	TR	LTR	LT	R
Maximum Queue (ft)	43	24	12	40	45	49
Average Queue (ft)	7	1	0	15	19	15
95th Queue (ft)	27	11	8	39	45	42
Link Distance (ft)			471	267	327	327
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	75	75				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	WB	SB	SB
Directions Served	L	T	TR	L	R
Maximum Queue (ft)	50	13	64	55	55
Average Queue (ft)	10	1	4	20	15
95th Queue (ft)	35	9	29	47	45
Link Distance (ft)		124	124	246	246
Upstream Blk Time (%)			0		
Queuing Penalty (veh)			0		
Storage Bay Dist (ft)	75				
Storage Blk Time (%)	0				
Queuing Penalty (veh)	0				

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (ft)	67	5	45	41	56
Average Queue (ft)	8	0	2	3	19
95th Queue (ft)	37	5	27	22	45
Link Distance (ft)	124	124	250	250	323
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	28	28	27	77
Average Queue (ft)	4	3	1	9
95th Queue (ft)	19	18	13	43
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)			0	0
Queuing Penalty (veh)			0	0
Storage Bay Dist (ft)				
Storage Blk Time (%)				1
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	R	L	TR	L
Maximum Queue (ft)	31	37	50	17	4	24
Average Queue (ft)	4	5	8	1	0	2
95th Queue (ft)	20	24	34	10	3	14
Link Distance (ft)	126	192	192		119	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				45		75
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 303: Future Access/Conner Drive & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LTR
Maximum Queue (ft)	66	3	27	3	37	61	88
Average Queue (ft)	18	0	4	0	12	21	31
95th Queue (ft)	50	3	18	2	36	50	63
Link Distance (ft)		272		240	284	284	353
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	125		100				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	3	33	48	62
Average Queue (ft)	0	6	19	27
95th Queue (ft)	3	25	46	54
Link Distance (ft)	240		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	WB	NB	NB
Directions Served	L	L	R
Maximum Queue (ft)	37	29	55
Average Queue (ft)	7	2	23
95th Queue (ft)	29	16	47
Link Distance (ft)		228	228
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	75		
Storage Blk Time (%)	0		
Queuing Penalty (veh)	0		

Network Summary

Network wide Queuing Penalty: 198

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	231	249	250	98	500	550	1014	984	217	831	879	360
Average Queue (ft)	117	144	144	30	497	548	975	880	30	576	624	135
95th Queue (ft)	206	235	231	78	521	553	1039	1158	138	889	998	393
Link Distance (ft)	250	250	250	553			960	960		919	919	
Upstream Blk Time (%)	0	0	0				53	5		1	17	
Queuing Penalty (veh)	1	1	0				0	0		7	162	
Storage Bay Dist (ft)					450	450			180			260
Storage Blk Time (%)					41	72	0			45	44	
Queuing Penalty (veh)					358	638	0			8	42	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Access #1

Movement	EB	SB	SB	SB
Directions Served	R	T	T	R
Maximum Queue (ft)	384	112	167	38
Average Queue (ft)	184	15	15	1
95th Queue (ft)	386	110	120	37
Link Distance (ft)	471	892	892	
Upstream Blk Time (%)	2			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				275
Storage Blk Time (%)			0	
Queuing Penalty (veh)			0	

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	260	386	98	189	110	397	392	86	354	379	123
Average Queue (ft)	257	374	32	84	39	164	179	29	221	248	44
95th Queue (ft)	265	381	76	160	87	345	351	69	351	376	100
Link Distance (ft)		370		466		892	892		702	702	
Upstream Blk Time (%)		66									
Queuing Penalty (veh)		444									
Storage Bay Dist (ft)	160		160		240			240			520
Storage Blk Time (%)	83	2		3		4			6		
Queuing Penalty (veh)	123	10		1		2			2		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	479	432	250	232	253	71	17	266	204	221	107	275
Average Queue (ft)	308	175	184	112	163	18	2	139	59	71	11	22
95th Queue (ft)	637	441	276	236	252	52	11	245	152	171	58	118
Link Distance (ft)	897	897				690			702	702		
Upstream Blk Time (%)	3	0										
Queuing Penalty (veh)	0	0										
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		7	27					0		1		
Queuing Penalty (veh)		18	4					1		3		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	722	781	280
Average Queue (ft)	548	596	127
95th Queue (ft)	702	755	330
Link Distance (ft)	1287	1287	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	30	33	0
Queuing Penalty (veh)	4	50	0

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	L	TR	L	T	T	R	L	T	TR
Maximum Queue (ft)	200	452	237	306	346	286	525	540	168	400	626	632
Average Queue (ft)	129	229	117	167	172	90	303	329	7	240	591	597
95th Queue (ft)	222	424	223	256	299	204	528	548	113	450	659	649
Link Distance (ft)		498			499		1287	1287			583	583
Upstream Blk Time (%)		3									33	44
Queuing Penalty (veh)		0									0	0
Storage Bay Dist (ft)	100		280	280		420		460		300		
Storage Blk Time (%)	23	46	0	1	2		3	2		2	43	
Queuing Penalty (veh)	46	51	0	1	6		3	3		17	58	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	TR
Maximum Queue (ft)	616	801	558	816	390	250	523	488	380	528	599
Average Queue (ft)	415	583	258	473	151	105	343	320	122	330	394
95th Queue (ft)	725	926	575	858	356	241	485	453	258	484	576
Link Distance (ft)		802		1275	1275		626	626		599	599
Upstream Blk Time (%)		16					0			0	1
Queuing Penalty (veh)		0					0			0	0
Storage Bay Dist (ft)	525		500			150			300		
Storage Blk Time (%)	1	29	0	18		1	40		0	11	
Queuing Penalty (veh)	4	92	1	40		3	25		0	12	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	197	241	102	33	173	124	55	95	127
Average Queue (ft)	128	51	33	6	79	57	15	41	106
95th Queue (ft)	195	158	81	25	155	118	42	84	134
Link Distance (ft)		1275	1275	107	107	107	332	112	112
Upstream Blk Time (%)					3	1		0	13
Queuing Penalty (veh)					6	2		0	31
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	16	0							
Queuing Penalty (veh)	32	1							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	EB	WB	SB
Directions Served	LT	T	TR	LR
Maximum Queue (ft)	87	28	84	47
Average Queue (ft)	10	1	6	18
95th Queue (ft)	48	15	46	44
Link Distance (ft)	107	107	515	118
Upstream Blk Time (%)	0			
Queuing Penalty (veh)	1			
Storage Bay Dist (ft)				
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	LTR	LT	R
Maximum Queue (ft)	59	20	9	30	33	126	64
Average Queue (ft)	16	1	0	1	7	54	32
95th Queue (ft)	43	11	6	13	28	99	56
Link Distance (ft)			471	471	267	327	327
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75	75					
Storage Blk Time (%)	0						
Queuing Penalty (veh)	0						

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	TR	L	R
Maximum Queue (ft)	65	12	26	88	143	70
Average Queue (ft)	21	0	1	8	60	30
95th Queue (ft)	53	10	19	46	112	56
Link Distance (ft)		471	124	124	246	246
Upstream Blk Time (%)			0	0		
Queuing Penalty (veh)			0	0		
Storage Bay Dist (ft)	75					
Storage Blk Time (%)	0					
Queuing Penalty (veh)	1					

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	EB	WB	WB	SB
Directions Served	LT	T	T	TR	LR
Maximum Queue (ft)	96	5	19	96	159
Average Queue (ft)	20	0	1	6	61
95th Queue (ft)	66	5	10	42	128
Link Distance (ft)	124	124	250	250	323
Upstream Blk Time (%)	0				0
Queuing Penalty (veh)	0				0
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	35	46	75	134
Average Queue (ft)	8	13	5	46
95th Queue (ft)	29	39	39	122
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)			0	2
Queuing Penalty (veh)			0	9
Storage Bay Dist (ft)				
Storage Blk Time (%)				7
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	35	58	57	18	37	28	84
Average Queue (ft)	9	19	21	1	1	4	7
95th Queue (ft)	31	49	50	10	18	19	44
Link Distance (ft)	126	192	192		119		274
Upstream Blk Time (%)					0		
Queuing Penalty (veh)					0		
Storage Bay Dist (ft)				45		75	
Storage Blk Time (%)				0	0		0
Queuing Penalty (veh)				0	0		0

Intersection: 303: Future Access/Conner Drive & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LTR
Maximum Queue (ft)	63	235	49	2	134	216	278
Average Queue (ft)	12	54	13	0	35	76	118
95th Queue (ft)	45	171	40	3	90	192	263
Link Distance (ft)		274		240	374	374	353
Upstream Blk Time (%)		0			0	1	2
Queuing Penalty (veh)		0			0	0	0
Storage Bay Dist (ft)	125		100				
Storage Blk Time (%)		5					
Queuing Penalty (veh)		2					

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	252	73	296	306
Average Queue (ft)	192	22	203	237
95th Queue (ft)	333	57	387	382
Link Distance (ft)	240		274	274
Upstream Blk Time (%)	20		56	71
Queuing Penalty (veh)	84		0	0
Storage Bay Dist (ft)		100		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	EB	WB	WB	NB	NB
Directions Served	TR	L	T	L	R
Maximum Queue (ft)	691	77	17	218	244
Average Queue (ft)	666	22	1	158	230
95th Queue (ft)	750	61	12	330	250
Link Distance (ft)	677		370	228	228
Upstream Blk Time (%)	48			63	99
Queuing Penalty (veh)	261			0	0
Storage Bay Dist (ft)		75			
Storage Blk Time (%)		0	0		
Queuing Penalty (veh)		2	0		

Network Summary

Network wide Queuing Penalty: 2672

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	170	256	258	84	369	409	334	346	60	445	440	274
Average Queue (ft)	73	146	143	26	194	250	121	121	6	253	265	26
95th Queue (ft)	139	229	227	66	324	365	285	286	38	391	401	123
Link Distance (ft)	252	252	252	552			960	960		919	919	
Upstream Blk Time (%)		0	0									
Queuing Penalty (veh)		1	1									
Storage Bay Dist (ft)					650	650			180			260
Storage Blk Time (%)										20	11	
Queuing Penalty (veh)										1	9	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Access #1

Movement	EB
Directions Served	R
Maximum Queue (ft)	39
Average Queue (ft)	2
95th Queue (ft)	26
Link Distance (ft)	471
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	133	148	152	128	187	117	262	278	55	287	301	94
Average Queue (ft)	62	79	61	59	87	42	108	118	13	111	125	23
95th Queue (ft)	116	132	123	116	159	94	251	267	41	257	278	69
Link Distance (ft)			378		466		886	886		694	694	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	450	450		160		240			240			520
Storage Blk Time (%)				0	3		1			1		
Queuing Penalty (veh)				0	2		0			0		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	82	269	241	253	285	107	62	225	244	261	135	18
Average Queue (ft)	25	52	124	126	168	17	14	118	97	109	12	1
95th Queue (ft)	65	191	209	262	281	66	41	207	198	207	68	8
Link Distance (ft)	890	890				714			694	694		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		3	6	0	1	0				2		
Queuing Penalty (veh)		5	1	0	0	0				3		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	377	400	211
Average Queue (ft)	172	187	22
95th Queue (ft)	320	350	118
Link Distance (ft)	1287	1287	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	8	11	
Queuing Penalty (veh)	0	8	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	TR	L	T	T	L	T	TR
Maximum Queue (ft)	150	152	111	211	288	348	187	363	378	399	605	602
Average Queue (ft)	71	59	32	94	149	192	95	208	226	124	401	390
95th Queue (ft)	130	123	79	209	243	305	182	352	363	306	641	633
Link Distance (ft)		498				499		1287	1287		583	583
Upstream Blk Time (%)											2	2
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	100		100	280	280		420			300		
Storage Blk Time (%)	9	2	1		0	2		0	0		16	
Queuing Penalty (veh)	9	2	1		0	3		0	0		13	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	432	395	250	397	136	182	286	260	166	305	264	172
Average Queue (ft)	245	188	99	198	48	53	163	138	78	182	143	63
95th Queue (ft)	379	323	229	345	110	121	251	229	142	270	239	138
Link Distance (ft)		789		1275	1275		626	626		599	599	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	525		150			150			300			350
Storage Blk Time (%)			1	23		0	12			0	0	
Queuing Penalty (veh)			3	29		0	7			0	0	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	158	125	114	24	138	107	55	66	174
Average Queue (ft)	72	16	28	3	44	28	16	23	93
95th Queue (ft)	127	68	81	16	106	83	44	55	153
Link Distance (ft)		1275	1275	102	102	102	332	112	112
Upstream Blk Time (%)					1	0			5
Queuing Penalty (veh)					1	0			6
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	3	0							
Queuing Penalty (veh)	5	0							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	20	30
Average Queue (ft)	1	3
95th Queue (ft)	14	17
Link Distance (ft)	520	119
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	LT	R
Maximum Queue (ft)	30	4	21	10	39	77	49
Average Queue (ft)	6	0	1	0	15	33	14
95th Queue (ft)	23	3	9	7	39	62	41
Link Distance (ft)		520		471	267	327	327
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75		75				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	37	46	52
Average Queue (ft)	6	17	13
95th Queue (ft)	26	41	38
Link Distance (ft)		233	233
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	75		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 214: Estes Dr & UPlace Access #2

Movement	WB	SB
Directions Served	T	R
Maximum Queue (ft)	14	26
Average Queue (ft)	0	7
95th Queue (ft)	10	23
Link Distance (ft)	252	311
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	27	26	26	11
Average Queue (ft)	4	4	1	1
95th Queue (ft)	19	20	11	10
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	L	L
Maximum Queue (ft)	31	48	51	18	18
Average Queue (ft)	4	6	10	1	1
95th Queue (ft)	20	30	36	9	8
Link Distance (ft)	126	192	192		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				45	75
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 303: Future Access/Conner Drive & Willow Ave

Movement	EB	WB	WB	NB	NB	SB
Directions Served	L	L	TR	LT	R	LTR
Maximum Queue (ft)	74	27	10	38	46	75
Average Queue (ft)	21	2	0	13	19	31
95th Queue (ft)	55	14	6	39	46	57
Link Distance (ft)			240	284	284	353
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	125	100				
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	2	39	54	61
Average Queue (ft)	0	8	22	26
95th Queue (ft)	2	31	49	52
Link Distance (ft)	240		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	NB
Directions Served	R
Maximum Queue (ft)	49
Average Queue (ft)	20
95th Queue (ft)	45
Link Distance (ft)	222
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 110

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	262	230	234	92	700	750	1012	984	256	584	589	360
Average Queue (ft)	141	119	124	31	664	723	832	683	33	387	400	105
95th Queue (ft)	274	203	208	75	806	844	1344	1272	137	545	552	333
Link Distance (ft)	252	252	252	552			960	960		919	919	
Upstream Blk Time (%)	7	0	0				35	3				
Queuing Penalty (veh)	13	0	0				0	0				
Storage Bay Dist (ft)					650	650			180			260
Storage Blk Time (%)					2	59				36	32	
Queuing Penalty (veh)					19	499				6	31	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Acess #1

Movement	EB
Directions Served	R
Maximum Queue (ft)	223
Average Queue (ft)	64
95th Queue (ft)	187
Link Distance (ft)	471
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	341	361	372	94	189	205	444	449	99	322	334	117
Average Queue (ft)	224	242	157	34	87	48	188	204	34	176	208	43
95th Queue (ft)	330	346	305	78	162	130	376	385	78	314	324	92
Link Distance (ft)			378		466		886	886		696	696	
Upstream Blk Time (%)	0	0	0									
Queuing Penalty (veh)	0	0	1									
Storage Bay Dist (ft)	450	450		160		240			240			520
Storage Blk Time (%)	0	0	0		3		5			2		
Queuing Penalty (veh)	0	0	1		1		3			1		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	599	409	250	258	286	85	23	353	345	299	183	245
Average Queue (ft)	375	168	187	117	171	22	3	165	93	100	18	23
95th Queue (ft)	686	390	275	250	272	62	14	289	235	230	104	126
Link Distance (ft)	897	897				690			696	696		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		6	26					1	0	4		
Queuing Penalty (veh)		15	4					11	0	7		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	730	773	280
Average Queue (ft)	515	556	128
95th Queue (ft)	722	759	330
Link Distance (ft)	1288	1288	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	31	33	0
Queuing Penalty (veh)	4	50	0

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	192	351	188	271	318	325	404	585	589	357	400	603
Average Queue (ft)	120	146	64	149	191	181	129	353	382	19	217	442
95th Queue (ft)	206	345	141	253	287	302	276	591	589	186	411	674
Link Distance (ft)		498				499		1288	1288			583
Upstream Blk Time (%)		1										3
Queuing Penalty (veh)		0										0
Storage Bay Dist (ft)	100		100	280	280		420			460	300	
Storage Blk Time (%)	34	11	4	0	2	2		5	4		3	18
Queuing Penalty (veh)	65	24	9	0	4	4		5	5		24	24

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	619
Average Queue (ft)	480
95th Queue (ft)	691
Link Distance (ft)	583
Upstream Blk Time (%)	6
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	550	638	250	612	267	250	536	496	230	369	364	391
Average Queue (ft)	323	367	186	334	128	106	349	328	113	231	194	237
95th Queue (ft)	540	625	302	554	231	245	499	467	195	329	310	360
Link Distance (ft)		789		1275	1275		626	626		599	599	
Upstream Blk Time (%)		1					0					
Queuing Penalty (veh)		0					0					
Storage Bay Dist (ft)	525		150			150			300			350
Storage Blk Time (%)	1	4	19	40		1	42		0	2	0	1
Queuing Penalty (veh)	6	13	69	84		6	26		1	2	1	4

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	199	284	140	33	175	130	63	108	199
Average Queue (ft)	131	60	30	5	89	60	16	41	138
95th Queue (ft)	201	180	90	23	170	122	45	85	206
Link Distance (ft)		1275	1275	102	102	102	332	112	112
Upstream Blk Time (%)					5	1		0	17
Queuing Penalty (veh)					9	2		1	36
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	17	0							
Queuing Penalty (veh)	32	1							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	166	37
Average Queue (ft)	15	10
95th Queue (ft)	84	33
Link Distance (ft)	520	119
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	L	T	TR	LTR	LT	R
Maximum Queue (ft)	85	27	2	20	31	239	87
Average Queue (ft)	24	2	0	1	6	101	30
95th Queue (ft)	59	14	2	10	26	198	65
Link Distance (ft)			471	471	267	327	327
Upstream Blk Time (%)						0	
Queuing Penalty (veh)						0	
Storage Bay Dist (ft)	75	75					
Storage Blk Time (%)	0						
Queuing Penalty (veh)	1						

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	L	R
Maximum Queue (ft)	55	8	3	9	118	58
Average Queue (ft)	19	1	0	0	44	19
95th Queue (ft)	49	10	3	7	87	44
Link Distance (ft)		471	118	118	233	233
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	75					
Storage Blk Time (%)	0	0				
Queuing Penalty (veh)	0	0				

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	EB	WB	WB	SB
Directions Served	T	T	T	T	R
Maximum Queue (ft)	16	3	6	72	48
Average Queue (ft)	3	0	0	4	16
95th Queue (ft)	30	3	5	53	39
Link Distance (ft)	118	118	252	252	311
Upstream Blk Time (%)	0			0	
Queuing Penalty (veh)	1			0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	32	38	104	109
Average Queue (ft)	7	10	7	13
95th Queue (ft)	27	33	48	60
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)			0	0
Queuing Penalty (veh)			1	1
Storage Bay Dist (ft)				
Storage Blk Time (%)				2
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	R	L	TR	L
Maximum Queue (ft)	35	47	65	21	9	25
Average Queue (ft)	10	16	20	1	0	4
95th Queue (ft)	33	43	53	12	6	18
Link Distance (ft)	126	192	192		119	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				45		75
Storage Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	

Intersection: 303: Future Access/Conner Drive & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LTR
Maximum Queue (ft)	40	24	51	2	56	83	152
Average Queue (ft)	11	1	14	0	26	38	66
95th Queue (ft)	35	12	42	2	50	66	118
Link Distance (ft)		274		240	374	374	353
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	125		100				
Storage Blk Time (%)			0				
Queuing Penalty (veh)			0				

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	22	91	134	88
Average Queue (ft)	2	37	51	46
95th Queue (ft)	12	73	97	74
Link Distance (ft)	240		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	NB
Directions Served	R
Maximum Queue (ft)	69
Average Queue (ft)	36
95th Queue (ft)	61
Link Distance (ft)	222
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 1127

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	165	240	229	92	432	497	378	381	38	428	446	209
Average Queue (ft)	70	142	136	26	236	293	121	119	6	255	269	29
95th Queue (ft)	135	221	210	69	396	448	325	327	26	471	488	138
Link Distance (ft)	252	252	252	552			960	960		919	919	
Upstream Blk Time (%)		0	0				0	0		1	1	
Queuing Penalty (veh)		0	0				0	0		5	6	
Storage Bay Dist (ft)					650	650			180			260
Storage Blk Time (%)							0			19	10	
Queuing Penalty (veh)							1			1	8	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Access #1

Movement	EB	SB	SB
Directions Served	R	T	T
Maximum Queue (ft)	44	88	89
Average Queue (ft)	2	10	12
95th Queue (ft)	28	142	154
Link Distance (ft)	471	886	886
Upstream Blk Time (%)		0	0
Queuing Penalty (veh)		0	0
Storage Bay Dist (ft)			
Storage Blk Time (%)			1
Queuing Penalty (veh)			0

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	128	150	154	123	191	114	337	341	48	316	328	147
Average Queue (ft)	61	81	66	61	83	42	121	128	13	110	125	27
95th Queue (ft)	112	134	131	110	154	93	291	301	40	264	290	100
Link Distance (ft)			378		466		886	886		694	694	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	450	450		160		240			240			520
Storage Blk Time (%)				0	2		1			1	0	
Queuing Penalty (veh)				0	1		1			0	0	

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	110	283	232	248	284	92	55	240	231	252	122	20
Average Queue (ft)	28	51	126	122	163	16	11	117	89	104	12	1
95th Queue (ft)	77	199	216	252	270	66	37	205	188	205	72	11
Link Distance (ft)	890	890				714			694	694		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		3	8	0	1			0	0	2		
Queuing Penalty (veh)		4	1	0	0			0	0	3		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	406	415	215
Average Queue (ft)	186	196	25
95th Queue (ft)	344	367	124
Link Distance (ft)	1287	1287	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	9	12	
Queuing Penalty (veh)	0	9	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB
Directions Served	L	T	R	L	L	TR	L	T	T	L	T	TR
Maximum Queue (ft)	160	178	106	210	248	326	215	397	410	400	600	607
Average Queue (ft)	77	63	35	105	156	181	91	220	233	128	404	398
95th Queue (ft)	144	136	81	210	231	288	184	377	379	317	649	646
Link Distance (ft)		498				499		1287	1287		583	583
Upstream Blk Time (%)											2	3
Queuing Penalty (veh)											0	0
Storage Bay Dist (ft)	100		100	280	280		420			300		
Storage Blk Time (%)	12	4	1		0	2		0	0		17	
Queuing Penalty (veh)	12	5	1		0	3		0	0		13	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	392	387	250	416	124	173	305	270	179	320	278	160
Average Queue (ft)	236	196	99	198	47	49	169	143	78	182	141	63
95th Queue (ft)	367	329	222	345	102	110	254	239	142	279	252	132
Link Distance (ft)		789		1275	1275		626	626		599	599	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	525		150			150			300			350
Storage Blk Time (%)			1	24		0	13			0	0	
Queuing Penalty (veh)			2	30		0	7			0	0	

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	156	114	88	29	140	109	61	66	161
Average Queue (ft)	78	18	23	2	42	30	16	23	90
95th Queue (ft)	137	72	66	15	107	84	44	57	151
Link Distance (ft)		1275	1275	102	102	102	332	112	112
Upstream Blk Time (%)					1	0			5
Queuing Penalty (veh)					1	0			5
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	4	0							
Queuing Penalty (veh)	7	0							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	19	30
Average Queue (ft)	1	4
95th Queue (ft)	13	20
Link Distance (ft)	520	119
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	TR	LTR	LT	R
Maximum Queue (ft)	53	1	29	65	41	74	53
Average Queue (ft)	9	0	1	2	14	32	16
95th Queue (ft)	34	1	12	56	39	59	45
Link Distance (ft)		520		471	267	327	327
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	75		75				
Storage Blk Time (%)	0						
Queuing Penalty (veh)	0						

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	SB	SB
Directions Served	L	L	R
Maximum Queue (ft)	37	54	50
Average Queue (ft)	5	18	11
95th Queue (ft)	23	42	34
Link Distance (ft)		233	233
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)	75		
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 214: Estes Dr & UPlace Access #2

Movement	WB	SB
Directions Served	T	R
Maximum Queue (ft)	9	22
Average Queue (ft)	0	6
95th Queue (ft)	5	22
Link Distance (ft)	252	311
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	27	28	35	10
Average Queue (ft)	3	4	1	0
95th Queue (ft)	17	20	17	8
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)			0	
Queuing Penalty (veh)			0	
Storage Bay Dist (ft)				
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	SB
Directions Served	LTR	LT	R	L	L
Maximum Queue (ft)	31	40	63	29	23
Average Queue (ft)	3	6	9	1	1
95th Queue (ft)	19	28	37	12	10
Link Distance (ft)	126	192	192		
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)				45	75
Storage Blk Time (%)				0	
Queuing Penalty (veh)				0	

Intersection: 303: Future Access/Conner Drive & Willow Ave

Movement	EB	WB	WB	NB	NB	SB
Directions Served	L	L	TR	LT	R	LTR
Maximum Queue (ft)	72	26	6	36	56	72
Average Queue (ft)	20	2	0	12	21	28
95th Queue (ft)	52	14	3	37	48	57
Link Distance (ft)			240	284	284	353
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	125	100				
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	4	42	56	63
Average Queue (ft)	0	8	20	28
95th Queue (ft)	3	32	49	55
Link Distance (ft)	240		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	NB
Directions Served	R
Maximum Queue (ft)	50
Average Queue (ft)	20
95th Queue (ft)	44
Link Distance (ft)	222
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 133

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	281	229	238	101	700	750	1002	985	255	628	645	360
Average Queue (ft)	143	126	127	31	678	734	881	730	28	444	473	120
95th Queue (ft)	265	214	213	79	775	818	1305	1294	125	677	764	362
Link Distance (ft)	252	252	252	552			960	960		919	919	
Upstream Blk Time (%)	3	0	0				40	3		1	7	
Queuing Penalty (veh)	6	0	0				0	0		5	60	
Storage Bay Dist (ft)					650	650			180			260
Storage Blk Time (%)					4	64	0			37	35	
Queuing Penalty (veh)					31	559	0			6	34	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Access #1

Movement	EB	SB	SB	SB
Directions Served	R	T	T	R
Maximum Queue (ft)	271	68	74	38
Average Queue (ft)	119	8	8	4
95th Queue (ft)	331	114	119	65
Link Distance (ft)	471	886	886	
Upstream Blk Time (%)	5			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)				275
Storage Blk Time (%)			0	
Queuing Penalty (veh)			1	

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	349	365	388	99	204	152	461	466	87	321	327	112
Average Queue (ft)	236	255	160	34	102	42	191	209	31	179	206	38
95th Queue (ft)	343	359	342	78	183	101	400	415	71	302	313	89
Link Distance (ft)			378		466		886	886		696	696	
Upstream Blk Time (%)	0	1	1									
Queuing Penalty (veh)	0	0	8									
Storage Bay Dist (ft)	450	450		160		240			240			520
Storage Blk Time (%)	0	1	1		7		5			2		
Queuing Penalty (veh)	0	1	6		2		3			1		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	552	453	250	226	264	129	16	328	322	313	228	223
Average Queue (ft)	344	177	183	111	162	24	1	164	91	99	23	20
95th Queue (ft)	671	461	275	245	270	88	10	278	230	227	113	113
Link Distance (ft)	897	897				690			696	696		
Upstream Blk Time (%)	3	1										
Queuing Penalty (veh)	0	0										
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		6	27	0	2			1	0	3		
Queuing Penalty (veh)		14	4	0	0			6	0	7		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	890	894	280
Average Queue (ft)	559	600	140
95th Queue (ft)	799	834	343
Link Distance (ft)	1288	1288	
Upstream Blk Time (%)		0	
Queuing Penalty (veh)		0	
Storage Bay Dist (ft)			180
Storage Blk Time (%)	31	34	
Queuing Penalty (veh)	4	51	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	198	328	195	299	352	374	428	630	635	390	400	612
Average Queue (ft)	120	131	78	176	220	184	140	370	393	26	202	468
95th Queue (ft)	201	265	164	280	319	320	323	641	646	220	386	687
Link Distance (ft)		498				499		1288	1288			583
Upstream Blk Time (%)		0										4
Queuing Penalty (veh)		0										0
Storage Bay Dist (ft)	100		100	280	280		420			460	300	
Storage Blk Time (%)	33	15	7	0	5	3		6	5		1	20
Queuing Penalty (veh)	64	31	14	1	11	6		7	7		6	27

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	615
Average Queue (ft)	493
95th Queue (ft)	699
Link Distance (ft)	583
Upstream Blk Time (%)	7
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	489	595	250	676	268	250	564	541	251	372	326	339
Average Queue (ft)	284	344	191	367	130	104	365	336	112	240	198	161
95th Queue (ft)	467	552	303	646	235	246	528	492	205	338	302	281
Link Distance (ft)		789		1275	1275		626	626		599	599	
Upstream Blk Time (%)		0					0	0				
Queuing Penalty (veh)		0					0	0				
Storage Bay Dist (ft)	525		150			150			300			350
Storage Blk Time (%)	1	1	20	42		0	44		0	2	0	0
Queuing Penalty (veh)	6	4	77	91		1	27		1	3	0	1

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	197	270	109	33	176	130	51	98	194
Average Queue (ft)	132	64	28	5	91	63	16	44	140
95th Queue (ft)	202	191	78	23	176	127	42	85	203
Link Distance (ft)		1275	1275	102	102	102	332	112	112
Upstream Blk Time (%)					6	2		0	17
Queuing Penalty (veh)					10	3		1	37
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	17	0							
Queuing Penalty (veh)	32	1							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	193	32
Average Queue (ft)	19	10
95th Queue (ft)	105	32
Link Distance (ft)	520	119
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	T	L	TR	LTR	LT	R
Maximum Queue (ft)	89	11	18	28	31	263	60
Average Queue (ft)	24	0	1	1	6	112	30
95th Queue (ft)	59	9	10	13	25	214	53
Link Distance (ft)		520		471	267	327	327
Upstream Blk Time (%)						0	
Queuing Penalty (veh)						0	
Storage Bay Dist (ft)	75		75				
Storage Blk Time (%)	1	0					
Queuing Penalty (veh)	1	0					

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	EB	WB	WB	SB	SB
Directions Served	L	T	T	T	L	R
Maximum Queue (ft)	56	11	2	8	132	50
Average Queue (ft)	18	0	0	0	48	20
95th Queue (ft)	48	11	2	5	95	42
Link Distance (ft)		471	118	118	233	233
Upstream Blk Time (%)					0	
Queuing Penalty (veh)					0	
Storage Bay Dist (ft)	75					
Storage Blk Time (%)	0	0				
Queuing Penalty (veh)	0	0				

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	EB	EB	WB	WB	SB
Directions Served	T	T	T	T	T	R
Maximum Queue (ft)	16	3	4	30	41	54
Average Queue (ft)	1	0	0	1	2	16
95th Queue (ft)	14	3	4	30	28	39
Link Distance (ft)	118	118	118	252	252	311
Upstream Blk Time (%)				0	0	
Queuing Penalty (veh)				0	0	
Storage Bay Dist (ft)						
Storage Blk Time (%)						
Queuing Penalty (veh)						

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	32	43	72	109
Average Queue (ft)	7	11	5	11
95th Queue (ft)	27	37	37	57
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)			0	0
Queuing Penalty (veh)			0	1
Storage Bay Dist (ft)				
Storage Blk Time (%)				2
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	30	59	61	18	7	30	3
Average Queue (ft)	8	19	20	1	0	6	0
95th Queue (ft)	29	49	51	10	5	23	3
Link Distance (ft)	126	192	192		119		274
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)				45		75	
Storage Blk Time (%)				0	0		
Queuing Penalty (veh)				0	0		

Intersection: 303: Future Access/Conner Drive & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LTR
Maximum Queue (ft)	49	8	51	5	69	74	140
Average Queue (ft)	13	0	14	0	28	38	66
95th Queue (ft)	39	6	41	3	55	62	115
Link Distance (ft)		274		240	374	374	353
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	125		100				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	24	80	112	90
Average Queue (ft)	2	37	50	45
95th Queue (ft)	12	67	89	74
Link Distance (ft)	240		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		0		

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	EB	NB
Directions Served	TR	R
Maximum Queue (ft)	43	97
Average Queue (ft)	2	41
95th Queue (ft)	27	75
Link Distance (ft)	681	222
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1282

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	166	254	263	83	532	569	323	337	95	475	454	295
Average Queue (ft)	76	150	149	25	315	374	126	126	9	301	307	35
95th Queue (ft)	149	232	228	65	513	562	290	295	51	434	432	157
Link Distance (ft)	252	252	252	552			1319	1319		919	919	
Upstream Blk Time (%)		1	1									
Queuing Penalty (veh)		1	1									
Storage Bay Dist (ft)					850	850			180			260
Storage Blk Time (%)										25	17	
Queuing Penalty (veh)										2	14	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Access #1

Movement	EB
Directions Served	R
Maximum Queue (ft)	55
Average Queue (ft)	3
95th Queue (ft)	31
Link Distance (ft)	471
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	131	143	156	125	194	125	311	318	51	297	312	110
Average Queue (ft)	66	78	57	62	87	52	110	117	11	117	132	27
95th Queue (ft)	120	130	127	115	162	102	263	273	37	264	291	77
Link Distance (ft)			378		466		886	886		694	694	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	450	450		160		240			240			520
Storage Blk Time (%)				0	2		1			1		
Queuing Penalty (veh)				0	2		1			0		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	72	254	232	252	279	62	56	250	238	239	99	50
Average Queue (ft)	23	52	130	126	168	15	11	129	100	114	9	2
95th Queue (ft)	57	187	214	259	275	46	37	224	199	210	53	31
Link Distance (ft)	890	890				714			694	694		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		3	8	0	1			0		3		
Queuing Penalty (veh)		4	1	0	0			1		4		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	501	541	279
Average Queue (ft)	259	278	43
95th Queue (ft)	471	501	187
Link Distance (ft)	1287	1287	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	17	20	
Queuing Penalty (veh)	0	15	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	174	193	120	222	318	379	202	395	394	22	399	612
Average Queue (ft)	82	65	39	119	170	198	90	218	232	1	128	439
95th Queue (ft)	151	143	88	226	255	331	187	361	360	22	316	690
Link Distance (ft)		498				499		1287	1287			583
Upstream Blk Time (%)						0						4
Queuing Penalty (veh)						0						0
Storage Bay Dist (ft)	100		100	280	280		420			460	300	
Storage Blk Time (%)	12	4	1		0	3		0	0		0	18
Queuing Penalty (veh)	13	5	1		1	7		0	0		0	15

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	611
Average Queue (ft)	447
95th Queue (ft)	692
Link Distance (ft)	583
Upstream Blk Time (%)	5
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	412	417	250	417	142	176	295	276	177	291	254	183
Average Queue (ft)	241	213	95	205	50	53	175	154	79	186	140	73
95th Queue (ft)	367	359	208	362	113	119	266	247	147	269	238	147
Link Distance (ft)		789		1275	1275		626	626		599	599	
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)	525		150			150			300			350
Storage Blk Time (%)	0	0	1	24		0	16			0		
Queuing Penalty (veh)	0	0	2	31		0	9			0		

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	164	133	93	29	157	119	49	70	171
Average Queue (ft)	83	22	24	3	48	34	16	23	90
95th Queue (ft)	143	83	69	17	121	98	41	58	148
Link Distance (ft)		1275	1275	102	102	102	332	112	112
Upstream Blk Time (%)					2	1			4
Queuing Penalty (veh)					2	1			5
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	5	0							
Queuing Penalty (veh)	9	0							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	WB	SB
Directions Served	TR	R
Maximum Queue (ft)	38	27
Average Queue (ft)	2	4
95th Queue (ft)	19	19
Link Distance (ft)	520	119
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	WB	WB	NB	SB	SB
Directions Served	L	L	T	LTR	LT	R
Maximum Queue (ft)	51	20	6	39	74	48
Average Queue (ft)	10	1	0	14	27	11
95th Queue (ft)	34	9	4	38	56	33
Link Distance (ft)			470	267	314	314
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)	75	75				
Storage Blk Time (%)	0					
Queuing Penalty (veh)	0					

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	WB	SB	SB
Directions Served	L	T	L	R
Maximum Queue (ft)	42	7	52	48
Average Queue (ft)	8	0	19	10
95th Queue (ft)	31	6	43	33
Link Distance (ft)		118	233	233
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)	75			
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 214: Estes Dr & UPlace Access #2

Movement	WB	SB
Directions Served	T	R
Maximum Queue (ft)	25	24
Average Queue (ft)	1	6
95th Queue (ft)	11	21
Link Distance (ft)	252	311
Upstream Blk Time (%)		
Queuing Penalty (veh)		
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	25	29	27	12
Average Queue (ft)	3	4	1	0
95th Queue (ft)	17	21	14	7
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)				
Storage Blk Time (%)				0
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB
Directions Served	LTR	LT	R	L	TR	L
Maximum Queue (ft)	28	42	56	17	3	24
Average Queue (ft)	5	5	8	1	0	2
95th Queue (ft)	22	26	35	10	3	13
Link Distance (ft)	126	192	192		119	
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				45		75
Storage Blk Time (%)				0		
Queuing Penalty (veh)				0		

Intersection: 303: Future Access/Conner Drive & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LTR
Maximum Queue (ft)	58	2	26	10	34	53	66
Average Queue (ft)	19	0	3	0	15	20	30
95th Queue (ft)	50	2	18	4	40	48	57
Link Distance (ft)		272		240	284	284	353
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	125		100				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	2	42	53	57
Average Queue (ft)	0	12	22	27
95th Queue (ft)	2	38	48	54
Link Distance (ft)	240		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	NB
Directions Served	R
Maximum Queue (ft)	45
Average Queue (ft)	20
95th Queue (ft)	43
Link Distance (ft)	222
Upstream Blk Time (%)	
Queuing Penalty (veh)	
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Network Summary

Network wide Queuing Penalty: 146

Intersection: 100: US 15/501 (Fordham Blvd) & Estes Dr

Movement	EB	EB	EB	WB	NB	NB	NB	NB	SB	SB	SB	SB
Directions Served	LT	R	R	LTR	L	L	T	TR	L	T	T	R
Maximum Queue (ft)	311	258	251	101	900	950	1463	1444	234	783	808	360
Average Queue (ft)	185	140	147	31	887	945	1393	1344	29	520	540	123
95th Queue (ft)	340	231	239	78	955	986	1699	1738	137	740	790	374
Link Distance (ft)	252	252	252	552			1412	1412		919	919	
Upstream Blk Time (%)	17	0	0				55	12		0	3	
Queuing Penalty (veh)	35	1	1				0	0		0	25	
Storage Bay Dist (ft)					850	850			180			260
Storage Blk Time (%)					1	77	8			40	39	
Queuing Penalty (veh)					11	676	63			7	38	

Intersection: 101: US 15/501 (Fordham Blvd) & UPlace Acess #1

Movement	EB	SB	SB
Directions Served	R	T	T
Maximum Queue (ft)	386	14	5
Average Queue (ft)	181	1	0
95th Queue (ft)	372	10	4
Link Distance (ft)	471	886	886
Upstream Blk Time (%)	1		
Queuing Penalty (veh)	0		
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 110: US 15/501 (Fordham Blvd) & Willow Ave

Movement	EB	EB	EB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	L	TR	L	TR	L	T	TR	L	T	T	R
Maximum Queue (ft)	368	376	438	102	206	164	402	425	79	347	388	114
Average Queue (ft)	289	305	248	35	95	42	158	181	28	209	237	40
95th Queue (ft)	400	414	488	80	179	108	329	350	67	321	345	89
Link Distance (ft)			378		466		886	886		696	696	
Upstream Blk Time (%)	1	3	6									
Queuing Penalty (veh)	0	0	43									
Storage Bay Dist (ft)	450	450		160		240			240			520
Storage Blk Time (%)	1	3	6		6	0	3			4	0	
Queuing Penalty (veh)	1	4	33		2	0	1			1	0	

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	EB	EB	EB	WB	WB	WB	WB	NB	NB	NB	NB	SB
Directions Served	L	T	R	L	L	T	R	L	T	T	R	L
Maximum Queue (ft)	529	441	250	248	275	73	21	330	295	290	132	250
Average Queue (ft)	354	161	184	121	171	21	3	154	67	77	11	19
95th Queue (ft)	647	380	273	244	262	57	14	279	188	195	66	108
Link Distance (ft)	897	897				690			696	696		
Upstream Blk Time (%)												
Queuing Penalty (veh)												
Storage Bay Dist (ft)			150	350	350		150	320			150	200
Storage Blk Time (%)		7	26		0			1	0	2		
Queuing Penalty (veh)		18	4		0			8	0	3		

Intersection: 120: US 15/501 (Fordham Blvd) & Elliot Rd/Elliott Rd Ext

Movement	SB	SB	SB
Directions Served	T	T	R
Maximum Queue (ft)	860	886	280
Average Queue (ft)	614	655	140
95th Queue (ft)	847	882	349
Link Distance (ft)	1288	1288	
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			180
Storage Blk Time (%)	32	34	
Queuing Penalty (veh)	4	52	

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	EB	EB	EB	WB	WB	WB	NB	NB	NB	NB	SB	SB
Directions Served	L	T	R	L	L	TR	L	T	T	R	L	T
Maximum Queue (ft)	199	365	179	313	364	412	456	626	649	446	400	612
Average Queue (ft)	128	140	71	207	251	210	117	385	406	26	229	500
95th Queue (ft)	206	315	148	333	371	368	281	611	609	220	422	712
Link Distance (ft)		498				499		1288	1288			583
Upstream Blk Time (%)		0				0						8
Queuing Penalty (veh)		0				0						0
Storage Bay Dist (ft)	100		100	280	280		420			460	300	
Storage Blk Time (%)	38	12	7	1	14	4		5	4		3	24
Queuing Penalty (veh)	75	25	14	3	28	10		6	6		23	32

Intersection: 130: US 15/501 (Fordham Blvd) & Ephesus Church Rd

Movement	SB
Directions Served	TR
Maximum Queue (ft)	612
Average Queue (ft)	530
95th Queue (ft)	715
Link Distance (ft)	583
Upstream Blk Time (%)	14
Queuing Penalty (veh)	0
Storage Bay Dist (ft)	
Storage Blk Time (%)	
Queuing Penalty (veh)	

Intersection: 200: Franklin Street & Estes Dr

Movement	EB	EB	WB	WB	WB	NB	NB	NB	SB	SB	SB	SB
Directions Served	L	TR	L	T	R	L	T	TR	L	T	T	R
Maximum Queue (ft)	579	699	250	788	416	250	574	542	290	391	359	314
Average Queue (ft)	333	418	199	454	190	108	371	346	164	240	196	156
95th Queue (ft)	572	682	308	931	624	251	541	504	299	360	318	271
Link Distance (ft)		789		1275	1275		626	626		599	599	
Upstream Blk Time (%)		1		1	0		0	0		0		
Queuing Penalty (veh)		0		5	2		0	0		0		
Storage Bay Dist (ft)	525		150			150			300			350
Storage Blk Time (%)	3	6	23	44		1	46		2	2	0	0
Queuing Penalty (veh)	17	18	100	101		2	28		8	3	0	0

Intersection: 210: Shepherd Lane/Willow Ave & Estes Dr

Movement	EB	EB	EB	WB	WB	WB	NB	SB	SB
Directions Served	L	T	TR	L	T	TR	LTR	LT	R
Maximum Queue (ft)	198	347	152	31	169	127	54	103	202
Average Queue (ft)	134	72	35	5	87	60	16	45	140
95th Queue (ft)	204	246	117	23	168	122	43	86	210
Link Distance (ft)		1275	1275	102	102	102	332	112	112
Upstream Blk Time (%)					6	2		0	18
Queuing Penalty (veh)					11	3		0	43
Storage Bay Dist (ft)	100								
Storage Blk Time (%)	17	0							
Queuing Penalty (veh)	35	1							

Intersection: 211: Estes Dr & UPlace Access #5

Movement	EB	WB	SB
Directions Served	T	TR	R
Maximum Queue (ft)	7	166	37
Average Queue (ft)	0	16	13
95th Queue (ft)	7	105	38
Link Distance (ft)	102	520	119
Upstream Blk Time (%)			
Queuing Penalty (veh)			
Storage Bay Dist (ft)			
Storage Blk Time (%)			
Queuing Penalty (veh)			

Intersection: 212: Driveway/UPlace Access #4 & Estes Dr

Movement	EB	EB	WB	WB	NB	SB	SB
Directions Served	L	TR	L	R	LTR	LT	R
Maximum Queue (ft)	90	5	29	5	31	273	77
Average Queue (ft)	25	0	2	0	7	125	25
95th Queue (ft)	64	5	14	3	27	241	86
Link Distance (ft)		520			267	314	314
Upstream Blk Time (%)						2	1
Queuing Penalty (veh)						0	0
Storage Bay Dist (ft)	75		75	100			
Storage Blk Time (%)	1						
Queuing Penalty (veh)	1						

Intersection: 213: Estes Dr & UPlace Access #3

Movement	EB	EB	WB	SB	SB
Directions Served	L	T	T	L	R
Maximum Queue (ft)	60	12	9	136	53
Average Queue (ft)	19	2	0	55	23
95th Queue (ft)	50	25	7	113	44
Link Distance (ft)		470	118	233	233
Upstream Blk Time (%)					
Queuing Penalty (veh)					
Storage Bay Dist (ft)	75				
Storage Blk Time (%)	0	1			
Queuing Penalty (veh)	0	0			

Intersection: 214: Estes Dr & UPlace Access #2

Movement	EB	EB	WB	WB	SB
Directions Served	T	T	T	T	R
Maximum Queue (ft)	52	4	32	70	53
Average Queue (ft)	11	0	1	2	20
95th Queue (ft)	65	4	32	46	43
Link Distance (ft)	118	118	252	252	311
Upstream Blk Time (%)	3		0	0	
Queuing Penalty (veh)	6		0	0	
Storage Bay Dist (ft)					
Storage Blk Time (%)					
Queuing Penalty (veh)					

Intersection: 301: Willow Ave & Wells Fargo Driveway/UPlace Access #6

Movement	EB	WB	NB	SB
Directions Served	LTR	LTR	LTR	TR
Maximum Queue (ft)	28	47	113	123
Average Queue (ft)	6	11	9	17
95th Queue (ft)	25	37	57	73
Link Distance (ft)	109	104	112	119
Upstream Blk Time (%)			1	0
Queuing Penalty (veh)			3	2
Storage Bay Dist (ft)				
Storage Blk Time (%)				2
Queuing Penalty (veh)				0

Intersection: 302: Willow Ave & UPlace Access #7

Movement	EB	WB	WB	NB	NB	SB	SB
Directions Served	LTR	LT	R	L	TR	L	TR
Maximum Queue (ft)	35	67	57	30	13	33	9
Average Queue (ft)	8	21	22	2	1	7	0
95th Queue (ft)	31	53	51	16	8	26	5
Link Distance (ft)	126	192	192		119		274
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)				45		75	
Storage Blk Time (%)				0	0		
Queuing Penalty (veh)				0	0		

Intersection: 303: Future Access/Conner Drive & Willow Ave

Movement	EB	EB	WB	WB	NB	NB	SB
Directions Served	L	TR	L	TR	LT	R	LTR
Maximum Queue (ft)	54	18	55	4	76	86	158
Average Queue (ft)	13	1	15	0	32	40	66
95th Queue (ft)	40	9	43	3	62	69	117
Link Distance (ft)		274		240	374	374	353
Upstream Blk Time (%)							
Queuing Penalty (veh)							
Storage Bay Dist (ft)	125		100				
Storage Blk Time (%)							
Queuing Penalty (veh)							

Intersection: 304: UPlace Access #8 & Willow Ave

Movement	EB	WB	NB	NB
Directions Served	TR	L	L	R
Maximum Queue (ft)	29	98	143	118
Average Queue (ft)	2	40	60	52
95th Queue (ft)	14	77	116	89
Link Distance (ft)	240		274	274
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		100		
Storage Blk Time (%)		0		
Queuing Penalty (veh)		1		

Intersection: 305: UPlace Access #9 & Willow Ave

Movement	EB	NB
Directions Served	TR	R
Maximum Queue (ft)	166	146
Average Queue (ft)	19	58
95th Queue (ft)	106	128
Link Distance (ft)	681	222
Upstream Blk Time (%)		1
Queuing Penalty (veh)		0
Storage Bay Dist (ft)		
Storage Blk Time (%)		
Queuing Penalty (veh)		

Network Summary

Network wide Queuing Penalty: 1644

F

Background Development

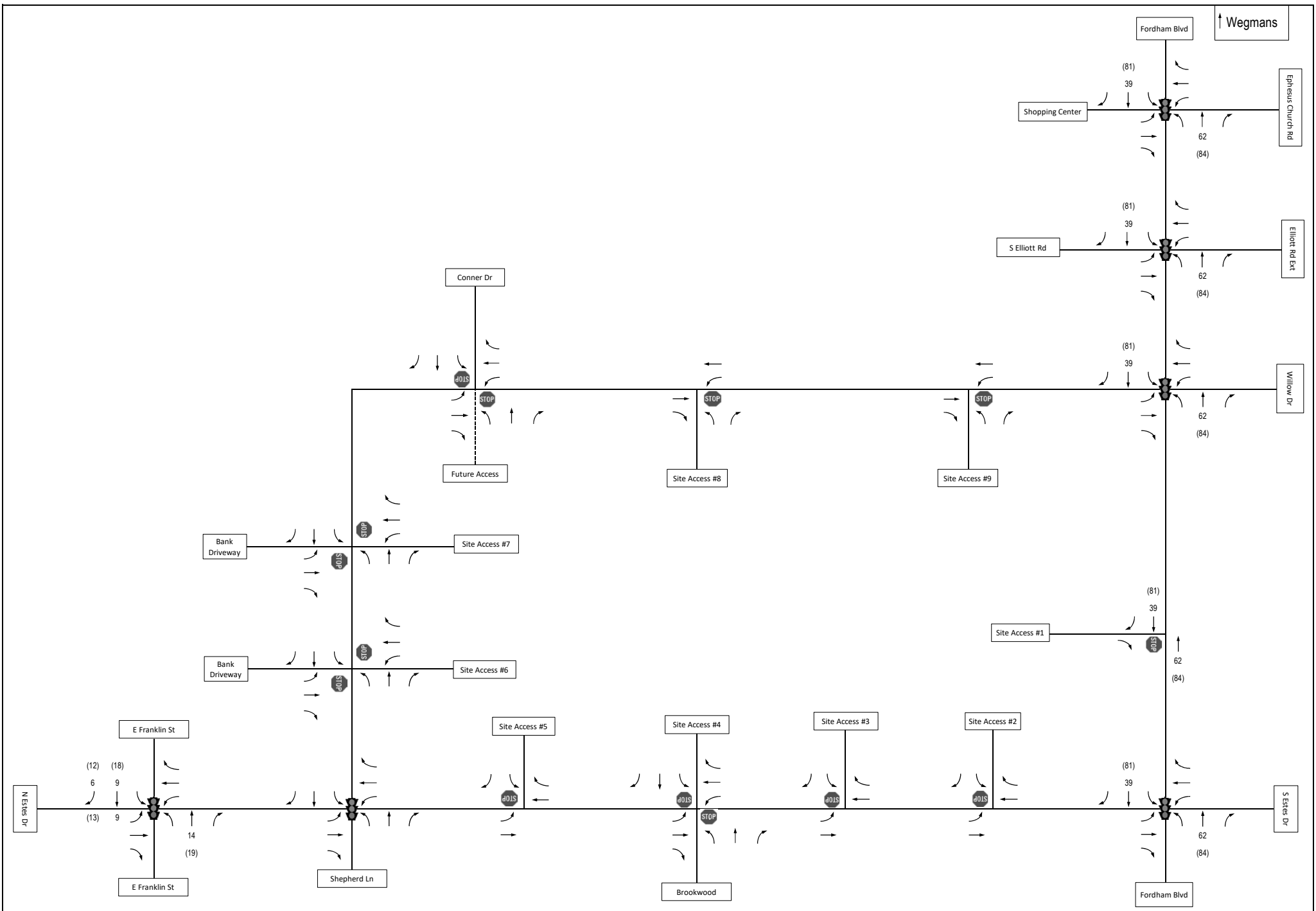
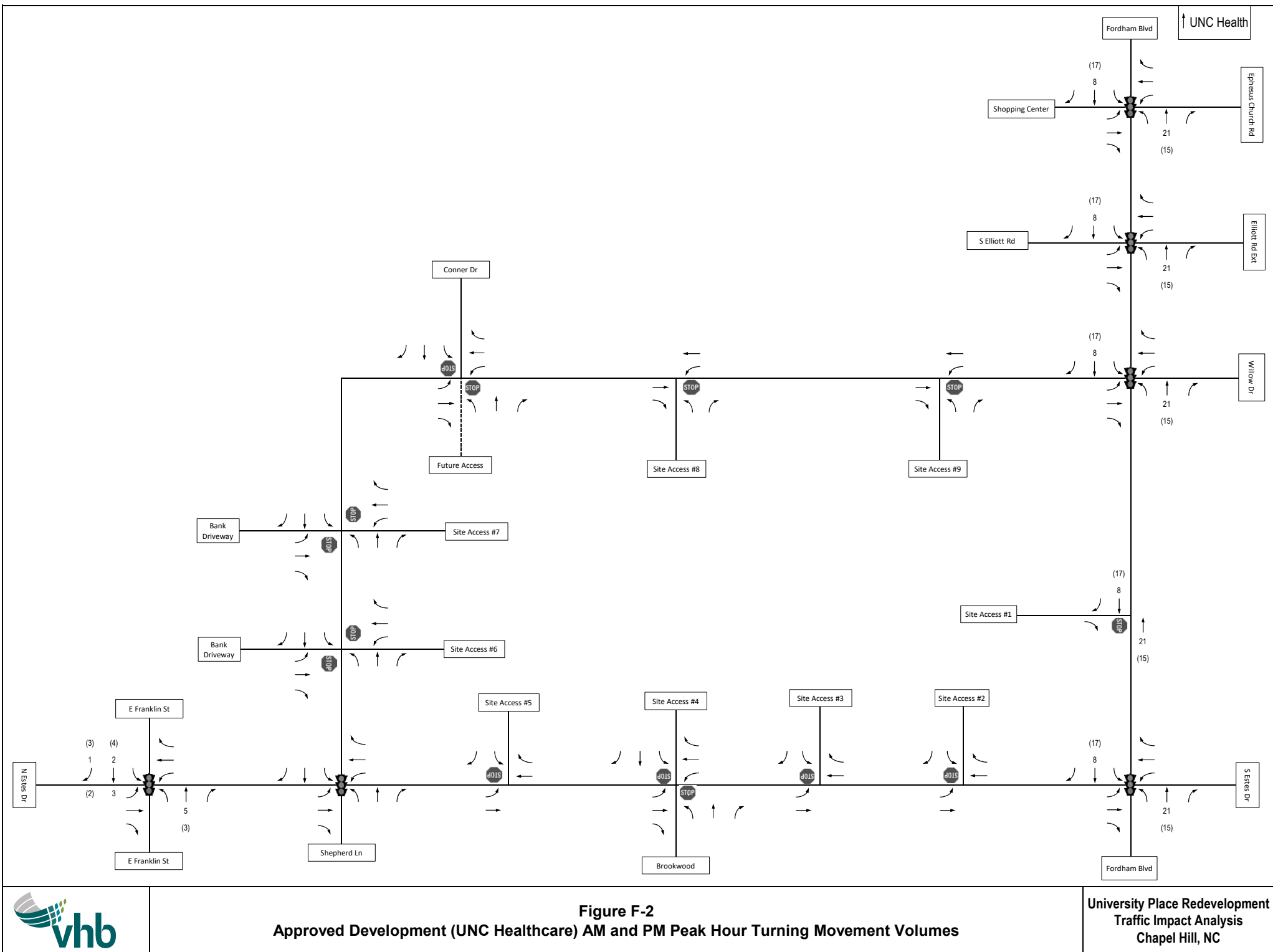


Figure F-1
Approved Development (Wegmans) AM and PM Peak Hour Turning Movement Volumes



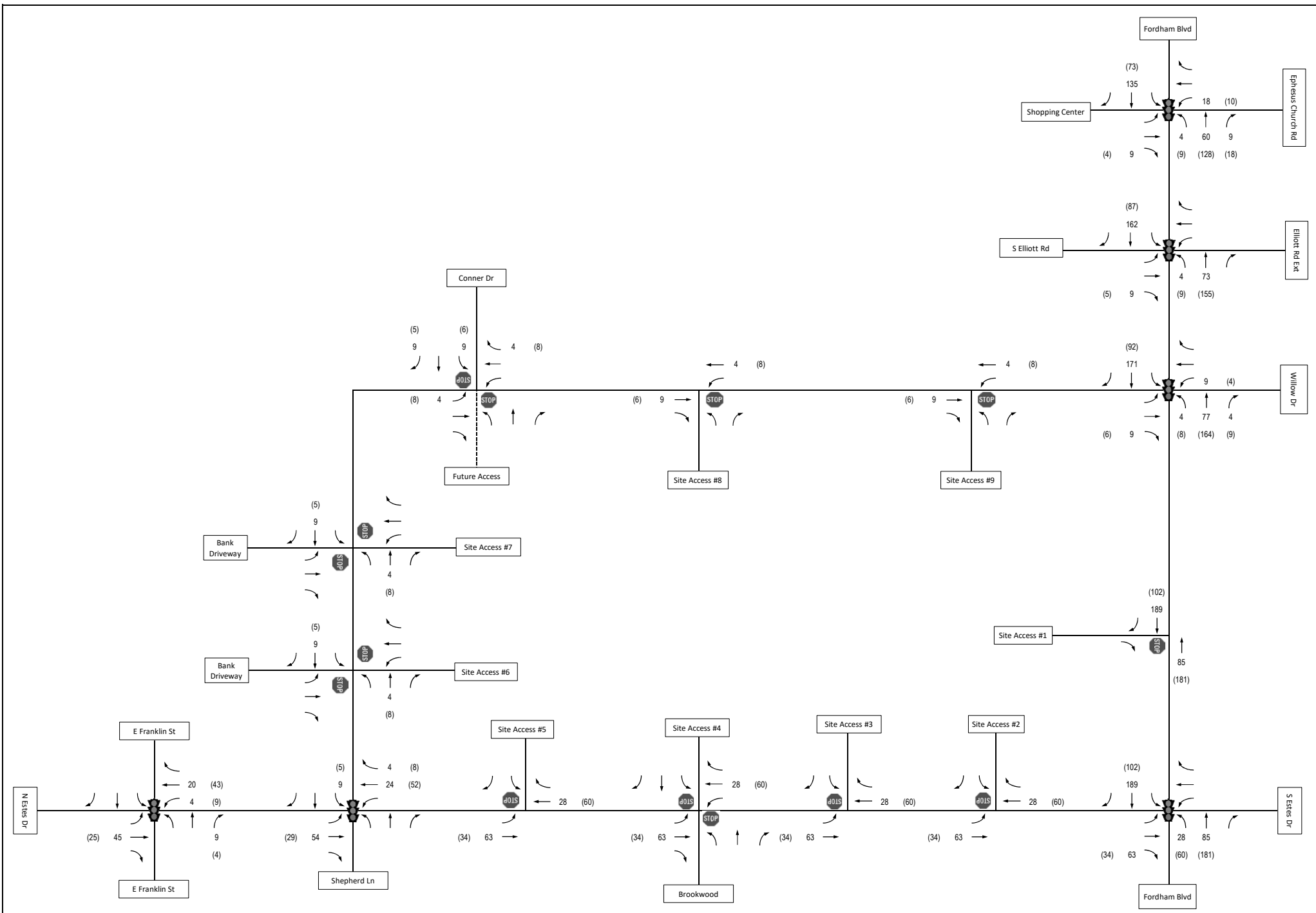


Figure F-3
Approved Development (Glen Lennox Phases 1 and 2) AM and PM Peak Hour Turning Movement Volumes

Development	AM			PM		
	Enter	Exit	Total	Enter	Exit	Total
Fordham Blvd Apts	12	99	111	94	44	138

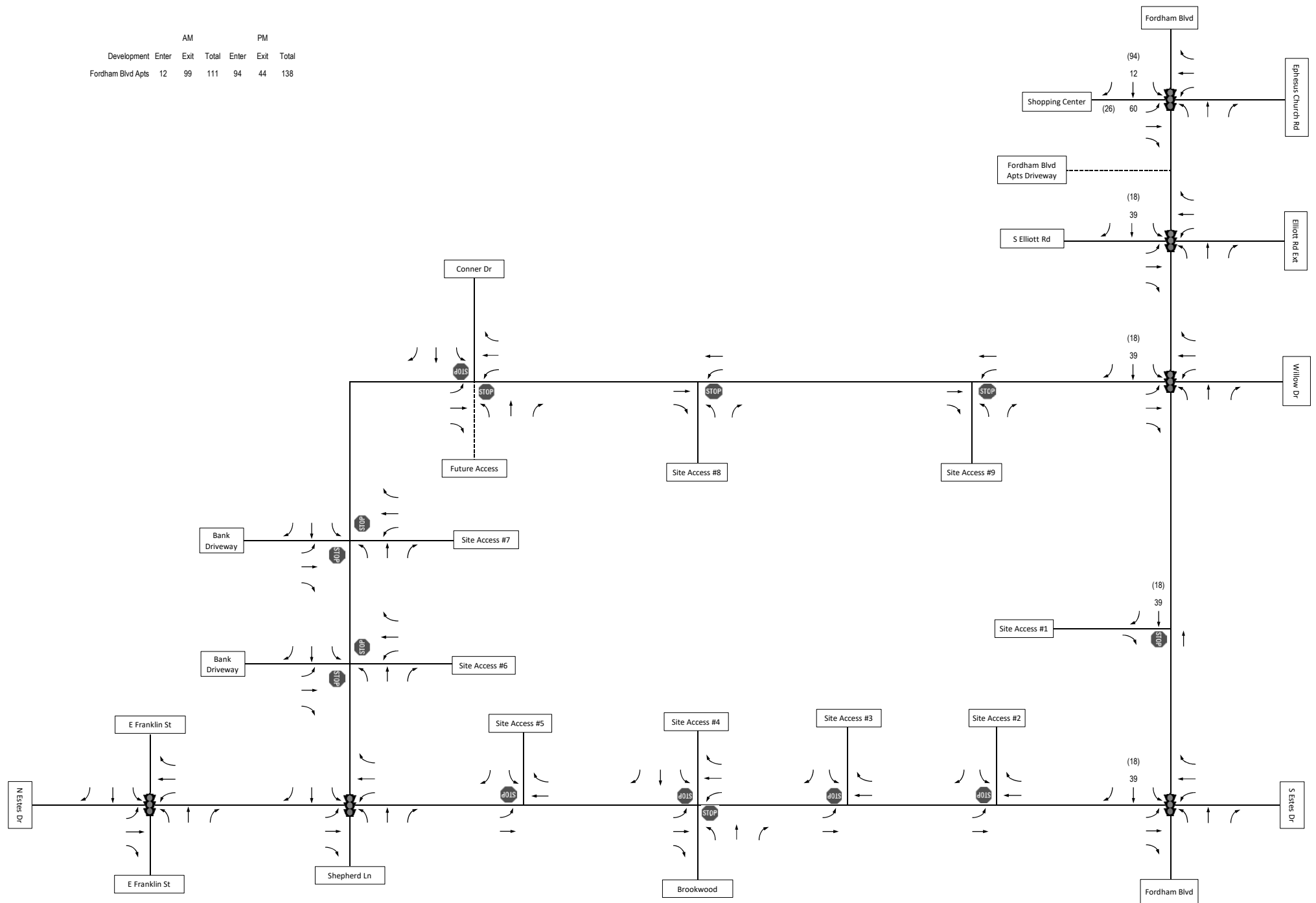


Figure F-4
Approved Development (Blue Hill District) AM and PM Peak Hour Turning Movement Volumes
Fordham Blvd Apartments

Development	AM			PM		
	Enter	Exit	Total	Enter	Exit	Total
Crown Honda Redev	32	128	160	124	67	191
University Inn Redev	-6	2	-4	-9	-16	-25
Total	26	130	156	115	51	166
No impact to Study Area	8	39	47	35	15	50
Impact to Study Area	18	91	109	80	36	116

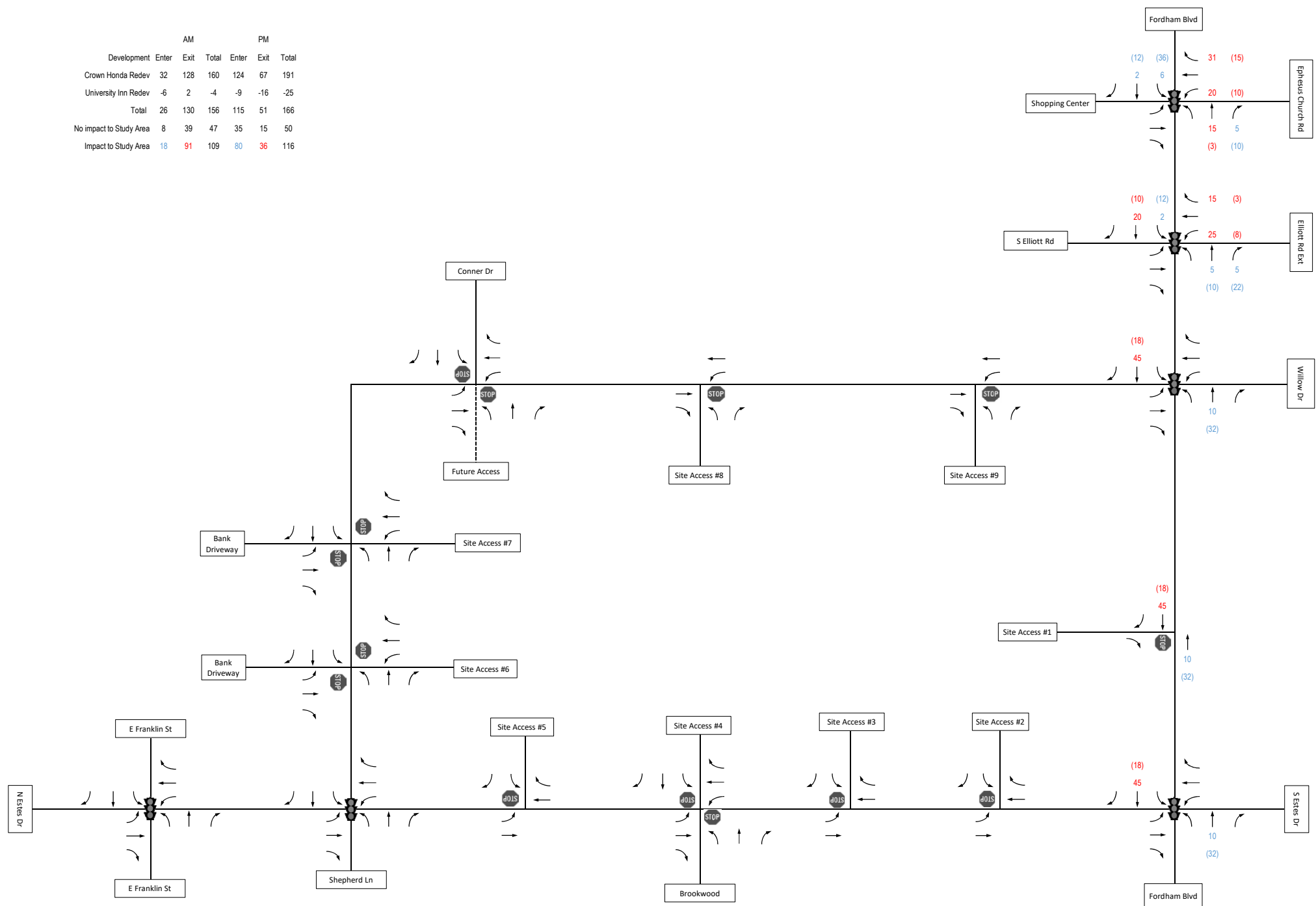


Figure F-5
Approved Development (Blue Hill District) AM and PM Peak Hour Turning Movement Volumes
Crown Honda Redevelopment and University Inn Redevelopment

Development	AM			PM		
	Enter	Exit	Total	Enter	Exit	Total
Crown Honda Redev	32	128	160	124	67	191
University Inn Redev	-6	2	-4	-9	-16	-25
Total	26	130	156	115	51	166
No impact to Study Area	8	39	47	35	15	50
Impact to Study Area	18	91	109	80	36	116

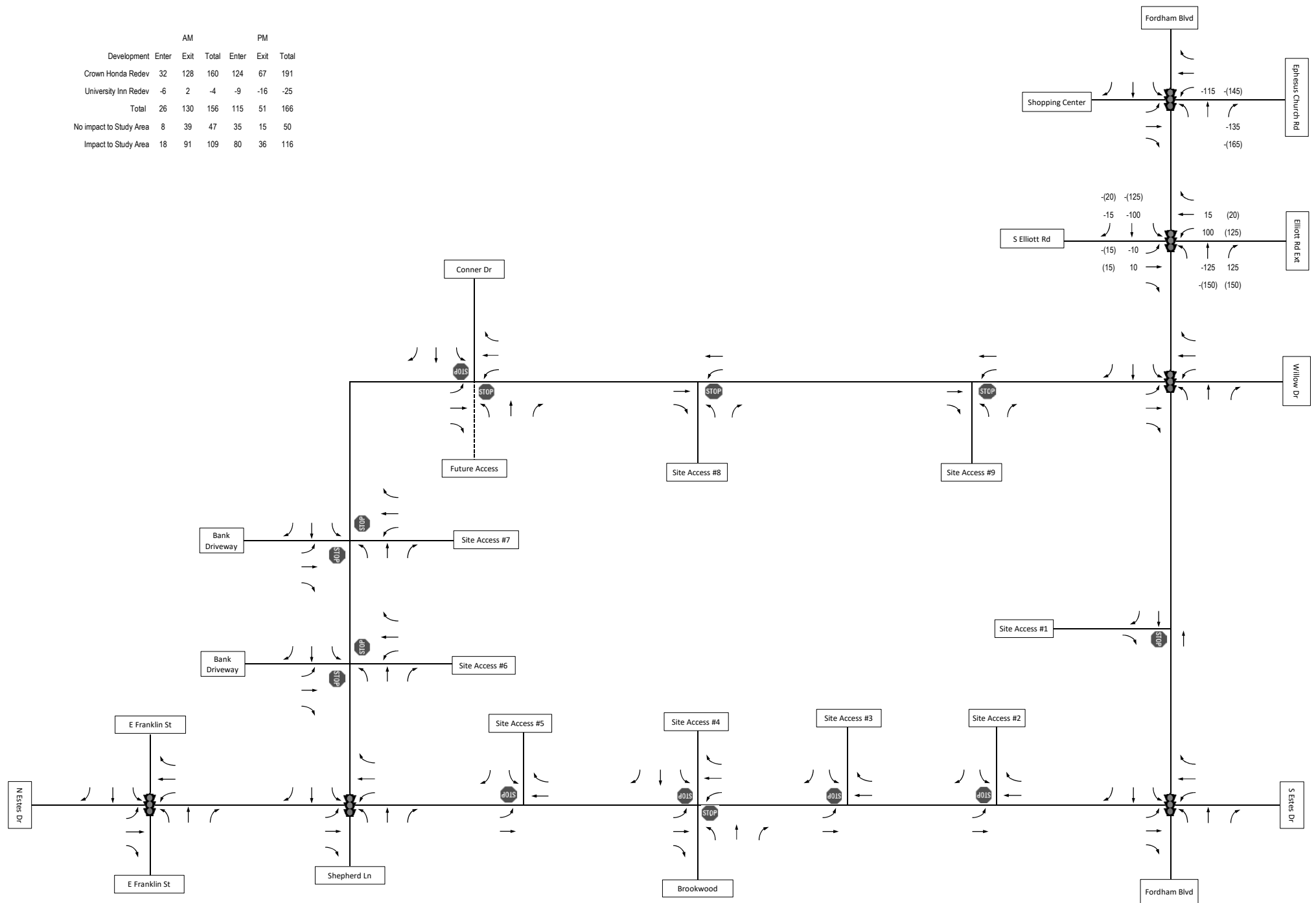
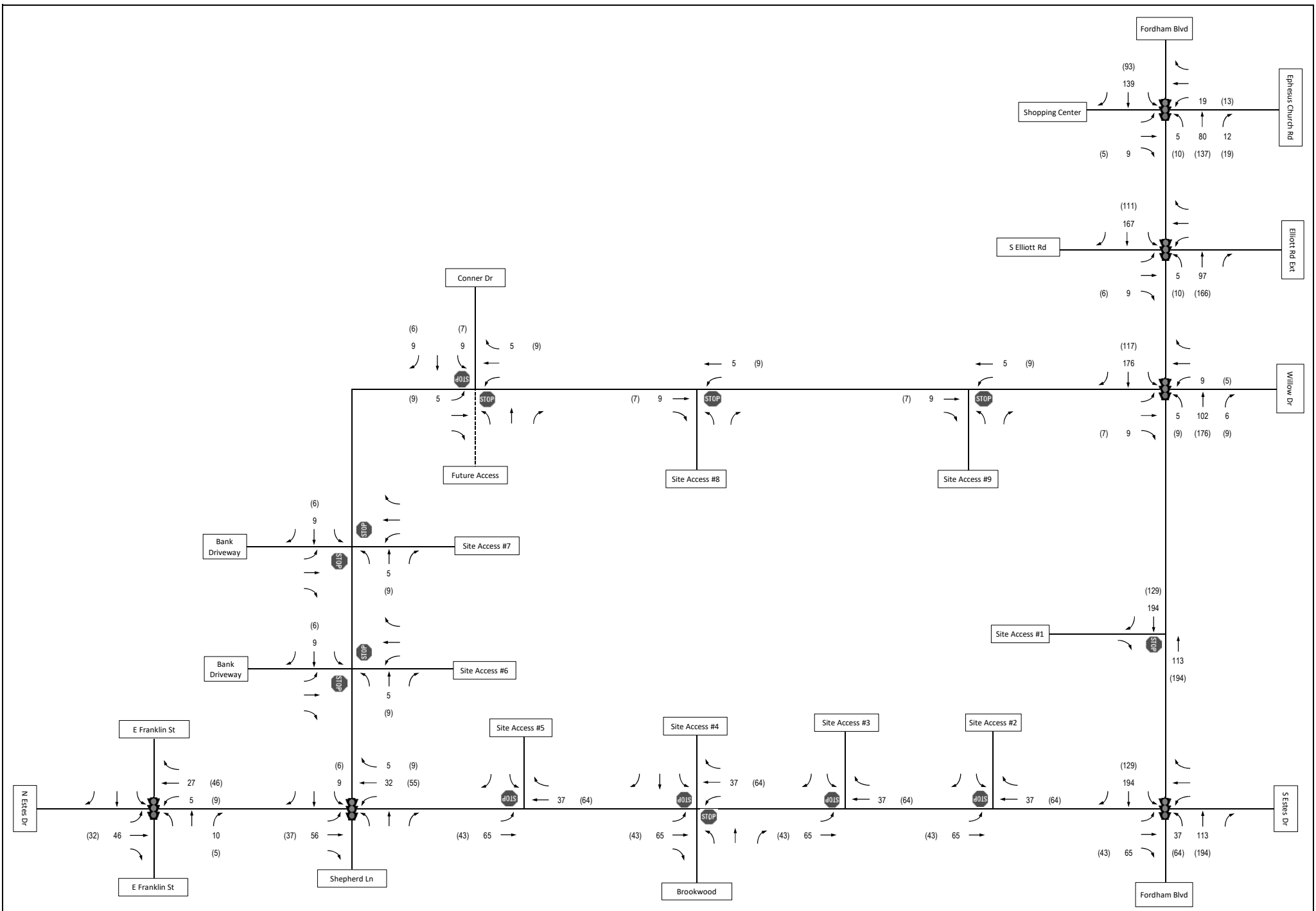


Figure F-6
AM and PM Peak Hour Turning Movement Volumes
Elliott Road Extension Re-route





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