



**Marion County
Board of County Commissioners**

Office of the County Engineer

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September 11, 2024

KITTELSON & ASSOCIATES
KOK WAN MAH
225 E. ROBINSON STREET, #355
ORLANDO, FL 32801

SUBJECT: TRAFFIC STUDY APPROVAL LETTER
PROJECT NAME: KEY OCALA
PROJECT #2024040027 APPLICATION: #31754 PARCEL #21615-000-00

Dear Kok Wan Mah:

The Traffic Study dated September 9, 2024 for the above referenced project was approved by Marion County on September 11, 2024.

Feel free to contact the Office of the County Engineer at (352) 671-8686 or DevelopmentReview@marionfl.org should you have questions.

Sincerely,

Your Development Review Team
Office of the County Engineer

KEY OCALA TRAFFIC IMPACT ANALYSIS

MARION COUNTY, FLORIDA

September 2024



PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida, practicing with Kittelson & Associates, a corporation authorized to operate as a Professional Engineering business by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have approved the Key Ocala Traffic Impact Analysis report in Marion County, Florida, dated September 2024.

PROJECT: Key Ocala

LOCATION: Marion County, Florida

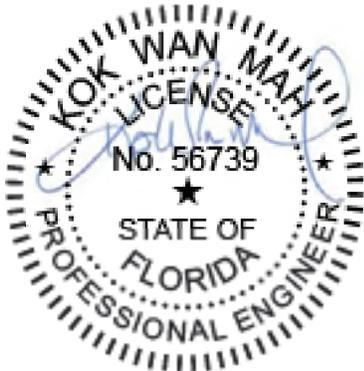
CLIENT: ESP Apartments, LLC

I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering as applied through professional judgment and experience.

NAME: Kok Wan Mah

P.E. NUMBER: 56739

DATE: September 9, 2024



*The item has been digitally signed and sealed by
Kok Wan Mah on the date adjacent to the seal.*

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CONSIDERED SIGNED AND SEALED AND THE
SIGNATURE MUST BE VERIFIED ON ANY
ELECTRONIC COPIES.*

Estela Living Traffic Impact Analysis

Marion County, Florida

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Project Number 30232

September 2024



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Section 1

Introduction

INTRODUCTION

Kittelson & Associates, Inc. has been retained by ESP Apartments, LLC to conduct a Traffic Impact Analysis (TIA) for the proposed Key Ocala residential development. The 58.5-acre site consists of parcel 21615-000-00 and is located west of NW 60th Avenue and north of NW 21st Street near Ocala, Florida. The project location is illustrated on **Figure 1**.

The development is planned to include up to 240 single-family homes. Based upon the generated project trips, a Transportation Impact Study (TIS) will be conducted per the MARION COUNTY TRAFFIC IMPACT ANALYSIS GUIDELINES (September 2022).

PROJECT DESCRIPTION

The development will be constructed in a single phase with an anticipated buildout year of 2028. Access to the development will be provided at two locations on NW 60th Avenue; a right in/ right out with left in access connection at the existing driveway location at NW 60th Avenue, and a second right-in/right-out access connection north of the main driveway, this second access will not be limited to emergency access only and will be open to residents. The driveways are separated by 396 feet and less than the County standard of 440 feet. Due to the property frontage, the separation meeting the required spacing can not be met and therefore, a waiver is requested. The site will be located to the north of NW 21th Street and south of US 27 on NW 60th Avenue. These access points and the development location are depicted in the site plan provided in **Appendix A**.

STUDY AREA

The study area was determined using a test for significance documented in the methodology provided as **Appendix B**. The following roadway segments and intersections are included in the analysis:

Roadway Segment:

- NW 60th Avenue
 - SR 40 to Project Driveway
 - Project Driveway to US 27

Intersections:

- NW 60th Avenue at SR 40
- NW 60th Avenue at NW 21st Street
- NW 60th Avenue at US 27

In addition, all site access driveways on NW 60th Avenue will be included in the future buildout analysis.

PLANNED AND PROGRAMMED IMPROVEMENTS

Per the Ocala Marion County Transportation Improvement Program Fiscal Years 2025 to 2029, there is no planned Improvement within the study area.

Future vested trips will be accounted for in the development of build traffic volumes. Traffic impact analyses from the nearby Spires 27 Development will be used for this purpose.

The impacts of this developments will be discussed further in the Future Volume Development section.

Figure 1: Location Map





Section 2 Existing Conditions

EXISTING CONDITIONS

Evaluation of the traffic impacts associated with the proposed development first requires an assessment of the existing roadway conditions in the vicinity of the site. The existing conditions section summarizes the existing transportation conditions including geometry and existing traffic control observed in the study area, collection of existing peak hour traffic volumes, and an assessment of the study area roadways and intersections.

DATA COLLECTION

Existing turning movement counts (TMCs) were collected at the following locations and times:

- NW 60th Avenue at SR 40 (7:00-9:00 AM & 4:00-6:00 PM)
- NW 60th Avenue at NW 21st Street (7:00-9:00 AM & 4:00-6:00 PM)
- NW 60th Avenue at US 27 (7:00-9:00 AM & 4:00-6:00 PM)

The existing TMCs were analyzed as is, without any adjustments, as the corresponding seasonal factor based on the 2023 data from FDOT's Florida Traffic Online (FTO) Web Application was found to be 0.97. Raw turning movement counts along with FDOT Peak Season Category Report are provided in **Appendix C. Figure 2** illustrates the existing AM and PM peak hour traffic volumes. Heavy truck percentages were also calculated from the turning movement volumes and applied to each study intersection in each study period.

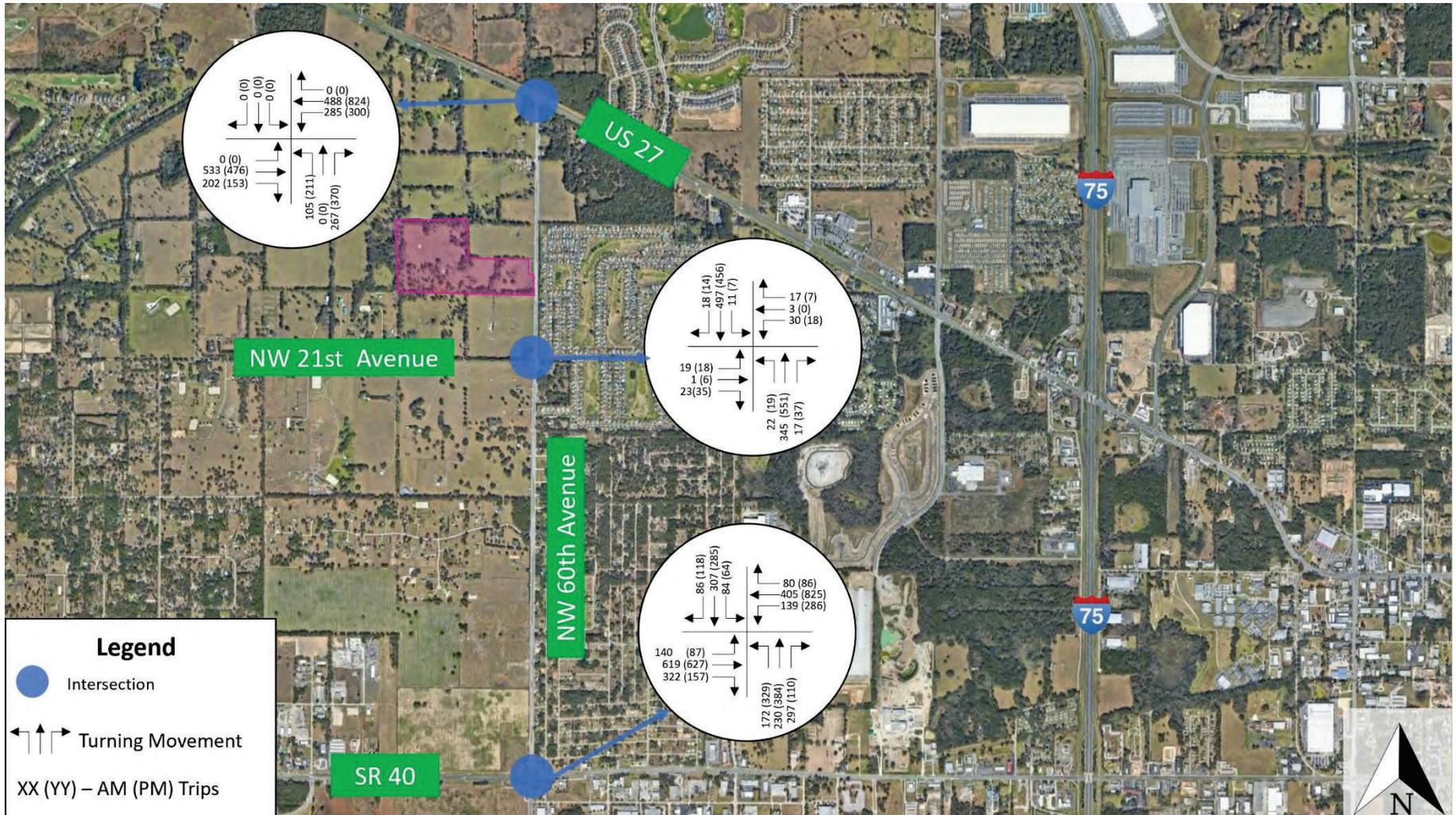
EXISTING ROADWAY CAPACITY ANALYSIS

To determine the operational conditions along the study area roadway segment, Kittelson conducted a roadway capacity analysis to help quantify the existing level of service (LOS) of the study roadways for the PM peak hour conditions.

The level of service and remaining capacity for each of the study roadways were determined based on the Ocala Marion Transportation Planning Organization (TPO) 2023 Congestion Management Process (CMP) Database is shown in **Appendix C** and was used for existing volumes. A comparison of the peak hour peak direction (PHPD) roadway traffic volumes was made against the roadway capacities to determine the existing level of service. The existing roadway capacity analysis was performed for the roadway shown in **Table 1**.

In summary, the study roadway segment operates acceptably and is shown to have sufficient capacity under existing conditions.

Figure 2: Existing Traffic Volumes



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Table 1: Existing Roadway Capacity Analysis

Roadway	Limits	No. of Lanes	Fun Class	LOS Std.	Daily Capacity	Pk Hr Pk Dir Capacity	2023 AADT	PM PH NB/EB Vol	PM PH SB/WB Vol	v/c
NW 60 th Avenue	SR 40 to Project Driveway	4	Arterial	E	35,820	1,800	11,800	588	474	0.26
	Project Driveway to US 27	4	Arterial	E	35,820	1,800	11,800	588	474	0.26

Source: Ocala Marion TPO CMP Database (2023); FDOT Traffic Online

EXISTING INTERSECTION CAPACITY ANALYSIS

The existing intersections were evaluated using the methodology outlined in the Highway Capacity Manual and using Synchro 12 Software. The existing lane configurations are shown in **Figure 3**. Signal timings were provided by Marion County and are shown in **Appendix D**. The results of the study area existing conditions intersection capacity analysis for the AM and PM peak hour are shown in **Table 2**. The Synchro analysis printouts can be found in **Appendix E**.

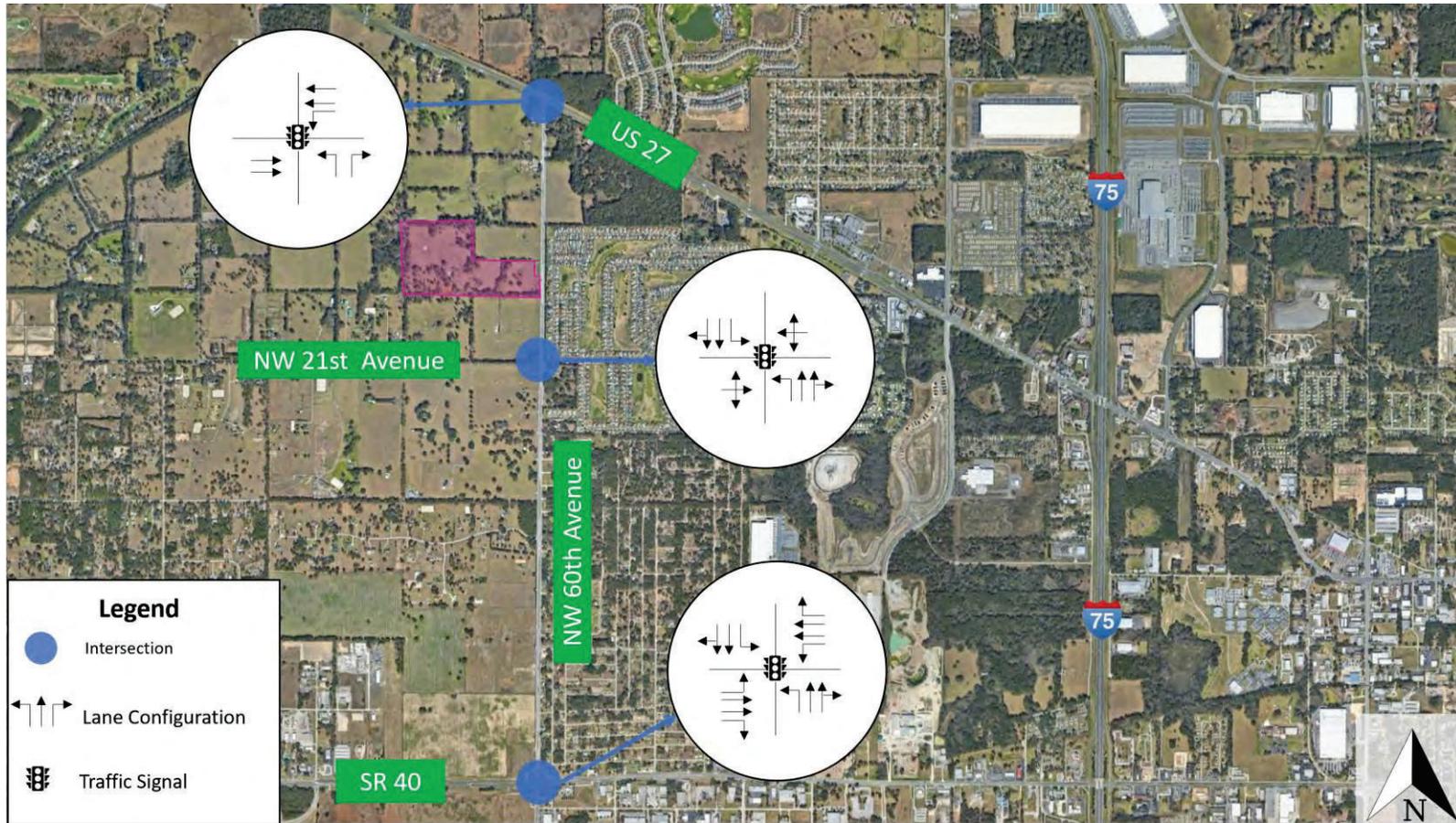
As shown in **Table 2**, the study area intersections are operating at an overall LOS of D or better. The highest v/c ratio is 0.87.

Table 2: Existing Conditions Intersection Capacity Analysis

Intersection	Control Type	Performance Measure	AM Peak Period					PM Peak Period				
			Overall	EB	WB	NB	SB	Overall	EB	WB	NB	SB
1 – NW 60 th Avenue & SR 40	Signalized	Delay (s/veh)	26.9	25.5	23.1	28.7	32.6	36.0	36.5	33.0	34.3	46.0
		LOS	C	C	C	C	C	D	D	C	C	D
		v/c ratio*	-	0.68	0.48	0.66	0.70	-	0.77	0.81	0.81	0.78
2 – NW 60 th Avenue at NW 21 st Street	Signalized	Delay (s/veh)	11.2	17.0	17.2	10.0	11.1	11.3	17.4	16.8	11.0	10.8
		LOS	B	B	B	A	B	B	B	B	B	B
		v/c ratio*	-	0.12	0.15	0.30	0.44	-	0.19	0.08	0.51	0.41
3 – NW 60 th Avenue & US 27	Signalized	Delay (s/veh)	19.9	24.8	12.2	28.3	-	22.8	28.5	14.1	34.7	-
		LOS	B	C	B	C	-	C	C	B	C	-
		v/c ratio*	-	0.73	0.75	0.66	-	-	0.75	0.75	0.87	-

*v/c ratio reported for the highest movement

Figure 3: Existing Lane Configuration





Section 3 Future Volume Development

FUTURE VOLUME DEVELOPMENT

Build out of the proposed development is anticipated by the year 2028. Volumes were estimated for the buildout year combining growth (including vested trips from the Spires 27 development) and distributed project trips. The following sections describe the development of the future traffic volumes. The volume development spreadsheet used to develop no-build and build volumes is provided in **Appendix F**.

BACKGROUND GROWTH

The Ocala Marion TPO 2023 Online Traffic Counts Map provides preferred growth rates for the study roadways as documented in the traffic methodology in **Appendix B**.

An annual growth rate of 3% was used for the study area. The growth rate is shown in **Table 3**. Growth used for future background conditions is proposed to use the background growth of 3% per year plus vested trips.

Table 3: 2028 Growth Rate

Segment	Limits	2023 AADT	Annual Growth Rate
NW 60 th Avenue	SR 40 to US 27	11,800	3%

VESTED DEVELOPMENT

Future vested trips will be accounted for in the development of build traffic volumes. Traffic impact analyses from nearby developments will be used for this purpose, including:

- Spires 27 Development
 - A development with 300 dwelling units of mid-rise multifamily housing, a 58,000 square foot shopping center and a super convenience market with 20 gasoline pumps. The units are located northeast of the project site.

The traffic impact analyses associated with this development is provided in **Appendix G**.

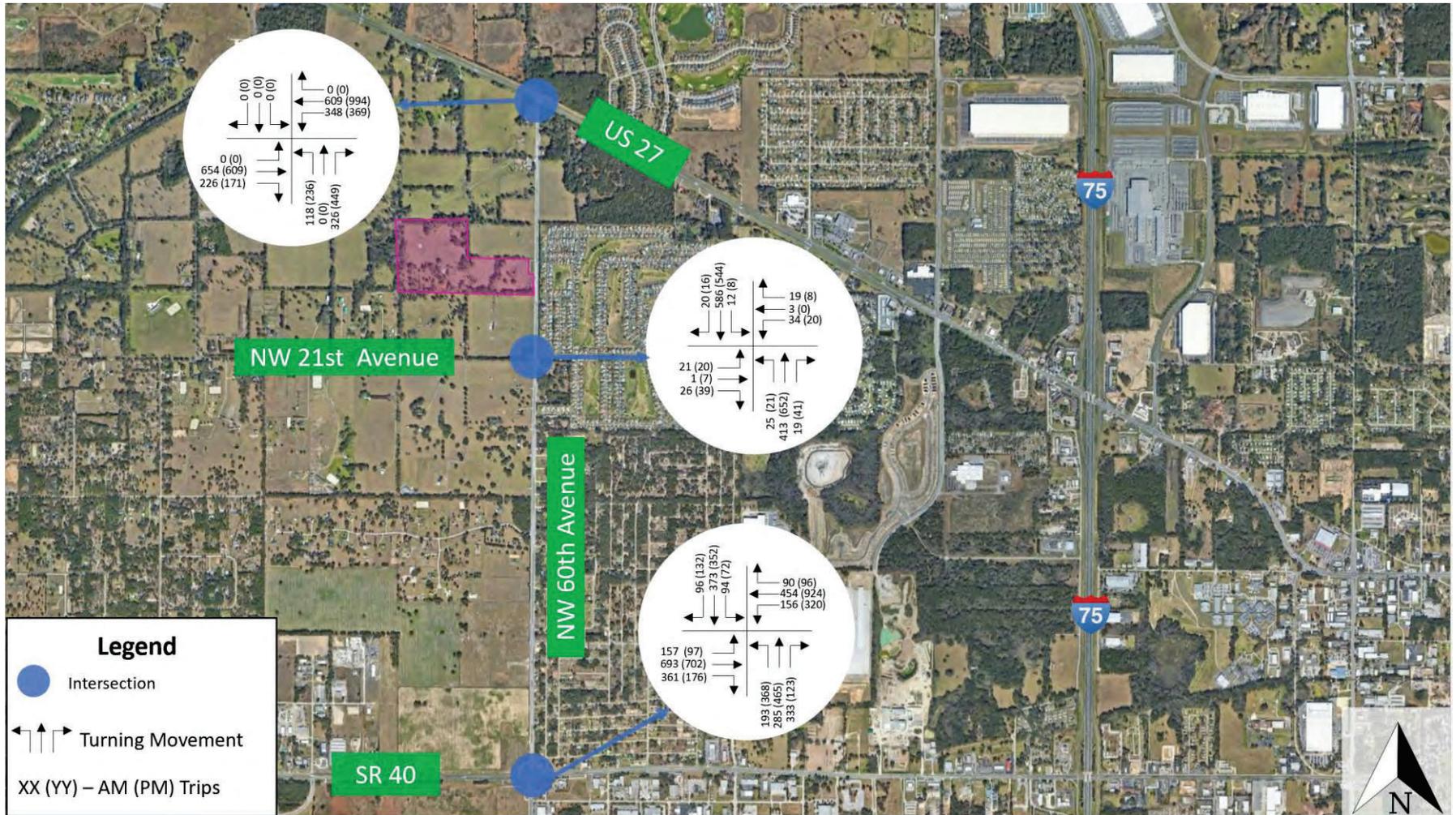
As part of their mitigation's measures, the Spires 27 development included proposed improvements. These improvements were incorporated into our future background and build out scenarios as follows:

- Adjust the signal timings at the intersection of NW 60th Avenue & US 27 by providing additional green time to the westbound left turn.

2028 NO-BUILD VOLUMES

The selected 3 percent annual growth rate was applied to the existing 2023 segment volumes and 2023 turning movement volumes (**shown in Figure 2**) and vested trips were accounted for to develop the 2028 no-build volumes, as shown in **Figure 4**.

Figure 4: 2028 No-Build Volumes



TRIP GENERATION

Table 4 summarizes the Daily, AM, and PM peak hour trip generation for the proposed development based on equations contained in the Institute of Transportation Engineers (ITE) Trip Generation Manual, 11th Edition. The proposed development will consist of a maximum of 240 single-family homes (ITE code 210). As shown in **Table 4**, the proposed development is expected to generate 2,258 new daily trips, 165 new AM peak hour trips, and 226 new PM peak hour trips for the buildout condition. The ITE Trip Generation summary sheets can be found in **Appendix H**.

TRIP DISTRIBUTION AND ASSIGNMENT

The distribution of site generated traffic is a function of population in surrounding areas, existing travel patterns, ease of access to the site, and traffic conditions on area roadways. The primary project traffic to and from the site will be distributed to the adjacent roadways and intersections based on the existing plus committed Central Florida Regional Planning Model (CFRPMv7) results, utilizing the existing and committed network. The model output is provided in **Figure 5** and **Appendix I**.

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Table 4: Project Trip Generation

Land Use	ITE Code	Intensity		Daily	AM Peak Period					PM Peak Period				
				Trips	In		Out		Total	In		Out		Total
					%	Trips	%	Trips	Trips	%	Trips	%	Trips	Trips
Single Family Detached Housing	210	240	DUs	2,258	25%	41	75%	124	165	63%	142	37%	84	226
Total				2,258	-	41	-	124	165	-	142	-	84	226

FUTURE BUILD VOLUMES

The project trips were distributed according to the model results shown in **Figure 5** and added to the 2028 no-build volumes to develop the 2028 build volumes. The project trips are shown in **Figure 6** and **Figure 7**. The 2028 build volumes are shown in **Figure 8** and **Figure 9**.

Figure 6: Project Trips

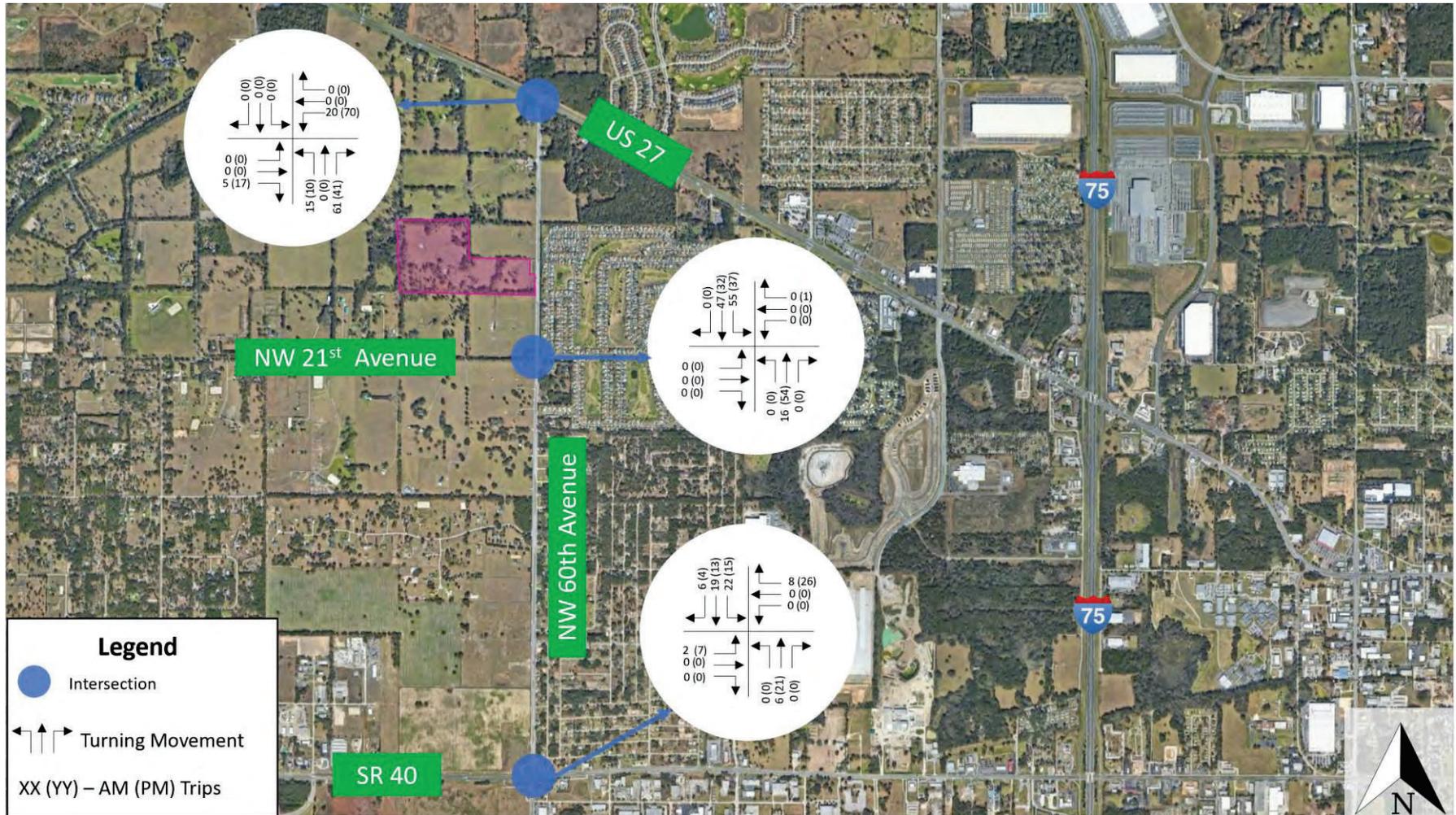


Figure 7: Project Trip Driveways

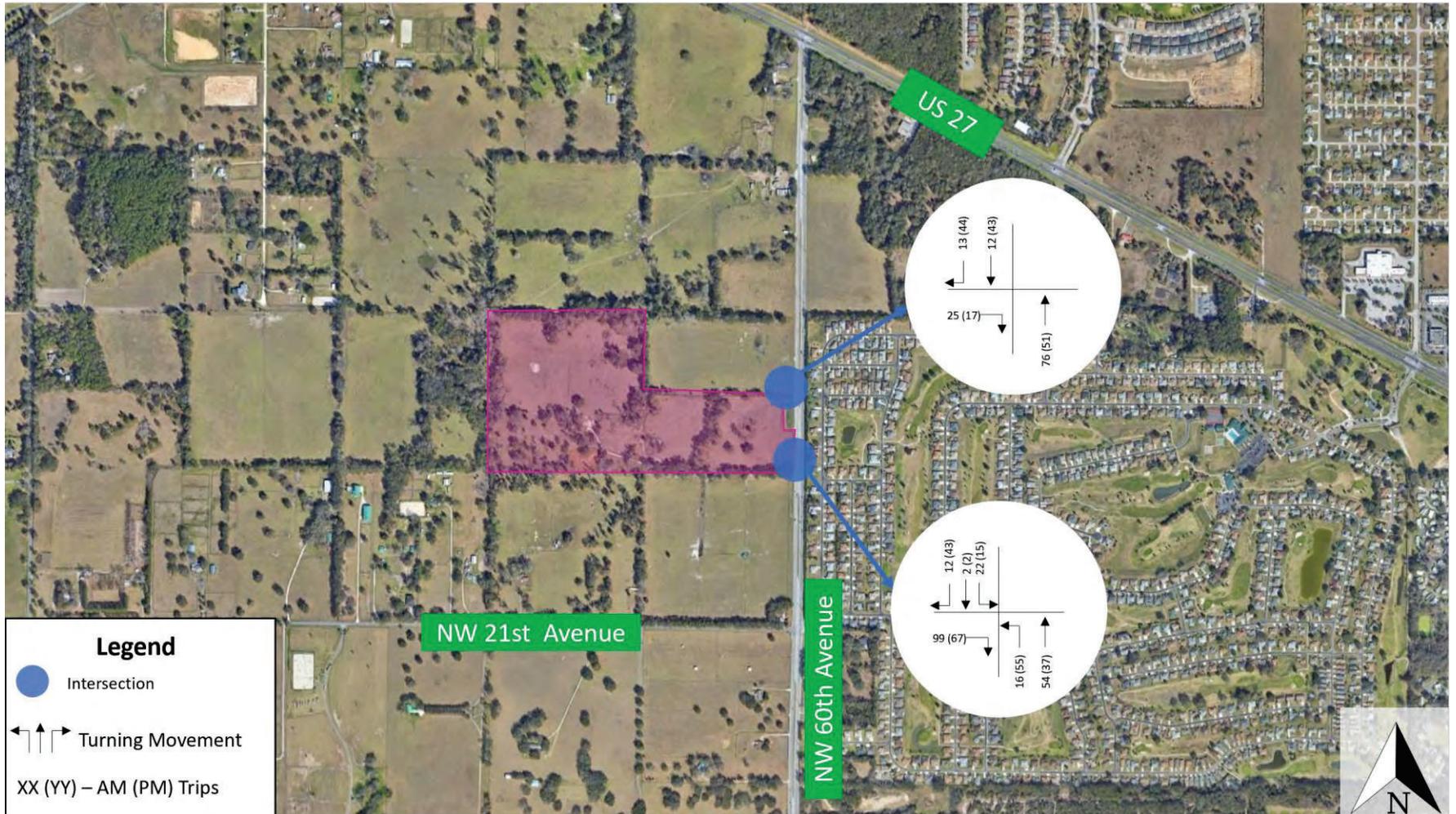


Figure 8: 2028 Build Volumes

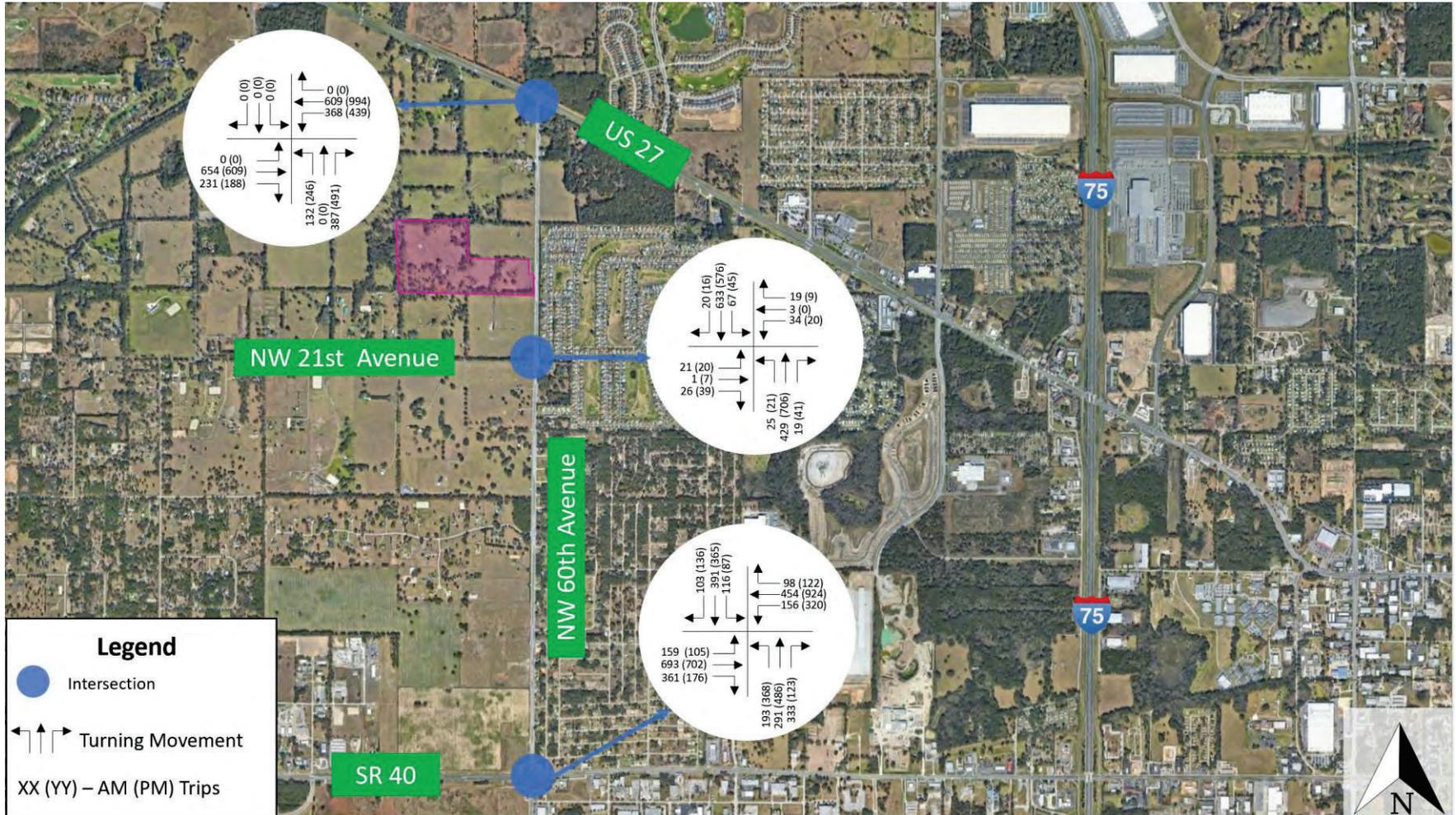
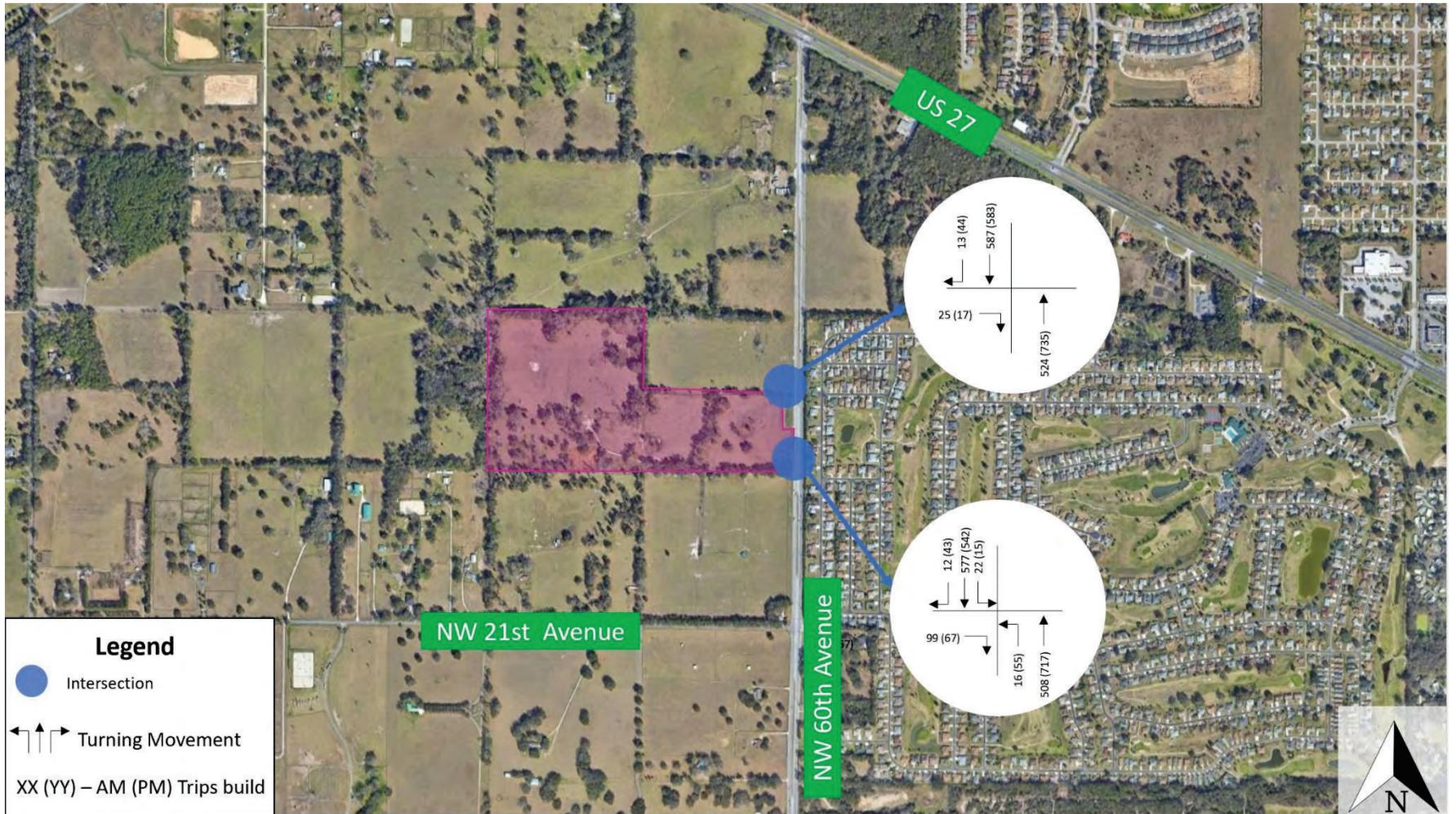


Figure 9: 2028 Build Volumes at Site Driveways





Section 4 Future Conditions

FUTURE CONDITIONS

To determine the impacts of the site-generated traffic volumes on the surrounding roadways and study intersections, future traffic conditions were analyzed.

2028 NO-BUILD ROADWAY CAPACITY ANALYSIS

The PM peak hour 2028 future background capacity analysis for the study area roadways is shown in **Table 5**. This scenario includes a background growth of 3% per year and vested trips from Spires 27 development.

As seen in **Table 5**, the analysis concludes that the segments of NW 60th Avenue between SR 40 and US 27 operates at an acceptable level of service for the no-build traffic conditions. Based on the future background roadway capacity analysis, there are no recommendations to be made as the segment will operate acceptably in 2028.

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Table 5: 2028 Future No-Build Roadway Capacity Analysis

Roadway	Limits	No. of Lanes	Fun Class	LOS Std.	Daily Capacity	Pk Hr Pk Dir Capacity	Historical Growth	Background PM PH NB/EB Vol	Background PM PH SB/WB Vol	Vested PM PH NB/EB Vol	Vested PM PH SB/WB Vol	Total No-Build PM PH NB/EB Vol	Total No-Build PM PH SB/WB Vol	No-Build v/c
NW 60 th Avenue	SR 40 to Project Driveway	4	Arterial	E	35,820	1,800	3.0%	676	545	35	33	711	578	0.40
	Project Driveway to US 27	4	Arterial	E	35,820	1,800	3.0%	676	545	35	33	711	578	0.40

2028 NO-BUILD INTERSECTION CAPACITY ANALYSIS

The no-build intersection lane configurations are the same as the existing condition and are shown in **Figure 3**. The results of the intersection capacity analysis for the PM peak hour are shown in **Table 6**. The analysis reflects the v/c ratios, delays per turning movement (in seconds), and the operating LOS. **Table 6** shows that under future no-build conditions (does not include project traffic), the study intersections are projected to operate with an overall LOS of D or better. All v/c ratios are less than 1.0 except the northbound movement at the intersection of NW 60th Avenue & US 27 that is overcapacity with a v/c ratio of 1.01. To address this, an overlap phase was added to the northbound right movement, reducing the v/c ratio from 1.01 to 0.65, this improvement is shown in the last row of **Table 6**.

The future no-build Synchro intersection report printouts are provided in **Appendix J**.

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Table 6: 2028 No-Build Intersection Capacity Analysis

Intersection	Control Type	Performance Measure	AM Peak Period					PM Peak Period				
			Overall	EB	WB	NB	SB	Overall	EB	WB	NB	SB
1 – NW 60 th Avenue & SR 40	Signalized	Delay (s/veh)	30.0	28.4	25.6	31.9	36.5	46.2	42.2	45.9	44.9	56.5
		LOS	C	C	C	C	D	D	D	D	D	E
		v/c ratio*	-	0.72	0.56	0.70	0.75	-	0.81	0.96	0.92	0.83
2 – NW 60 th Avenue & NW 21 st Avenue	Signalized	Delay (s/veh)	11.8	17.1	17.2	10.5	12.0	12.1	17.4	16.8	11.9	11.6
		LOS	B	B	B	B	B	B	B	B	B	B
		v/c ratio*	-	0.13	0.17	0.36	0.52	-	0.21	0.09	0.60	0.50
3 – NW 60 th Avenue & US 27	Signalized	Delay (s/veh)	24.7	26.6	18.4	37.7	-	35.8	34.1	24.0	64.3	-
		LOS	C	C	B	D	-	D	C	C	E	-
		v/c ratio*	-	0.76	0.90	0.85	-	-	0.81	0.95	1.01	-
3 – NW 60 th Avenue & US 27	Signalized with improvement	Delay (s/veh)	21.9	25.8	17.3	25.0	-	25.5	32.0	21.0	27.4	-
		LOS	C	C	B	C	-	C	C	C	C	-
		v/c ratio*	-	0.76	0.90	0.46	-	-	0.80	0.93	0.65	-

*v/c ratio reported for the highest movement

2028 BUILD ROADWAY CAPACITY ANALYSIS

The 2028 build PM peak hour roadway capacity analysis for the study area roadways can be found in **Table 7**. The analysis concludes that none of the study segments operate over capacity in the build condition. The volume-to-capacity ratio is projected to be 0.43 for the segment from SR 40 to Project Driveway and 0.42 from Project Driveway to US 27.

YEAR 2028 BUILDOUT INTERSECTION CAPACITY ANALYSIS

The lane configurations for the buildout driveways (new intersections) are shown in **Figure 10**. For the lane configurations of the other intersections, please refer to the existing lane configuration in **Figure 3**. The results of the intersection capacity analysis for the PM peak hour under build out future conditions are shown in **Table 8**. The analysis reflects the v/c ratios, delays per turning movement (in seconds), and the operating LOS. Two new intersections and a single entrance scenario were analyzed in the buildout condition including:

- NW 60th Avenue at the Southern Entrance (Main Entrance)
 - One stop-controlled with a left/right in and a right-out access.
- NW 60th Avenue at the Northern Entrance
 - One stop-controlled right-in right-out access.
- NW 60th Avenue at single entrance
 - One stop-controlled with a left/right in and right-out access.

As shown in **Table 8**, the southern (main), northern and single entrances are expected to operate with an overall intersection LOS of B. The assumed geometry at the site driveways includes a shared southbound right turn lane at each of the driveways and an exclusive northbound left turn lane at the southern driveway. The remaining intersections operate at LOS D or better and without overcapacity movements. Note that the same improvement in the future no build was carried over in the future build for the intersection of NW 60th Avenue and US 27.

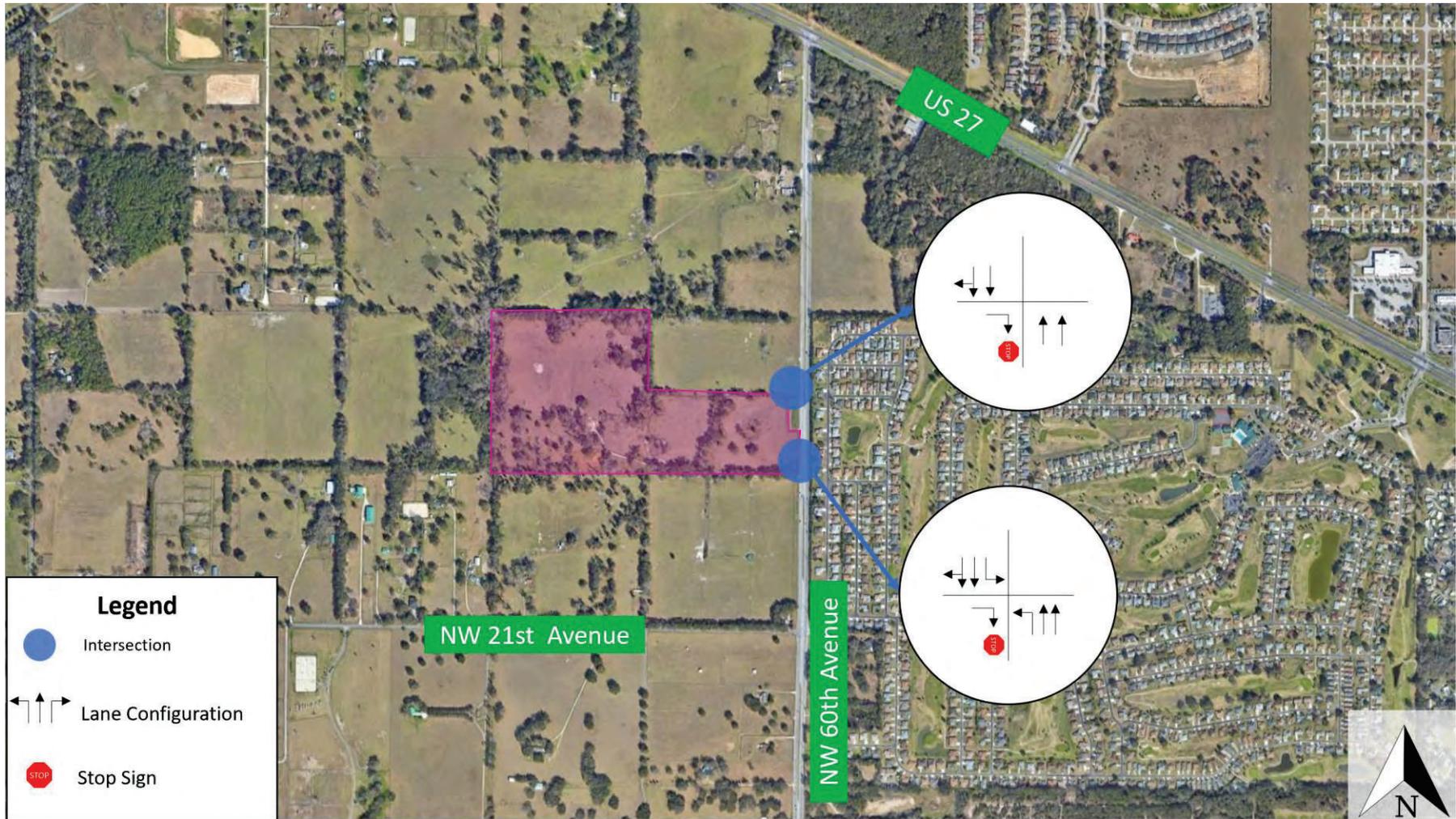
The future buildout conditions Synchro intersection report printouts are provided in **Appendix L**.

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Table 7: 2028 Future Build Roadway Capacity Analysis

Roadway	Limits	No. of Lanes	Fun Class	LOS Std.	Daily Capacity	Pk Hr Pk Dir Capacity	Total No-Build PM PH NB/EB Vol	Total No-Build PM PH SB/WB Vol	Max Model Distribution	PM PH NB/EB Project Trips	PM PH SB/WB Project Trips	Total Build PM PH NB/EB Vol	Total Build PM PH SB/WB Vol	Build v/c
NW 60 th Avenue	SR 40 to Project Driveway	4	Arterial	E	35,820	1,800	711	578	61%	55	33	766	611	0.43
	Project Driveway to US 27	4	Arterial	E	35,820	1,800	711	578	39%	51	87	762	665	0.42

Figure 10: Build Driveways Lane Configuration



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Table 8: Year 2028 Build Intersection Capacity Analysis

Intersection	Control Type	Performance Measure	AM Peak Period					PM Peak Period				
			Overall	EB	WB	NB	SB	Overall	EB	WB	NB	SB
NW 60 th Avenue & SR 40	Signalized	Delay (s/veh)	30.6	28.8	26.0	33.1	36.4	47.2	42.5	47.1	46.1	57.1
		LOS	C	C	C	C	D	D	D	D	D	E
		v/c ratio*	-	0.72	0.56	0.73	0.76	-	0.81	0.97	0.93	0.84
NW 60 th Avenue & NW 21 st Street	Signalized	Delay (s/veh)	12.3	18.3	18.5	12.5	11.4	12.8	19.3	18.7	13.7	10.8
		LOS	B	B	B	B	B	B	B	B	B	B
		v/c ratio*	-	0.14	0.17	0.42	0.51	-	0.22	0.09	0.66	0.46
NW 60 th Avenue & Southern Entrance	TWSC**	Delay (s/veh)	-	11.3	-	8.8	10.8	-	10.9	-	9.0	13.1
		LOS	-	B	-	A	B	-	B	-	A	B
		v/c ratio*	-	0.16	-	0.02	0.04	-	0.11	-	0.06	0.04
NW 60 th Avenue & Northern Entrance	TWSC**	Delay (s/veh)	-	10.6	-	-	-	-	10.6	-	-	-
		LOS	-	B	-	-	-	-	B	-	-	-
		v/c ratio*	-	0.04	-	-	-	-	0.03	-	-	-
NW 60 th Avenue & Single entrance	TWSC**	Delay (s/veh)	-	11.5	-	8.9	10.8	-	10.8	-	9.2	13.1
		LOS	-	B	-	A	B	-	A	-	A	B
		v/c ratio*	-	0.20	-	0.02	0.04	-	0.13	-	0.07	0.04
NW 60 th Avenue & US 27	Signalized	Delay (s/veh)	18.7	24.3	11.1	25.1	-	22.7	31.1	15.7	28.0	-
		LOS	B	C	B	C	-	C	C	B	C	-
		v/c ratio*	-	0.75	0.56	0.59	-	-	0.80	0.69	0.73	-

*v/c ratio reported for the highest movement

**At two-way stop-controlled intersections, delays, LOS, and v/c ratio are reported for major street left-turn

INTERSECTION TURN LANE AND QUEUE ANALYSIS

As previously indicated, access to the development will be provided at two locations on NW 60th Avenue; a right in/right out with a left in access connection at the existing driveway location at NW 60th Avenue, and a second right-in/right-out connection will be provided along the same road to the north. Details of the turn lane analysis can be found in **Table 10**.

A queueing analysis was conducted for the study intersections to determine the impacts of the project development on intersection queueing in the study area. **Table 9** shows the queueing results for the existing, background, and buildout conditions at these intersections. An indication is provided for whether the lane length is exceeded in the existing, background, or buildout condition. Two intersections have a turning movement where a turn lane deficiency is caused by the project:

- NW 60th Avenue at SR 40: Southbound Left Turn (15 feet)
- NW 60th Avenue at US 27: Westbound Left Turn (125 feet)

Since the needed improvement is less than 50 feet on NW 60th Avenue at SR 40, it is recommended that no improvement is needed at this time and Key Ocala will provide mitigation to install a second the westbound left turn lane at the intersection of NW 60th Avenue and US 27.

The required deceleration length is determined from the FDOT Design Manual Exhibit 212-1 for State roads. Design speed (posted speed plus five) was used for FDOT intersections.

Table 10 shows the queueing results for the build-out condition at the project driveways. The total lane lengths were determined based on the queueing results determined in the build out condition.

Table 9: Driveway Queue Analysis

Intersection	Movement	Speed	Total Lane Length	Required Deceleration (ft)	95th % Queue (ft)	Total Required Turn Lane Length (ft)	Lane Length Deficiency (ft)	Improvement Needed?
NW 60 th Avenue at Main Entrance 1	NBL	45	325	290	25	290	0	No

SINGLE ENTRANCE ANALYSIS

The southern (main) and the northern driveway do not meet the minimum 440 ft spacing requirements per Marion County standards. At the request of the county, a supplemental analysis was conducted, assuming that only one driveway connection is open to residents. In case the second access driveway is not approved by the county due to the spacing requirements, a southbound right turn access evaluation was performed at the main driveway.

NW 60th Avenue is a four-lane roadway with a left turn access at the main driveway. Given that the speed limit on NW 60th Avenue is 45 mph, a design speed of 50 mph was assumed for the southbound right turn evaluation.

The southbound advancing volume is 577 vehicles per hour (veh/h) during the AM peak hour and 542 veh/h during the PM peak hour. The southbound right turn volume is 25 veh/h for the AM peak hour and 87 (veh/h) for the PM peak hour. According to the FDOT Multimodal Access Management Guidebook

(October 2023), Chapter 6: Turn lanes and U-turn, Figure 74, the point for the AM peak is below the right turn threshold, while the point for the PM peak hour is above the right turn threshold. This warrants a southbound right turn at the main driveway of the Key Ocala Residential Development if the second access driveway is not approved by the county due to spacing requirements. The right turn lane evaluation is depicted in **Figure 11**.

The single access driveway operates at an LOS B, as depicted in **Table 8**. Further details of this analysis can be found in **Appendix N**.

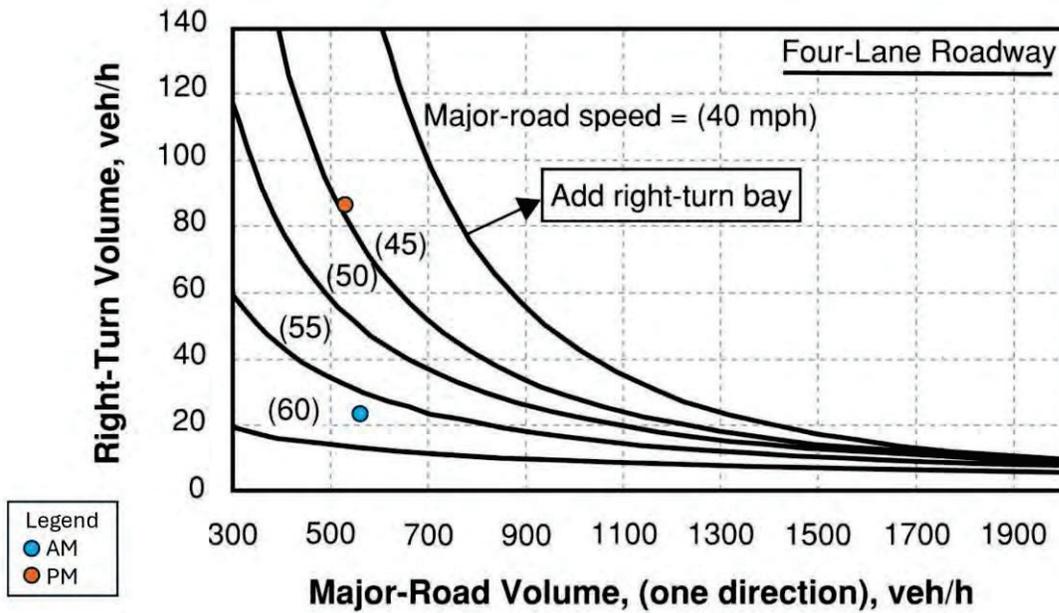


Figure 11: Southbound Right Turn Lane Evaluation

ATTACHMENT D

Table 10: Intersection Queue Analysis

Intersection	Movement	Speed	Total Existing Lane Length (ft)	Required Deceleration (ft)	Existing Conditions Analysis			2028 Future Background Conditions Analysis			2028 Future Buildout Conditions Analysis			Cause for Deficiency
					95 th % Queue (ft)	Total Required Turn Lane Length (ft)	Lane Length Def (ft)	95 th % Queue (ft)	Total Required Turn Lane Length (ft)	Lane Length Deficiency (ft)	95 th % Queue (ft)	Total Required Turn Lane Length (ft)	Lane Length Deficiency (ft)	
NW 60 th Avenue and SR 40	EBL	45	595	290	80	370	0	105	395	0	115	405	0	N/A
	WBR	45	685	290	55	345	0	70	360	0	90	380	0	N/A
	SBL	45	375	290	65	355	0	90	380	5	105	395	20	15 ft by the project
NW 60 th Avenue and NW 21 st Street	SBL	45	360	290	25	315	0	25	315	0	25	315	0	N/A
NW 60 th Avenue and US 27	WBL	55	450	405	185	590	140	360	765	315	485	890	440	125 ft by the project

PROPORTIONATE SHARE CALCULATIONS

The cost the identified improvement and its proportionate share was calculated for the following intersection:

- 60th Avenue & US 27
 - adding of a second 540' westbound left turn lane

According to the Synchro analysis, the westbound left turn lane has a background capacity of 415 vehicles per hour (veh/h) and a buildout capacity of 681 veh/h, resulting in an added capacity of 226 veh/h. The added project trips on the westbound left turn are 70 veh/h. Therefore, the proportionate share is calculated by dividing the added project trips (70 veh/h) by the added capacity (226 veh/h), which results in 26.3%. Consequently, the Key Ocala development is responsible for 26.3% of the cost associated with the construction of a 540 ft second westbound left turn lane at the intersection of 60th Avenue and US 27.

MULTIMODAL ASSESSMENT

A multimodal assessment was conducted to determine existing and proposed alternate modes of transportation within the immediate project study area. The following is a summary of transit, pedestrian, and bicycle facilities:

TRANSIT

Transit services within Marion County are provided by SunTran. However, there are no SunTran bus routes on the project's study segment (NW 60th Avenue). The closest SunTran route is the Silver Lane, which is 2.8 miles away on US 27, northeast of the development site.

PEDESTRIAN FACILITIES

Within the study area, there are 7-foot sidewalks on the east side of NW 60th Avenue, including the portion across the project development. However, sidewalks are missing on the west side of NW 60th Avenue from SR 40 to US 27. Crosswalk markings are present on the south and east sides of the intersection at NW 60th Avenue and SR 40, as well as on the east side of the intersection at NW 60th Avenue and NW 21st Avenue. Notably, there are no crosswalk markings at the intersection of NW 60th Avenue and US 27

BICYCLE FACILITIES

There are no existing bicycle lanes along NW 60th Avenue from SR 40 to US 27



Section 5 Conclusions

CONCLUSIONS

This traffic analysis has been prepared to evaluate the traffic impacts associated with the proposed Key Ocala development to be located east of NW 60th Avenue between NW 21st Avenue and US 27, in support of obtaining concurrency through Marion County.

The following is a summary of the study findings:

Trip Generation

- The proposed development is expected to generate 2,258 new daily trips, 165 new AM peak hour trips, and 226 new PM peak hour trips.

Proposed Access

- The site will have two access driveways, both located on NW 60th Avenue; a right in/ right out with left in access connection at the existing driveway location at NW 60th Avenue, and a second right-in/right-out access connection north of the main driveway, this second access will not be limited to emergency access only and will be open to residents.
- The second northern access point does not meet spacing requirements and is subject to approval by the county. Approval of the traffic study does not constitute approval of both driveways.

Existing Conditions

- The study roadway segment operates acceptably and is shown to have sufficient capacity under existing conditions.
- All intersections are operating at an overall LOS of D or better.

Background Conditions

- The study roadway segment operates acceptably and is shown to have sufficient capacity under future background conditions.
- All intersections are operating at an overall LOS of D or better.
- All movements are under capacity except the northbound movement at the intersection of NW 60th Avenue & US 27 with a v/c ratio of 1.01.
- An overlap phase was added to the northbound right turn of NW 60th Avenue and US 27

Buildout Conditions

- The analysis concludes that the roadway segment operates acceptably as a result of buildout traffic conditions.
- Under future build out conditions, study intersections are projected to operate with an overall LOS of D or better.
- The proposed right-in/right-out driveway is only 396 ft from the proposed full access driveway. This is less than the minimum 440ft spacing required. A single entrance analysis was performed to determine the entrance's operational capacity. The development with only a single full access driveway operate at LOS B, and if the second access driveway is not approved by the county a 290 ft (per the FDM 212) exclusive southbound right turn lane is recommended at the main access driveway. The synchro analyses reflecting the single access is included in **Appendix N**.
- The project is responsible for 26.3% of the cost associated with the implementation of a second 540 westbound left turn lane at the intersection of NW 60th Avenue and US 27.

Turn Lane Analysis

- Per the turn lane analyses at the project access driveways, there are no recommendations to be made.

Appendix A: Preliminary Site Plan

Appendix B: TIA Methodology



MEMORANDUM

Date: July 5, 2024 Project #: 30232

To: Development Review
Marion County Office of the County Engineer
601 SE 25th Avenue
Ocala, FL 34471

From: Kok Wan Mah, P.E.
225 E Robinson Street, Suite 355
Orlando, FL 32801

Project: Key Ocala Development

Subject: Proposed Methodology for Key Ocala Development TIA

INTRODUCTION AND PROJECT DESCRIPTION

This technical memorandum provides a recommended Transportation Impact Study (TIS) methodology for the proposed Key Ocala residential development in unincorporated Marion County, Florida. The 58.5-acre site consists of a portion of parcel 21615-000-00 and is located west of NW 60th Avenue, south of US 27 in Marion County Florida. The project location with site boundary is shown in **Figure 1**.

The development is planned to include up to 240 single-family homes. Based upon the generated project trips, a Transportation Impact Study (TIS) will be conducted per the *MARION COUNTY TRAFFIC IMPACT ANALYSIS GUIDELINES (September 2022)*.

The development will be constructed in a single phase with an anticipated buildout year of 2028. Access to the development will be provided at two locations on NW 60th Avenue: a full access connection at the existing driveway location at NW 60th Avenue, and a second right-in/right-out access will be provided along the same road by the developer. The site will be located on the west side of NW 60th Avenue between NW 21st Avenue and US 27. The main access point and the development location are depicted in the site plan which can be found in **Appendix A**.

Figure 1: Project Location



TRIP GENERATION

The trip generation analysis was conducted using information published by the Institute of Transportation Engineers (ITE) Trip Generation (11th Edition) and Trip Generation Handbook (3rd Edition). **Table 1** summarizes the resulting trip generation analysis. The ITE trip generation information sheets are included in **Appendix B**.

The proposed development is projected to generate 2,258 daily trips of which 165 trips occur during the AM peak hour and 226 trips occur during the PM peak hour. No reduction was made for internal capture or pass-by.

Table 1: Trip Generation

Land Use	ITE Code	Size		Daily Trip Ends	AM Peak Hour			PM Peak Hour		
					In Trips	Out Trips	Total Trips	In Trips	Out Trips	Total Trips
Single Family Detached Housing	210	240	DUs	2,258	41	124	165	142	84	226
Total Trips				2,258	41	124	165	142	84	226

TRIP DISTRIBUTION AND ASSIGNMENT

The project trip distribution and assignment were estimated based on a select zone analysis using the Central Florida Regional Planning Model Version 7.0 project driveway distribution and local traffic patterns. The daily select zone model plot for the future year is included in **Figure 2** with larger scales included in **Appendix C**. The trip distribution on the study segments is also shown in **Figure 3**.

ATTACHMENT D

Figure 2: Trip Distribution and Assignment

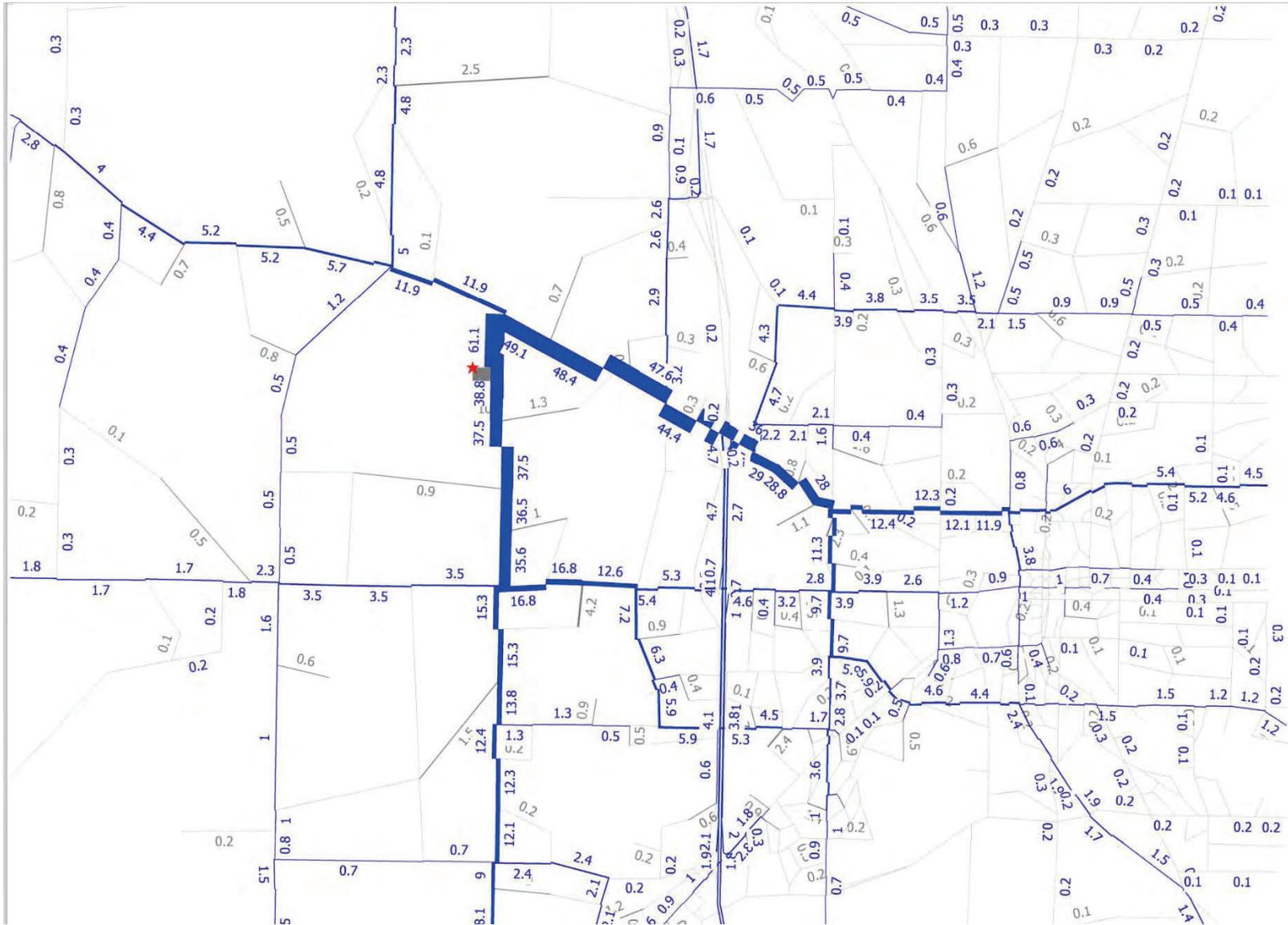


Figure 3: Study Area Trip Distribution



STUDY AREA DETERMINATION

Per *MARION COUNTY TRAFFIC IMPACT ANALYSIS GUIDELINES (September 2022)*, a study area for a Traffic Study level of analysis includes any public roadway where the net new project's traffic consumes at least three percent of the maximum service volume based on the adopted level of service (LOS) plus one segment beyond. In addition, all roadways having a LOS below the adopted LOS standard shall be included in the study area unless they meet state statutory thresholds for 'de minimis' developments.

Table 2 showcases the significance review of the project, highlighting that both segments on NW 60th Avenue are significant. The first segment, extending from the project driveway to US 27, has a significance of 4.83%, making it notably significant as it exceeds the 3% threshold. The second segment, which stretches from the project driveway to SR 40, has a significance of 2.94%. Despite being below the 3% threshold, it will be included in the study area due to its adjacency to the site. The roadway characteristics and daily/peak hour directional capacities were sourced from the Ocala Marion Transportation Planning Organization (TPO) Congestion Management Process (CMP) Database. The 2022 Annual Average Daily Traffic (AADT) volumes were derived from the Ocala Marion TPO 2023 Traffic Counts Report. The project trips were computed using the trips generated by the proposed development, with the trip distribution detailed in **Appendix C**.

Based on the expected trip generation, distribution, assignment, and significance review, it is recommended that the following roadway segment and intersections to be evaluated in the TIA.

Roadway segments:

- NW 66th Avenue
 - US 27 to Project Driveway
 - Project Driveway to SR 40

Intersections:

1. NW 60th Avenue at US 27
2. NW 60th Avenue at NW 21st Street
3. NW 60th Avenue at SR 40

Counts from the intersection turning movements will be used to develop existing baseline volumes.

ATTACHMENT D

Table 2: Project Trip Significance

Roadway	Limits	No. of Lanes	Functional Classification	Adopted LOS	Daily Capacity	Pk Hr Pk Dir Capacity	2023 AADT	2023 PHPD Volume*	% of Project Trips	# of PM Project Trips	Project Sig	v/c	Significant?	Adjacent to Site?	In Study Area?
NW 60 th Avenue	SR 40 to Project Driveway	4	Arterial	E	35,820	1,800	11,100	550	38%	53	2.94%	0.31	No	Yes	Yes
	Project Driveway to US 27	4	Arterial	E	35,820	1,800	11,100	550	61%	87	4.83%	0.31	Yes	Yes	Yes
SW 60 th Avenue	SW 20th Street to SR 40	4	Arterial	D	35,820	1,800	16,000	793	15%	22	1.22%	0.44	No	No	No
SR 40	SW 80 Avenue to NW 60 Avenue	4	Arterial	D	39,165	1,943	22,800	1131	4%	5	0.26%	0.58	No	No	No
US 27	CR 225A to NW 60 Avenue	4	Arterial	D	55,700	2,910	18,800	932	12%	17	0.58%	0.32	No	No	No

*D-factor of 0.09 and K-factor of 0.551 was applied to the AADT based on FDOT count station site 368029 to develop the PHPD volumes.

Source: Roadway characteristics and daily/peak hour directional capacities from the Ocala Marion TPO CMP Database and 2022 AADTs from the Ocala Marion TPO 2023 Traffic Counts Report

FUTURE VOLUMES BUILDOUT (2028)

Traffic counts will be collected at the study intersections, including heavy vehicle percentages. The seasonal factor will be applied to the existing peak hour traffic data. If the seasonal factor is less than 1.0, then the counts will not be seasonally adjusted.

The Ocala Marion TPO 2023 Online Traffic Counts Map provides preferred growth rates for the study roadways, as shown in **Appendix** . The annual growth rate for NW 60th Avenue near the project site is 3% shown in **Table 3**.

Table 3: 2028 Background Traffic

Segment	Limits	2023 AADT	Annual Growth Rate
NW 60 th Avenue	SR 40 to US 27	11,100	3%

In addition to the annual growth, future vested trips will be accounted for in the development of build traffic volumes. A request will be made to Marion County for any approved TIAs in the area.

FUTURE CONDITIONS OPERATIONAL ANALYSIS

The Traffic Impact Study will provide an analysis of weekday AM & PM peak hour traffic operations at US 27 at NW 60th Avenue, SR 40 at NW 60th Avenue and the project driveways within the study area for Future Background and Buildout conditions. HCM 7th Edition methodology included in Synchro 12 software will be used for intersection operational analyses.

The intersection operational analyses will include an assessment of overall intersection delay and level of service (LOS), as well as queues, delays, LOS by approach, and the need for right turn lanes for the project driveways.

Roadway segments will be analyzed for Future Background and Future Buildout conditions using roadway capacities provided from the Ocala Marion CMP Database. For roadways or intersections found to be operating deficiently due to the addition of project trips, recommendations will be provided to address the identified deficiencies.

Appendix A: Site Plan

Appendix B: Trip Generation

ATTACHMENT D Single-Family Detached Housing (210)

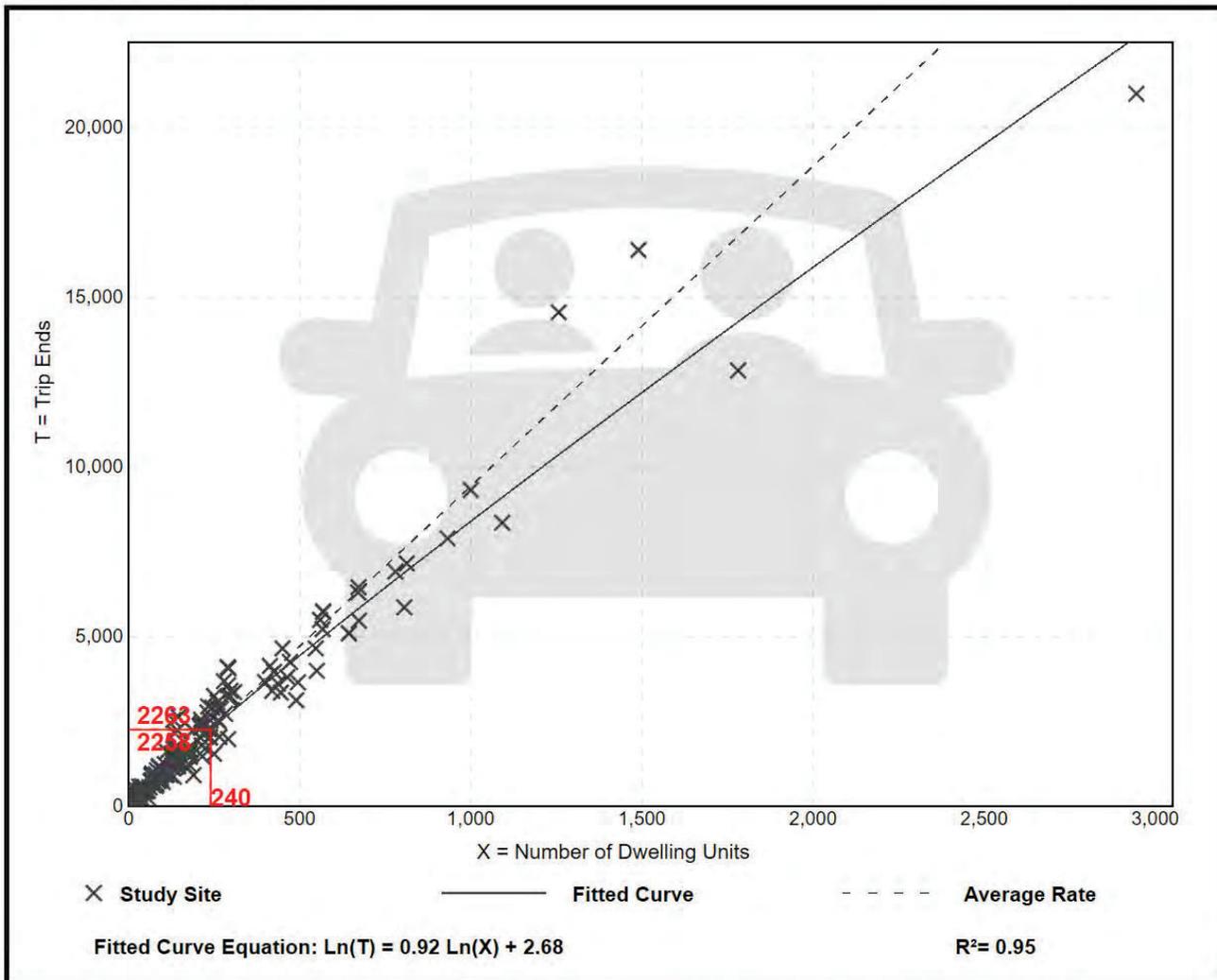
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 174
Avg. Num. of Dwelling Units: 246
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.43	4.45 - 22.61	2.13

Data Plot and Equation



ATTACHMENT D Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

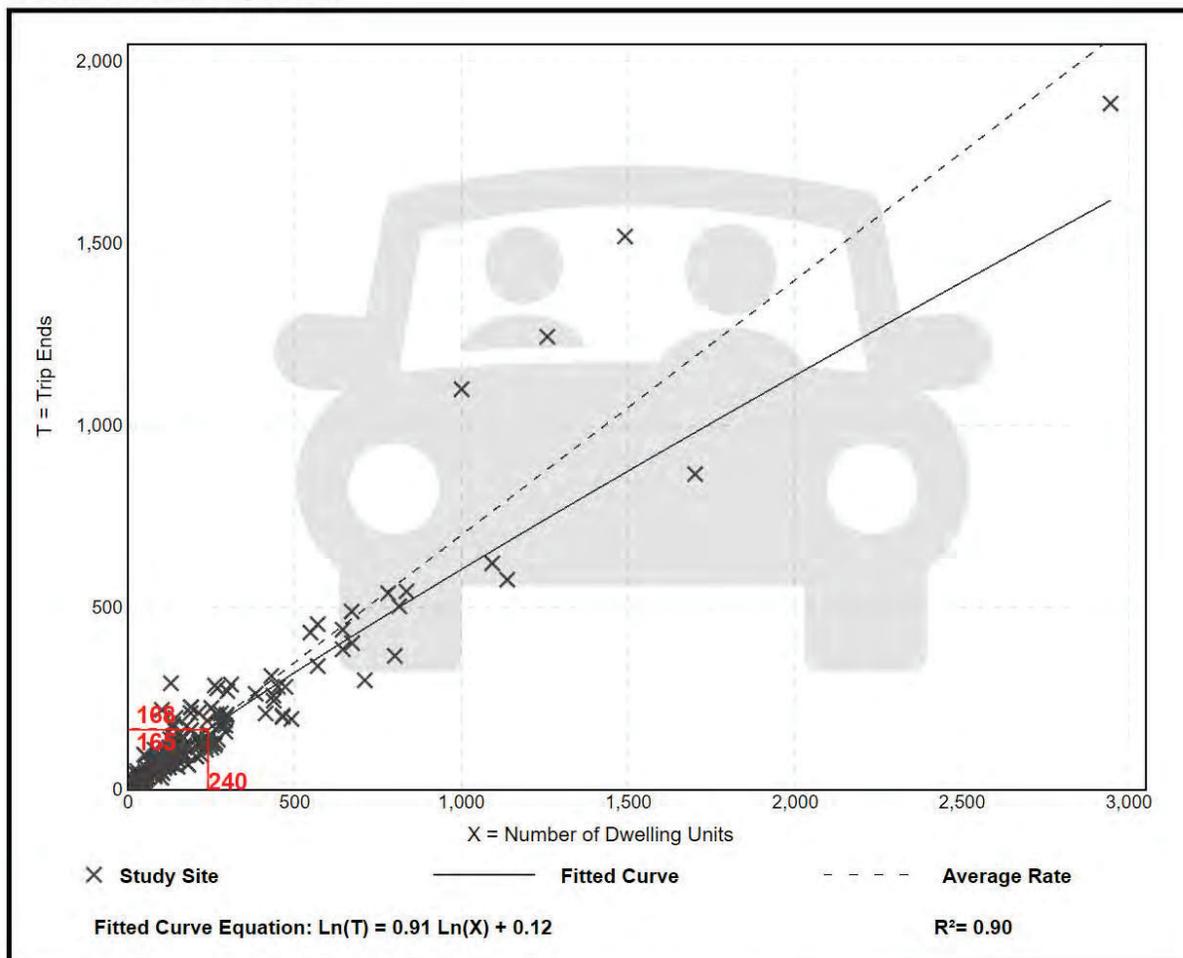
Setting/Location: General Urban/Suburban

Number of Studies: 192
 Avg. Num. of Dwelling Units: 226
 Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



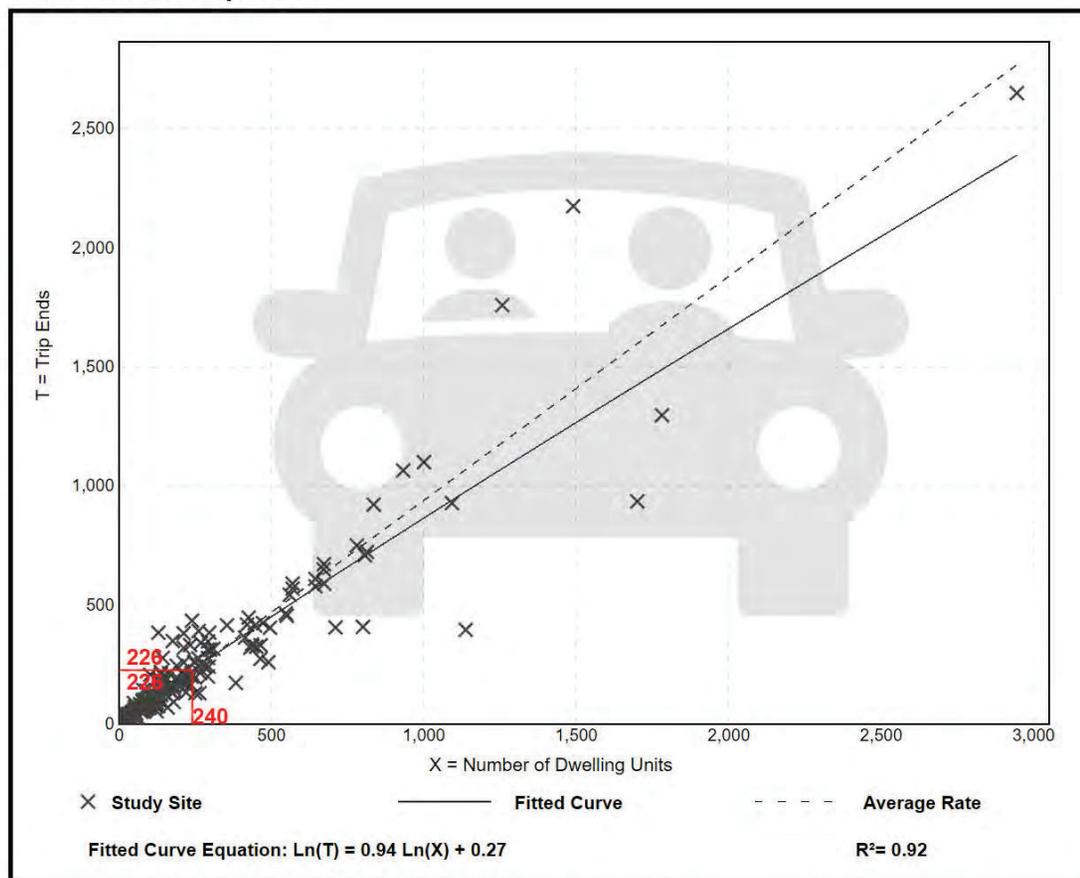
ATTACHMENT D Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 208
 Avg. Num. of Dwelling Units: 248
 Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

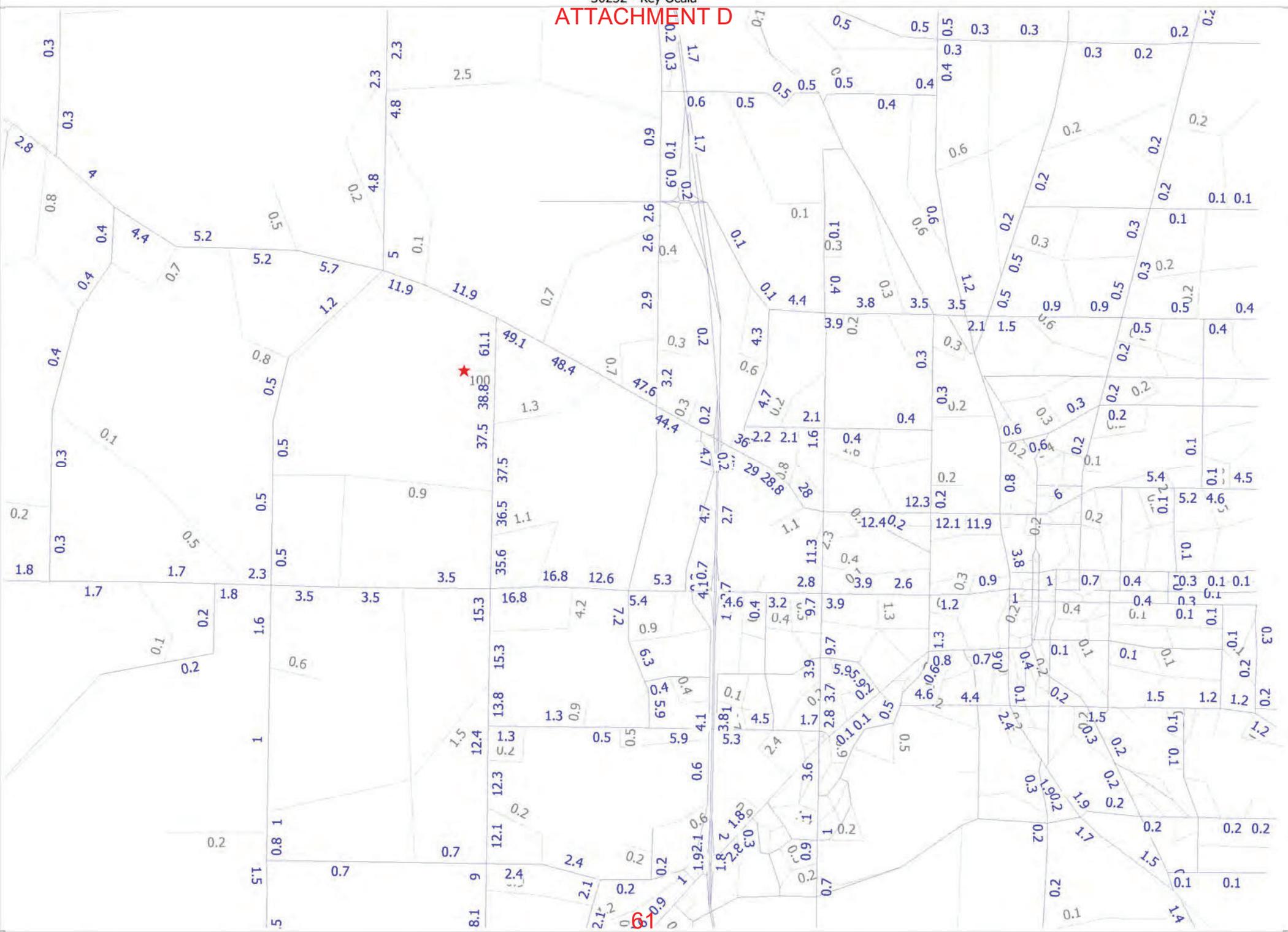
Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation

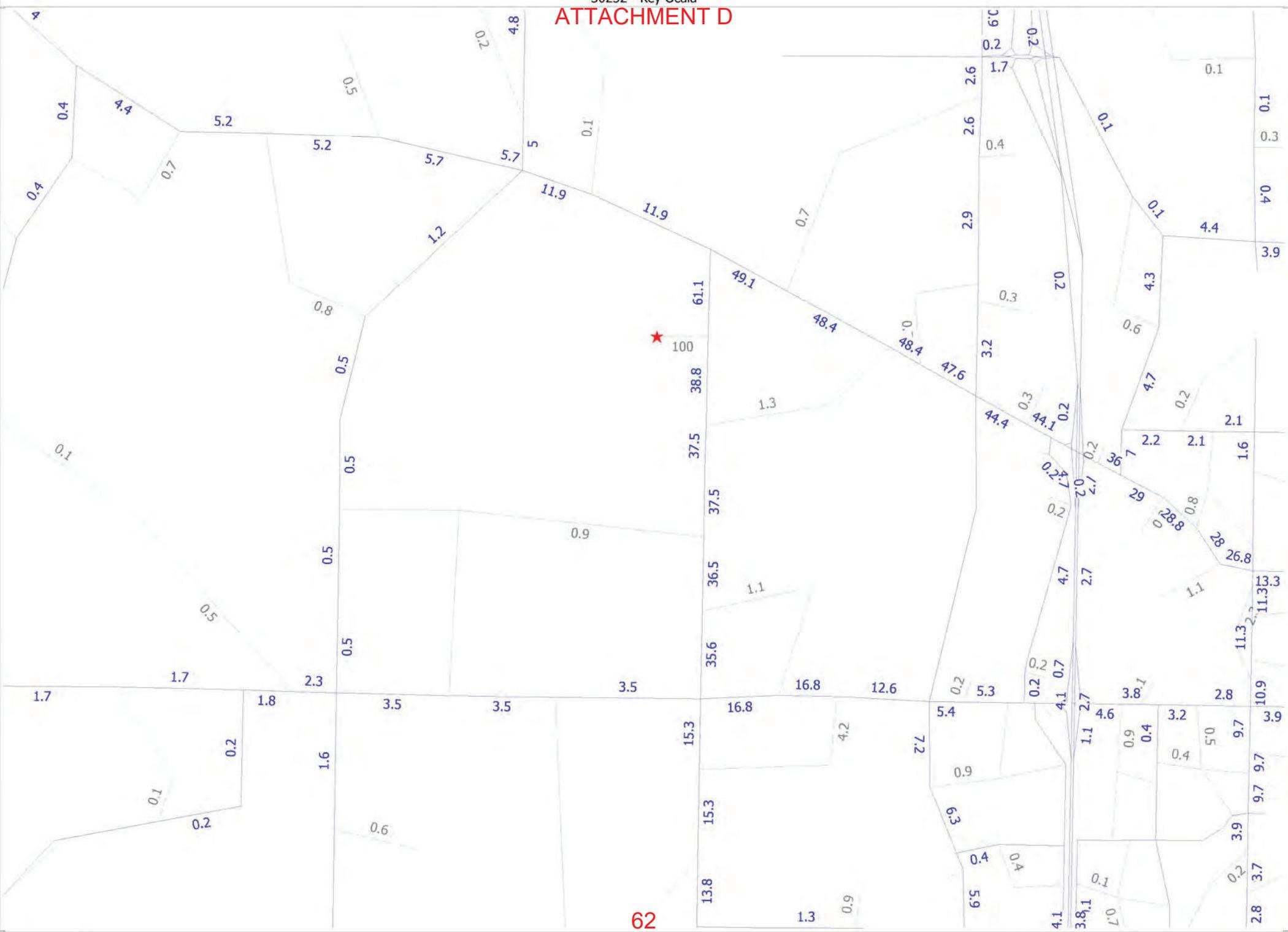


Appendix C: Model Plots

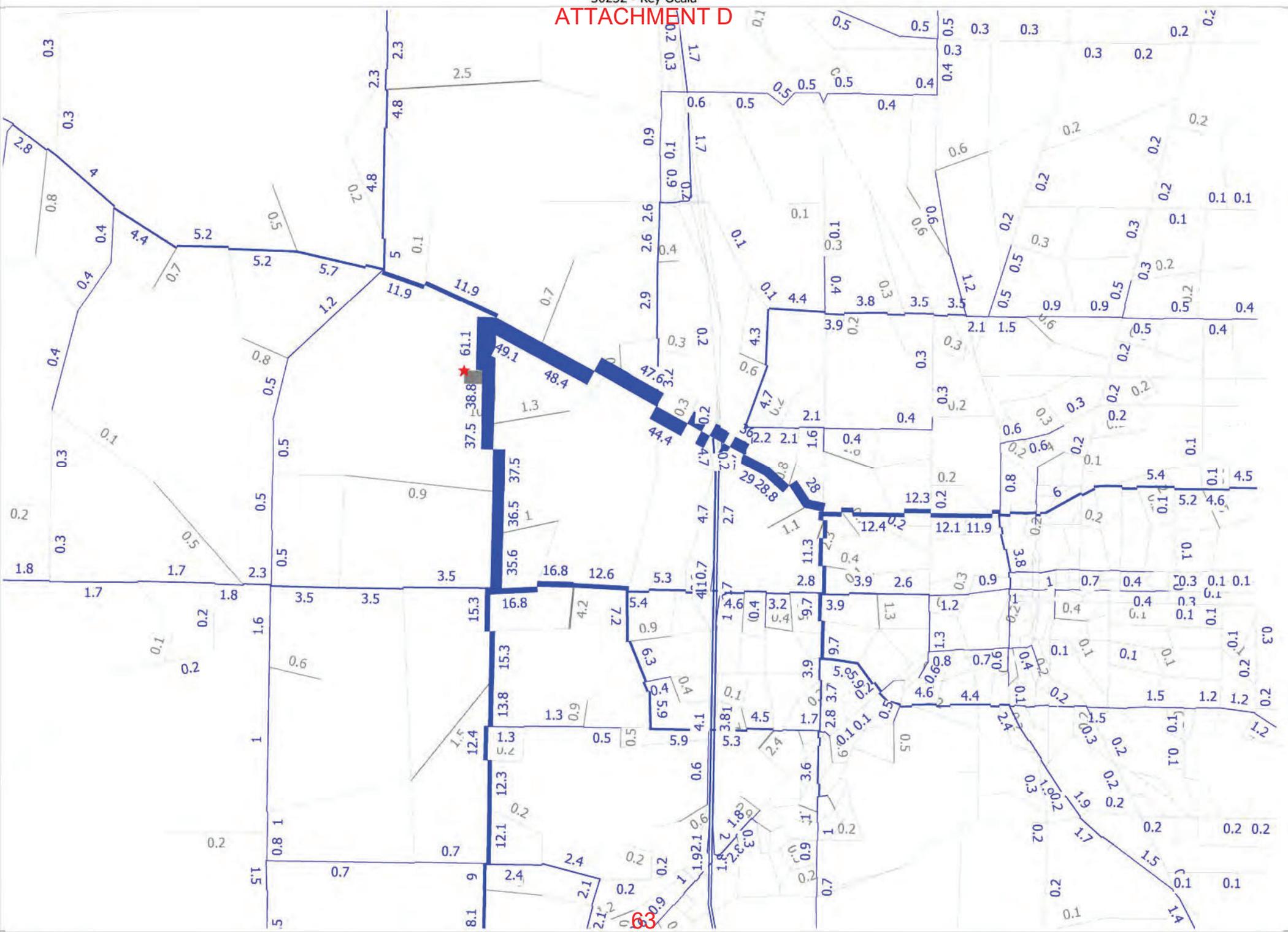
ATTACHMENT D



ATTACHMENT D



ATTACHMENT D



Appendix D: Growth Rate Documentation

ATTACHMENT D

Location	Source	Count Type	2018	2019	2020	2021	2022	Ave Annual Growth Rate (%)
NW 60th Avenue								
North of SR 40	MC	3	9,700	9,700	10,000	11,600	10,800	3.0%
NW 80th Avenue								
North of SR 40	MC	3	5,400	5,400	4,800	7,000	7,300	9.8%
NW 110th Avenue								
North of SR 40	MC	3	4,000	3,800	7,800	4,800	5,400	18.6%
NW 21st Street								
MLK Jr. to NW 27th Ave	OCA	3	NC	1,700	1,900	1,600	1,900	4.9%
NW/NE 28th Street								
US 441 to NW 2nd Ave	OCA	3	NC	3,300	3,300	5,200	2,300	N/A
NW/NE 35th Street								
West of NW 16th Ave	MC	3	6,400	6,600	6,700	10,200	10,600	15.2%
West of US 441	MC	3	13,400	13,000	14,000	16,500	17,000	6.4%
West of NE 25th Ave	MC	3	8,400	8,500	9,800	8,700	9,800	4.5%
East of NE 25th Ave	MC	3	8,300	8,200	7,900	7,600	7,900	-1.2%
East of NE 36th Ave	MC	3	6,500	6,500	7,100	6,600	7,100	2.4%
NW/SW 27th Avenue								
NW 21st St to US 27	OCA	3	NC	6,200	5,600	5,700	6,200	0.3%
US 27 to SR 40	OCA	2	20,000	20,500	20,300	30,400	25,800	9.0%
SW 20th St to SR 200	OCA	2	NC	19,200	13,100	19,300	18,800	4.3%
SW 34th St to SW 42nd St	OCA	3	11,800	19,900	18,800	20,900	23,500	21.7%
NW/SW 38th Avenue								
South of US 27	MC	3	2,300	3,200	3,400	2,700	2,500	4.3%
Powell Road								
West of US 41	MC	3	4,100	4,200	4,000	4,800	3,600	-1.8%
SE 3rd Avenue								
CR 464A to SR 464	OCA	3	NC	5,700	2,900	4,600	3,500	-4.8%
SR 464 to SE 23rd Pl	OCA	3	NC	3,600	4,400	2,700	2,700	-5.5%
SE 11th Avenue								
SR 40 to SE Ft King Street	OCA	2	2,700	2,900	2,300	3,100	2,400	-0.3%
SE Ft King St to SR 464	OCA	3	NC	3,700	2,700	3,500	3,100	-2.9%
SR 464 to CR 464A	OCA	3	NC	2,400	1,400	2,100	2,000	1.2%
SE 18th Avenue								
SR 464 to SE 31st Street	OCA	2	8,400	8,600	6,500	8,600	8,300	1.7%
SE 22nd Avenue								
SE Ft King St to SR 464	OCA	3	NC	2,000	1,900	1,900	2,300	5.4%
SE 30th Avenue								
SE Ft King St to SE 17th St	OCA	3	NC	4,200	2,800	3,400	3,800	0.0%

Appendix C: Traffic Data Collection

DE TRAFFIC
ATTACHMENT D

detraffic.com

(386) 341-4186

NW 60th Ave at SR 40

Marion County, FL

File Name : 60th at SR 40

Site Code : 00000040

Start Date : 5/16/2024

Page No : 1

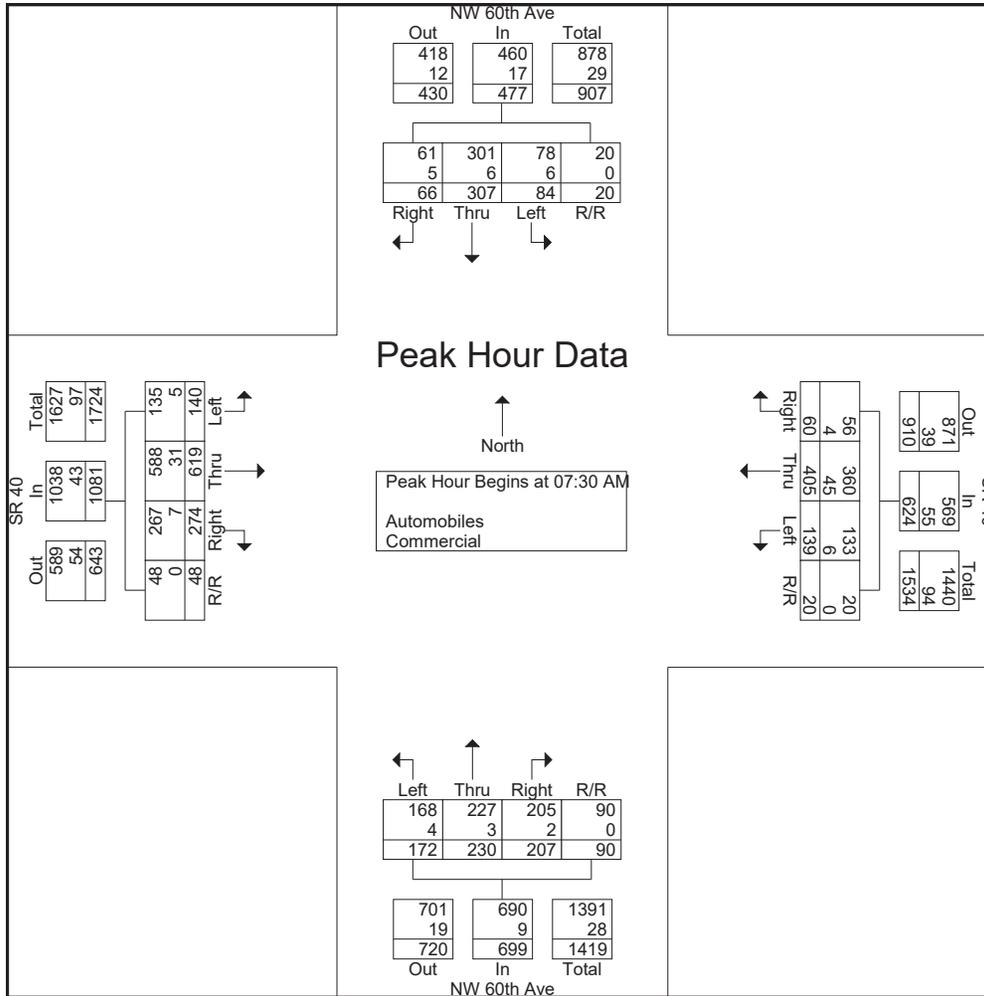
Groups Printed- Automobiles - Commercial

Start Time	NW 60th Ave Southbound					SR 40 Westbound					NW 60th Ave Northbound					SR 40 Eastbound					Int. Total
	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	
07:00 AM	16	73	8	4	101	12	70	11	6	99	24	42	18	11	95	19	157	52	6	234	529
07:15 AM	17	84	10	6	117	18	103	15	4	140	35	62	15	21	133	26	205	60	4	295	685
07:30 AM	20	76	15	4	115	26	109	14	5	154	41	52	36	26	155	34	195	75	8	312	736
07:45 AM	17	66	17	5	105	35	86	20	4	145	54	43	51	24	172	42	161	65	11	279	701
Total	70	299	50	19	438	91	368	60	19	538	154	199	120	82	555	121	718	252	29	1120	2651
08:00 AM	21	76	16	4	117	42	106	14	6	168	43	62	68	16	189	37	142	71	16	266	740
08:15 AM	26	89	18	7	140	36	104	12	5	157	34	73	52	24	183	27	121	63	13	224	704
08:30 AM	22	76	12	9	119	29	86	15	0	130	44	56	38	16	154	24	134	59	6	223	626
08:45 AM	17	65	10	8	100	27	90	8	6	131	36	46	22	21	125	28	148	41	13	230	586
Total	86	306	56	28	476	134	386	49	17	586	157	237	180	77	651	116	545	234	48	943	2656
04:00 PM	22	54	18	8	102	46	138	13	2	199	96	84	9	9	198	17	140	17	9	183	682
04:15 PM	19	81	28	8	136	61	163	12	6	242	69	101	15	8	193	16	149	34	7	206	777
04:30 PM	13	81	22	7	123	69	211	17	4	301	85	85	22	13	205	21	164	25	10	220	849
04:45 PM	22	61	24	9	116	76	224	17	5	322	79	93	13	10	195	22	184	34	9	249	882
Total	76	277	92	32	477	252	736	59	17	1064	329	363	59	40	791	76	637	110	35	858	3190
05:00 PM	16	57	17	8	98	64	205	12	7	288	77	110	15	9	211	19	151	28	8	206	803
05:15 PM	13	86	23	8	130	77	185	16	8	286	88	96	21	7	212	25	128	36	7	196	824
05:30 PM	9	69	28	4	110	64	142	11	7	224	70	88	26	11	195	25	112	29	8	174	703
05:45 PM	14	64	12	6	96	54	113	18	7	192	64	90	19	7	180	16	102	17	9	144	612
Total	52	276	80	26	434	259	645	57	29	990	299	384	81	34	798	85	493	110	32	720	2942
Grand Total	284	1158	278	105	1825	736	2135	225	82	3178	939	1183	440	233	2795	398	2393	706	144	3641	11439
Apprch %	15.6	63.5	15.2	5.8		23.2	67.2	7.1	2.6		33.6	42.3	15.7	8.3		10.9	65.7	19.4	4		
Total %	2.5	10.1	2.4	0.9	16	6.4	18.7	2	0.7	27.8	8.2	10.3	3.8	2	24.4	3.5	20.9	6.2	1.3	31.8	
Automobiles	260	1121	253	105	1739	717	1975	201	82	2975	929	1170	428	233	2760	382	2280	688	144	3494	10968
% Automobiles	91.5	96.8	91	100	95.3	97.4	92.5	89.3	100	93.6	98.9	98.9	97.3	100	98.7	96	95.3	97.5	100	96	95.9
Commercial	24	37	25	0	86	19	160	24	0	203	10	13	12	0	35	16	113	18	0	147	471
% Commercial	8.5	3.2	9	0	4.7	2.6	7.5	10.7	0	6.4	1.1	1.1	2.7	0	1.3	4	4.7	2.5	0	4	4.1

DE TRAFFIC
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 detraffic.com
 (386) 341-4186
 NW 60th Ave at SR 40
 Marion County, FL

File Name : 60th at SR 40
 Site Code : 00000040
 Start Date : 5/16/2024
 Page No : 2

Start Time	NW 60th Ave Southbound					SR 40 Westbound					NW 60th Ave Northbound					SR 40 Eastbound					Int. Total
	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	20	76	15	4	115	26	109	14	5	154	41	52	36	26	155	34	195	75	8	312	736
07:45 AM	17	66	17	5	105	35	86	20	4	145	54	43	51	24	172	42	161	65	11	279	701
08:00 AM	21	76	16	4	117	42	106	14	6	168	43	62	68	16	189	37	142	71	16	266	740
08:15 AM	26	89	18	7	140	36	104	12	5	157	34	73	52	24	183	27	121	63	13	224	704
Total Volume	84	307	66	20	477	139	405	60	20	624	172	230	207	90	699	140	619	274	48	1081	2881
% App. Total	17.6	64.4	13.8	4.2		22.3	64.9	9.6	3.2		24.6	32.9	29.6	12.9		13	57.3	25.3	4.4		
PHF	.808	.862	.917	.714	.852	.827	.929	.750	.833	.929	.796	.788	.761	.865	.925	.833	.794	.913	.750	.866	.973
Automobiles	78	301	61	20	460	133	360	56	20	569	168	227	205	90	690	135	588	267	48	1038	2757
% Automobiles	92.9	98.0	92.4	100	96.4	95.7	88.9	93.3	100	91.2	97.7	98.7	99.0	100	98.7	96.4	95.0	97.4	100	96.0	95.7
Commercial	6	6	5	0	17	6	45	4	0	55	4	3	2	0	9	5	31	7	0	43	124
% Commercial	7.1	2.0	7.6	0	3.6	4.3	11.1	6.7	0	8.8	2.3	1.3	1.0	0	1.3	3.6	5.0	2.6	0	4.0	4.3



DE TRAFFIC
ATTACHMENT D
 detraffic.com
 (386) 341-4186
 NW 60th Ave at SR 40
 Marion County, FL

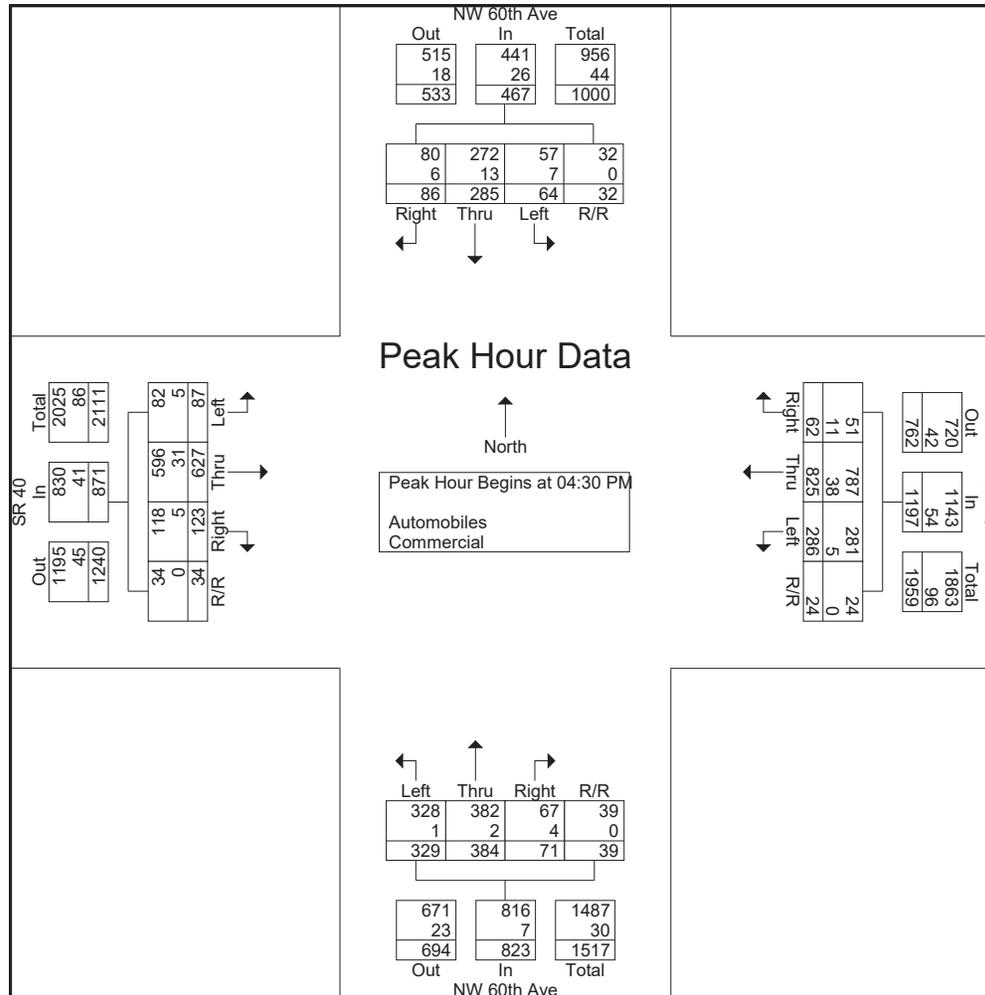
File Name : 60th at SR 40
 Site Code : 00000040
 Start Date : 5/16/2024
 Page No : 4

Start Time	NW 60th Ave Southbound					SR 40 Westbound					NW 60th Ave Northbound					SR 40 Eastbound					Int. Total
	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	13	81	22	7	123	69	211	17	4	301	85	85	22	13	205	21	164	25	10	220	849
04:45 PM	22	61	24	9	116	76	224	17	5	322	79	93	13	10	195	22	184	34	9	249	882
05:00 PM	16	57	17	8	98	64	205	12	7	288	77	110	15	9	211	19	151	28	8	206	803
05:15 PM	13	86	23	8	130	77	185	16	8	286	88	96	21	7	212	25	128	36	7	196	824
Total Volume	64	285	86	32	467	286	825	62	24	1197	329	384	71	39	823	87	627	123	34	871	3358
% App. Total	13.7	61	18.4	6.9	23.9	68.9	5.2	2	40	46.7	8.6	4.7	10	72	14.1	3.9					
PHF	.727	.828	.896	.889	.898	.929	.921	.912	.750	.929	.935	.873	.807	.750	.971	.870	.852	.854	.850	.874	.952
Automobiles	57	272	80	32	441	281	787	51	24	1143	328	382	67	39	816	82	596	118	34	830	3230
% Automobiles	89.1	95.4	93.0	100	94.4	98.3	95.4	82.3	100	95.5	99.7	99.5	94.4	100	99.1	94.3	95.1	95.9	100	95.3	96.2
Commercial	7	13	6	0	26	5	38	11	0	54	1	2	4	0	7	5	31	5	0	41	128
% Commercial	10.9	4.6	7.0	0	5.6	1.7	4.6	17.7	0	4.5	0.3	0.5	5.6	0	0.9	5.7	4.9	4.1	0	4.7	3.8

DE TRAFFIC

ATTACHMENT D
 detraffic.com
 (386) 341-4186
 NW 60th Ave at SR 40
 Marion County, FL

File Name : 60th at SR 40
 Site Code : 00000040
 Start Date : 5/16/2024
 Page No : 5



DE TRAFFIC
ATTACHMENT D
 detraffic.com
 (386) 341-4186
 NW 60th Ave at SR 40
 Marion County, FL

File Name : 60th at sr 40
 Site Code : 00000040
 Start Date : 5/16/2024
 Page No : 6

Groups Printed- Peds

Start Time	NW 60th Ave Southbound					SR 40 Westbound					NW 60th Ave Northbound					SR 40 Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	2	2
07:30 AM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	3	3	5
08:00 AM	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
08:15 AM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	1	1	3
08:30 AM	0	0	0	2	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	3	3	0	0	0	3	3	0	0	0	0	0	0	0	0	1	1	7
04:30 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	0	0	0	1	1	3
Total	0	0	0	0	0	0	0	0	3	3	0	0	0	1	1	0	0	0	1	1	5
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	0	0	0	2	2	3
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	1
Total	0	0	0	0	0	0	0	0	1	1	0	0	0	1	1	0	0	0	3	3	5
Grand Total	0	0	0	3	3	0	0	0	9	9	0	0	0	2	2	0	0	0	8	8	22
Apprch %	0	0	0	100		0	0	0	100		0	0	0	100		0	0	0	100		
Total %	0	0	0	13.6	13.6	0	0	0	40.9	40.9	0	0	0	9.1	9.1	0	0	0	36.4	36.4	

DE TRAFFIC

ATTACHMENT D

detraffic.com

(386) 341-4186

NW 60th Ave at NW 21st St
Marion County, FL

File Name : 60th at 21st

Site Code : 00000002

Start Date : 5/16/2024

Page No : 1

Groups Printed- Automobiles - Commercial

Start Time	NW 60th Ave Southbound					NW 21st St Westbound					NW 60th Ave Northbound					NW 21st St Eastbound					Int. Total
	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	
07:00 AM	0	75	3	0	78	6	0	1	0	7	5	71	3	0	79	1	0	4	2	7	171
07:15 AM	1	85	6	1	93	4	0	3	0	7	5	87	3	1	96	3	0	3	3	9	205
07:30 AM	3	122	5	0	130	8	1	5	2	16	6	82	2	0	90	4	0	3	1	8	244
07:45 AM	1	138	3	2	144	7	0	2	0	9	6	89	5	1	101	6	1	5	2	14	268
Total	5	420	17	3	445	25	1	11	2	39	22	329	13	2	366	14	1	15	8	38	888
08:00 AM	2	120	4	0	126	7	2	3	1	13	4	85	5	0	94	4	0	4	2	10	243
08:15 AM	5	117	3	1	126	8	0	4	0	12	6	89	4	0	99	5	0	5	1	11	248
08:30 AM	4	103	4	0	111	7	1	2	0	10	4	90	6	0	100	4	0	4	0	8	229
08:45 AM	2	82	4	0	88	8	0	2	0	10	3	81	3	0	87	5	0	6	2	13	198
Total	13	422	15	1	451	30	3	11	1	45	17	345	18	0	380	18	0	19	5	42	918
04:00 PM	0	107	0	0	107	0	0	0	0	0	3	135	6	0	144	6	3	6	1	16	267
04:15 PM	2	124	3	1	130	5	0	1	1	7	8	112	12	0	132	3	1	6	3	13	282
04:30 PM	1	106	2	0	109	6	0	0	0	6	3	151	9	1	164	5	1	7	0	13	292
04:45 PM	2	104	3	2	111	3	0	2	0	5	2	135	7	0	144	3	2	7	1	13	273
Total	5	441	8	3	457	14	0	3	1	18	16	533	34	1	584	17	7	26	5	55	1114
05:00 PM	2	122	3	0	127	4	0	2	1	7	6	153	6	2	167	7	2	9	2	20	321
05:15 PM	1	110	1	1	113	6	1	2	0	9	4	116	8	0	128	4	4	7	1	16	266
05:30 PM	2	106	2	2	112	4	0	4	0	8	6	106	7	0	119	5	3	8	3	19	258
05:45 PM	1	85	2	0	88	3	0	4	0	7	7	112	9	0	128	4	1	7	0	12	235
Total	6	423	8	3	440	17	1	12	1	31	23	487	30	2	542	20	10	31	6	67	1080
Grand Total	29	1706	48	10	1793	86	5	37	5	133	78	1694	95	5	1872	69	18	91	24	202	4000
Apprch %	1.6	95.1	2.7	0.6		64.7	3.8	27.8	3.8		4.2	90.5	5.1	0.3		34.2	8.9	45	11.9		
Total %	0.7	42.7	1.2	0.2	44.8	2.2	0.1	0.9	0.1	3.3	2	42.3	2.4	0.1	46.8	1.7	0.4	2.3	0.6	5.1	
Automobiles	28	1612	41	10	1691	85	5	34	5	129	74	1573	95	5	1747	68	18	90	24	200	3767
% Automobiles	96.6	94.5	85.4	100	94.3	98.8	100	91.9	100	97	94.9	92.9	100	100	93.3	98.6	100	98.9	100	99	94.2
Commercial	1	94	7	0	102	1	0	3	0	4	4	121	0	0	125	1	0	1	0	2	233
% Commercial	3.4	5.5	14.6	0	5.7	1.2	0	8.1	0	3	5.1	7.1	0	0	6.7	1.4	0	1.1	0	1	5.8

DE TRAFFIC
ATTACHMENT D
 detraffic.com
 (386) 341-4186
 NW 60th Ave at NW 21st St
 Marion County, FL

File Name : 60th at 21st
 Site Code : 00000002
 Start Date : 5/16/2024
 Page No : 2

Start Time	NW 60th Ave Southbound					NW 21st St Westbound					NW 60th Ave Northbound					NW 21st St Eastbound					Int. Total
	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	3	122	5	0	130	8	1	5	2	16	6	82	2	0	90	4	0	3	1	8	244
07:45 AM	1	138	3	2	144	7	0	2	0	9	6	89	5	1	101	6	1	5	2	14	268
08:00 AM	2	120	4	0	126	7	2	3	1	13	4	85	5	0	94	4	0	4	2	10	243
08:15 AM	5	117	3	1	126	8	0	4	0	12	6	89	4	0	99	5	0	5	1	11	248
Total Volume	11	497	15	3	526	30	3	14	3	50	22	345	16	1	384	19	1	17	6	43	1003
% App. Total	2.1	94.5	2.9	0.6		60	6	28	6		5.7	89.8	4.2	0.3		44.2	2.3	39.5	14		
PHF	.550	.900	.750	.375	.913	.938	.375	.700	.375	.781	.917	.969	.800	.250	.950	.792	.250	.850	.750	.768	.936
Automobiles	10	478	11	3	502	30	3	12	3	48	21	324	16	1	362	19	1	16	6	42	954
% Automobiles	90.9	96.2	73.3	100	95.4	100	100	85.7	100	96.0	95.5	93.9	100	100	94.3	100	100	94.1	100	97.7	95.1
Commercial	1	19	4	0	24	0	0	2	0	2	1	21	0	0	22	0	0	1	0	1	49
% Commercial	9.1	3.8	26.7	0	4.6	0	0	14.3	0	4.0	4.5	6.1	0	0	5.7	0	0	5.9	0	2.3	4.9

DE TRAFFIC

ATTACHMENT D

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(386) 341-4186

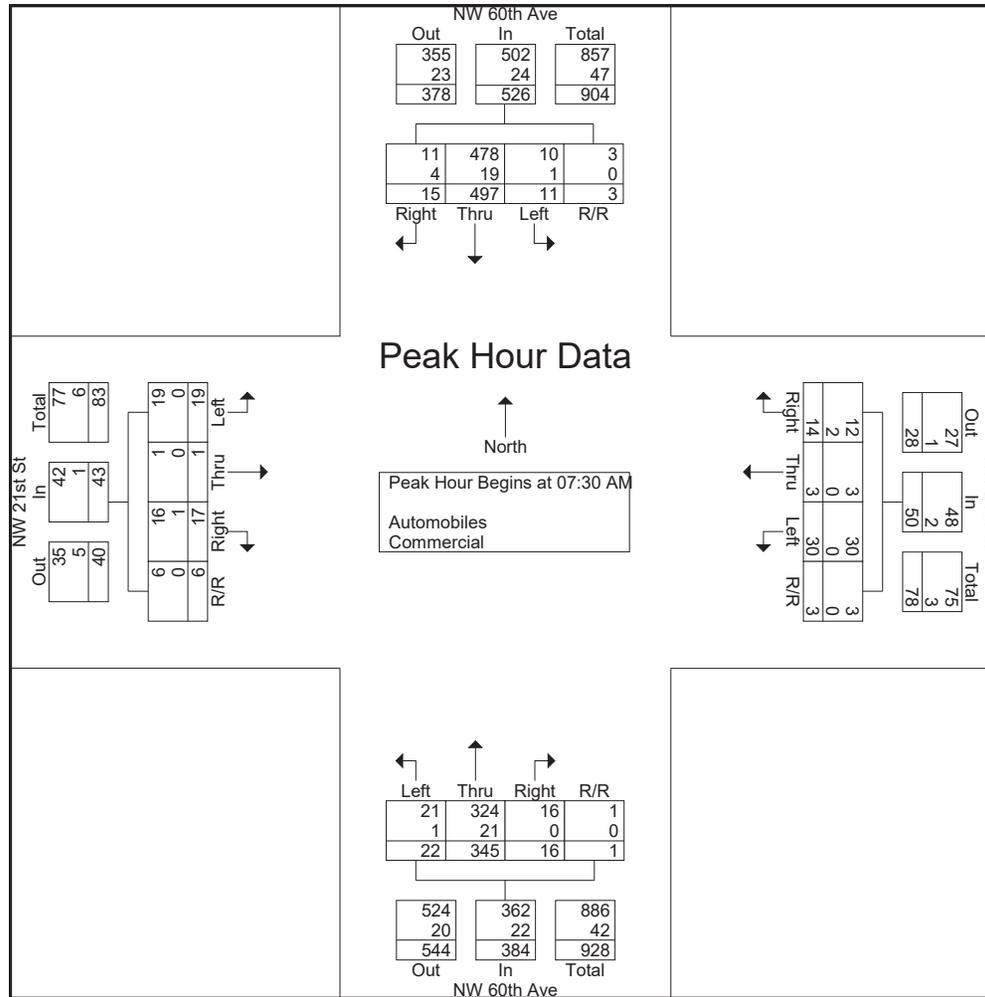
NW 60th Ave at NW 21st St
Marion County, FL

File Name : 60th at 21st

Site Code : 00000002

Start Date : 5/16/2024

Page No : 3



DE TRAFFIC
ATTACHMENT D
 detraffic.com
 (386) 341-4186
 NW 60th Ave at NW 21st St
 Marion County, FL

File Name : 60th at 21st
 Site Code : 00000002
 Start Date : 5/16/2024
 Page No : 4

Start Time	NW 60th Ave Southbound					NW 21st St Westbound					NW 60th Ave Northbound					NW 21st St Eastbound					Int. Total
	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:15 PM																					
04:15 PM	2	124	3	1	130	5	0	1	1	7	8	112	12	0	132	3	1	6	3	13	282
04:30 PM	1	106	2	0	109	6	0	0	0	6	3	151	9	1	164	5	1	7	0	13	292
04:45 PM	2	104	3	2	111	3	0	2	0	5	2	135	7	0	144	3	2	7	1	13	273
05:00 PM	2	122	3	0	127	4	0	2	1	7	6	153	6	2	167	7	2	9	2	20	321
Total Volume	7	456	11	3	477	18	0	5	2	25	19	551	34	3	607	18	6	29	6	59	1168
% App. Total	1.5	95.6	2.3	0.6		72	0	20	8		3.1	90.8	5.6	0.5		30.5	10.2	49.2	10.2		
PHF	.875	.919	.917	.375	.917	.750	.000	.625	.500	.893	.594	.900	.708	.375	.909	.643	.750	.806	.500	.738	.910
Automobiles	7	428	9	3	447	17	0	5	2	24	18	512	34	3	567	17	6	29	6	58	1096
% Automobiles	100	93.9	81.8	100	93.7	94.4	0	100	100	96.0	94.7	92.9	100	100	93.4	94.4	100	100	100	98.3	93.8
Commercial	0	28	2	0	30	1	0	0	0	1	1	39	0	0	40	1	0	0	0	1	72
% Commercial	0	6.1	18.2	0	6.3	5.6	0	0	0	4.0	5.3	7.1	0	0	6.6	5.6	0	0	0	1.7	6.2

DE TRAFFIC

ATTACHMENT D

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(386) 341-4186

NW 60th Ave at NW 21st St

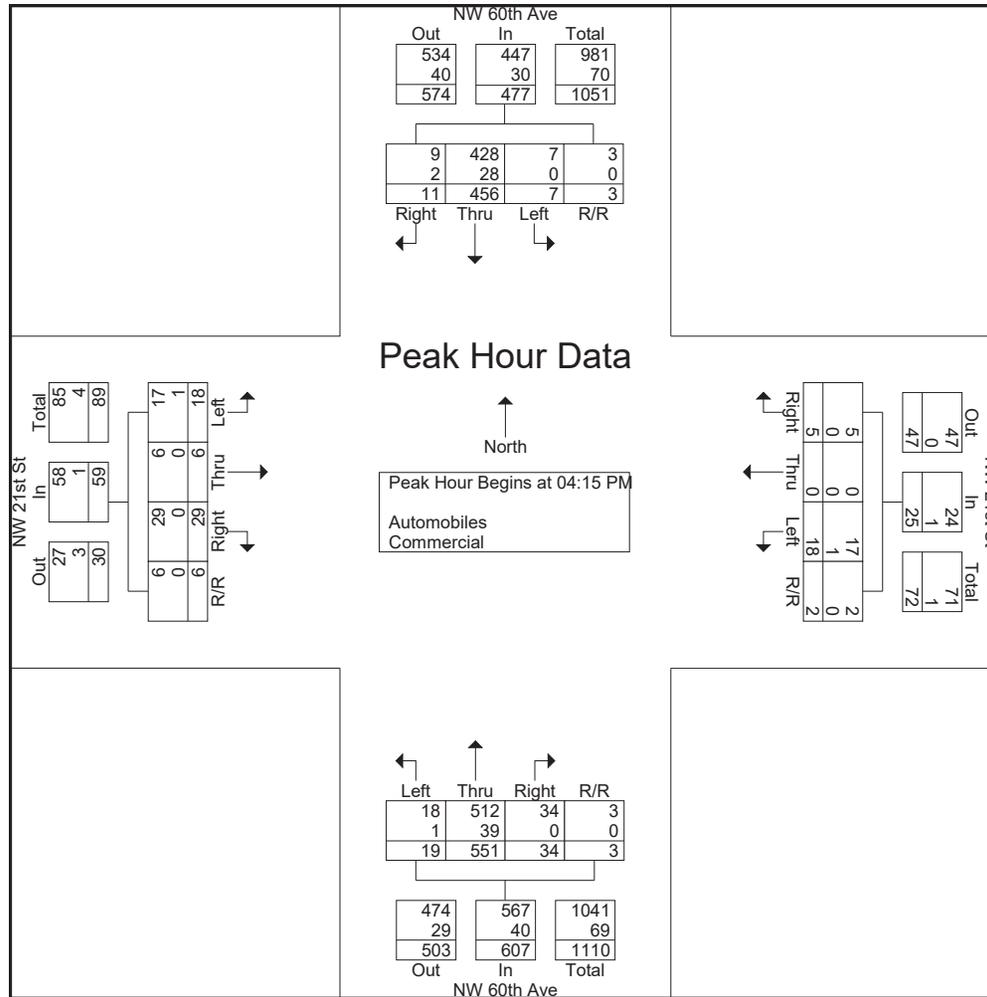
Marion County, FL

File Name : 60th at 21st

Site Code : 00000002

Start Date : 5/16/2024

Page No : 5



DE TRAFFIC
ATTACHMENT D
 detraffic.com
 (386) 341-4186
 NW 60th Ave at NW 21st St
 Marion County, FL

File Name : 60th at 21st
 Site Code : 00000002
 Start Date : 5/16/2024
 Page No : 6

Groups Printed- Peds

Start Time	NW 60th Ave Southbound					NW 21st St Westbound					NW 60th Ave Northbound					NW 21st St Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	1
04:45 PM	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Total	0	0	0	1	1	0	0	0	0	0	0	0	0	1	1	0	0	0	0	0	2
Grand Total	0	0	0	1	1	0	0	0	0	0	0	0	0	2	2	0	0	0	0	0	3
Apprch %	0	0	0	100		0	0	0	0		0	0	0	100		0	0	0	0		
Total %	0	0	0	33.3	33.3	0	0	0	0	0	0	0	0	66.7	66.7	0	0	0	0	0	

DE TRAFFIC

ATTACHMENT D
 detraffic.com
 (386) 341-4186
 NW 60th Ave at US 27
 Marion County, FL

File Name : 60th at US 27
 Site Code : 00000003
 Start Date : 5/16/2024
 Page No : 1

Groups Printed- Automobiles - Commercial

Start Time	N/A Southbound				US 27 Westbound				NW 60th Ave Northbound					US 27 Eastbound					Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	
07:00 AM	0	0	0	0	53	84	0	137	13	0	45	11	69	0	107	27	0	134	340
07:15 AM	0	0	0	0	47	109	0	156	29	0	47	19	95	0	161	35	3	199	450
07:30 AM	0	0	0	0	77	132	0	209	20	0	52	25	97	0	120	56	1	177	483
07:45 AM	0	0	0	0	95	116	0	211	26	0	47	18	91	0	139	47	3	189	491
Total	0	0	0	0	272	441	0	713	88	0	191	73	352	0	527	165	7	699	1764
08:00 AM	0	0	0	0	66	131	0	197	30	0	41	18	89	0	113	56	1	170	456
08:15 AM	0	0	0	0	79	115	0	194	28	0	47	21	96	0	110	37	2	149	439
08:30 AM	0	0	0	0	86	111	0	197	36	0	49	16	101	0	136	32	2	170	468
08:45 AM	0	0	0	0	55	111	0	166	26	0	44	13	83	0	111	38	2	151	400
Total	0	0	0	0	286	468	0	754	120	0	181	68	369	0	470	163	7	640	1763
04:00 PM	0	0	0	0	66	184	0	250	46	0	74	13	133	0	114	34	2	150	533
04:15 PM	0	0	0	0	76	209	0	285	38	0	64	15	117	0	114	44	1	159	561
04:30 PM	0	0	0	0	70	190	0	260	56	0	86	17	159	0	111	39	3	153	572
04:45 PM	0	0	0	0	68	206	0	274	50	0	75	15	140	0	123	35	2	160	574
Total	0	0	0	0	280	789	0	1069	190	0	299	60	549	0	462	152	8	622	2240
05:00 PM	0	0	0	0	80	205	0	285	63	0	84	12	159	0	132	44	2	178	622
05:15 PM	0	0	0	0	82	223	0	305	42	0	68	13	123	0	110	27	1	138	566
05:30 PM	0	0	0	0	70	176	0	246	51	0	52	16	119	0	97	32	2	131	496
05:45 PM	0	0	0	0	60	150	0	210	37	0	63	13	113	0	85	25	1	111	434
Total	0	0	0	0	292	754	0	1046	193	0	267	54	514	0	424	128	6	558	2118
Grand Total	0	0	0	0	1130	2452	0	3582	591	0	938	255	1784	0	1883	608	28	2519	7885
Apprch %	0	0	0	0	31.5	68.5	0		33.1	0	52.6	14.3		0	74.8	24.1	1.1		
Total %	0	0	0	0	14.3	31.1	0	45.4	7.5	0	11.9	3.2	22.6	0	23.9	7.7	0.4	31.9	
Automobiles	0	0	0	0	1071	2274	0	3345	551	0	865	252	1668	0	1707	567	27	2301	7314
% Automobiles	0	0	0	0	94.8	92.7	0	93.4	93.2	0	92.2	98.8	93.5	0	90.7	93.3	96.4	91.3	92.8
Commercial	0	0	0	0	59	178	0	237	40	0	73	3	116	0	176	41	1	218	571
% Commercial	0	0	0	0	5.2	7.3	0	6.6	6.8	0	7.8	1.2	6.5	0	9.3	6.7	3.6	8.7	7.2

DE TRAFFIC
ATTACHMENT D
 detraffic.com
 (386) 341-4186
 NW 60th Ave at US 27
 Marion County, FL

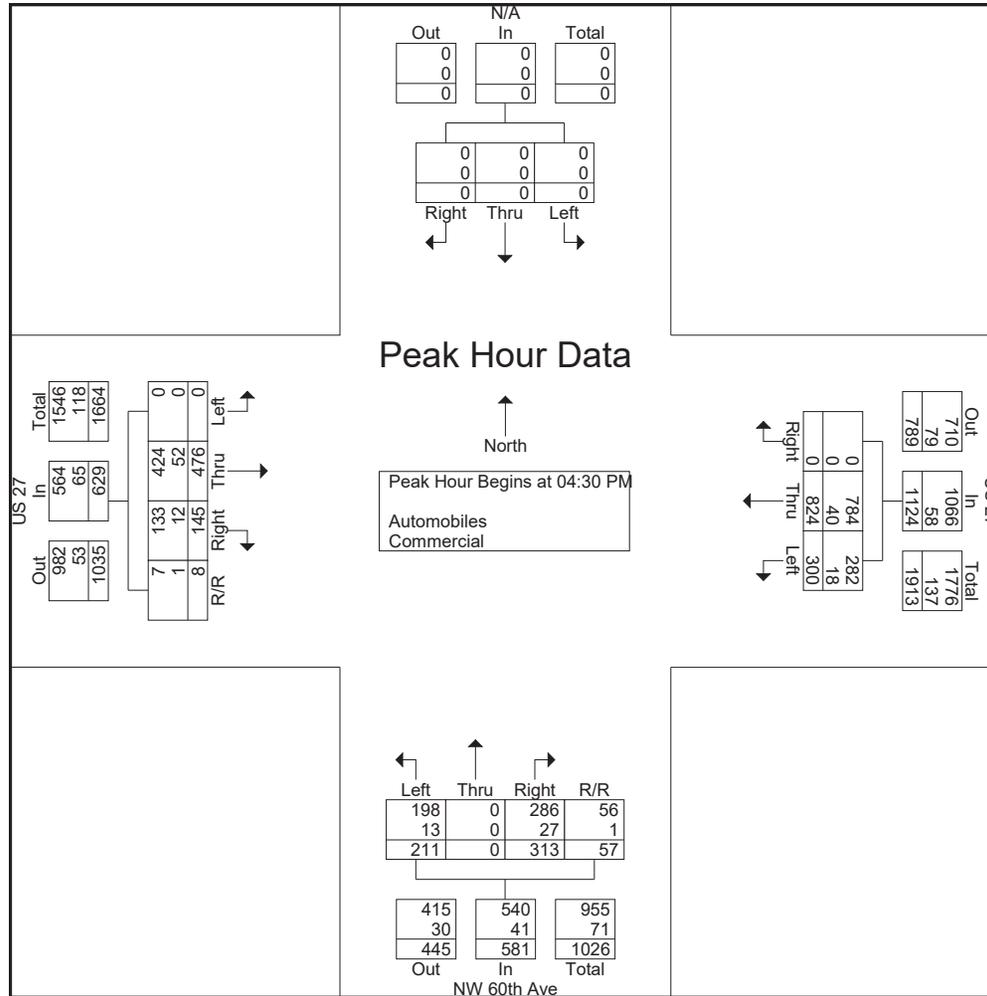
File Name : 60th at US 27
 Site Code : 00000003
 Start Date : 5/16/2024
 Page No : 2

Start Time	N/A Southbound				US 27 Westbound				NW 60th Ave Northbound					US 27 Eastbound					Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	
Peak Hour Analysis From 07:00 AM to 11:45 AM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 07:15 AM																			
07:15 AM	0	0	0	0	47	109	0	156	29	0	47	19	95	0	161	35	3	199	450
07:30 AM	0	0	0	0	77	132	0	209	20	0	52	25	97	0	120	56	1	177	483
07:45 AM	0	0	0	0	95	116	0	211	26	0	47	18	91	0	139	47	3	189	491
08:00 AM	0	0	0	0	66	131	0	197	30	0	41	18	89	0	113	56	1	170	456
Total Volume	0	0	0	0	285	488	0	773	105	0	187	80	372	0	533	194	8	735	1880
% App. Total	0	0	0	0	36.9	63.1	0		28.2	0	50.3	21.5		0	72.5	26.4	1.1		
PHF	.000	.000	.000	.000	.750	.924	.000	.916	.875	.000	.899	.800	.959	.000	.828	.866	.667	.923	.957
Automobiles	0	0	0	0	274	429	0	703	96	0	176	79	351	0	500	183	8	691	1745
% Automobiles	0	0	0	0	96.1	87.9	0	90.9	91.4	0	94.1	98.8	94.4	0	93.8	94.3	100	94.0	92.8
Commercial	0	0	0	0	11	59	0	70	9	0	11	1	21	0	33	11	0	44	135
% Commercial	0	0	0	0	3.9	12.1	0	9.1	8.6	0	5.9	1.3	5.6	0	6.2	5.7	0	6.0	7.2

DE TRAFFIC
ATTACHMENT D
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 (386) 341-4186
 NW 60th Ave at US 27
 Marion County, FL

File Name : 60th at US 27
 Site Code : 00000003
 Start Date : 5/16/2024
 Page No : 4

Start Time	N/A Southbound				US 27 Westbound				NW 60th Ave Northbound					US 27 Eastbound					Int. Total
	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	R/R	App. Total	Left	Thru	Right	R/R	App. Total	
Peak Hour Analysis From 12:00 PM to 05:45 PM - Peak 1 of 1																			
Peak Hour for Entire Intersection Begins at 04:30 PM																			
04:30 PM	0	0	0	0	70	190	0	260	56	0	86	17	159	0	111	39	3	153	572
04:45 PM	0	0	0	0	68	206	0	274	50	0	75	15	140	0	123	35	2	160	574
05:00 PM	0	0	0	0	80	205	0	285	63	0	84	12	159	0	132	44	2	178	622
05:15 PM	0	0	0	0	82	223	0	305	42	0	68	13	123	0	110	27	1	138	566
Total Volume	0	0	0	0	300	824	0	1124	211	0	313	57	581	0	476	145	8	629	2334
% App. Total	0	0	0	0	26.7	73.3	0		36.3	0	53.9	9.8		0	75.7	23.1	1.3		
PHF	.000	.000	.000	.000	.915	.924	.000	.921	.837	.000	.910	.838	.914	.000	.902	.824	.667	.883	.938
Automobiles	0	0	0	0	282	784	0	1066	198	0	286	56	540	0	424	133	7	564	2170
% Automobiles	0	0	0	0	94.0	95.1	0	94.8	93.8	0	91.4	98.2	92.9	0	89.1	91.7	87.5	89.7	93.0
Commercial	0	0	0	0	18	40	0	58	13	0	27	1	41	0	52	12	1	65	164
% Commercial	0	0	0	0	6.0	4.9	0	5.2	6.2	0	8.6	1.8	7.1	0	10.9	8.3	12.5	10.3	7.0



DE TRAFFIC
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 (386) 341-4186
 NW 60th Ave at US 27
 Marion County, FL

File Name : 60th at US 27
 Site Code : 00000003
 Start Date : 5/16/2024
 Page No : 6

Groups Printed- Peds

Start Time	N/A Southbound					US 27 Westbound					NW 60th Ave Northbound					US 27 Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0			
Total %																						

ATTACHMENT D



NB Approach



SB Approach



EB Approach



WB Approach



SW 60th Ave
at SR 40

Marion County

detraffic.com

9239 Outlook Rock Trl. Windermere Fl. 34786

Project
Number: KA-24-20

Sheet
Number: 1

ATTACHMENT D



NB Approach



SB Approach



EB Approach



WB Approach



SW 60th Ave
at NW 21st St

Marion County

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9239 Outlook Rock Trl. Windermere Fl. 34786

Project
Number: KA-24-20

Sheet
Number: 2

ATTACHMENT D



NB Approach



EB Approach



WB Approach



SW 60th Ave
at US 27

Marion County

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Project
Number: KA-24-20

Sheet
Number: 1

Appendix D: Signal Timings

Controller Database Timing Sheet



Station: 220 - SR 40 & SW 60th Ave- (Standard-3/6/2024 1:16:30 PM)

Type: NTCIP 76.x ATC Ethernet

Firmware: 76.15g

Created By: nick

Modified By:

Reviewed By:

2A Input Map								
	1	2	3	4	5	6	7	8
Table - 1								
Pin 1	0	0	0	0	0	0	0	0
Pin 2	0	0	0	0	0	0	0	0
Pin 3	0	0	0	0	0	0	0	0
Pin 4	0	0	0	0	0	0	0	0
Pin 5	0	0	0	0	0	0	0	0
Pin 6	0	0	0	0	0	0	0	0
Pin 7	0	0	0	0	0	0	0	0
Pin 8	0	0	0	0	0	0	0	0

ATTACHMENT D

2A Output Map								
	1	2	3	4	5	6	7	8
Table - 1								
Pin 1	0	0	0	0	0	0	0	0
Pin 2	0	0	0	0	0	0	0	0
Pin 3	0	0	0	0	0	0	0	0
Pin 4	0	0	0	0	0	0	0	0
Pin 5	0	0	0	0	0	0	0	0
Pin 6	0	0	0	0	0	0	0	0
Pin 7	0	0	0	0	0	0	0	0
Pin 8	0	0	0	0	0	0	0	0

Actions															
	Table - 1	Pattern	Aux 1	Aux 2	Aux 3	Pre1	Pre2	Special 1	Special 2	Special 3	Special 4	Special 5	Special 6	Special 7	Special 8
1		0	.	.	.	0	0	.	.	.	.	.	.	.	.
2		0	.	.	.	0	0	.	.	.	.	.	.	.	.
3		0	.	.	.	0	0	.	.	.	.	.	.	.	.
4		0	.	.	.	0	0	.	.	.	.	.	.	.	.
5		0	.	.	.	0	0	.	.	.	.	.	.	.	.
6		0	.	.	.	0	0	.	.	.	.	.	.	.	.
7		0	.	.	.	0	0	.	.	.	.	.	.	.	.
8		0	.	.	.	0	0	.	.	.	.	.	.	.	.
9		0	.	.	.	0	0	.	.	.	.	.	.	.	.
10		0	.	.	.	0	0	.	.	.	.	.	.	.	.
11		0	.	.	.	0	0	.	.	.	.	.	.	.	.
12		0	.	.	.	0	0	.	.	.	.	.	.	.	.
13		0	.	.	.	0	0	.	.	.	.	.	.	.	.
14		0	.	.	.	0	0	.	.	.	.	.	.	.	.
15		0	.	.	.	0	0	.	.	.	.	.	.	.	.
16		0	.	.	.	0	0	.	.	.	.	.	.	.	.
17		0	.	.	.	0	0	.	.	.	.	.	.	.	.
18		0	.	.	.	0	0	.	.	.	.	.	.	.	.
19		0	.	.	.	0	0	.	.	.	.	.	.	.	.
20		0	.	.	.	0	0	.	.	.	.	.	.	.	.
21		0	.	.	.	0	0	.	.	.	.	.	.	.	.
22		0	.	.	.	0	0	.	.	.	.	.	.	.	.
23		0	.	.	.	0	0	.	.	.	.	.	.	.	.
24		0	.	.	.	0	0	.	.	.	.	.	.	.	.

ATTACHMENT D

Actions															
	Table - 1	Pattern	Aux 1	Aux 2	Aux 3	Pre1	Pre2	Special 1	Special 2	Special 3	Special 4	Special 5	Special 6	Special 7	Special 8
25		0	.	.	.	0	0	.	.	.	.	.	.	.	.
26		0	.	.	.	0	0	.	.	.	.	.	.	.	.
27		0	.	.	.	0	0	.	.	.	.	.	.	.	.
28		0	.	.	.	0	0	.	.	.	.	.	.	.	.
29		0	.	.	.	0	0	.	.	.	.	.	.	.	.
30		0	.	.	.	0	0	.	.	.	.	.	.	.	.
31		0	.	.	.	0	0	.	.	.	.	.	.	.	.
32		0	.	.	.	0	0	.	.	.	.	.	.	.	.
33		0	.	.	.	0	0	.	.	.	.	.	.	.	.
34		0	.	.	.	0	0	.	.	.	.	.	.	.	.
35		0	.	.	.	0	0	.	.	.	.	.	.	.	.
36		0	.	.	.	0	0	.	.	.	.	.	.	.	.
37		0	.	.	.	0	0	.	.	.	.	.	.	.	.
38		0	.	.	.	0	0	.	.	.	.	.	.	.	.
39		0	.	.	.	0	0	.	.	.	.	.	.	.	.
40		0	.	.	.	0	0	.	.	.	.	.	.	.	.
41		0	.	.	.	0	0	.	.	.	.	.	.	.	.
42		0	.	.	.	0	0	.	.	.	.	.	.	.	.
43		0	.	.	.	0	0	.	.	.	.	.	.	.	.
44		0	.	.	.	0	0	.	.	.	.	.	.	.	.
45		0	.	.	.	0	0	.	.	.	.	.	.	.	.
46		0	.	.	.	0	0	.	.	.	.	.	.	.	.
47		0	.	.	.	0	0	.	.	.	.	.	.	.	.
48		0	.	.	.	0	0	.	.	.	.	.	.	.	.
49		0	.	.	.	0	0	.	.	.	.	.	.	.	.
50		0	.	.	.	0	0	.	.	.	.	.	.	.	.
51		0	.	.	.	0	0	.	.	.	.	.	.	.	.
52		0	.	.	.	0	0	.	.	.	.	.	.	.	.
53		0	.	.	.	0	0	.	.	.	.	.	.	.	.
54		0	.	.	.	0	0	.	.	.	.	.	.	.	.
55		0	.	.	.	0	0	.	.	.	.	.	.	.	.
56		0	.	.	.	0	0	.	.	.	.	.	.	.	.
57		0	.	.	.	0	0	.	.	.	.	.	.	.	.
58		0	.	.	.	0	0	.	.	.	.	.	.	.	.
59		0	.	.	.	0	0	.	.	.	.	.	.	.	.

ATTACHMENT D

Actions															
	Table - 1	Pattern	Aux 1	Aux 2	Aux 3	Pre1	Pre2	Special 1	Special 2	Special 3	Special 4	Special 5	Special 6	Special 7	Special 8
60		0	.	.	.	0	0	.	.	.	.	.	.	.	.
61		0	.	.	.	0	0	.	.	.	.	.	.	.	.
62		0	.	.	.	0	0	.	.	.	.	.	.	.	.
63		0	.	.	.	0	0	.	.	.	.	.	.	.	.
64		0	.	.	.	0	0	.	.	.	.	.	.	.	.
65		0	.	.	.	0	0	.	.	.	.	.	.	.	.
66		0	.	.	.	0	0	.	.	.	.	.	.	.	.
67		0	.	.	.	0	0	.	.	.	.	.	.	.	.
68		0	.	.	.	0	0	.	.	.	.	.	.	.	.
69		0	.	.	.	0	0	.	.	.	.	.	.	.	.
70		0	.	.	.	0	0	.	.	.	.	.	.	.	.
71		0	.	.	.	0	0	.	.	.	.	.	.	.	.
72		0	.	.	.	0	0	.	.	.	.	.	.	.	.
73		0	.	.	.	0	0	.	.	.	.	.	.	.	.
74		0	.	.	.	0	0	.	.	.	.	.	.	.	.
75		0	.	.	.	0	0	.	.	.	.	.	.	.	.
76		0	.	.	.	0	0	.	.	.	.	.	.	.	.
77		0	.	.	.	0	0	.	.	.	.	.	.	.	.
78		0	.	.	.	0	0	.	.	.	.	.	.	.	.
79		0	.	.	.	0	0	.	.	.	.	.	.	.	.
80		0	.	.	.	0	0	.	.	.	.	.	.	.	.
81		0	.	.	.	0	0	.	.	.	.	.	.	.	.
82		0	.	.	.	0	0	.	.	.	.	.	.	.	.
83		0	.	.	.	0	0	.	.	.	.	.	.	.	.
84		0	.	.	.	0	0	.	.	.	.	.	.	.	.
85		0	.	.	.	0	0	.	.	.	.	.	.	.	.
86		0	.	.	.	0	0	.	.	.	.	.	.	.	.
87		0	.	.	.	0	0	.	.	.	.	.	.	.	.
88		0	.	.	.	0	0	.	.	.	.	.	.	.	.
89		0	.	.	.	0	0	.	.	.	.	.	.	.	.
90		0	.	.	.	0	0	.	.	.	.	.	.	.	.
91		0	.	.	.	0	0	.	.	.	.	.	.	.	.
92		0	.	.	.	0	0	.	.	.	.	.	.	.	.
93		0	.	.	.	0	0	.	.	.	.	.	.	.	.
94		0	.	.	.	0	0	.	.	.	.	.	.	.	.

ATTACHMENT D

Actions															
	Table - 1	Pattern	Aux 1	Aux 2	Aux 3	Pre1	Pre2	Special 1	Special 2	Special 3	Special 4	Special 5	Special 6	Special 7	Special 8
95		0	.	.	.	0	0	.	.	.	.	.	.	.	.
96		0	.	.	.	0	0	.	.	.	.	.	.	.	.
97		0	.	.	.	0	0	.	.	.	.	.	.	.	.
98		0	.	.	.	0	0	.	.	.	.	.	.	.	.
99		0	.	.	.	0	0	.	.	.	.	.	.	.	.
100		254	.	.	.	0	0	.	.	.	.	.	.	.	.

ATTACHMENT D

Adaptive								
	1	2	3	4	5	6	7	8
Table - 1								
P1 Storage	.	.	.	.	.	.	.	.
P2 Storage	.	.	.	.	.	.	.	.
P3 Storage	.	.	.	.	.	.	.	.
P4 Storage	.	.	.	.	.	.	.	.
P5 Storage	.	.	.	.	.	.	.	.
P6 Storage	.	.	.	.	.	.	.	.
P7 Storage	.	.	.	.	.	.	.	.
P8 Storage	.	.	.	.	.	.	.	.
P1 Degree Sat	0	0	0	0	0	0	0	0
P2 Degree Sat	0	0	0	0	0	0	0	0
P3 Degree Sat	0	0	0	0	0	0	0	0
P4 Degree Sat	0	0	0	0	0	0	0	0
P5 Degree Sat	0	0	0	0	0	0	0	0
P6 Degree Sat	0	0	0	0	0	0	0	0
P7 Degree Sat	0	0	0	0	0	0	0	0
P8 Degree Sat	0	0	0	0	0	0	0	0
P1 Max Grow	0	0	0	0	0	0	0	0
P2 Max Grow	0	0	0	0	0	0	0	0
P3 Max Grow	0	0	0	0	0	0	0	0
P4 Max Grow	0	0	0	0	0	0	0	0
P5 Max Grow	0	0	0	0	0	0	0	0
P6 Max Grow	0	0	0	0	0	0	0	0
P7 Max Grow	0	0	0	0	0	0	0	0
P8 Max Grow	0	0	0	0	0	0	0	0
P1 Rate Limit	0	0	0	0	0	0	0	0
P2 Rate Limit	0	0	0	0	0	0	0	0
P3 Rate Limit	0	0	0	0	0	0	0	0
P4 Rate Limit	0	0	0	0	0	0	0	0
P5 Rate Limit	0	0	0	0	0	0	0	0
P6 Rate Limit	0	0	0	0	0	0	0	0
P7 Rate Limit	0	0	0	0	0	0	0	0
P8 Rate Limit	0	0	0	0	0	0	0	0
Secs Per Acc	0	0	0	0	0	0	0	0
Smooth Fact	0	0	0	0	0	0	0	0
UpPredictor	0	0	0	0	0	0	0	0

ATTACHMENT D

Auto Flash	
	Value
O3	0
O4	0
O5	0
O6	0
O7	0
O8	0
O9	0
O10	0
O11	0
O12	0
Yellow	35
Red	15

Auto Flash Parm	
	Value
Table - 1	
Input Source Type 2	D-CONN
Flash Mode	CHANNEL

Call Inhibit Redirect Alt								
	1	2	3	4	5	6	7	8
Table - 1								
Inhibit P1
Inhibit P2
Inhibit P3
Inhibit P4
Inhibit P5
Inhibit P6
Inhibit P7
Inhibit P8
Inhibit P9
Inhibit P10
Inhibit P11
Inhibit P12
Inhibit P13
Inhibit P14
Inhibit P15

ATTACHMENT D

Call Inhibit Redirect Alt								
	1	2	3	4	5	6	7	8
Inhibit P16	.	.	.	.	.	.	.	.
Call P1	0	0	0	0	0	0	0	0
Call P2	0	0	0	0	0	0	0	0
Call P3	0	0	0	0	0	0	0	0
Call P4	0	0	0	0	0	0	0	0
Redirect P Calls From 1	0	0	0	0	0	0	0	0
Redirect P Calls To 1	0	0	0	0	0	0	0	0
Redirect P Calls From 2	0	0	0	0	0	0	0	0
Redirect P Calls To 2	0	0	0	0	0	0	0	0
Redirect P Calls From 3	0	0	0	0	0	0	0	0
Redirect P Calls To 3	0	0	0	0	0	0	0	0
Redirect P Calls From 4	0	0	0	0	0	0	0	0
Redirect P Calls To 4	0	0	0	0	0	0	0	0
Assign Ph	0	0	0	0	0	0	0	0
Table - 2								
Inhibit P1	.	.	.	.	.	.	.	.
Inhibit P2	.	.	.	.	.	.	.	.
Inhibit P3	.	.	.	.	.	.	.	.
Inhibit P4	.	.	.	.	.	.	.	.
Inhibit P5	.	.	.	.	.	.	.	.
Inhibit P6	.	.	.	.	.	.	.	.
Inhibit P7	.	.	.	.	.	.	.	.
Inhibit P8	.	.	.	.	.	.	.	.
Inhibit P9	.	.	.	.	.	.	.	.
Inhibit P10	.	.	.	.	.	.	.	.
Inhibit P11	.	.	.	.	.	.	.	.
Inhibit P12	.	.	.	.	.	.	.	.
Inhibit P13	.	.	.	.	.	.	.	.
Inhibit P14	.	.	.	.	.	.	.	.
Inhibit P15	.	.	.	.	.	.	.	.
Inhibit P16	.	.	.	.	.	.	.	.
Call P1	0	0	0	0	0	0	0	0
Call P2	0	0	0	0	0	0	0	0
Call P3	0	0	0	0	0	0	0	0
Call P4	0	0	0	0	0	0	0	0
Redirect P Calls From 1	0	0	0	0	0	0	0	0

ATTACHMENT D

Call Inhibit Redirect Alt								
	1	2	3	4	5	6	7	8
Redirect P Calls To 1	0	0	0	0	0	0	0	0
Redirect P Calls From 2	0	0	0	0	0	0	0	0
Redirect P Calls To 2	0	0	0	0	0	0	0	0
Redirect P Calls From 3	0	0	0	0	0	0	0	0
Redirect P Calls To 3	0	0	0	0	0	0	0	0
Redirect P Calls From 4	0	0	0	0	0	0	0	0
Redirect P Calls To 4	0	0	0	0	0	0	0	0
Assign Ph	0	0	0	0	0	0	0	0

Channel Parm	
	Value

Table - 1	
TOD Dim Enable	.
Extra Maps Enable	DEFAULT

Channels Assignments																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Table - 1																																	
PH/OLP #	1	2	3	4	5	6	7	8	1	2	3	4	2	4	6	8	1	3	5	7	0	0	0	0	0	0	0	0	0	0	0	0	0
Type	VE H	OLP	OLP	OLP	OLP	PED	VE H	VE H	VE H	VE H															
Flash	RE D	YEL	RE D	RE D	RE D	YEL	RE D	RE D	RE D	RE D	RE D	RE D	DR K																				
Alt Hz
Dimming Green
Dimming Yellow
Dimming Red
Dimming Cyc	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	+	

Channels Assignments Plus																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Table - 1																																	
Flash Red	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flash Yellow	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Flash Green	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inh Red Flash in Preempt	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Color Flash Rate	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

ATTACHMENT D

Channels Assignments Plus																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
Override Type	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Olap Ovrd	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	

Console Parms

	Value
--	-------

Table - 1

Aux Switch Function	UNUSED
Display Time	10
Tone Disable	.
Console Options	.
FYA Inhibit RedStart	.
ASC (Local)	.
MAS (Master)	.
TSP (Transit)	.
DCS	.
NAD (Naztec Adaptive)	.
SGN (Synchro Green)	.
ENW (Emergency)	.
PSI	.
LCU	.
DSRC	.
Web	X
Screen Size	16
Security Delay	0
Error Logging	.
Language	ENGLISH

Coord External IO

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
--	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----

Table - 1

Offset	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Plan	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

Coordination Parms

	Value
--	-------

Table - 1

Test OpMode	0
Correction Mode	SHRT/LNG

ATTACHMENT D

Coordination Parms																
	Value															
Maximum Mode	MAX INH															
Force Mode	FLOAT															
Coordination Parms Plus																
	Value															
Table - 1																
Force-Off+	RESERVED															
Leave Walk Before	TIMED															
Leave Walk After	TIMED															
Walk Recycle	NO_RECYCLE															
Stop In Walk	.															
External	.															
Auto Err Reset	X															
Latch Sec Foff	.															
Coord Easy Float	.															
NTCIP Yield	0															
Coord NTCIP Yield Sign	+															
Closed Loop Active	.															
Free OnSeq Chang	.															
No Added Init	.															
Ped Call Inh	.															
Ext Pattern	.															
Dyn Shortway	.															
Plan A	0															
Plan B	0															
Plan C	0															
Plan D	0															
Day Plan																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Table - 1																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 2																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

Day Plan																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Action	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 3																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	100	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 4																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 5																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 6																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 7																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 8																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 9																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 10																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 11																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

Day Plan																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Table - 12																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 13																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 14																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 15																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 16																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 17																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 18																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 19																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 20																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 21																

ATTACHMENT D

Day Plan																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 22																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 23																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 24																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 25																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 26																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 27																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 28																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 29																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 30																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

Day Plan																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table - 31																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Table - 32																
Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Minute	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Action	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Day Plan Link																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	

Table - 1																																		
Link	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

DCS								
	1	2	3	4	5	6	7	8

Table - 1								
Phase	0	0	0	0	0	0	0	0
Max Speed	0	0	0	0	0	0	0	0
Max Len	0	0	0	0	0	0	0	0
Stage Percent	0	0	0	0	0	0	0	0
Speed Trap	0	0	0	0	0	0	0	0
Trap Distance	0	0	0	0	0	0	0	0
Zone Arrival Time	0	0	0	0	0	0	0	0
Zone Exit Time	0	0	0	0	0	0	0	0

Detector Parm	
	Value

Table - 1	
Vol/Occ Period Seconds	0
Vol/Occ Period Minutes	15
TS2 Det Faults	X

DSRC	
	Value

Table - 1	
-----------	--

ATTACHMENT D

DSRC	
	Value
IP 1	0
IP 2	0
IP 3	0
IP 4	0
PORT	0

Emergency												
	1	2	3	4	5	6	7	8	9	10	11	12
Table - 1												
PriPhaseRing1	0	0	0	0	0	0	0	0	0	0	0	0
PriPhaseRing2	0	0	0	0	0	0	0	0	0	0	0	0
PriPhaseRing3	0	0	0	0	0	0	0	0	0	0	0	0
PriPhaseRing4	0	0	0	0	0	0	0	0	0	0	0	0
Preempt Number	0	0	0	0	0	0	0	0	0	0	0	0
Cycle Adjust	0	0	0	0	0	0	0	0	0	0	0	0
Max Adjust	0	0	0	0	0	0	0	0	0	0	0	0
None Pri Max Adjust	0	0	0	0	0	0	0	0	0	0	0	0
Hold Window	0	0	0	0	0	0	0	0	0	0	0	0

Enable Alarms		
	Table - 1	Alarm Enable
1		X
2		X
3		.
4		X
5		X
6		.
7		.
8		.
9		.
10		.
11		.
12		X
13		X
14		X
15		X
16		X

ATTACHMENT D

Enable Alarms		
	Table - 1	Alarm Enable
17		.
18		.
19		.
20		X
21		.
22		X
23		X
24		.
25		.
26		X
27		.
28		.
29		X
30		X
31		.
32		.
33		.
34		.
35		.
36		.
37		.
38		.
39		.
40		.
41		.
42		.
43		.
44		.
45		.
46		.
47		.
48		.
49		.
50		.
51		.
52		.

ATTACHMENT D

Enable Alarms		
	Table - 1	Alarm Enable
53		.
54		.
55		.
56		.
57		.
58		.
59		.
60		.
61		.
62		.
63		.
64		.
65		.
66		.
67		.
68		.
69		.
70		.
71		.
72		.
73		.
74		.
75		.
76		.
77		.
78		.
79		.
80		.
81		.
82		.
83		.
84		.
85		.
86		.
87		.
88		.

ATTACHMENT D

Enable Alarms		
	Table - 1	Alarm Enable
89		.
90		.
91		.
92		.
93		.
94		.
95		.
96		.
97		.
98		.
99		.
100		.
101		.
102		.
103		.
104		.
105		.
106		.
107		.
108		.
109		.
110		.
111		.
112		.
113		.
114		.
115		.
116		.
117		.
118		.
119		.
120		.
121		.
122		.
123		.
124		.

ATTACHMENT D

Enable Alarms		
	Table - 1	Alarm Enable
125		.
126		.
127		.
128		.

Enable Events		
	Table - 1	Event Enable
1		X
2		X
3		.
4		X
5		X
6		.
7		.
8		.
9		.
10		.
11		.
12		X
13		X
14		X
15		X
16		X
17		X
18		.
19		.
20		X
21		X
22		X
23		X
24		X
25		X
26		X
27		X
28		.
29		X
30		X

ATTACHMENT D

Enable Events		
	Table - 1	Event Enable
31		.
32		.
33		.
34		.
35		.
36		.
37		X
38		X
39		.
40		.
41		.
42		.
43		X
44		X
45		.
46		.
47		.
48		.
49		.
50		.
51		.
52		.
53		.
54		.
55		.
56		.
57		.
58		.
59		.
60		.
61		X
62		.
63		.
64		.
65		.
66		.

ATTACHMENT D

Enable Events		
	Table - 1	Event Enable
67		.
68		.
69		.
70		.
71		.
72		.
73		.
74		.
75		.
76		.
77		.
78		.
79		.
80		.
81		.
82		.
83		.
84		.
85		.
86		.
87		.
88		.
89		.
90		.
91		.
92		.
93		.
94		.
95		.
96		.
97		.
98		.
99		.
100		.
101		.
102		.

ATTACHMENT D

Enable Events		
	Table - 1	Event Enable
103		.
104		.
105		.
106		.
107		.
108		.
109		.
110		.
111		.
112		.
113		.
114		.
115		.
116		.
117		.
118		.
119		.
120		.
121		.
122		.
123		.
124		.
125		.
126		.
127		.
128		.
Event Parm		
	Value	
Table - 1		
Access Event Enable		.
Preempt Event Enable		.
Loc Pattern Event Enable		.
Moe Event Enable		.
User Assign Alarm 1		0
User Assign Alarm 2		0

ATTACHMENT D

Event Parm	
	Value
TX Local Alarms	.
Mon Flash Time Delay	0
General Comm Parm	
	Value
Table - 1	
Backup Time	0
Station ID	220
Master ID	0
Group ID	0
Tele1	0
Tele2	0
Tele3	0
Tele4	0
Tele5	0
Tele6	0
Tele7	0
Tele8	0
Tele9	0
Tele10	0
Tele11	0
Tele12	0
Alt Tel1	0
Alt Tel2	0
Alt Tel3	0
Alt Tel4	0
Alt Tel5	0
Alt Tel6	0
Alt Tel7	0
Alt Tel8	0
Alt Tel9	0
Alt Tel10	0
Alt Tel11	0
Alt Tel12	0
Dial Time	0
Idle Time	0
Modem Enable	.

ATTACHMENT D

IO Logic																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Table - 1																				
Result	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fun 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Src 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fun 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Src 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fun 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Src 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Operator 1 Function	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Operand 1 Result	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Operand 1 IO	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Operand 1 Invert	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operator 2 Function	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Operand 2 IO	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Operand 2 Invert	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Operator 3 Function	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----	----
Operand 3 IO	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I	I
Operand 3 Invert	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Time Operator	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY	DLY
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

IO Parm

	Value
Table - 1	
D Conn Mapping	TX2-V14
Alt T&F Biu Map	DEFAULT
C1-C11-ABC IO Mode	AUTO
Preempt or Ext Output	EXT
CNA FreeTime	0
P2P Timeout	0
Siu Cmu Map	NONE
Invert Local Flash	.

IP Parameters

	Value
Table - 1	
IP Address 1	10

ATTACHMENT D

IP Parameters	
	Value
IP Address 2	37
IP Address 3	80
IP Address 4	220
IP Mask 1	255
IP Mask 2	255
IP Mask 3	255
IP Mask 4	192
IP Broadcast 1	0
IP Broadcast 2	0
IP Broadcast 3	0
IP Broadcast 4	0
IP Gateway 1	10
IP Gateway 2	37
IP Gateway 3	80
IP Gateway 4	193
IP Port	5020
Use DHCP	.
Use Grat Arp	.
Speed	AUTO
IP Address Host 1-1	0
IP Address Host 1-2	0
IP Address Host 1-3	0
IP Address Host 1-4	0
IP Address Host 2-1	0
IP Address Host 2-2	0
IP Address Host 2-3	0
IP Address Host 2-4	0
ITS Cab Device	
	Value
Table - 1	
Switch Pack 1	.
Switch Pack 3	.
Switch Pack 4	.
Switch Pack 5	.
Switch Pack 6	.
Switch Pack 7	.

ATTACHMENT D

ITS Cab Device	
	Value
Input 9	.
Input 10	.
Input 11	.
Input 12	.
Input 13	.
CMU 15	.
CMU 16	.
CMU 17	.
FIO	.
FIO Type	2070-2A

Lane Control Plans							
	1	2	3	4	5	6	7

Table - 1							
	1	2	3	4	5	6	7
Plan 1	----	----	----	----	----	----	----
Duration	0	0	0	0	0	0	0
Clearance 1	0	0	0	0	0	0	0
Red 1	0	0	0	0	0	0	0
LUS 1	NO_RECYCLE						
LUS 2	NO_RECYCLE						
LUS 3	NO_RECYCLE						
LUS 4	NO_RECYCLE						
LUS 5	NO_RECYCLE						
LUS 6	NO_RECYCLE						
LUS 7	NO_RECYCLE						
LUS 8	NO_RECYCLE						
LUS 9	NO_RECYCLE						
LUS 10	NO_RECYCLE						
BOS A	INDPED						
BOS B	INDPED						
BOS C	INDPED						
BOS D	INDPED						

MMU Permissives															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Table - 1															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Channel 2

ATTACHMENT D

MMU Permissives															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Channel 3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Channel 4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Channel 5	X	X	.	.	.	.	.	.	.	.	.	.	.	.	.
Channel 6	X	X	.	.	.	.	.	.	.	.	.	.	.	.	.
Channel 7	.	.	X	X	.	.	.	.	.	.	.	.	.	.	.
Channel 8	.	.	X	X	.	.	.	.	.	.	.	.	.	.	.
Channel 9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Channel 10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Channel 11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Channel 12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Channel 13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Channel 14	.	.	.	X	.	.	X	X	.	.	.	.	.	.	.
Channel 15	X	X	.	.	.	X	.	.	.	.	.	.	.	.	.
Channel 16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

MMU to Controller Mapping																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Table - 1

MMU Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
-------------	---	---	---	---	---	---	---	---	---	----	----	----	----	----	----	----

Overlap Alternate																
	1				2				3				4			

Table - 1

Included P1	0				0				0				0			
Included P2	0				0				0				0			
Included P3	0				0				0				0			
Included P4	0				0				0				0			
Included P5	0				0				0				0			
Included P6	0				0				0				0			
Included P7	0				0				0				0			
Included P8	0				0				0				0			
Modify P1	0				0				0				0			
Modify P2	0				0				0				0			
Modify P3	0				0				0				0			
Modify P4	0				0				0				0			
Modify P5	0				0				0				0			
Modify P6	0				0				0				0			

ATTACHMENT D

Overlap Alternate				
	1	2	3	4
Modify P7	0	0	0	0
Modify P8	0	0	0	0
Type	INDPED	INDPED	INDPED	INDPED
Green	0	0	0	0
Yellow	0	0	0	0
Red	0	0	0	0
Conflict P1	0	0	0	0
Conflict P2	0	0	0	0
Conflict P3	0	0	0	0
Conflict P4	0	0	0	0
Conflict P5	0	0	0	0
Conflict P6	0	0	0	0
Conflict P7	0	0	0	0
Conflict P8	0	0	0	0
Conflict O1	0	0	0	0
Conflict O2	0	0	0	0
Conflict O3	0	0	0	0
Conflict O4	0	0	0	0
Conflict O5	0	0	0	0
Conflict O6	0	0	0	0
Conflict O7	0	0	0	0
Conflict O8	0	0	0	0
Conflict Ped 1	0	0	0	0
Conflict Ped 2	0	0	0	0
Conflict Ped 3	0	0	0	0
Conflict Ped 4	0	0	0	0
Conflict Ped 5	0	0	0	0
Conflict Ped 6	0	0	0	0
Conflict Ped 7	0	0	0	0
Conflict Ped 8	0	0	0	0
Overlap Number	0	0	0	0
Table - 2				
Included P1	0	0	0	0
Included P2	0	0	0	0
Included P3	0	0	0	0
Included P4	0	0	0	0

ATTACHMENT D

Overlap Alternate				
	1	2	3	4
Included P5	0	0	0	0
Included P6	0	0	0	0
Included P7	0	0	0	0
Included P8	0	0	0	0
Modify P1	0	0	0	0
Modify P2	0	0	0	0
Modify P3	0	0	0	0
Modify P4	0	0	0	0
Modify P5	0	0	0	0
Modify P6	0	0	0	0
Modify P7	0	0	0	0
Modify P8	0	0	0	0
Type	INDPED	INDPED	INDPED	INDPED
Green	0	0	0	0
Yellow	0	0	0	0
Red	0	0	0	0
Conflict P1	0	0	0	0
Conflict P2	0	0	0	0
Conflict P3	0	0	0	0
Conflict P4	0	0	0	0
Conflict P5	0	0	0	0
Conflict P6	0	0	0	0
Conflict P7	0	0	0	0
Conflict P8	0	0	0	0
Conflict O1	0	0	0	0
Conflict O2	0	0	0	0
Conflict O3	0	0	0	0
Conflict O4	0	0	0	0
Conflict O5	0	0	0	0
Conflict O6	0	0	0	0
Conflict O7	0	0	0	0
Conflict O8	0	0	0	0
Conflict Ped 1	0	0	0	0
Conflict Ped 2	0	0	0	0
Conflict Ped 3	0	0	0	0
Conflict Ped 4	0	0	0	0

ATTACHMENT D

Overlap Alternate				
	1	2	3	4
Conflict Ped 5	0	0	0	0
Conflict Ped 6	0	0	0	0
Conflict Ped 7	0	0	0	0
Conflict Ped 8	0	0	0	0
Overlap Number	0	0	0	0
Table - 3				
Included P1	0	0	0	0
Included P2	0	0	0	0
Included P3	0	0	0	0
Included P4	0	0	0	0
Included P5	0	0	0	0
Included P6	0	0	0	0
Included P7	0	0	0	0
Included P8	0	0	0	0
Modify P1	0	0	0	0
Modify P2	0	0	0	0
Modify P3	0	0	0	0
Modify P4	0	0	0	0
Modify P5	0	0	0	0
Modify P6	0	0	0	0
Modify P7	0	0	0	0
Modify P8	0	0	0	0
Type	INDPED	INDPED	INDPED	INDPED
Green	0	0	0	0
Yellow	0	0	0	0
Red	0	0	0	0
Conflict P1	0	0	0	0
Conflict P2	0	0	0	0
Conflict P3	0	0	0	0
Conflict P4	0	0	0	0
Conflict P5	0	0	0	0
Conflict P6	0	0	0	0
Conflict P7	0	0	0	0
Conflict P8	0	0	0	0
Conflict O1	0	0	0	0
Conflict O2	0	0	0	0

ATTACHMENT D

Overlap Alternate				
	1	2	3	4
Conflict O3	0	0	0	0
Conflict O4	0	0	0	0
Conflict O5	0	0	0	0
Conflict O6	0	0	0	0
Conflict O7	0	0	0	0
Conflict O8	0	0	0	0
Conflict Ped 1	0	0	0	0
Conflict Ped 2	0	0	0	0
Conflict Ped 3	0	0	0	0
Conflict Ped 4	0	0	0	0
Conflict Ped 5	0	0	0	0
Conflict Ped 6	0	0	0	0
Conflict Ped 7	0	0	0	0
Conflict Ped 8	0	0	0	0
Overlap Number	0	0	0	0

Overlap Parm	
	Value
Table - 1	
Conflict Lock	.
Lock Inhibit	.
Parent P ClrnCs	.
Inh Lock interval	ALWAYS

Overlap Plus Parm	
	Value
Table - 1	
Extra Included Phases	.

Overlap Programming																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Table - 1																
Included P1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Included P2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Included P3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Included P4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Included P5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Included P6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

Overlap Programming																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Included P7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Included P8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Modify P1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Modify P2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Modify P3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Modify P4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Modify P5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Modify P6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Modify P7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Modify P8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Type	NORMA L	NORMA L	NORMA L	NORMA L	NORMA L	NORMA L	NORMA L	NORMA L	NORMA L	NORMA L	NORMA L	NORMA L	NORMA L	NORMA L	NORMA L	NORMA L
Green	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Yellow	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Overlap+																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Table - 1																
Conflict P1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict P2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict P3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict P4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict P5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict P6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict P7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict P8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict O1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict O2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict O3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict O4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict O5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict O6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict O7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict O8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict Ped 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict Ped 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

Overlap+																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Conflict Ped 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict Ped 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict Ped 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict Ped 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict Ped 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Conflict Ped 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
OverlapB+																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Table - 1																
Leading Green	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FYA MCE Disable	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FYA After Preempt	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FYA Skip Red	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
PedCallClear	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FYA ImmedReturn	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
FYA RedB4Ped	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Transit Input	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FYA Delay Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FYA Ext Overlap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GrnExtInh 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GrnExtInh 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GrnExtInh 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GrnExtInh 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GrnExtInh 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GrnExtInh 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GrnExtInh 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
GrnExtInh 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Clear Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FYAGapMin	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FYAGapMax	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FYAGapExt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FYAGapDet1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FYAGapDet2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FYAGapDet3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FYAGapDet4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

Ped Dets Alt								
	1	2	3	4	5	6	7	8

Table - 1								
Call Phase	0	0	0	0	0	0	0	0
No Activity	0	0	0	0	0	0	0	0
Max Presence	0	0	0	0	0	0	0	0
Erratic Cnt	0	0	0	0	0	0	0	0
Det Number	0	0	0	0	0	0	0	0

Table - 2								
Call Phase	0	0	0	0	0	0	0	0
No Activity	0	0	0	0	0	0	0	0
Max Presence	0	0	0	0	0	0	0	0
Erratic Cnt	0	0	0	0	0	0	0	0
Det Number	0	0	0	0	0	0	0	0

Table - 3								
Call Phase	0	0	0	0	0	0	0	0
No Activity	0	0	0	0	0	0	0	0
Max Presence	0	0	0	0	0	0	0	0
Erratic Cnt	0	0	0	0	0	0	0	0
Det Number	0	0	0	0	0	0	0	0

Ped Parm								
	Value							

Table - 1								
AudioPedTime	0							

Peer															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15

Table - 1															
IP Address 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IP Address 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IP Address 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IP Address 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
UDP Port	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Poll Freq	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Phase Options Alt								
	1	2	3	4	5	6	7	8

Table - 1								
Non Act1	.	.	.	.	.	.	.	.

ATTACHMENT D

Phase Options Alt								
	1	2	3	4	5	6	7	8
Lock Call	X	X	X	X	X	X	X	X
Soft Recall	.	.	.	.	.	.	.	.
Dual Entry	.	.	.	.	.	.	.	.
Sim Gap Enable	X	X	X	X	X	X	X	X
Guar Passage	.	.	.	.	.	.	.	.
Rest In Walk	.	.	.	.	.	.	.	.
Cond Service	.	.	.	.	.	.	.	.
Reservice	.	.	.	.	.	.	.	.
Red Rest	.	.	.	.	.	.	.	.
Max 2	.	.	.	.	.	.	.	.
Max Inhibit	.	.	.	.	.	.	.	.
Ped Delay	.	.	.	.	.	.	.	.
Conflicting Phs1	0	0	0	0	0	0	0	0
Conflicting Phs2	0	0	0	0	0	0	0	0
Assign Phase	0	0	0	0	0	0	0	0
Table - 2								
Non Act1	.	.	.	.	.	.	.	.
Lock Call	X	X	X	X	X	X	X	X
Soft Recall	.	.	.	.	.	.	.	.
Dual Entry	.	.	.	.	.	.	.	.
Sim Gap Enable	X	X	X	X	X	X	X	X
Guar Passage	.	.	.	.	.	.	.	.
Rest In Walk	.	.	.	.	.	.	.	.
Cond Service	.	.	.	.	.	.	.	.
Reservice	.	.	.	.	.	.	.	.
Red Rest	.	.	.	.	.	.	.	.
Max 2	.	.	.	.	.	.	.	.
Max Inhibit	.	.	.	.	.	.	.	.
Ped Delay	.	.	.	.	.	.	.	.
Conflicting Phs1	0	0	0	0	0	0	0	0
Conflicting Phs2	0	0	0	0	0	0	0	0
Assign Phase	0	0	0	0	0	0	0	0
Table - 3								
Non Act1	.	.	.	.	.	.	.	.
Lock Call	X	X	X	X	X	X	X	X
Soft Recall	.	.	.	.	.	.	.	.

ATTACHMENT D

Phase Options Alt								
	1	2	3	4	5	6	7	8
Dual Entry	.	.	.	.	.	.	.	.
Sim Gap Enable	X	X	X	X	X	X	X	X
Guar Passage	.	.	.	.	.	.	.	.
Rest In Walk	.	.	.	.	.	.	.	.
Cond Service	.	.	.	.	.	.	.	.
Reservice	.	.	.	.	.	.	.	.
Red Rest	.	.	.	.	.	.	.	.
Max 2	.	.	.	.	.	.	.	.
Max Inhibit	.	.	.	.	.	.	.	.
Ped Delay	.	.	.	.	.	.	.	.
Conflicting Phs1	0	0	0	0	0	0	0	0
Conflicting Phs2	0	0	0	0	0	0	0	0
Assign Phase	0	0	0	0	0	0	0	0
Table - 4								
Non Act1	.	.	.	.	.	.	.	.
Lock Call	X	X	X	X	X	X	X	X
Soft Recall	.	.	.	.	.	.	.	.
Dual Entry	.	.	.	.	.	.	.	.
Sim Gap Enable	X	X	X	X	X	X	X	X
Guar Passage	.	.	.	.	.	.	.	.
Rest In Walk	.	.	.	.	.	.	.	.
Cond Service	.	.	.	.	.	.	.	.
Reservice	.	.	.	.	.	.	.	.
Red Rest	.	.	.	.	.	.	.	.
Max 2	.	.	.	.	.	.	.	.
Max Inhibit	.	.	.	.	.	.	.	.
Ped Delay	.	.	.	.	.	.	.	.
Conflicting Phs1	0	0	0	0	0	0	0	0
Conflicting Phs2	0	0	0	0	0	0	0	0
Assign Phase	0	0	0	0	0	0	0	0
Table - 5								
Non Act1	.	.	.	.	.	.	.	.
Lock Call	X	X	X	X	X	X	X	X
Soft Recall	.	.	.	.	.	.	.	.
Dual Entry	.	.	.	.	.	.	.	.
Sim Gap Enable	X	X	X	X	X	X	X	X

ATTACHMENT D

Phase Options Alt								
	1	2	3	4	5	6	7	8
Guar Passage	.	.	.	.	.	.	.	.
Rest In Walk	.	.	.	.	.	.	.	.
Cond Service	.	.	.	.	.	.	.	.
Reservice	.	.	.	.	.	.	.	.
Red Rest	.	.	.	.	.	.	.	.
Max 2	.	.	.	.	.	.	.	.
Max Inhibit	.	.	.	.	.	.	.	.
Ped Delay	.	.	.	.	.	.	.	.
Conflicting Phs1	0	0	0	0	0	0	0	0
Conflicting Phs2	0	0	0	0	0	0	0	0
Assign Phase	0	0	0	0	0	0	0	0

Table - 6

Non Act1	.	.	.	.	.	.	.	.
Lock Call	X	X	X	X	X	X	X	X
Soft Recall	.	.	.	.	.	.	.	.
Dual Entry	.	.	.	.	.	.	.	.
Sim Gap Enable	X	X	X	X	X	X	X	X
Guar Passage	.	.	.	.	.	.	.	.
Rest In Walk	.	.	.	.	.	.	.	.
Cond Service	.	.	.	.	.	.	.	.
Reservice	.	.	.	.	.	.	.	.
Red Rest	.	.	.	.	.	.	.	.
Max 2	.	.	.	.	.	.	.	.
Max Inhibit	.	.	.	.	.	.	.	.
Ped Delay	.	.	.	.	.	.	.	.
Conflicting Phs1	0	0	0	0	0	0	0	0
Conflicting Phs2	0	0	0	0	0	0	0	0
Assign Phase	0	0	0	0	0	0	0	0

Table - 7

Non Act1	.	.	.	.	.	.	.	.
Lock Call	X	X	X	X	X	X	X	X
Soft Recall	.	.	.	.	.	.	.	.
Dual Entry	.	.	.	.	.	.	.	.
Sim Gap Enable	X	X	X	X	X	X	X	X
Guar Passage	.	.	.	.	.	.	.	.
Rest In Walk	.	.	.	.	.	.	.	.

ATTACHMENT D

Phase Options Alt								
	1	2	3	4	5	6	7	8
Cond Service	.	.	.	.	.	.	.	.
Reservice	.	.	.	.	.	.	.	.
Red Rest	.	.	.	.	.	.	.	.
Max 2	.	.	.	.	.	.	.	.
Max Inhibit	.	.	.	.	.	.	.	.
Ped Delay	.	.	.	.	.	.	.	.
Conflicting Phs1	0	0	0	0	0	0	0	0
Conflicting Phs2	0	0	0	0	0	0	0	0
Assign Phase	0	0	0	0	0	0	0	0

Table - 8								
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Non Act1
Lock Call	X	X	X	X	X	X	X	X
Soft Recall
Dual Entry
Sim Gap Enable	X	X	X	X	X	X	X	X
Guar Passage	.	.	.	.	.	.	.	.
Rest In Walk	.	.	.	.	.	.	.	.
Cond Service	.	.	.	.	.	.	.	.
Reservice	.	.	.	.	.	.	.	.
Red Rest	.	.	.	.	.	.	.	.
Max 2	.	.	.	.	.	.	.	.
Max Inhibit	.	.	.	.	.	.	.	.
Ped Delay	.	.	.	.	.	.	.	.
Conflicting Phs1	0	0	0	0	0	0	0	0
Conflicting Phs2	0	0	0	0	0	0	0	0
Assign Phase	0	0	0	0	0	0	0	0

Phase Times Alt								
-----------------	--	--	--	--	--	--	--	--

	1	2	3	4	5	6	7	8
--	---	---	---	---	---	---	---	---

Table - 1								
-----------	--	--	--	--	--	--	--	--

Walk	0	0	0	0	0	0	0	0
Ped Clear	0	0	0	0	0	0	0	0
Min Green	0	0	0	0	0	0	0	0
Gap Ext	0	0	0	0	0	0	0	0
Max1	0	0	0	0	0	0	0	0
Max2	0	0	0	0	0	0	0	0
Yellow Clr	0	0	0	0	0	0	0	0

ATTACHMENT D

Phase Times Alt																
	1	2	3	4	5	6	7	8								
Red Clr	0	0	0	0	0	0	0	0								
Assign Ph	0	0	0	0	0	0	0	0								
Table - 2																
Walk	0	0	0	0	0	0	0	0								
Ped Clear	0	0	0	0	0	0	0	0								
Min Green	0	0	0	0	0	0	0	0								
Gap Ext	0	0	0	0	0	0	0	0								
Max1	0	0	0	0	0	0	0	0								
Max2	0	0	0	0	0	0	0	0								
Yellow Clr	0	0	0	0	0	0	0	0								
Red Clr	0	0	0	0	0	0	0	0								
Assign Ph	0	0	0	0	0	0	0	0								
Table - 3																
Walk	0	0	0	0	0	0	0	0								
Ped Clear	0	0	0	0	0	0	0	0								
Min Green	0	0	0	0	0	0	0	0								
Gap Ext	0	0	0	0	0	0	0	0								
Max1	0	0	0	0	0	0	0	0								
Max2	0	0	0	0	0	0	0	0								
Yellow Clr	0	0	0	0	0	0	0	0								
Red Clr	0	0	0	0	0	0	0	0								
Assign Ph	0	0	0	0	0	0	0	0								
Phase Times and Options																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Table - 1																
Walk	0	0	0	7	0	7	0	0	0	0	0	0	0	0	0	0
Ped Clearance	0	0	0	32	0	29	0	0	0	0	0	0	0	0	0	0
Min Green	5	20	5	8	5	20	5	8	0	0	0	0	0	0	0	0
Gap Ext	3	3.5	3	3	3	3.5	3	3	1	1	1	1	1	1	1	1
Max1	25	55	30	35	25	55	30	35	25	25	25	25	25	25	25	25
Max2	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
Yellow Clr	5.2	5.1	4.8	4.8	5.1	5.2	4.8	4.8	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
Red Clr	2.7	2	2.5	2.5	2.7	2	2.4	2.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Red Revert	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Added Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Initial	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

Phase Times and Options																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Cars Before Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Time To Reduce	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Reduce By	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Min Gap	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Dynamic Max Step	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Startup	RED	GREEN	RED	RED	RED	GREEN	RED	RED	RED	RED	RED	RED	RED	RED	RED	RED
Enable	X	X	X	X	X	X	X	X	.	.	.	.	.	.	.	.
Auto Flash Entry	.	.	.	X	.	.	.	X	.	.	.	.	.	.	.	.
Auto Flash Exit	.	X	.	.	.	X	.	.	.	.	.	.	.	.	.	.
Non-Actuated 1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Non-Actuated 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Lock Call	X	.	.	.	X	.	.	.	.	.	.	.	.	.	.	.
Min Recall	.	X	.	.	.	X	.	.	.	.	.	.	.	.	.	.
Max Recall	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ped Recall	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Soft Recall	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Dual Entry	.	X	.	X	.	X	.	X	.	.	.	.	.	.	.	.
Sim Gap Enable	.	X	.	X	.	X	.	X	.	.	.	.	.	.	.	.
Guar Passage	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Rest In Walk	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Cond Service	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Add Init Calc	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ring	1	1	1	1	2	2	2	2	0	0	0	0	0	0	0	0
Concur 1	5	5	7	7	1	1	3	3	0	0	0	0	0	0	0	0
Concur 2	6	6	8	8	2	2	4	4	0	0	0	0	0	0	0	0
Concur 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concur 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concur 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concur 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concur 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Concur 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Phase Times+																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Table - 1

ATTACHMENT D

Phase Times+																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bike Clear	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Green Flash	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Safe Clear Min	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Safe Clear No Flash	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

Phase Times+ Alt								
	1	2	3	4	5	6	7	8

Table - 1								
Assign Phase	0	0	0	0	0	0	0	0
Walk2	0	0	0	0	0	0	0	0
Bike Clear	0	0	0	0	0	0	0	0
Green Flash	0	0	0	0	0	0	0	0
Safe Clear Min	0	0	0	0	0	0	0	0
Safe Clear No Flash	.	.	.	.	.	.	.	.

Table - 2								
Assign Phase	0	0	0	0	0	0	0	0
Walk2	0	0	0	0	0	0	0	0
Bike Clear	0	0	0	0	0	0	0	0
Green Flash	0	0	0	0	0	0	0	0
Safe Clear Min	0	0	0	0	0	0	0	0
Safe Clear No Flash	.	.	.	.	.	.	.	.

Table - 3								
Assign Phase	0	0	0	0	0	0	0	0
Walk2	0	0	0	0	0	0	0	0
Bike Clear	0	0	0	0	0	0	0	0
Green Flash	0	0	0	0	0	0	0	0
Safe Clear Min	0	0	0	0	0	0	0	0
Safe Clear No Flash	.	.	.	.	.	.	.	.

Phase Times+ and Options+																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Table - 1																
Reservice	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ped Clr Thru Yellow	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Skip Red-NoCall	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Red Rest	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

ATTACHMENT D

Phase Times+ and Options+																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Max 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Max Inhibit	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ped Delay	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Red Rest On Gap	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Conflicting P	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Green Ped Delay Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Omit Yel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ped Out	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Start Yel	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Inhibit P1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Inhibit P16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Call Phs1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Call Phs2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Call Phs3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Call Phs4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redirect P Calls From 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redirect P Calls To 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redirect P Calls From 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redirect P Calls To 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redirect P Calls From 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redirect P Calls To 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Redirect P Calls From 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

Phase Times+ and Options+																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Redirect P Calls To 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Port Bindings																
	Value															
Table - 1																
TS2CVM Channel	ASYNC3															
MMU Channel	ASYNC2															
OPTICOM Channel	NONE															
Loop Det Channel	NONE															
GPS Channel	NONE															
System Up Channel	ASYNC1															
System Up Modem Enable	NONE															
System Up Idle Time	0															
System Up Dial Time	0															
System Down Channel	NONE															
Shell Channel	NONE															
Port Parameters																
	1	2	3	4	5	6	7	8								
Table - 1																
Baud	9600	9600	1200	1200	1200	1200	1200	1200								
FCM	6	6	0	0	0	0	0	0								
Preempt																
	1	2	3	4	5	6										
Table - 1																
Lock Input										
Override Auto Flash										
Override Higher Preempt										
Flash in Dwell										
Link to Preempt	0	0	0	0	0	0										
Delay	0	0	0	0	0	0										
Min Duration	0	0	0	0	0	0										
Min Green	0	0	0	0	0	0										
Min Walk	0	0	0	0	0	0										
Ped Clear	0	0	0	0	0	0										

ATTACHMENT D

Preempt						
	1	2	3	4	5	6
Track Green	0	0	0	0	0	0
Min Dwell	0	0	0	0	0	0
Max Presence	0	0	0	0	0	0
Track Veh 1	0	0	0	0	0	0
Track Veh 2	0	0	0	0	0	0
Track Veh 3	0	0	0	0	0	0
Track Veh 4	0	0	0	0	0	0
Dwell Cyc Veh 1	0	0	0	0	0	0
Dwell Cyc Veh 2	0	0	0	0	0	0
Dwell Cyc Veh 3	0	0	0	0	0	0
Dwell Cyc Veh 4	0	0	0	0	0	0
Dwell Cyc Veh 5	0	0	0	0	0	0
Dwell Cyc Veh 6	0	0	0	0	0	0
Dwell Cyc Veh 7	0	0	0	0	0	0
Dwell Cyc Veh 8	0	0	0	0	0	0
Dwell Cyc Veh 9	0	0	0	0	0	0
Dwell Cyc Veh 10	0	0	0	0	0	0
Dwell Cyc Veh 11	0	0	0	0	0	0
Dwell Cyc Veh 12	0	0	0	0	0	0
Dwell Cyc Ped1	0	0	0	0	0	0
Dwell Cyc Ped2	0	0	0	0	0	0
Dwell Cyc Ped3	0	0	0	0	0	0
Dwell Cyc Ped4	0	0	0	0	0	0
Dwell Cyc Ped5	0	0	0	0	0	0
Dwell Cyc Ped6	0	0	0	0	0	0
Dwell vPed7	0	0	0	0	0	0
Dwell Cyc Ped8	0	0	0	0	0	0
Exit 1	0	0	0	0	0	0
Exit 2	0	0	0	0	0	0
Exit 3	0	0	0	0	0	0
Exit 4	0	0	0	0	0	0
Preempt 7-12						
	1	2	3	4	5	6
Table - 1						
Lock Input	.	.	.	.	.	.
Override Auto Flash	.	.	.	.	.	.

ATTACHMENT D

Preempt 7-12						
	1	2	3	4	5	6
Override Higher Preempt	.	.	.	.	.	.
Flash in Dwell	.	.	.	.	.	.
Link to Preempt	0	0	0	0	0	0
Delay	0	0	0	0	0	0
Min Duration	0	0	0	0	0	0
Min Green	0	0	0	0	0	0
Min Walk	0	0	0	0	0	0
Ped Clear	0	0	0	0	0	0
Track Green	0	0	0	0	0	0
Min Dwell	0	0	0	0	0	0
Max Presence	0	0	0	0	0	0
Track Veh1	0	0	0	0	0	0
Track Veh2	0	0	0	0	0	0
Track Veh3	0	0	0	0	0	0
Track Veh4	0	0	0	0	0	0
Dwell Cyc Veh1	0	0	0	0	0	0
Dwell Cyc Veh2	0	0	0	0	0	0
Dwell Cyc Veh3	0	0	0	0	0	0
Dwell Cyc Veh4	0	0	0	0	0	0
Dwell Cyc Veh5	0	0	0	0	0	0
Dwell Cyc Veh6	0	0	0	0	0	0
Dwell Cyc Veh7	0	0	0	0	0	0
Dwell Cyc Veh8	0	0	0	0	0	0
Dwell Cyc Veh9	0	0	0	0	0	0
Dwell Cyc Veh10	0	0	0	0	0	0
Dwell Cyc Veh11	0	0	0	0	0	0
Dwell Cyc Veh12	0	0	0	0	0	0
Dwell Cyc Ped1	0	0	0	0	0	0
Dwell Cyc Ped2	0	0	0	0	0	0
Dwell Cyc Ped3	0	0	0	0	0	0
Dwell Cyc Ped4	0	0	0	0	0	0
Dwell Cyc Ped5	0	0	0	0	0	0
Dwell Cyc Ped6	0	0	0	0	0	0
Dwell Cyc Ped7	0	0	0	0	0	0
Dwell Cyc Ped8	0	0	0	0	0	0

ATTACHMENT D

Preempt 7-12						
	1	2	3	4	5	6
Exit 1	0	0	0	0	0	0
Exit 2	0	0	0	0	0	0
Exit 3	0	0	0	0	0	0
Exit 4	0	0	0	0	0	0
Preempt AdvTimes/InitDwell						
	1	2	3	4	5	6
Table - 1						
All Red B4 Preempt	.	.	.	.	.	.
Reset Ext Dwell	.	.	.	.	.	.
Reservice Preempt	.	.	.	.	.	.
End Dwell	.	.	.	.	.	.
DsblDwellCalls	.	.	.	.	.	.
Enter Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Enter Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Track Yellow Change	25.5	25.5	25.5	25.5	25.5	25.5
Track Red Clear	25.5	25.5	25.5	25.5	25.5	25.5
Dynamic Exit Threshold	0	0	0	0	0	0
Initial Dwell Phase 1	0	0	0	0	0	0
Initial Dwell Phase 2	0	0	0	0	0	0
Initial Dwell Phase 3	0	0	0	0	0	0
Initial Dwell Phase 4	0	0	0	0	0	0
Ped 1	0	0	0	0	0	0
Ped 2	0	0	0	0	0	0
Ped 3	0	0	0	0	0	0
Ped 4	0	0	0	0	0	0
Initial Dwell Overlap 1	0	0	0	0	0	0
Initial Dwell Overlap 2	0	0	0	0	0	0
Initial Dwell Overlap 3	0	0	0	0	0	0
Initial Dwell Overlap 4	0	0	0	0	0	0
Initial Dwell Overlap 5	0	0	0	0	0	0
Initial Dwell Overlap 6	0	0	0	0	0	0
Initial Dwell Overlap 7	0	0	0	0	0	0
Initial Dwell Overlap 8	0	0	0	0	0	0
Initial Dwell Overlap 9	0	0	0	0	0	0
Initial Dwell Overlap 10	0	0	0	0	0	0
Initial Dwell Overlap 11	0	0	0	0	0	0

ATTACHMENT D

Preempt AdvTimes/InitDwell						
	1	2	3	4	5	6
Initial Dwell Overlap 12	0	0	0	0	0	0
Initial Dwell Overlap 13	0	0	0	0	0	0
Initial Dwell Overlap 14	0	0	0	0	0	0
Initial Dwell Overlap 15	0	0	0	0	0	0
Initial Dwell Overlap 16	0	0	0	0	0	0
Preempt AdvTimes/InitDwell 7-12						
	1	2	3	4	5	6
Table - 1						
All Red B4 Preempt	.	.	.	.	.	.
Reset Ext Dwell	.	.	.	.	.	.
Reservice Preempt	.	.	.	.	.	.
End Dwell	.	.	.	.	.	.
Enter Yellow Change	0	0	0	0	0	0
Enter Red Clear	0	0	0	0	0	0
Track Yellow Change	0	0	0	0	0	0
Track Red Clear	0	0	0	0	0	0
Initial Dwell Phase 1	0	0	0	0	0	0
Initial Dwell Phase 2	0	0	0	0	0	0
Initial Dwell Phase 3	0	0	0	0	0	0
Initial Dwell Phase 4	0	0	0	0	0	0
Initial Dwell Ped 1	0	0	0	0	0	0
Initial Dwell Ped 2	0	0	0	0	0	0
Initial Dwell Ped 3	0	0	0	0	0	0
Initial Dwell Ped 4	0	0	0	0	0	0
Initial Dwell Overlap 1	0	0	0	0	0	0
Initial Dwell Overlap 2	0	0	0	0	0	0
Initial Dwell Overlap 3	0	0	0	0	0	0
Initial Dwell Overlap 4	0	0	0	0	0	0
Initial Dwell Overlap 5	0	0	0	0	0	0
Initial Dwell Overlap 6	0	0	0	0	0	0
Initial Dwell Overlap 7	0	0	0	0	0	0
Initial Dwell Overlap 8	0	0	0	0	0	0
Initial Dwell Overlap 9	0	0	0	0	0	0
Initial Dwell Overlap 10	0	0	0	0	0	0
Initial Dwell Overlap 11	0	0	0	0	0	0
Initial Dwell Overlap 12	0	0	0	0	0	0

ATTACHMENT D

Preempt AdvTimes/InitDwell 7-12						
	1	2	3	4	5	6
Initial Dwell Overlap 13	0	0	0	0	0	0
Initial Dwell Overlap 14	0	0	0	0	0	0
Initial Dwell Overlap 15	0	0	0	0	0	0
Initial Dwell Overlap 16	0	0	0	0	0	0
ExitVehCalls 1
ExitVehCalls 2
ExitVehCalls 3
ExitVehCalls 4
ExitVehCalls 5
ExitVehCalls 6
ExitVehCalls 7
ExitVehCalls 8
ExitVehCalls 9
ExitVehCalls 10
ExitVehCalls 11
ExitVehCalls 12
ExitVehCalls 13
ExitVehCalls 14
ExitVehCalls 15
ExitVehCalls 16
ExitPedCalls 1
ExitPedCalls 2
ExitPedCalls 3
ExitPedCalls 4
ExitPedCalls 5
ExitPedCalls 6
ExitPedCalls 7
ExitPedCalls 8
ExitPedCalls 9
ExitPedCalls 10
ExitPedCalls 11
ExitPedCalls 12
ExitPedCalls 13
ExitPedCalls 14
ExitPedCalls 15
ExitPedCalls 16

ATTACHMENT D

Preempt LP						
	1	2	3	4		
Table - 1						
Min	0	0	0	0		
Max	0	0	0	0		
Enable	.	.	.	.
Lock Mode	MAX	MAX	MAX	MAX		
Coord in Preempt	.	.	.	.
No Skip	.	.	.	.
Priority P1	0	0	0	0		
Priority P2	0	0	0	0		
Priority P3	0	0	0	0		
Priority P4	0	0	0	0		
Lock	0	0	0	0		
Headway	0	0	0	0		
Group Lock	.	.	.	.
Queue Jump	.	.	.	.
Free Mode	.	.	.	.
Alt Table	0	0	0	0		
Preempt Parm						
	Value					
Table - 1						
LPAIt Source	3-6					
Max Cycle Time	0					
Max Seek Track Time	0					
Max Seek Dwell Time	0					
Cycle Fault Action	ALARM					
EVP Ped Confirmations	.					
Invert Rail Input	.					
Preempt+						
	1	2	3	4	5	6
Table - 1						
Enable
Type	EMERG	EMERG	EMERG	EMERG	EMERG	EMERG
Skip Track
Volt Mon Flash
Coord in Preempt

ATTACHMENT D

Preempt+						
	1	2	3	4	5	6
Return Max/Min	MAX	MAX	MAX	MAX	MAX	MAX
Extend Dwell	0	0	0	0	0	0
Pattern	0	0	0	0	0	0
Output Mode	TS2	TS2	TS2	TS2	TS2	TS2
Track Over 1	0	0	0	0	0	0
Track Over 2	0	0	0	0	0	0
Track Over 3	0	0	0	0	0	0
Track Over 4	0	0	0	0	0	0
Track Over 5	0	0	0	0	0	0
Track Over 6	0	0	0	0	0	0
Track Over 7	0	0	0	0	0	0
Track Over 8	0	0	0	0	0	0
Track Over 9	0	0	0	0	0	0
Track Over 10	0	0	0	0	0	0
Track Over 11	0	0	0	0	0	0
Track Over 12	0	0	0	0	0	0
DwellCyc Over 1	0	0	0	0	0	0
DwellCyc Over 2	0	0	0	0	0	0
DwellCyc Over 3	0	0	0	0	0	0
DwellCyc Over 4	0	0	0	0	0	0
DwellCyc Over 5	0	0	0	0	0	0
DwellCyc Over 6	0	0	0	0	0	0
DwellCyc Over 7	0	0	0	0	0	0
DwellCyc Over 8	0	0	0	0	0	0
DwellCyc Over 9	0	0	0	0	0	0
DwellCyc Over 10	0	0	0	0	0	0
DwellCyc Over 11	0	0	0	0	0	0
DwellCyc Over 12	0	0	0	0	0	0
Ped Clear	0	0	0	0	0	0
Yellow	0	0	0	0	0	0
Red	0	0	0	0	0	0
Return Max	0	0	0	0	0	0

Preempt+ 7-12						
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	1	2	3	4	5	6
--	---	---	---	---	---	---

Table - 1

Enable
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ATTACHMENT D

Preempt+ 7-12						
	1	2	3	4	5	6
Type	EMERG	EMERG	EMERG	EMERG	EMERG	EMERG
Skip Track	.	.	.	.	.	.
Volt Mon Flash	.	.	.	.	.	.
Coord in Preempt	.	.	.	.	.	.
Max2	.	.	.	.	.	.
Return Max/Min	MAX	MAX	MAX	MAX	MAX	MAX
Extend Dwell	0	0	0	0	0	0
Pattern	0	0	0	0	0	0
Output Mode	TS2	TS2	TS2	TS2	TS2	TS2
Track Over 1	0	0	0	0	0	0
Track Over 2	0	0	0	0	0	0
Track Over 3	0	0	0	0	0	0
Track Over 4	0	0	0	0	0	0
Track Over 5	0	0	0	0	0	0
Track Over 6	0	0	0	0	0	0
Track Over 7	0	0	0	0	0	0
Track Over 8	0	0	0	0	0	0
Track Over 9	0	0	0	0	0	0
Track Over 10	0	0	0	0	0	0
Track Over 11	0	0	0	0	0	0
Track Over 12	0	0	0	0	0	0
DwellCyc Over 1	0	0	0	0	0	0
DwellCyc Over 2	0	0	0	0	0	0
DwellCyc Over 3	0	0	0	0	0	0
DwellCyc Over 4	0	0	0	0	0	0
DwellCyc Over 5	0	0	0	0	0	0
DwellCyc Over 6	0	0	0	0	0	0
DwellCyc Over 7	0	0	0	0	0	0
DwellCyc Over 8	0	0	0	0	0	0
DwellCyc Over 9	0	0	0	0	0	0
DwellCyc Over 10	0	0	0	0	0	0
DwellCyc Over 11	0	0	0	0	0	0
DwellCyc Over 12	0	0	0	0	0	0
Ped Clear	0	0	0	0	0	0
Yellow	0	0	0	0	0	0
Red	0	0	0	0	0	0

ATTACHMENT D

Preempt+ 7-12						
	1	2	3	4	5	6
Return Max	0	0	0	0	0	0
Preemption Events						
	1	2	3	4		
Table - 1						
Delay Time	0	0	0	0	0	0
Hold Interval	0	0	0	0	0	0
Linked Event	0	0	0	0	0	0
Interval 1	0	0	0	0	0	0
Interval 2	0	0	0	0	0	0
Interval 3	0	0	0	0	0	0
Interval 4	0	0	0	0	0	0
Interval 5	0	0	0	0	0	0
Interval 6	0	0	0	0	0	0
Interval 7	0	0	0	0	0	0
Interval 8	0	0	0	0	0	0
Interval 9	0	0	0	0	0	0
Interval 10	0	0	0	0	0	0
Interval 11	0	0	0	0	0	0
Interval 12	0	0	0	0	0	0
Interval 13	0	0	0	0	0	0
Interval 14	0	0	0	0	0	0
Interval 15	0	0	0	0	0	0
Interval 16	0	0	0	0	0	0
Time 1	0	0	0	0	0	0
Time 2	0	0	0	0	0	0
Time 3	0	0	0	0	0	0
Time 4	0	0	0	0	0	0
Time 5	0	0	0	0	0	0
Time 6	0	0	0	0	0	0
Time 7	0	0	0	0	0	0
Time 8	0	0	0	0	0	0
Time 9	0	0	0	0	0	0
Time 10	0	0	0	0	0	0
Time 11	0	0	0	0	0	0
Time 12	0	0	0	0	0	0
Time 13	0	0	0	0	0	0

ATTACHMENT D

Preemption Events																												
	1							2							3							4						
Time 14	0							0							0							0						
Time 15	0							0							0							0						
Time 16	0							0							0							0						

Preemption Sequences																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Table - 1																																
Start Ph 1
Start Ph 2
Start Ph 3
Start Ph 4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Start Ph 5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Start Ph 6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Start Ph 7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Start Ph 8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Start Ph 9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Start Ph 10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Start Ph 11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Start Ph 12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Start Ph 13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Start Ph 14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Start Ph 15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Start Ph 16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ph Omit 14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

ATTACHMENT D

Preemption Sequences																																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32		
Ph Omit 15
Ph Omit 16
Ped Omit 1
Ped Omit 2
Ped Omit 3
Ped Omit 4
Ped Omit 5
Ped Omit 6
Ped Omit 7
Ped Omit 8
Ped Omit 9
Ped Omit 10
Ped Omit 11
Ped Omit 12
Ped Omit 13
Ped Omit 14
Ped Omit 15
Ped Omit 16
Olap Omit 1
Olap Omit 2
Olap Omit 3
Olap Omit 4
Olap Omit 5
Olap Omit 6
Olap Omit 7
Olap Omit 8
Olap Omit 9
Olap Omit 10
Olap Omit 11
Olap Omit 12
Olap Omit 13
Olap Omit 14
Olap Omit 15
Olap Omit 16
Veh Calls 1
Veh Calls 2

ATTACHMENT D

Preemption Sequences																																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32		
Veh Calls 3
Veh Calls 4
Veh Calls 5
Veh Calls 6
Veh Calls 7
Veh Calls 8
Veh Calls 9
Veh Calls 10
Veh Calls 11
Veh Calls 12
Veh Calls 13
Veh Calls 14
Veh Calls 15
Veh Calls 16
Ped Calls 1
Ped Calls 2
Ped Calls 3
Ped Calls 4
Ped Calls 5
Ped Calls 6
Ped Calls 7
Ped Calls 8
Ped Calls 9
Ped Calls 10
Ped Calls 11
Ped Calls 12
Ped Calls 13
Ped Calls 14
Ped Calls 15
Ped Calls 16
Hold Ph 1	
Hold Ph 2
Hold Ph 3
Hold Ph 4
Hold Ph 5
Hold Ph 6

ATTACHMENT D

Preemption Sequences																																			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32			
Hold Ph 7	
Hold Ph 8	
Hold Ph 9	
Hold Ph 10	
Hold Ph 11	
Hold Ph 12	
Hold Ph 13	
Hold Ph 14	
Hold Ph 15	
Hold Ph 16	
Adv Ph 1	
Adv Ph 2
Adv Ph 3
Adv Ph 4
Adv Ph 5
Adv Ph 6
Adv Ph 7
Adv Ph 8
Adv Ph 9
Adv Ph 10
Adv Ph 11
Adv Ph 12
Adv Ph 13
Adv Ph 14
Adv Ph 15
Adv Ph 16
Force Off 1
Force Off 2
Force Off 3
Force Off 4
Force Off 5
Force Off 6
Force Off 7
Force Off 8
Force Off 9
Force Off 10

ATTACHMENT D

Preemption Sequences																																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32		
Force Off 11	
Force Off 12	
Force Off 13	
Force Off 14	
Force Off 15	
Force Off 16	
Spec Func 1	
Spec Func 2
Spec Func 3
Spec Func 4
Spec Func 5
Spec Func 6
Spec Func 7
Spec Func 8
Spec Func 9
Spec Func 10
Spec Func 11
Spec Func 12
Spec Func 13
Spec Func 14
Spec Func 15
Spec Func 16

Purdue

	Value
--	-------

Table - 1

Enable Logging	.
Max Log Size	0
Max Log Duration	0
History Limit	0
Resync Freq	0
Colors	.
Detectors	.
Peds	.
Coordination	.
Control	.
Preempts	.

ATTACHMENT D

Purdue				
	Value			
Overlaps	.			
Cabinet	.			
Ring Input Map				
	1	2	3	4
Table - 1				
Input Map	1	2	1	2
Ring Sequences				
	1	2	3	4
Table - 1				
Ring P1	1	5	0	0
Ring P2	2	6	0	0
Ring P3	3	7	0	0
Ring P4	4	8	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 2				
Ring P1	1	6	0	0
Ring P2	2	5	0	0
Ring P3	3	7	0	0
Ring P4	4	8	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 3				
Ring P1	2	5	0	0
Ring P2	1	6	0	0
Ring P3	3	7	0	0
Ring P4	4	8	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0

ATTACHMENT D

Ring Sequences				
	1	2	3	4
Table - 4				
Ring P1	2	6	0	0
Ring P2	1	5	0	0
Ring P3	3	7	0	0
Ring P4	4	8	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 5				
Ring P1	1	5	0	0
Ring P2	2	6	0	0
Ring P3	3	8	0	0
Ring P4	4	7	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 6				
Ring P1	1	6	0	0
Ring P2	2	5	0	0
Ring P3	3	8	0	0
Ring P4	4	7	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 7				
Ring P1	2	5	0	0
Ring P2	1	6	0	0
Ring P3	3	8	0	0
Ring P4	4	7	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 8				

ATTACHMENT D

Ring Sequences				
	1	2	3	4
Ring P1	2	6	0	0
Ring P2	1	5	0	0
Ring P3	3	8	0	0
Ring P4	4	7	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 9				
Ring P1	1	5	0	0
Ring P2	2	6	0	0
Ring P3	4	7	0	0
Ring P4	3	8	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 10				
Ring P1	1	6	0	0
Ring P2	2	5	0	0
Ring P3	4	7	0	0
Ring P4	3	8	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 11				
Ring P1	2	5	0	0
Ring P2	1	6	0	0
Ring P3	4	7	0	0
Ring P4	3	8	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 12				

ATTACHMENT D

Ring Sequences				
	1	2	3	4
Ring P1	2	6	0	0
Ring P2	1	5	0	0
Ring P3	4	7	0	0
Ring P4	3	8	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 13				
Ring P1	1	5	0	0
Ring P2	2	6	0	0
Ring P3	4	8	0	0
Ring P4	3	7	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 14				
Ring P1	1	6	0	0
Ring P2	2	5	0	0
Ring P3	4	8	0	0
Ring P4	3	7	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 15				
Ring P1	2	5	0	0
Ring P2	1	6	0	0
Ring P3	4	8	0	0
Ring P4	3	7	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0
Table - 16				

ATTACHMENT D

Ring Sequences				
	1	2	3	4
Ring P1	2	6	0	0
Ring P2	1	5	0	0
Ring P3	4	8	0	0
Ring P4	3	7	0	0
Ring P5	0	0	0	0
Ring P6	0	0	0	0
Ring P7	0	0	0	0
Ring P8	0	0	0	0

SDLC Devices																		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Table - 1																		
Dev Present	X	X	.	.	.	.	.	.	X	.	.	.	.	.	.	.	X	.
Peer to Peer	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

SDLC Parms	
	Value
Table - 1	
Retry Time	0
Enable Msg0	.
Enable TOD	.
SlowMsgOvrD	.

Security Passwords			
	Table - 1	Security Code	Security Level
1		0	NONE
2		0	NONE
3		0	NONE
4		0	NONE
5		0	NONE
6		0	NONE
7		0	NONE
8		0	NONE
9		0	NONE
10		0	NONE
11		0	NONE
12		0	NONE
13		0	NONE

ATTACHMENT D

Security Passwords			
	Table - 1	Security Code	Security Level
14		0	NONE
15		0	NONE
16		0	NONE
17		0	NONE
18		0	NONE
19		0	NONE
20		0	NONE
21		0	NONE
22		0	NONE
23		0	NONE
24		0	NONE
25		0	NONE
26		0	NONE
27		0	NONE
28		0	NONE
29		0	NONE
30		0	NONE
31		0	NONE
32		0	NONE
33		0	NONE
34		0	NONE
35		0	NONE
36		0	NONE
37		0	NONE
38		0	NONE
39		0	NONE
40		0	NONE
41		0	NONE
42		0	NONE
43		0	NONE
44		0	NONE
45		0	NONE
46		0	NONE
47		0	NONE
48		0	NONE
49		0	NONE

ATTACHMENT D

Security Passwords																	
	Table - 1					Security Code						Security Level					
50																	NONE
51																	NONE
52																	NONE
53																	NONE
54																	NONE
55																	NONE
56																	NONE
57																	NONE
58																	NONE
59																	NONE
60																	NONE
61																	NONE
62																	NONE
63																	NONE
64																	NONE

Speed Parameters																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Table - 1																	
Up Det	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Down Det	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Zone Len	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Loop Car	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Splits Expanded																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16

Table - 1																	
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON																
Coord Phase

Table - 2																	
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON																
Coord Phase

Table - 3																	
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON																

ATTACHMENT D

Splits Expanded																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Coord Phase
Table - 4																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 5																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 6																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 7																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 8																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 9																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 10																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 11																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 12																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase

ATTACHMENT D

Splits Expanded																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Table - 13																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 14																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 15																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 16																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 17																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 18																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 19																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 20																
Time	16	51	14	129	20	47	22	121	0	0	0	0	0	0	0	0
Mode	NON	MAX	NON	NON	NON	MAX	NON									
Coord Phase	.	X
Table - 21																
Time	17	115	17	51	76	56	34	34	0	0	0	0	0	0	0	0
Mode	NON	MAX	NON	NON	NON	MAX	NON									
Coord Phase	.	X
Table - 22																

ATTACHMENT D

Splits Expanded																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 23																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 24																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 25																
Time	14	121	14	51	14	121	32	33	0	0	0	0	0	0	0	0
Mode	NON	MAX	NON	NON	NON	MAX	NON									
Coord Phase	.	X
Table - 26																
Time	17	55	77	51	15	57	17	111	0	0	0	0	0	0	0	0
Mode	NON	MAX	NON	NON	NON	MAX	NON									
Coord Phase	.	X
Table - 27																
Time	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0
Mode	NON	NON	NON	NON	MIN	NON										
Coord Phase
Table - 28																
Time	0	0	0	0	100	0	0	0	0	0	0	0	0	0	0	0
Mode	NON	NON	NON	NON	MIN	NON										
Coord Phase
Table - 29																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 30																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase
Table - 31																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

Splits Expanded																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Mode	NON															
Coord Phase

Table - 32																
Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mode	NON															
Coord Phase

Splits Plus																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Table - 1																																				
PriFrc 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
PriFrc 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PriFrc 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PriFrc 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PriFrc 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PriFrc 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PriFrc 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PriFrc 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PriFrc 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PriFrc 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PriFrc 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PriFrc 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
PriFrc 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PriFrc 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PriFrc 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PriFrc 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SecFrc 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
SecFrc 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

Splits Plus																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
SecFrc 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
SecFrc 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
VehYld 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedYld 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

Splits Plus																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
PedYld 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perm1 Beg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perm2 Beg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perm3 Beg	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perm1 End	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perm2 End	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Perm3 End	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
FrcAll	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PedRcy	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Override PriOff	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Override Veh Yield	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Override Ped Yield	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 9	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 10	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 11	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 15	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm1 Enable 16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm2 Enable 1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm2 Enable 2	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm2 Enable 3	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm2 Enable 4	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm2 Enable 5	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm2 Enable 6	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm2 Enable 7	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Perm2 Enable 8	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

ATTACHMENT D

Splits Plus																																	
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	
Perm2 Enable 9
Perm2 Enable 10
Perm2 Enable 11
Perm2 Enable 12
Perm2 Enable 13
Perm2 Enable 14
Perm2 Enable 15
Perm2 Enable 16
Perm3 Enable 1
Perm3 Enable 2
Perm3 Enable 3
Perm3 Enable 4
Perm3 Enable 5
Perm3 Enable 6
Perm3 Enable 7
Perm3 Enable 8
Perm3 Enable 9
Perm3 Enable 10
Perm3 Enable 11
Perm3 Enable 12
Perm3 Enable 13
Perm3 Enable 14
Perm3 Enable 15
Perm3 Enable 16
Sync Parameters																																	
	1					2					3					4																	
Table - 1																																	
Hdwr Port	SP5S					SP3S					.					.																	
TOD Parameters																																	
	Value																																
Table - 1																																	
Time Base Sync Reference	0																																
Daylight Savings	ENABLE																																
GMT Offset Sign	+																																

ATTACHMENT D

TOD Parameters	
	Value
GMT Offset Time	0
DST Spring Month	3
DST Spring Week	2
DST Fall Month	11
DST Fall Week	1

TSP Splits																																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32

Table - 1																																		
Max Reduce 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Max Reduce 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Reduce 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Extend 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Extend 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Extend 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Extend 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Extend 5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Extend 6	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Extend 7	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Extend 8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Extend 9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Extend 10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Extend 11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Extend 12	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

TSP Splits																																				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32				
Max Extend 13	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Max Extend 14	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Max Extend 15	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Max Extend 16	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Strategy Number 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Strategy Number 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Strategy Number 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Strategy Number 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Time Service Desired 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Time Service Desired 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Time Service Desired 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0		
Time Service Desired 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Time Estimated Departure 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Time Estimated Departure 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Time Estimated Departure 3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Time Estimated Departure 4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

TSP Strategy

	1	2	3	4	5	6	7	8
--	---	---	---	---	---	---	---	---

Table - 1

Ph Omit 1	0	0	0	0	0	0	0	0
Ph Omit 2	0	0	0	0	0	0	0	0
Ph Omit 3	0	0	0	0	0	0	0	0
Ph Omit 4	0	0	0	0	0	0	0	0
Ph Omit 5	0	0	0	0	0	0	0	0
Ph Omit 6	0	0	0	0	0	0	0	0
Ph Omit 7	0	0	0	0	0	0	0	0
Ph Omit 8	0	0	0	0	0	0	0	0
Ph Omit 9	0	0	0	0	0	0	0	0
Ph Omit 10	0	0	0	0	0	0	0	0
Ph Omit 11	0	0	0	0	0	0	0	0
Ph Omit 12	0	0	0	0	0	0	0	0
Ph Omit 13	0	0	0	0	0	0	0	0

ATTACHMENT D

TSP Strategy								
	1	2	3	4	5	6	7	8
Ph Omit 14	0	0	0	0	0	0	0	0
Ph Omit 15	0	0	0	0	0	0	0	0
Ph Omit 16	0	0	0	0	0	0	0	0
Ped Omit 1	0	0	0	0	0	0	0	0
Ped Omit 2	0	0	0	0	0	0	0	0
Ped Omit 3	0	0	0	0	0	0	0	0
Ped Omit 4	0	0	0	0	0	0	0	0
Ped Omit 5	0	0	0	0	0	0	0	0
Ped Omit 6	0	0	0	0	0	0	0	0
Ped Omit 7	0	0	0	0	0	0	0	0
Ped Omit 8	0	0	0	0	0	0	0	0
Ped Omit 9	0	0	0	0	0	0	0	0
Ped Omit 10	0	0	0	0	0	0	0	0
Ped Omit 11	0	0	0	0	0	0	0	0
Ped Omit 12	0	0	0	0	0	0	0	0
Ped Omit 13	0	0	0	0	0	0	0	0
Ped Omit 14	0	0	0	0	0	0	0	0
Ped Omit 15	0	0	0	0	0	0	0	0
Ped Omit 16	0	0	0	0	0	0	0	0
Service Ph 1	0	0	0	0	0	0	0	0
Service Ph 2	0	0	0	0	0	0	0	0
Service Ph 3	0	0	0	0	0	0	0	0
Service Ph 4	0	0	0	0	0	0	0	0

Unit Parm	
-----------	--

	Value
Table - 1	
StartUp Flash	0
Auto Ped Clear	.
Red Revert	3
Local Flash Start	.
Allow < 3 sec Yel	.
Allow Skip Yel	.
MCE Timeout	0
Enable Run	X
Start Red Time	0
Phase Mode	STD8

ATTACHMENT D

Unit Parm	
	Value
Startup Calls	.
Diamond Mode	4PH
Stop Time Over Preempt	.
Free Ring Sequence	1
Clearance Decide	.
Min Ped Clear Time	.
RingAlgo	0
User Input ABC	
	Value
Table - 1	
A-K	0
A-w	0
A-L	0
A-g	0
A-M	0
A-x	0
A-h	0
A-i	0
A-N	0
A-P	0
A-j	0
A-R	0
A_k	0
A-z	0
A-S	0
A_m	0
A-T	0
A-AA	0
A-BB	0
A-GG	0
A-EE	0
A-FF	0
A-v	0
A-f	0
B-V	0

ATTACHMENT D

User Input ABC	
	Value
B_n	0
B-U	0
B-z	0
B-T	0
B_m	0
B-S	0
B-k	0
B-j	0
B-R	0
B-P	0
B-i	0
B-N	0
B-h	0
B_x	0
B-M	0
C-X	0
C_r	0
C-W	0
C-V	0
C-U	0
C-q	0
C-T	0
C_p	0
C_v	0
C-EE	0
C-a	0
C_u	0
C-Z	0
C_t	0
C-Y	0
C_s	0
A_n	0
B-g	0
B-L	0
C-S	0
C-n	0

ATTACHMENT D

User Output ABC	
	Value
B-DD	0
B_b	0
B_w	0
B-Y	0
A-CC	0
A_t	0
A_u	0
B-CC	0
B_t	0
B_e	0
B-C	0
A-X	0
A_s	0
B-GG	0
B_s	0
B-H	0
B_p	0
A-H	0
A-Y	0
B-AA	0
B-E	0
B_d	0
B-A	0
A_c	0
A_r_	0
B-BB	0
B_a	0
B-J	0
B_q	0
A-G	0
A-DD	0
B-HH	0
B-F	0
B_u	0
B_r	0
C_i	0

ATTACHMENT D

User Output ABC	
	Value
C-DD	0
C_x	0
C-N	0
C-JJ	0
C-H	0
C-MM	0
C-D	0
C-CC	0
C_w	0
C_h	0
C-LL	0
C_e	0
C-M	0
C-HH	0
C-G	0
C-AA	0
C-C	0
C_k	0
C-J	0
C-E	0
C-PP	0
C-A	0
C-BB	0
C-FF	0
C_f	0
C_y	0
C_c	0
C-K	0
C-GG	0
C-F	0
C-KK	0
C-B	0
C_j	0
C-NN	0
C_g	0
C_z	0

ATTACHMENT D

User Output ABC											
	Value										
C_d	0										
C-L	0										

User Output D Map											
	1	2	3	4	5	6	7	8	9	10	11
Pin	0	0	0	0	0	0	0	0	0	0	0

Table - 1											
Pin	0	0	0	0	0	0	0	0	0	0	0

Vehicle Dets																		
	Table - 1	Volume	Occupancy	Yellow Lock	Red Lock	Extended	Added Initial	Queue	Call	Call Phase	Switch Phase	Delay Time	Extended Time	Queue Limit	No Activity	Max Presence	Erratic Counts	Fail Time
1		X	X	.	X	1	0	0	0	0	0	0	0	15
2		X	X	.	X	2	0	0	0	0	0	0	0	44
3		X	X	.	X	2	0	0	0	0	0	0	0	44
4		X	X	.	X	2	0	0	0	0	0	0	0	44
5		X	X	.	X	2	0	0	0	0	0	0	0	44
6		X	X	.	X	3	0	0	0	0	0	0	0	30
7		X	X	.	X	4	0	5	0	0	0	0	0	35
8		X	X	.	X	4	0	0	0	0	0	0	0	35
9		X	X	.	X	5	0	0	0	0	0	0	0	17
10		X	X	.	X	6	0	0	0	0	0	0	0	49
11		X	X	.	X	6	0	0	0	0	0	0	0	49
12		X	X	.	X	6	0	0	0	0	0	0	0	49
13		X	X	.	X	6	0	0	0	0	0	0	0	49
14		X	X	.	X	7	0	0	0	0	0	0	0	20
15		X	X	.	X	8	0	0	0	0	0	0	0	30
16		X	X	.	X	8	0	5	0	0	0	0	0	30
17		0	0	0	0	0	0	0	0	2
18		0	0	0	0	0	0	0	0	2
19		0	0	0	0	0	0	0	0	0
20		0	0	0	0	0	0	0	0	0
21		0	0	0	0	0	0	0	0	0
22		0	0	0	0	0	0	0	0	0
23		0	0	0	0	0	0	0	0	0
24		0	0	0	0	0	0	0	0	0
25		0	0	0	0	0	0	0	0	0

ATTACHMENT D

Vehicle Dets																		
	Table - 1	Volume	Occupancy	Yellow Lock	Red Lock	Extended	Added Initial	Queue	Call	Call Phase	Switch Phase	Delay Time	Extended Time	Queue Limit	No Activity	Max Presence	Erratic Counts	Fail Time
26		0	0	0	0	0	0	0	0	0
27		0	0	0	0	0	0	0	0	0
28		0	0	0	0	0	0	0	0	0
29		0	0	0	0	0	0	0	0	0
30		0	0	0	0	0	0	0	0	0
31		0	0	0	0	0	0	0	0	0
32		0	0	0	0	0	0	0	0	0
33		0	0	0	0	0	0	0	0	0
34		0	0	0	0	0	0	0	0	0
35		0	0	0	0	0	0	0	0	0
36		0	0	0	0	0	0	0	0	0
37		0	0	0	0	0	0	0	0	0
38		0	0	0	0	0	0	0	0	0
39		0	0	0	0	0	0	0	0	0
40		0	0	0	0	0	0	0	0	0
41		0	0	0	0	0	0	0	0	0
42		0	0	0	0	0	0	0	0	0
43		0	0	0	0	0	0	0	0	0
44		0	0	0	0	0	0	0	0	0
45		0	0	0	0	0	0	0	0	0
46		0	0	0	0	0	0	0	0	0
47		0	0	0	0	0	0	0	0	0
48		0	0	0	0	0	0	0	0	0
49		0	0	0	0	0	0	0	0	0
50		0	0	0	0	0	0	0	0	0
51		0	0	0	0	0	0	0	0	0
52		0	0	0	0	0	0	0	0	0
53		0	0	0	0	0	0	0	0	0
54		0	0	0	0	0	0	0	0	0
55		0	0	0	0	0	0	0	0	0
56		0	0	0	0	0	0	0	0	0
57		0	0	0	0	0	0	0	0	0
58		0	0	0	0	0	0	0	0	0
59		0	0	0	0	0	0	0	0	0

ATTACHMENT D

Vehicle Dets																		
	Table - 1	Volume	Occupancy	Yellow Lock	Red Lock	Extended	Added Initial	Queue	Call	Call Phase	Switch Phase	Delay Time	Extended Time	Queue Limit	No Activity	Max Presence	Erratic Counts	Fail Time
60		0	0	0	0	0	0	0	0	0
61		0	0	0	0	0	0	0	0	0
62		0	0	0	0	0	0	0	0	0
63		0	0	0	0	0	0	0	0	0
64		0	0	0	0	0	0	0	0	0
65		0	0	0	0	0	0	0	0	0
66		0	0	0	0	0	0	0	0	0
67		0	0	0	0	0	0	0	0	0
68		0	0	0	0	0	0	0	0	0
69		0	0	0	0	0	0	0	0	0
70		0	0	0	0	0	0	0	0	0
71		0	0	0	0	0	0	0	0	0
72		0	0	0	0	0	0	0	0	0
73		0	0	0	0	0	0	0	0	0
74		0	0	0	0	0	0	0	0	0
75		0	0	0	0	0	0	0	0	0
76		0	0	0	0	0	0	0	0	0
77		0	0	0	0	0	0	0	0	0
78		0	0	0	0	0	0	0	0	0
79		0	0	0	0	0	0	0	0	0
80		0	0	0	0	0	0	0	0	0
81		0	0	0	0	0	0	0	0	0
82		0	0	0	0	0	0	0	0	0
83		0	0	0	0	0	0	0	0	0
84		0	0	0	0	0	0	0	0	0
85		0	0	0	0	0	0	0	0	0
86		0	0	0	0	0	0	0	0	0
87		0	0	0	0	0	0	0	0	0
88		0	0	0	0	0	0	0	0	0
89		0	0	0	0	0	0	0	0	0
90		0	0	0	0	0	0	0	0	0
91		0	0	0	0	0	0	0	0	0
92		0	0	0	0	0	0	0	0	0
93		0	0	0	0	0	0	0	0	0

ATTACHMENT D

Vehicle Dets																		
	Table - 1	Volume	Occupancy	Yellow Lock	Red Lock	Extended	Added Initial	Queue	Call	Call Phase	Switch Phase	Delay Time	Extended Time	Queue Limit	No Activity	Max Presence	Erratic Counts	Fail Time
94		0	0	0	0	0	0	0	0	0
95		0	0	0	0	0	0	0	0	0
96		0	0	0	0	0	0	0	0	0
97		0	0	0	0	0	0	0	0	0
98		0	0	0	0	0	0	0	0	0
99		0	0	0	0	0	0	0	0	0
100		0	0	0	0	0	0	0	0	0
101		0	0	0	0	0	0	0	0	0
102		0	0	0	0	0	0	0	0	0
103		0	0	0	0	0	0	0	0	0
104		0	0	0	0	0	0	0	0	0
105		0	0	0	0	0	0	0	0	0
106		0	0	0	0	0	0	0	0	0
107		0	0	0	0	0	0	0	0	0
108		0	0	0	0	0	0	0	0	0
109		0	0	0	0	0	0	0	0	0
110		0	0	0	0	0	0	0	0	0
111		0	0	0	0	0	0	0	0	0
112		0	0	0	0	0	0	0	0	0
113		0	0	0	0	0	0	0	0	0
114		0	0	0	0	0	0	0	0	0
115		0	0	0	0	0	0	0	0	0
116		0	0	0	0	0	0	0	0	0
117		0	0	0	0	0	0	0	0	0
118		0	0	0	0	0	0	0	0	0
119		0	0	0	0	0	0	0	0	0
120		0	0	0	0	0	0	0	0	0
121		0	0	0	0	0	0	0	0	0
122		0	0	0	0	0	0	0	0	0
123		0	0	0	0	0	0	0	0	0
124		0	0	0	0	0	0	0	0	0
125		0	0	0	0	0	0	0	0	0
126		0	0	0	0	0	0	0	0	0
127		0	0	0	0	0	0	0	0	0
128		0	0	0	0	0	0	0	0	0

ATTACHMENT D

Vehicle Dets Alt																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Table - 1																
Volume	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yellow Lock	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Red Lock	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Extend	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Added Initial	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Queue	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Call	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Call Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Switch Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Extend Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Queue Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No Activity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Presence	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Erratic Cnt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fail Time	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Green Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yellow Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Red Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ext Mode	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
Delay Phase 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Phase 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Source	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Det Number	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 2																
Volume	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yellow Lock	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Red Lock	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Extend	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Added Initial	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Queue	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Call	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Call Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

ATTACHMENT D

Vehicle Dets Alt																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Switch Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Extend Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Queue Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No Activity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Presence	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Erratic Cnt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fail Time	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Green Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yellow Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Red Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Ext Mode	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM	NORM
Delay Phase 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Phase 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Source	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Det Number	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Table - 3																
Volume	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yellow Lock	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Red Lock	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Extend	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Added Initial	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Queue	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Call	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Call Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Switch Phase	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Extend Time	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Queue Limit	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
No Activity	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Max Presence	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Erratic Cnt	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Fail Time	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Green Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Yellow Occupancy	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.

ATTACHMENT D

Vehicle Dets Alt																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Red Occupancy
Ext Mode	NORM															
Delay Phase 1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Delay Phase 2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Source	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Det Number	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Vehicle Dets+								
	Table - 1	Green Occupancy	Yellow Occupancy	Red Occupancy	External Mode	Delay Phase 1	Delay Phase 2	Source
1		.	.	.	NORM	0	0	0
2		.	.	.	NORM	0	0	0
3		.	.	.	NORM	0	0	0
4		.	.	.	NORM	0	0	0
5		.	.	.	NORM	0	0	0
6		.	.	.	NORM	0	0	0
7		.	.	.	NORM	0	0	0
8		.	.	.	NORM	0	0	0
9		.	.	.	NORM	0	0	0
10		.	.	.	NORM	0	0	0
11		.	.	.	NORM	0	0	0
12		.	.	.	NORM	0	0	0
13		.	.	.	NORM	0	0	0
14		.	.	.	NORM	0	0	0
15		.	.	.	NORM	0	0	0
16		.	.	.	NORM	0	0	0
17		.	.	.	NORM	0	0	0
18		.	.	.	NORM	0	0	0
19		.	.	.	NORM	0	0	0
20		.	.	.	NORM	0	0	0
21		.	.	.	NORM	0	0	0
22		.	.	.	NORM	0	0	0
23		.	.	.	NORM	0	0	0
24		.	.	.	NORM	0	0	0
25		.	.	.	NORM	0	0	0
26		.	.	.	NORM	0	0	0
27		.	.	.	NORM	0	0	0

ATTACHMENT D

Vehicle Dets+								
	Table - 1	Green Occupancy	Yellow Occupancy	Red Occupancy	External Mode	Delay Phase 1	Delay Phase 2	Source
28		.	.	.	NORM	0	0	0
29		.	.	.	NORM	0	0	0
30		.	.	.	NORM	0	0	0
31		.	.	.	NORM	0	0	0
32		.	.	.	NORM	0	0	0
33		.	.	.	NORM	0	0	0
34		.	.	.	NORM	0	0	0
35		.	.	.	NORM	0	0	0
36		.	.	.	NORM	0	0	0
37		.	.	.	NORM	0	0	0
38		.	.	.	NORM	0	0	0
39		.	.	.	NORM	0	0	0
40		.	.	.	NORM	0	0	0
41		.	.	.	NORM	0	0	0
42		.	.	.	NORM	0	0	0
43		.	.	.	NORM	0	0	0
44		.	.	.	NORM	0	0	0
45		.	.	.	NORM	0	0	0
46		.	.	.	NORM	0	0	0
47		.	.	.	NORM	0	0	0
48		.	.	.	NORM	0	0	0
49		.	.	.	NORM	0	0	0
50		.	.	.	NORM	0	0	0
51		.	.	.	NORM	0	0	0
52		.	.	.	NORM	0	0	0
53		.	.	.	NORM	0	0	0
54		.	.	.	NORM	0	0	0
55		.	.	.	NORM	0	0	0
56		.	.	.	NORM	0	0	0
57		.	.	.	NORM	0	0	0
58		.	.	.	NORM	0	0	0
59		.	.	.	NORM	0	0	0
60		.	.	.	NORM	0	0	0
61		.	.	.	NORM	0	0	0
62		.	.	.	NORM	0	0	0

ATTACHMENT D

Vehicle Dets+								
	Table - 1	Green Occupancy	Yellow Occupancy	Red Occupancy	External Mode	Delay Phase 1	Delay Phase 2	Source
63		.	.	.	NORM	0	0	0
64		.	.	.	NORM	0	0	0
65		.	.	.	NORM	0	0	0
66		.	.	.	NORM	0	0	0
67		.	.	.	NORM	0	0	0
68		.	.	.	NORM	0	0	0
69		.	.	.	NORM	0	0	0
70		.	.	.	NORM	0	0	0
71		.	.	.	NORM	0	0	0
72		.	.	.	NORM	0	0	0
73		.	.	.	NORM	0	0	0
74		.	.	.	NORM	0	0	0
75		.	.	.	NORM	0	0	0
76		.	.	.	NORM	0	0	0
77		.	.	.	NORM	0	0	0
78		.	.	.	NORM	0	0	0
79		.	.	.	NORM	0	0	0
80		.	.	.	NORM	0	0	0
81		.	.	.	NORM	0	0	0
82		.	.	.	NORM	0	0	0
83		.	.	.	NORM	0	0	0
84		.	.	.	NORM	0	0	0
85		.	.	.	NORM	0	0	0
86		.	.	.	NORM	0	0	0
87		.	.	.	NORM	0	0	0
88		.	.	.	NORM	0	0	0
89		.	.	.	NORM	0	0	0
90		.	.	.	NORM	0	0	0
91		.	.	.	NORM	0	0	0
92		.	.	.	NORM	0	0	0
93		.	.	.	NORM	0	0	0
94		.	.	.	NORM	0	0	0
95		.	.	.	NORM	0	0	0
96		.	.	.	NORM	0	0	0
97		.	.	.	NORM	0	0	0

ATTACHMENT D

Vehicle Dets+								
	Table - 1	Green Occupancy	Yellow Occupancy	Red Occupancy	External Mode	Delay Phase 1	Delay Phase 2	Source
98		.	.	.	NORM	0	0	0
99		.	.	.	NORM	0	0	0
100		.	.	.	NORM	0	0	0
101		.	.	.	NORM	0	0	0
102		.	.	.	NORM	0	0	0
103		.	.	.	NORM	0	0	0
104		.	.	.	NORM	0	0	0
105		.	.	.	NORM	0	0	0
106		.	.	.	NORM	0	0	0
107		.	.	.	NORM	0	0	0
108		.	.	.	NORM	0	0	0
109		.	.	.	NORM	0	0	0
110		.	.	.	NORM	0	0	0
111		.	.	.	NORM	0	0	0
112		.	.	.	NORM	0	0	0
113		.	.	.	NORM	0	0	0
114		.	.	.	NORM	0	0	0
115		.	.	.	NORM	0	0	0
116		.	.	.	NORM	0	0	0
117		.	.	.	NORM	0	0	0
118		.	.	.	NORM	0	0	0
119		.	.	.	NORM	0	0	0
120		.	.	.	NORM	0	0	0
121		.	.	.	NORM	0	0	0
122		.	.	.	NORM	0	0	0
123		.	.	.	NORM	0	0	0
124		.	.	.	NORM	0	0	0
125		.	.	.	NORM	0	0	0
126		.	.	.	NORM	0	0	0
127		.	.	.	NORM	0	0	0
128		.	.	.	NORM	0	0	0

ATTACHMENT D



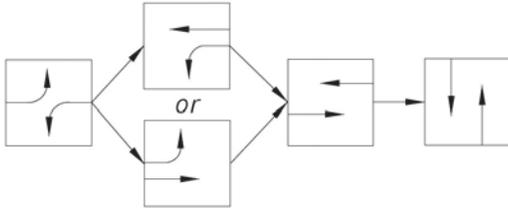
Marion County Office of the County Engineer

Signal ID	Major Street	Minor Street	Date	Technician
200	NW 60th Ave	NW 21st St	9/7/2022	Watson

Basic Timing

PHASE	Φ 1	Φ 2	Φ 3	Φ 4	Φ 5	Φ 6	Φ 7	Φ 8
DIRECTION	NBLT	SB		EB	SBLT	NB		WB
MIN GRN	7	15		8	7	15		8
GAP EXT	3.0	3.0		3.0	3.0	3.0		3.0
MAX 1	10	35		20	10	35		20
MAX 2								
YEL CLR	4.8	4.8		4.3	4.8	4.8		4.3
RED CLR	2.3	2.3		2.4	2.6	2.3		2.4
WALK								
PED CLR								
MIN RECALL		X				X		
MAX RECALL								
PED RECALL								
NON-LOCK CALL	X			X	X			X
DUAL ENTRY		X		X		X		X
NO SIMUL GAP	X			X	X			X
REST IN WALK								

Signal Operating Plan



Additional Notes (Turning Restrictions?, Overlaps?, Etc.)

- 1) Phase 1 switched with Phase 2.
- 2) Phase 5 switched with Phase 6.
- 3) 5.0 second delay on Phase 4 (Detector 4).

Coordination? Yes No

Splits for Coordination

Plan	Phase Number								Cycle Length	Offset
	1	2	3	4	5	6	7	8		

Weekday Schedule (Mon-Fri)

Plan	Start Time

Weekend Schedule (Sat-Sun)

Plan	Start Time

General Coordination Data

Coord Mode	Max Mode	Correction Mode	Offset Mode	Force Mode

ATTACHMENT D

Marion County Office of the County Engineer



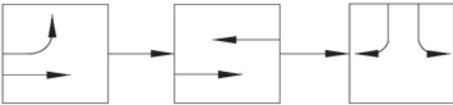
Field Notes

Signal ID	Major Street	Minor Street	Date	Technician
23	US 27	NW 60th Ave	7/17/2020	Watson

Basic Timing

PHASE	Φ 1	Φ 2	Φ 3	Φ 4	Φ 5	Φ 6	Φ 7	Φ 8
DIRECTION	WBLT	EB				WB		NB
MIN GRN	10	15				15		15
GAP EXT	4.0	5.0				5.0		5.0
MAX 1	25	65				65		35
MAX 2								
YEL CLR	5.5	5.6				5.5		4.8
RED CLR	3.1	2.0				2.0		4.1
WALK								
PED CLR								
MIN RECALL		X				X		
MAX RECALL								
PED RECALL								
NON-LOCK CALL	X							X
DUAL ENTRY								
REST IN WALK								

Signal Operating Plan



Additional Notes (Turning Restrictions?, Overlaps?, Etc.)

Coordination

Yes

No

Split	Movement Number								COMMENTS
	1	2	3	4	5	6	7	8	
1									
2									
3									

Time Patterns for Coordination

Appendix E: Existing Synchro Reports

ATTACHMENT D

HCM 7th Signalized Intersection Summary

1: NW 60th Avenue & SR 40

07/01/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	140	619	322	139	405	80	172	230	297	84	307	86
Future Volume (veh/h)	140	619	322	139	405	80	172	230	297	84	307	86
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1856	1841	1737	1796	1841	1885	1885	1796	1870	1781
Adj Flow Rate, veh/h	144	638	283	143	418	61	177	237	213	87	316	68
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	5	3	4	11	7	4	1	1	7	2	8
Cap, veh/h	384	935	423	300	884	407	338	377	324	268	457	97
Arrive On Green	0.08	0.27	0.27	0.08	0.27	0.27	0.11	0.21	0.21	0.06	0.16	0.16
Sat Flow, veh/h	1753	3469	1571	1753	3300	1521	1753	1819	1562	1711	2911	618
Grp Volume(v), veh/h	144	638	283	143	418	61	177	233	217	87	191	193
Grp Sat Flow(s),veh/h/ln	1753	1735	1571	1753	1650	1521	1753	1791	1591	1711	1777	1752
Q Serve(g_s), s	4.5	12.8	12.5	4.5	8.2	2.4	6.4	9.2	9.7	3.3	7.9	8.1
Cycle Q Clear(g_c), s	4.5	12.8	12.5	4.5	8.2	2.4	6.4	9.2	9.7	3.3	7.9	8.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.98	1.00		0.35
Lane Grp Cap(c), veh/h	384	935	423	300	884	407	338	371	329	268	279	275
V/C Ratio(X)	0.37	0.68	0.67	0.48	0.47	0.15	0.52	0.63	0.66	0.32	0.68	0.70
Avail Cap(c_a), veh/h	625	2136	967	544	2037	938	659	900	799	667	634	625
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.3	25.4	25.3	19.2	23.8	21.7	23.7	28.1	28.3	25.4	30.9	31.0
Incr Delay (d2), s/veh	0.6	0.9	1.8	1.2	0.4	0.2	1.3	1.8	2.2	0.7	3.0	3.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	8.9	8.2	3.3	5.6	1.5	4.8	7.2	6.8	2.4	6.3	6.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.9	26.3	27.1	20.3	24.2	21.8	24.9	29.8	30.5	26.1	33.9	34.2
LnGrp LOS	B	C	C	C	C	C	C	C	C	C	C	C
Approach Vol, veh/h		1065			622			627			471	
Approach Delay, s/veh		25.5			23.1			28.7			32.6	
Approach LOS		C			C			C			C	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	14.4	28.0	11.9	23.4	14.2	28.1	15.8	19.5				
Change Period (Y+Rc), s	* 7.9	* 7.2	7.3	7.3	7.8	7.2	* 7.2	7.3				
Max Green Setting (Gmax), s	* 17	* 48	22.7	39.0	17.2	47.8	* 23	27.7				
Max Q Clear Time (g_c+I1), s	6.5	10.2	5.3	11.7	6.5	14.8	8.4	10.1				
Green Ext Time (p_c), s	0.3	3.3	0.2	3.0	0.3	6.1	0.4	2.1				
Intersection Summary												
HCM 7th Control Delay, s/veh											26.9	
HCM 7th LOS											C	
Notes												
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.												

ATTACHMENT D

HCM 7th Signalized Intersection Summary 2: NW 60th Avenue /NW 60th Avenue & NW 21st Street

07/01/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (veh/h)	19	1	23	30	3	17	22	345	17	11	497	18
Future Volume (veh/h)	19	1	23	30	3	17	22	345	17	11	497	18
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No		No		No		No		No		No
Adj Sat Flow, veh/h/ln	1900	1900	1811	1900	1900	1693	1900	1811	1900	1767	1841	1500
Adj Flow Rate, veh/h	20	1	18	32	3	15	23	367	17	12	529	16
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	6	0	0	14	0	6	0	9	4	27
Cap, veh/h	193	39	89	231	40	57	443	1209	56	471	1215	37
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.04	0.36	0.36	0.02	0.35	0.35
Sat Flow, veh/h	535	318	731	762	324	466	1810	3349	155	1682	3466	105
Grp Volume(v), veh/h	39	0	0	50	0	0	23	188	196	12	267	278
Grp Sat Flow(s),veh/h/ln	1583	0	0	1552	0	0	1810	1721	1783	1682	1749	1822
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.3	3.4	3.4	0.2	5.0	5.0
Cycle Q Clear(g_c), s	0.9	0.0	0.0	1.1	0.0	0.0	0.3	3.4	3.4	0.2	5.0	5.0
Prop In Lane	0.51		0.46	0.64		0.30	1.00		0.09	1.00		0.06
Lane Grp Cap(c), veh/h	320	0	0	327	0	0	443	621	644	471	613	639
V/C Ratio(X)	0.12	0.00	0.00	0.15	0.00	0.00	0.05	0.30	0.30	0.03	0.44	0.44
Avail Cap(c_a), veh/h	841	0	0	842	0	0	795	1459	1513	827	1430	1490
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	0.0	17.0	0.0	0.0	8.4	9.8	9.8	8.6	10.7	10.7
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.0	0.0	0.3	0.3	0.0	0.5	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.6	0.0	0.0	0.7	0.0	0.0	0.2	1.9	1.9	0.1	2.9	3.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.0	0.0	0.0	17.2	0.0	0.0	8.4	10.1	10.1	8.6	11.1	11.1
LnGrp LOS	B			B			A	B	B	A	B	B
Approach Vol, veh/h		39			50			407			557	
Approach Delay, s/veh		17.0			17.2			10.0			11.1	
Approach LOS		B			B			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	22.1		11.9	8.3	22.5		11.9				
Change Period (Y+Rc), s	7.1	* 7.1		* 6.7	7.4	* 7.1		* 6.7				
Max Green Setting (Gmax), s	10	* 35		* 20	10.0	* 36		* 20				
Max Q Clear Time (g_c+1/2), s	12.3	7.0		2.9	2.2	5.4		3.1				
Green Ext Time (p_c), s	0.0	3.5		0.1	0.0	2.4		0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh		11.2
HCM 7th LOS		B

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

ATTACHMENT D

HCM 7th Signalized Intersection Summary 3: NW 60th Avenue & US 27

07/01/2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (veh/h)	533	202	285	488	105	267
Future Volume (veh/h)	533	202	285	488	105	267
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1707	1722	1900	1722	1811
Adj Flow Rate, veh/h	579	211	310	530	114	203
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	13	12	0	12	6
Cap, veh/h	797	290	416	2080	331	310
Arrive On Green	0.31	0.31	0.15	0.58	0.20	0.20
Sat Flow, veh/h	2688	943	1640	3705	1640	1535
Grp Volume(v), veh/h	403	387	310	530	114	203
Grp Sat Flow(s),veh/h/ln	1805	1730	1640	1805	1640	1535
Q Serve(g_s), s	14.8	14.8	8.9	5.4	4.4	9.0
Cycle Q Clear(g_c), s	14.8	14.8	8.9	5.4	4.4	9.0
Prop In Lane		0.54	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	555	532	416	2080	331	310
V/C Ratio(X)	0.73	0.73	0.75	0.25	0.34	0.66
Avail Cap(c_a), veh/h	1395	1338	527	4011	577	540
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.9	22.9	15.3	7.8	25.4	27.3
Incr Delay (d2), s/veh	1.8	1.9	4.3	0.1	0.6	2.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	10.3	10.0	6.2	3.3	3.1	6.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	24.7	24.9	19.7	7.9	26.0	29.6
LnGrp LOS	C	C	B	A	C	C
Approach Vol, veh/h	790			840	317	
Approach Delay, s/veh	24.8			12.2	28.3	
Approach LOS	C			B	C	
Timer - Assigned Phs	1	2		6	8	
Phs Duration (G+Y+Rc), s	19.9	30.4		50.4	23.9	
Change Period (Y+Rc), s	8.6	7.6		* 7.6	8.9	
Max Green Setting (Gmax), s	16.4	57.4		* 83	26.1	
Max Q Clear Time (g_c+I10), s	16.8			7.4	11.0	
Green Ext Time (p_c), s	0.5	6.0		4.1	0.9	

Intersection Summary						
HCM 7th Control Delay, s/veh			19.9			
HCM 7th LOS			B			

Notes
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

ATTACHMENT D

HCM 7th Signalized Intersection Summary

1: NW 60th Avenue & SR 40

07/01/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	87	627	157	286	825	86	329	384	110	64	285	118
Future Volume (veh/h)	87	627	157	286	825	86	329	384	110	64	285	118
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No			No			No		
Adj Sat Flow, veh/h/ln	1811	1826	1841	1870	1826	1633	1870	1885	1811	1737	1826	1796
Adj Flow Rate, veh/h	92	660	129	301	868	66	346	404	75	67	300	90
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	5	4	2	5	18	2	1	6	11	5	7
Cap, veh/h	228	859	386	370	1155	460	427	852	157	272	394	116
Arrive On Green	0.06	0.25	0.25	0.14	0.33	0.33	0.18	0.28	0.28	0.05	0.15	0.15
Sat Flow, veh/h	1725	3469	1558	1781	3469	1383	1781	3018	556	1654	2637	776
Grp Volume(v), veh/h	92	660	129	301	868	66	346	238	241	67	195	195
Grp Sat Flow(s),veh/h/ln	1725	1735	1558	1781	1735	1383	1781	1791	1782	1654	1735	1679
Q Serve(g_s), s	4.1	18.6	7.1	12.6	23.4	3.5	16.5	11.6	11.8	3.6	11.3	11.7
Cycle Q Clear(g_c), s	4.1	18.6	7.1	12.6	23.4	3.5	16.5	11.6	11.8	3.6	11.3	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.31	1.00		0.46
Lane Grp Cap(c), veh/h	228	859	386	370	1155	460	427	505	503	272	259	251
V/C Ratio(X)	0.40	0.77	0.33	0.81	0.75	0.14	0.81	0.47	0.48	0.25	0.75	0.78
Avail Cap(c_a), veh/h	414	1580	709	409	1583	631	493	665	662	553	458	443
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.1	36.7	32.4	25.2	31.2	24.5	28.9	31.2	31.3	35.4	42.8	43.0
Incr Delay (d2), s/veh	1.1	1.5	0.5	11.0	1.4	0.1	8.7	0.7	0.7	0.5	4.4	5.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	3.2	12.6	4.9	10.4	15.0	2.1	12.5	8.7	8.8	2.6	8.9	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	29.2	38.2	32.9	36.3	32.5	24.7	37.6	31.9	32.0	35.9	47.3	48.1
LnGrp LOS	C	D	C	D	C	C	D	C	C	D	D	D
Approach Vol, veh/h	881			1235			825			457		
Approach Delay, s/veh	36.5			33.0			34.3			46.0		
Approach LOS	D			C			C			D		
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	42.1	12.2	36.9	22.7	33.2	26.1	23.0				
Change Period (Y+Rc), s	* 7.9	* 7.2	7.3	7.3	7.8	7.2	* 7.2	7.3				
Max Green Setting (Gmax), s	* 17	* 48	22.7	39.0	17.2	47.8	* 23	27.7				
Max Q Clear Time (g_c+I1), s	6.1	25.4	5.6	13.8	14.6	20.6	18.5	13.7				
Green Ext Time (p_c), s	0.1	6.8	0.1	3.0	0.2	5.4	0.5	2.0				
Intersection Summary												
HCM 7th Control Delay, s/veh				36.0								
HCM 7th LOS				D								
Notes												
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.												

ATTACHMENT D

HCM 7th Signalized Intersection Summary 2: NW 60th Avenue/NW 60th Avenue & NW 21st Street

07/01/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	18	6	35	18	0	7	19	551	37	7	456	14
Future Volume (veh/h)	18	6	35	18	0	7	19	551	37	7	456	14
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1900	1900	1811	1900	1900	1811	1796	1900	1900	1811	1633
Adj Flow Rate, veh/h	20	7	31	20	0	6	21	605	38	8	501	12
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	6	0	0	6	0	0	6	7	0	0	6	18
Cap, veh/h	158	45	103	270	19	42	440	1198	75	375	1213	29
Arrive On Green	0.12	0.12	0.12	0.12	0.00	0.12	0.04	0.37	0.37	0.01	0.35	0.35
Sat Flow, veh/h	374	380	866	1017	163	354	1725	3261	205	1810	3435	82
Grp Volume(v), veh/h	58	0	0	26	0	0	21	316	327	8	251	262
Grp Sat Flow(s),veh/h/ln	1619	0	0	1535	0	0	1725	1706	1759	1810	1721	1796
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.3	6.1	6.1	0.1	4.7	4.7
Cycle Q Clear(g_c), s	1.3	0.0	0.0	0.5	0.0	0.0	0.3	6.1	6.1	0.1	4.7	4.7
Prop In Lane	0.34		0.53	0.77		0.23	1.00		0.12	1.00		0.05
Lane Grp Cap(c), veh/h	306	0	0	332	0	0	440	627	647	375	608	634
V/C Ratio(X)	0.19	0.00	0.00	0.08	0.00	0.00	0.05	0.50	0.51	0.02	0.41	0.41
Avail Cap(c_a), veh/h	859	0	0	837	0	0	784	1459	1504	774	1418	1480
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.1	0.0	0.0	16.7	0.0	0.0	8.3	10.4	10.4	8.9	10.4	10.4
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.0	0.0	0.0	0.6	0.6	0.0	0.4	0.4
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh	10.9	0.0	0.0	0.4	0.0	0.0	0.2	3.4	3.5	0.1	2.6	2.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.4	0.0	0.0	16.8	0.0	0.0	8.3	11.1	11.0	8.9	10.8	10.8
LnGrp LOS	B			B			A	B	B	A	B	B
Approach Vol, veh/h		58			26			664			521	
Approach Delay, s/veh		17.4			16.8			11.0			10.8	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.6	22.1		11.7	8.0	22.7		11.7				
Change Period (Y+Rc), s	7.1	* 7.1		* 6.7	7.4	* 7.1		* 6.7				
Max Green Setting (Gmax), s	10	* 35		* 20	10.0	* 36		* 20				
Max Q Clear Time (g_c+1/2), s	12.3	6.7		3.3	2.1	8.1		2.5				
Green Ext Time (p_c), s	0.0	3.3		0.2	0.0	4.3		0.1				

Intersection Summary		
HCM 7th Control Delay, s/veh		11.3
HCM 7th LOS		B

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

ATTACHMENT D

HCM 7th Signalized Intersection Summary 3: NW 60th Avenue & US 27

07/01/2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖	↑↑	↖	↖
Traffic Volume (veh/h)	476	153	300	824	211	370
Future Volume (veh/h)	476	153	300	824	211	370
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1707	1648	1826	1900	1826	1796
Adj Flow Rate, veh/h	506	154	319	877	224	333
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	13	17	5	0	5	7
Cap, veh/h	678	205	424	1946	437	382
Arrive On Green	0.28	0.28	0.15	0.54	0.25	0.25
Sat Flow, veh/h	2538	743	1739	3705	1739	1522
Grp Volume(v), veh/h	334	326	319	877	224	333
Grp Sat Flow(s),veh/h/ln	1622	1574	1739	1805	1739	1522
Q Serve(g_s), s	14.7	14.9	9.6	11.6	8.7	16.5
Cycle Q Clear(g_c), s	14.7	14.9	9.6	11.6	8.7	16.5
Prop In Lane		0.47	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	448	435	424	1946	437	382
V/C Ratio(X)	0.74	0.75	0.75	0.45	0.51	0.87
Avail Cap(c_a), veh/h	1184	1149	520	3787	577	505
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.9	26.0	17.2	11.0	25.3	28.2
Incr Delay (d2), s/veh	2.5	2.6	4.9	0.2	0.9	12.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	9.7	9.5	7.3	7.6	6.4	11.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	28.4	28.6	22.0	11.2	26.2	40.5
LnGrp LOS	C	C	C	B	C	D
Approach Vol, veh/h	660			1196	557	
Approach Delay, s/veh	28.5			14.1	34.7	
Approach LOS	C			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	30.7	29.3			50.0	28.6
Change Period (Y+Rc), s	8.6	7.6			* 7.6	8.9
Max Green Setting (Gmax), s	16.4	57.4			* 83	26.1
Max Q Clear Time (g_c+I1), s	16.9	16.9			13.6	18.5
Green Ext Time (p_c), s	0.4	4.8			7.9	1.3

Intersection Summary						
HCM 7th Control Delay, s/veh			22.8			
HCM 7th LOS			C			

Notes
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Appendix F:
Volume Development Spreadsheet

ATTACHMENT D

AM Peak Hour

		Eastbound			Westbound			Northbound			Southbound		
		L	T	R	L	T	R	L	T	R	L	T	R
NW 60th Avenue at SR 40	Raw Volume	140	619	322	139	405	80	172	230	297	84	307	86
	Existing	140	619	322	139	405	80	172	230	297	84	307	86
	Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Future background	157	693	361	156	454	90	193	258	333	94	344	96
	Vested Trip	0	0	0	0	0	0	0	27	0	0	29	0
	Background + Vested	157	693	361	156	454	90	193	285	333	94	373	96
	Project	2	0	0	0	0	8	0	6	0	22	19	6
	Total Volume	159	693	361	156	454	98	193	291	333	116	392	102
NW 60th Avenue at NW 21st Avenue	Raw Volume	19	1	23	30	3	17	22	345	17	11	497	18
	Existing	19	1	23	30	3	17	22	345	17	11	497	18
	Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Future background	21	1	26	34	3	19	25	386	19	12	557	20
	Vested Trip	0	0	0	0	0	0	0	27	0	0	29	0
	Background + Vested	21	1	26	34	3	19	25	413	19	12	586	20
	Project	0	0	0	0	0	0	0	16	0	55	47	0
	Total Volume	21	1	26	34	3	19	25	429	19	67	633	20
NW 60th Avenue at US 27	Raw Volume	0	533	202	285	488	0	105	0	267	0	0	0
	Existing	0	533	202	285	488	0	105	0	267	0	0	0
	Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Future background	0	597	226	319	547	0	118	0	299	0	0	0
	Vested Trip	0	57	0	29	62	0	0	0	27	0	0	0
	Background + Vested	0	654	226	348	609	0	118	0	326	0	0	0
	Project	0	0	5	20	0	0	15	0	61	0	0	0
	Total Volume	0	654	231	368	609	0	133	0	387	0	0	0

ATTACHMENT D

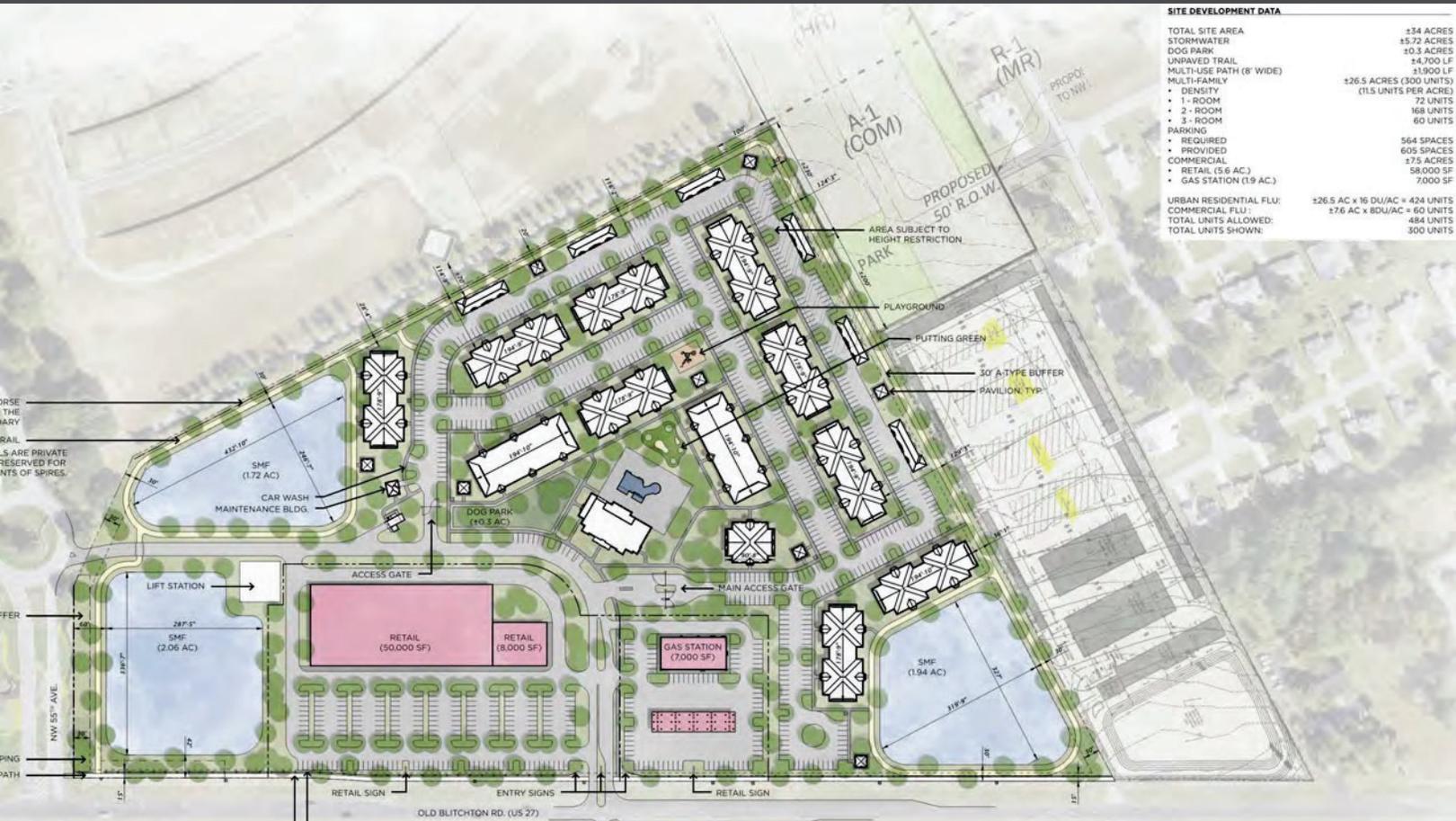
PM Peak Hour

		Eastbound			Westbound			Northbound			Southbound		
		L	T	R	L	T	R	L	T	R	L	T	R
NW 60th Avenue at SR 40	Raw Volume	87	627	157	286	825	86	329	384	110	64	285	118
	Existing	87	627	157	286	825	86	329	384	110	64	285	118
	Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Future background	97	702	176	320	924	96	368	430	123	72	319	132
	Vested Trip	0	0	0	0	0	0	0	35	0	0	33	0
	Background + Vested	97	702	176	320	924	96	368	465	123	72	352	132
	Project	7	0	0	0	0	26	0	21	0	15	13	4
	Total Volume	104	702	176	320	924	122	368	486	123	87	365	136
NW 60th Avenue at NW 21st Avenue	Raw Volume	18	6	35	18	0	7	19	551	37	7	456	14
	Existing	18	6	35	18	0	7	19	551	37	7	456	14
	Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Future background	20	7	39	20	0	8	21	617	41	8	511	16
	Vested Trip	0	0	0	0	0	0	0	35	0	0	33	0
	Background + Vested	20	7	39	20	0	8	21	652	41	8	544	16
	Project	0	0	0	0	0	1	0	54	0	37	32	0
	Total Volume	20	7	39	20	0	9	21	706	41	45	576	16
NW 60th Avenue at US 27	Raw Volume	0	476	153	300	824	0	211	0	370	0	0	0
	Existing	0	476	153	300	824	0	211	0	370	0	0	0
	Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Future background	0	533	171	336	923	0	236	0	414	0	0	0
	Vested Trip	0	76	0	33	71	0	0	0	35	0	0	0
	Background + Vested	0	609	171	369	994	0	236	0	449	0	0	0
	Project	0	0	17	70	0	0	10	0	41	0	0	0
	Total Volume	0	609	188	439	994	0	246	0	490	0	0	0

Appendix G: Vested Developments

Traffic Impact Analysis

Spires 27



SITE DEVELOPMENT DATA	
TOTAL SITE AREA	±34 ACRES
STORMWATER	±5.72 ACRES
DOG PARK	±0.3 ACRES
UNPAVED TRAIL	±4,700 LF
MULTI-USE PATH (8' WIDE)	±1,900 LF
MULTI-FAMILY	±26.5 ACRES (300 UNITS)
• DENSITY	(11.5 UNITS PER ACRE)
• 1 - ROOM	72 UNITS
• 2 - ROOM	168 UNITS
• 3 - ROOM	60 UNITS
PARKING	564 SPACES
• REQUIRED	605 SPACES
• PROVIDED	175 ACRES
COMMERCIAL	58,000 SF
• RETAIL (5.6 AC.)	7,000 SF
• GAS STATION (1.9 AC.)	
URBAN RESIDENTIAL FLU:	±26.5 AC x 16 DU/AC = 424 UNITS
COMMERCIAL FLU:	±7.6 AC x 8DU/AC = 60 UNITS
TOTAL UNITS ALLOWED:	484 UNITS
TOTAL UNITS SHOWN:	300 UNITS

Date: 7/19/2022
 PN#: 21-0412
 PM: Brian Snyder, PE

Prepared For: Davis Companies

Submitted To: Marion County

CHW
 11801 Research Drive
 Alachua, FL 32615

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1. INTRODUCTION

CHW has prepared the following Traffic Impact Analysis (TIA) for the proposed Spires 27 site located on the northside of US HWY 27 on the east side of the Ocala Preserve Development in Marion County, Florida. The concept for this site is provided in **Appendix A**.

The purpose of the study is to determine whether the traffic impacts from the project cause deficiencies to the transportation network and to determine and recommend mitigation strategies to correct the deficiencies. The TIA is required by Marion County and FDOT and is being prepared for Davis Companies.

The following developments are being proposed at this site, with an anticipated 2031 build-out:

- 300 dwelling units of Multifamily Housing (Mid-Rise);
- 58,000 SF of Shopping Center, and
- Super Convenience Market with Gasoline Pumps, 20 fueling positions.

The following site access type and locations are being proposed:

- Directional median opening access on US HWY 27, restricting southbound lefts, located approximately 1,030 feet east of NW 55th Avenue; and
- Connection to the roundabout on NW 55th Avenue, approximately 470 feet north of US HWY 27.

The report is consistent with the *Marion County Traffic Impact Analysis Guidelines* and in conformance with the methodology letter dated July 12, 2022, provided in **Appendix B**.

Based on the analysis results, the following transportation improvements are recommended to support the project traffic

- An eastbound left-turn lane 480 FT in length at the US HWY 27/Proposed Site Access intersection;
- A westbound right-turn lane 405 FT in length at the US HWY 27/Proposed Site Access intersection;
- A westbound left-turn lane 605 FT in length at the US HWY 27/NW 55th Avenue intersection; and
- Adjust the signal timings at the US HWY 27/NW 60th Avenue intersection by providing additional green time to the westbound left-turn movement, as provided in Section 4.3.

2. EXISTING CONDITIONS ANALYSIS

2.1. Intersection Study Area

CHW coordinated with Marion County and agreed that the following intersections will be significantly impacted by the project trips. The study area intersections are provided in **Figure 1**.

- US HWY 27/NW 60th Avenue intersection;
- US HWY 27/NW 55th Avenue intersection;
- US HWY 27/Proposed Site Access intersection;
- US HWY 27/Town & County Animal Hospital driveway intersection;
- US HWY 27/NW 49th Avenue intersection; and
- US HWY 27/NW 44th Avenue intersection.

Figure 2: Existing Turning Movements

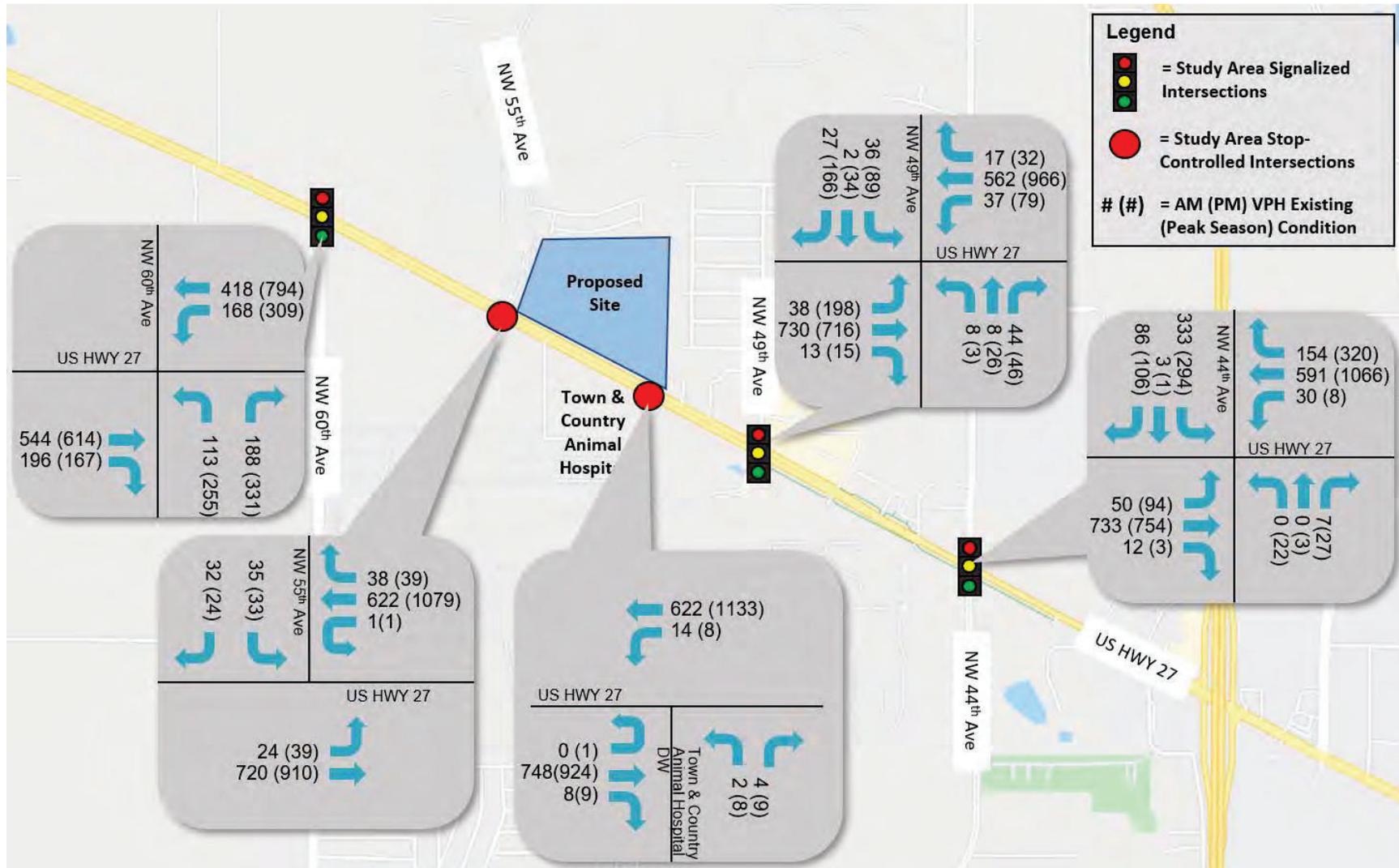


Figure 3: Background Turning Movements

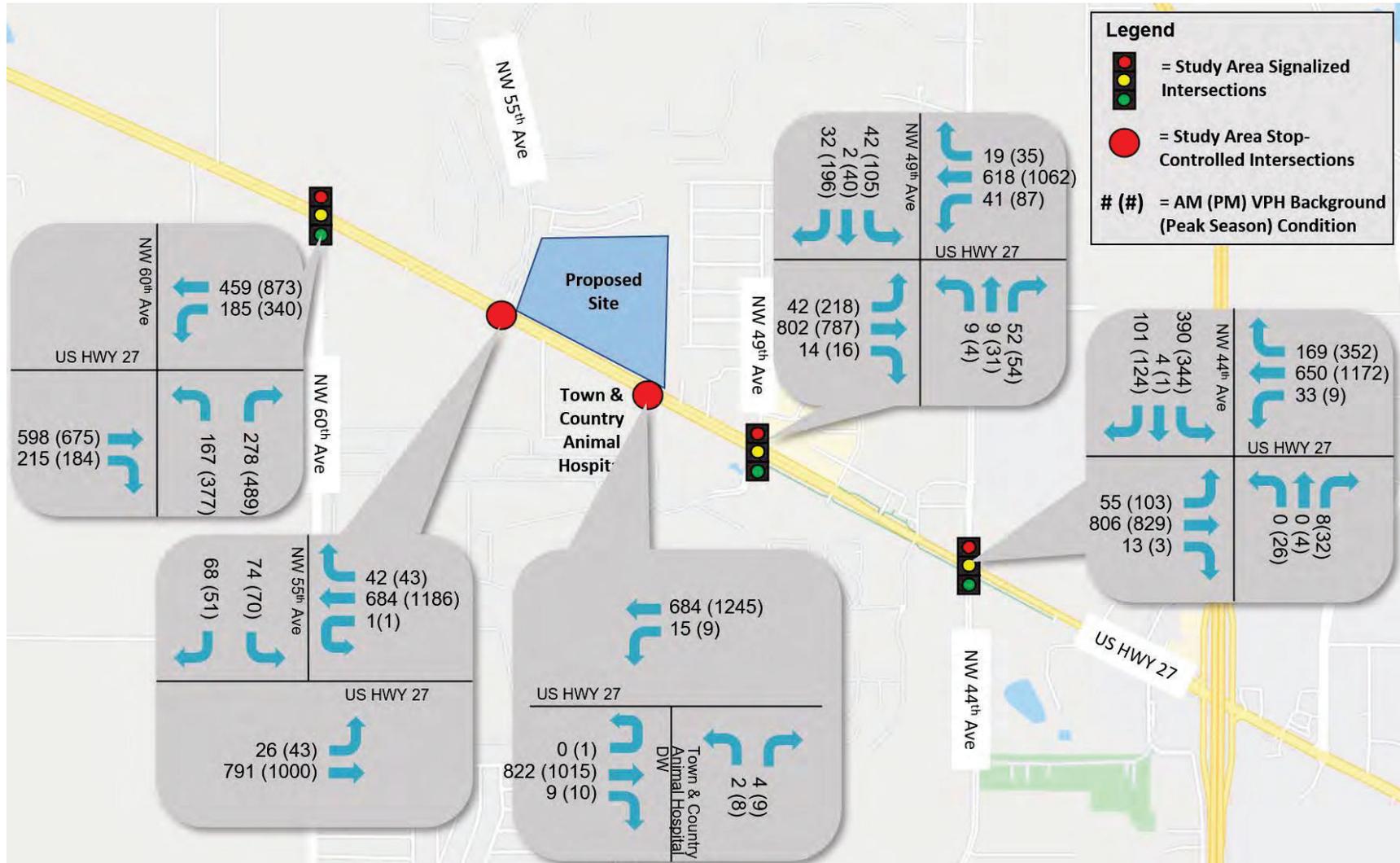
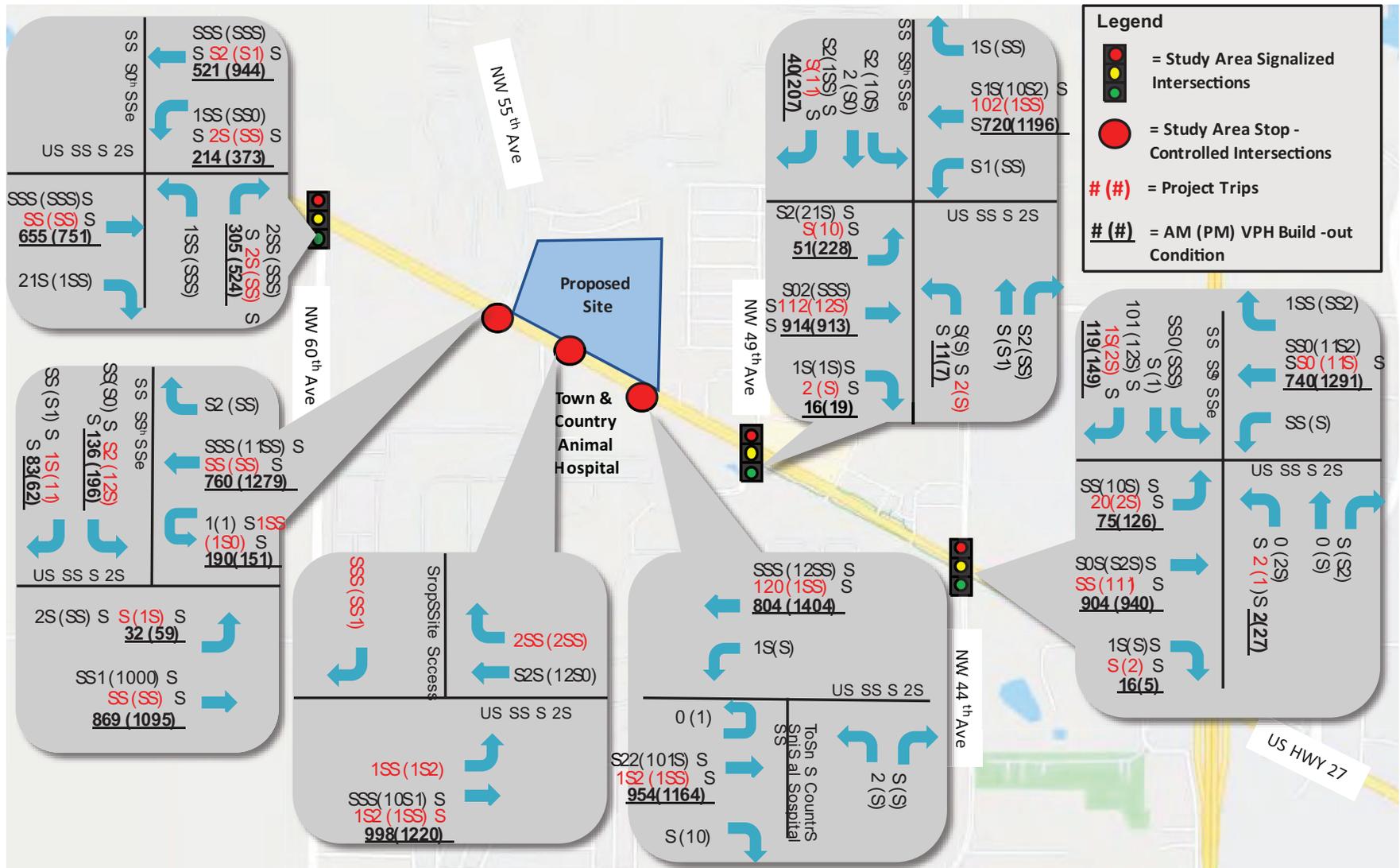


Figure 4: Build-out Turning Movements



5. CONCLUSION AND RECOMMENDATIONS

This TIA evaluated the access spacing in accordance with FDOT access management standards and determined the project site connections as proposed, to be appropriate.

A signal warrant was performed at the US HWY 27/NW 55th Avenue intersection, indicating that a traffic signal is warranted at the intersection during full buildout. It is recommended that a signal warrant analysis is performed by Ocala Preserve or Marion County in the year 2024 when warrant 1 condition B is forecasted to be met. Warrant 1 condition B is met when the US HWY 27 combined approaching traffic volumes exceed 630 VPH and the NW 55th Avenue approaching traffic volumes exceed 70 VPH during the same 8 hours.

The roadway segment level of service analysis indicated that the added project trips do not cause any roadway to operate with volumes exceeding the maximum service volume.

Based on the turn lane warrant analysis and the intersection analysis results, the following transportation improvements are recommended to support the project traffic

- An eastbound left-turn lane 480 FT in length at the US HWY 27/Proposed Site Access intersection;
- A westbound right-turn lane 405 FT in length at the US HWY 27/Proposed Site Access intersection;
- A westbound left-turn lane 605 FT in length at the US HWY 27/NW 55th Avenue intersection; and
- **Adjust the signal timings at the US HWY 27/NW 60th Avenue intersection by providing additional green time to the westbound left-turn movement, as provided in Section 4.3.**

Data Collection

Turning movement counts were collected to perform the intersection analysis, and to determine the trip distribution. Turning movement counts were collected during the Marion County school semester. The counts include pedestrians, trucks, and passenger vehicles. The counts were collected at the following intersections during the following time periods:

- US HWY 27 at NW 60th Avenue (7:00 to 9:00 AM and 4:00 to 6:00 PM)
- US HWY 27 at NW 55th Avenue (6:00 AM to 8:00 PM)
- US HWY 27 at the Town & the Country Animal Hospital driveway (7:00 to 9:00 AM and 4:00 to 6:00 PM)
- US HWY 27 at NW 49th Avenue (7:00 to 9:00 AM and 4:00 to 6:00 PM)
- US HWY 27 at NW 44th Avenue (7:00 to 9:00 AM and 4:00 to 6:00 PM)

Background Traffic Volumes

A peak season factor will be applied to the count data based on peak season data provided by FDOT Traffic Online. Background volumes will be forecasted for the project build-out of 2031 based on the historical growth rates listed below with documentation of the growth rates provided in **Attachment B**. Where available, ADT provided in the *2021 Ocala/Marion County TPO Traffic Counts Report* was used. A 2% minimum growth rate was applied where historic ADT was not available. The growth rate at NW 55th Avenue was calculated based on the observed build-out of Ocala Preserve.

- US 27- 0.6 miles NW of I-75: 1.10%
- NW 60th Avenue – N of SR 40: 5.30%
- NW 55th Avenue – Ocala Preserve: 12.5%
- NW 49th Avenue: 2.00%
- NW 44th Avenue – N of US 27: 1.90%

Trip Distribution

The project trip distribution is expected to mimic the trip distribution at the adjacent Ocala Preserve Development. The turning movement counts at US HWY 27 and NW 55th Avenue were used to determine the project trip directional distribution along US HWY 27. At the external US HWY 27 intersections with NW 60th Avenue, NW 49th Avenue, and NW 44th Avenue, the project trip distribution will be based on the turning movement count data and information provided by Marion County regarding existing land uses at these intersections.

The trip distribution calculations are provided in **Attachment C**.

The trip distribution percentages are listed below:

- NW 60th Ave from SR 40 to US HWY 27: 13%
- US 27 from CR 225A to NW 60th Ave: 28%
- US 27 from NW 60th Ave to NW 49th Ave: 41% west of site and 59% east of site
- US 27 from NW 49th Ave to NW 44th Ave: 50%
- US 27 from NW 44th Ave to I-75: 44%
- NW 49th Ave north of US 27: 8% 4%
- NW 49th Ave south of US 27: 1%
- NW 44th Ave north of US 27: 5% 9%
- NW 49th Ave south of US 27: 1%

Analysis

The analysis will be performed at the intersections and segments provided in the study area under the following scenarios during the AM and PM peak hours:

- Existing (peak season) conditions;
- Background conditions;
- Build-out conditions; and
- Build-out with improvements, if applicable.

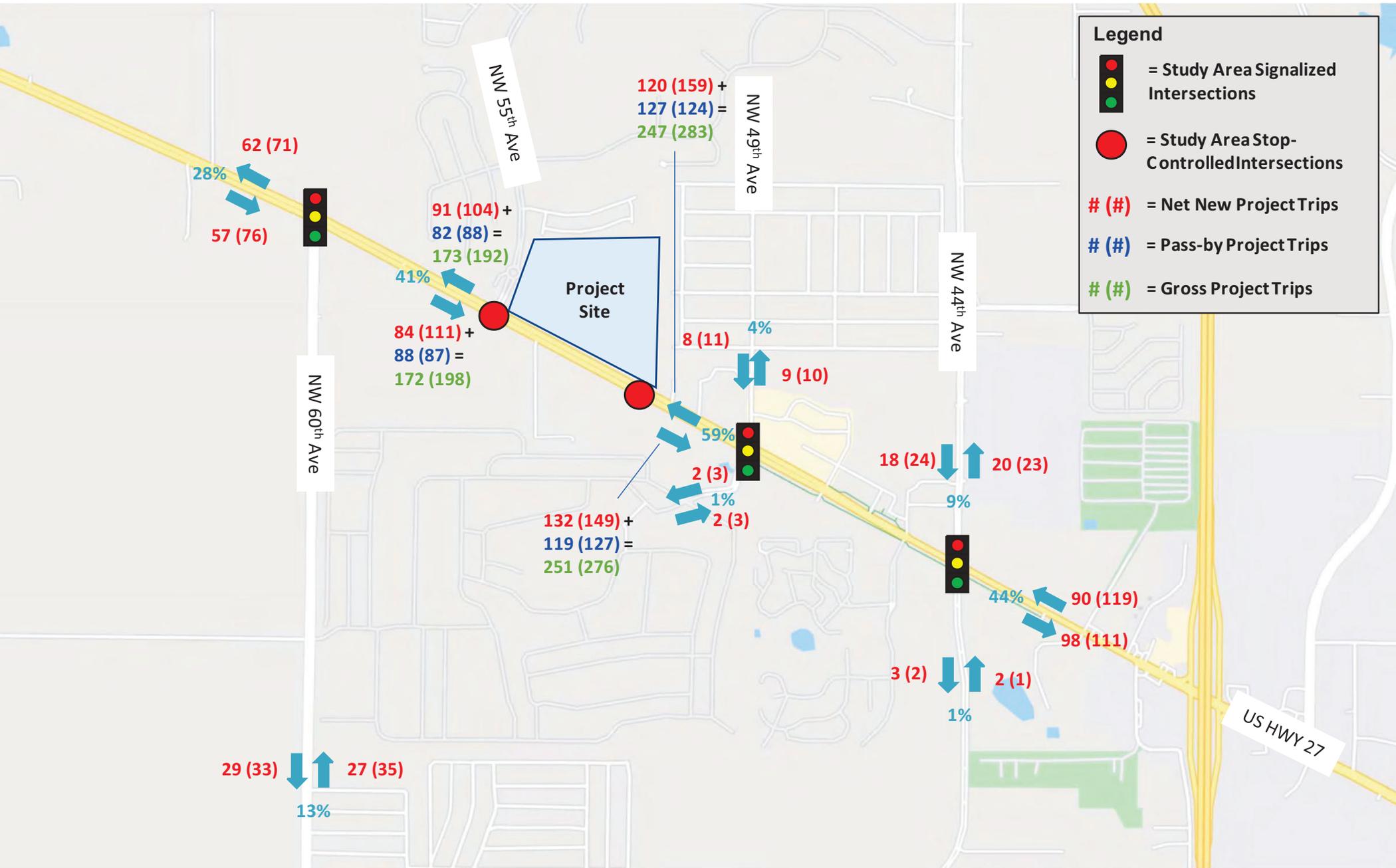
A signal warrant analysis will be performed at the intersection of US 27 at NW 55th Avenue during the build-out condition in accordance with the Manual on Uniform Traffic Control Devices. If a traffic signal is warranted during the build-out condition, an estimation of the traffic volume and corresponding year when the traffic signal is warranted will be determined.

The intersection operation analysis will review the delay, LOS, V/C, and 95th percentile queue length of each intersection movement as well as the intersection as a whole. The signalized intersections will be analyzed using Synchro 11 and the non-signalized intersections will be analyzed using HCS 7. The reports will be provided in the appendices.

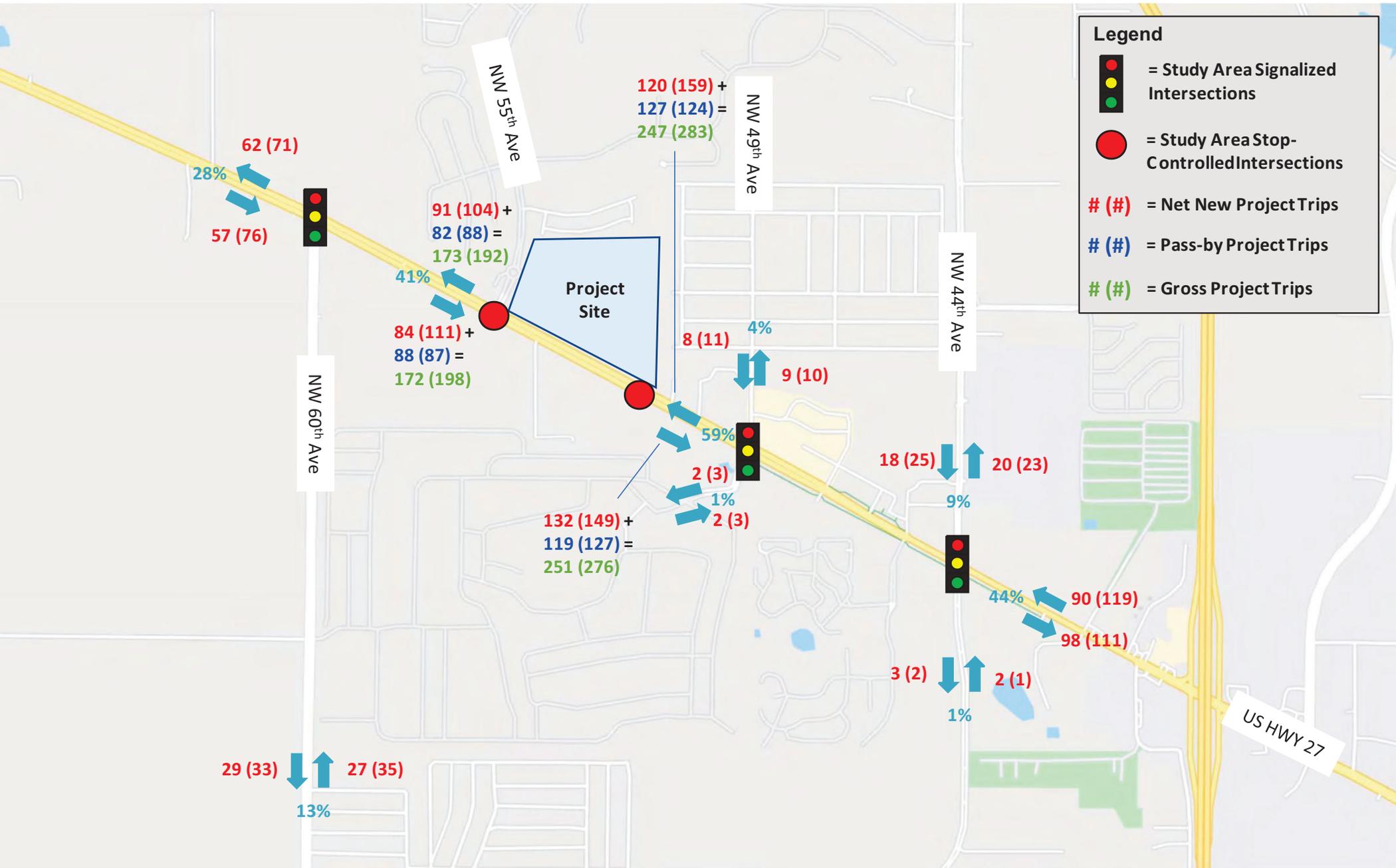
The roadway segment LOS analysis will be based on directional volumes. Directional traffic volumes from FDOT Traffic Online will be the base volumes used to derive the existing (peak season) volumes and the background traffic volumes used in the roadway segment LOS analysis. Traffic volumes from FDOT Traffic Online will also be used to determine the directional project traffic volumes along the roadway network outside of the immediate study area.

Access management will be reviewed for the proposed directional median opening and adjacent full median openings, based on FDOT spacing standards. The Traffic Study will provide recommendations regarding the access type and location.

ATTACHMENT D



ATTACHMENT D



ATTACHMENT D

Westbound Inbound Trips – Assume 100% of these trips enter at directional access

Eastbound Inbound Trips – Assume 100% of retail and gas station trips enter at the directional access. 50% enter at 55th and 50% enter at the directional access

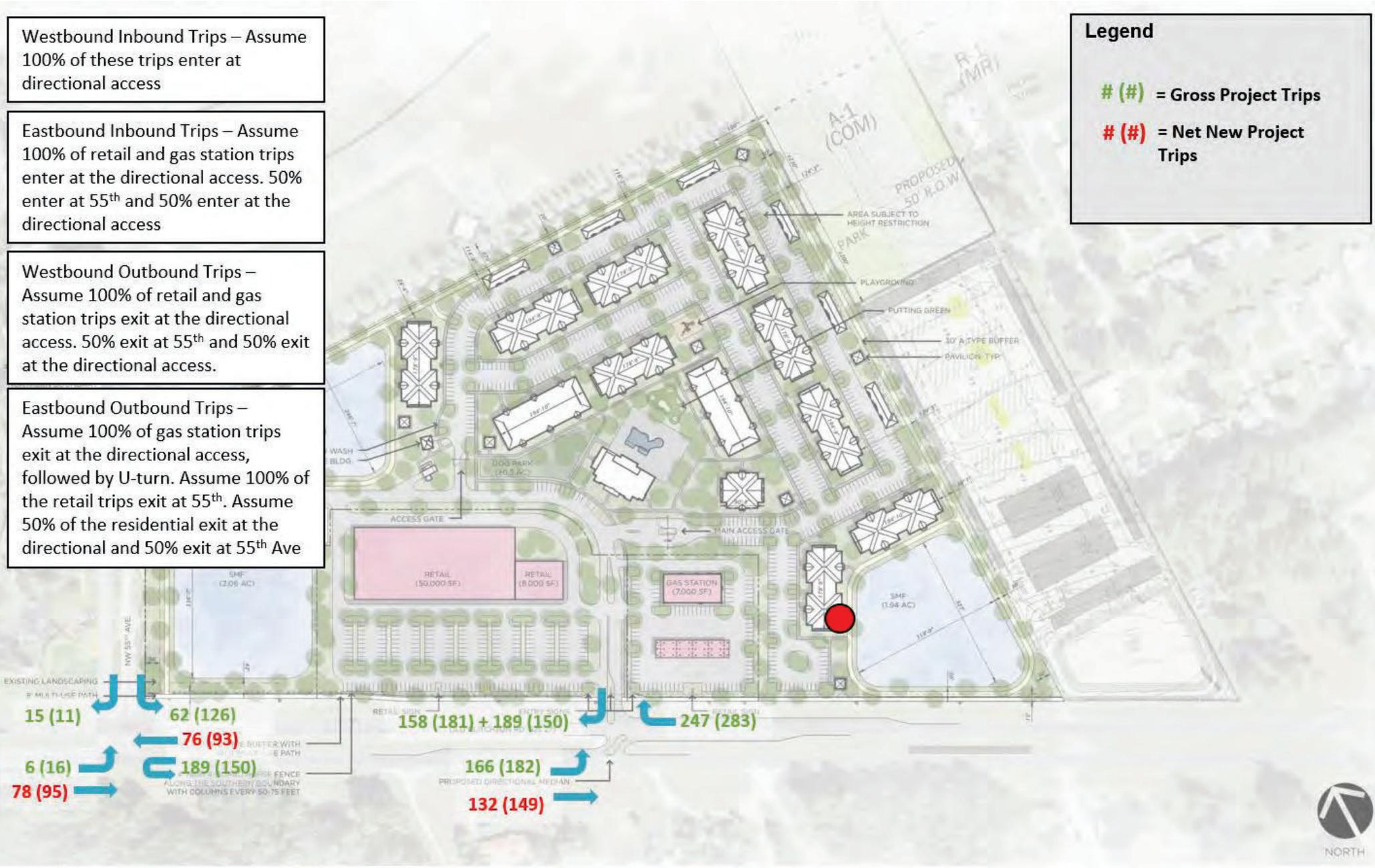
Westbound Outbound Trips – Assume 100% of retail and gas station trips exit at the directional access. 50% exit at 55th and 50% exit at the directional access.

Eastbound Outbound Trips – Assume 100% of gas station trips exit at the directional access, followed by U-turn. Assume 100% of the retail trips exit at 55th. Assume 50% of the residential exit at the directional and 50% exit at 55th Ave

Legend

(#) = Gross Project Trips

(#) = Net New Project Trips



15 (11) ←

62 (126) ←

6 (16) ←

78 (95) ←

76 (93) ←

189 (150) ←

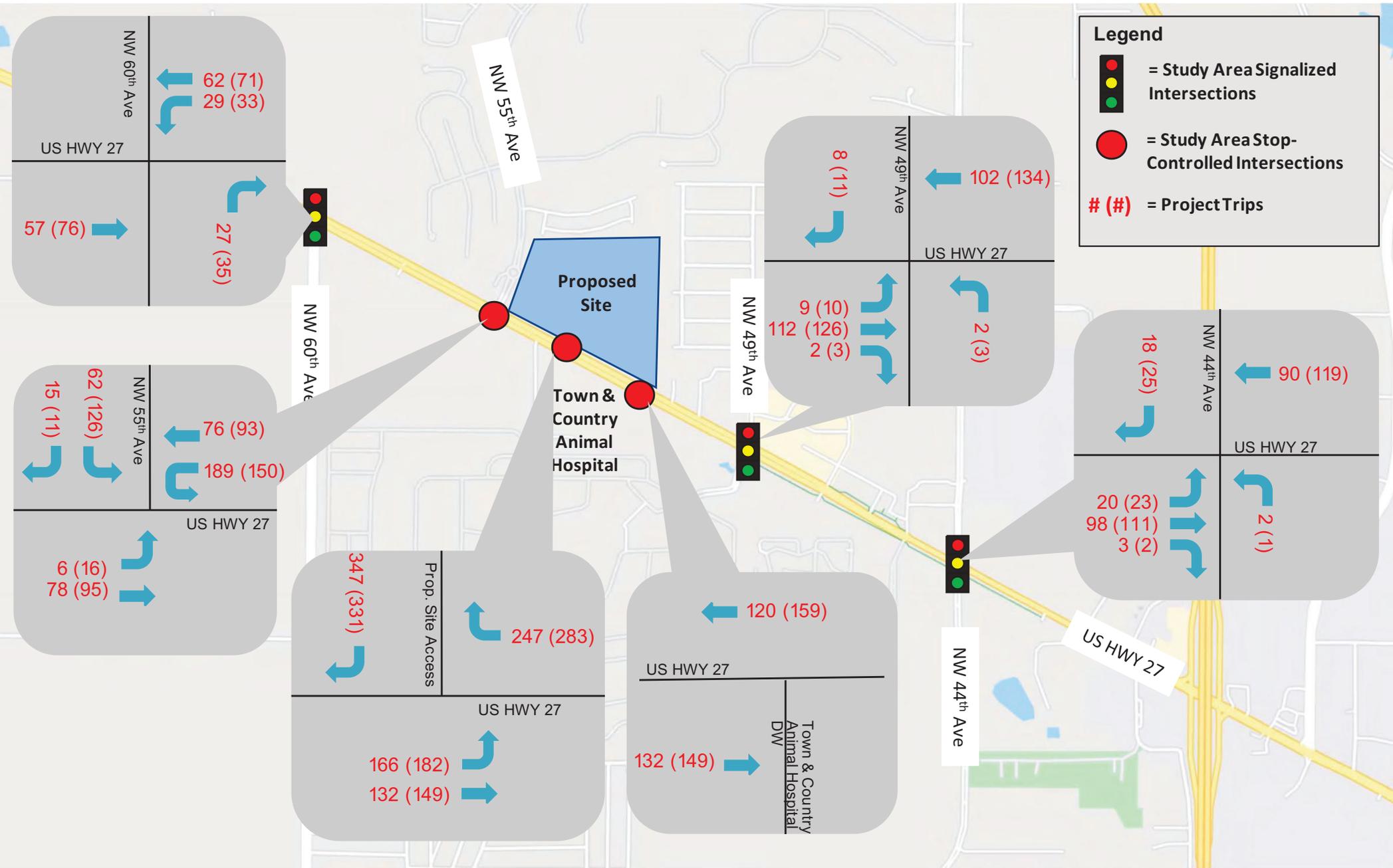
158 (181) + 189 (150) ←

247 (283) ←

166 (182) ←

132 (149) ←

ATTACHMENT D



Appendix H:
ITE Trip Generation Summary Sheets

ATTACHMENT D Single-Family Detached Housing (210)

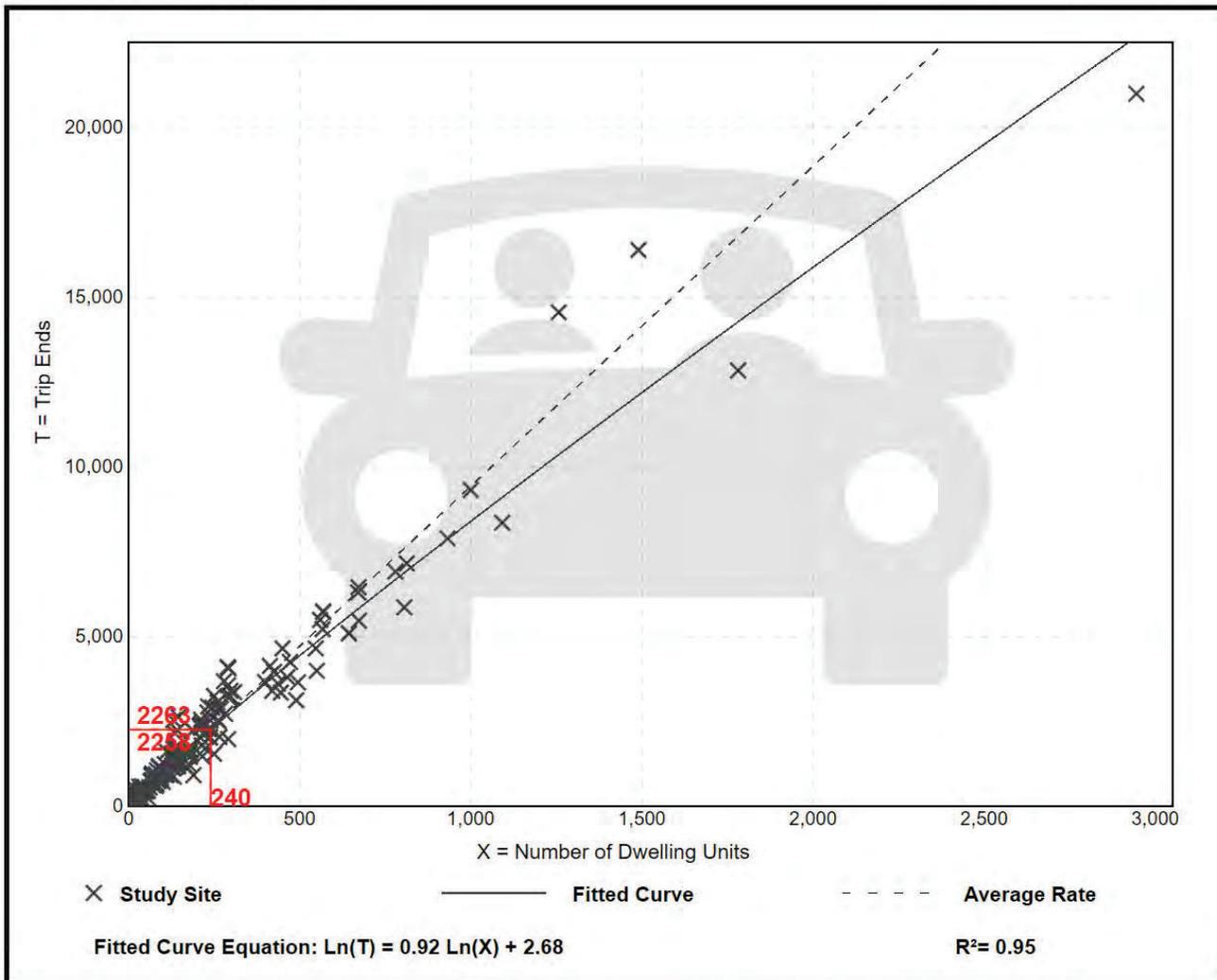
Vehicle Trip Ends vs: Dwelling Units
On a: Weekday

Setting/Location: General Urban/Suburban
Number of Studies: 174
Avg. Num. of Dwelling Units: 246
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
9.43	4.45 - 22.61	2.13

Data Plot and Equation



ATTACHMENT D
Single-Family Detached Housing
(210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.

Setting/Location: General Urban/Suburban

Number of Studies: 192

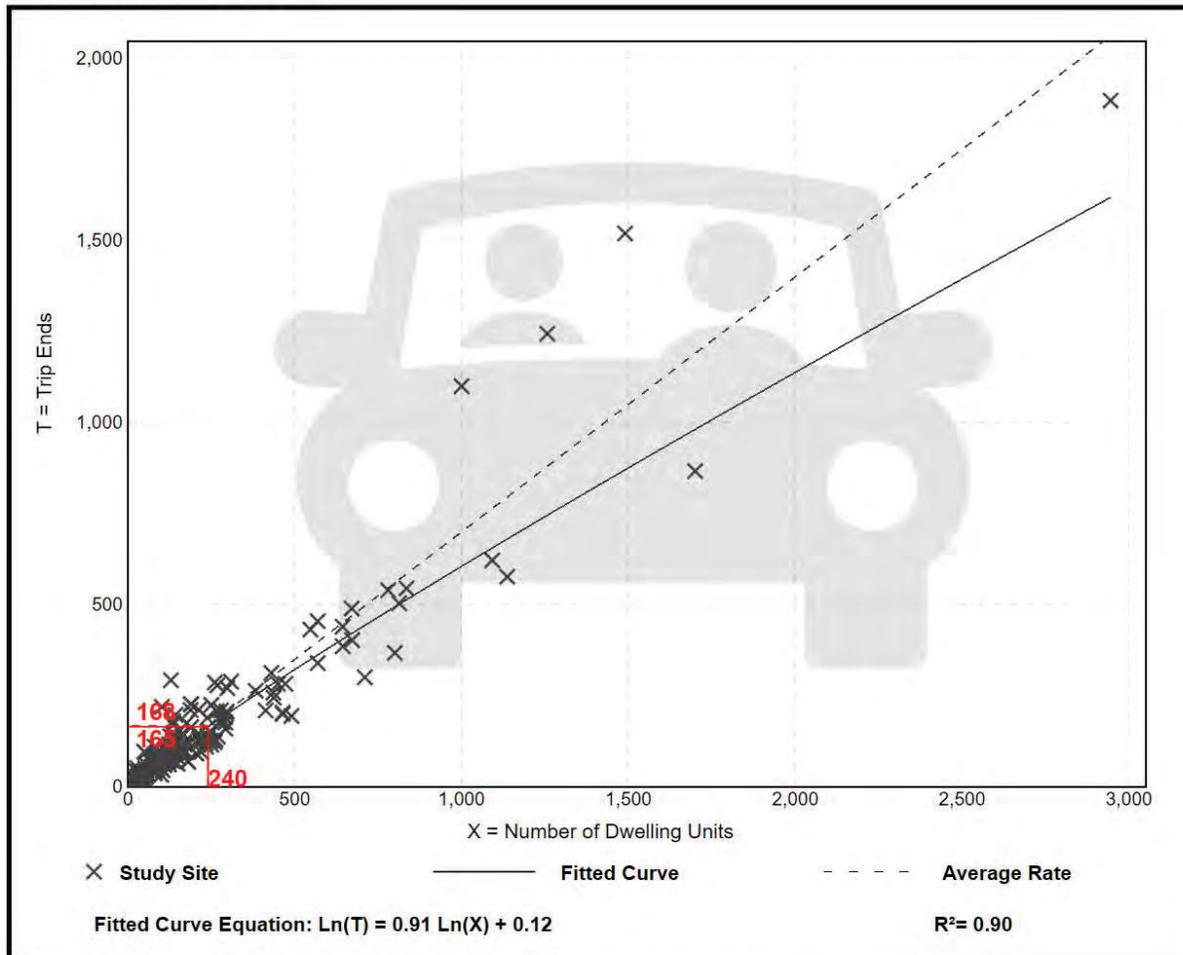
Avg. Num. of Dwelling Units: 226

Directional Distribution: 25% entering, 75% exiting

Vehicle Trip Generation per Dwelling Unit

Average Rate	Range of Rates	Standard Deviation
0.70	0.27 - 2.27	0.24

Data Plot and Equation



ATTACHMENT D

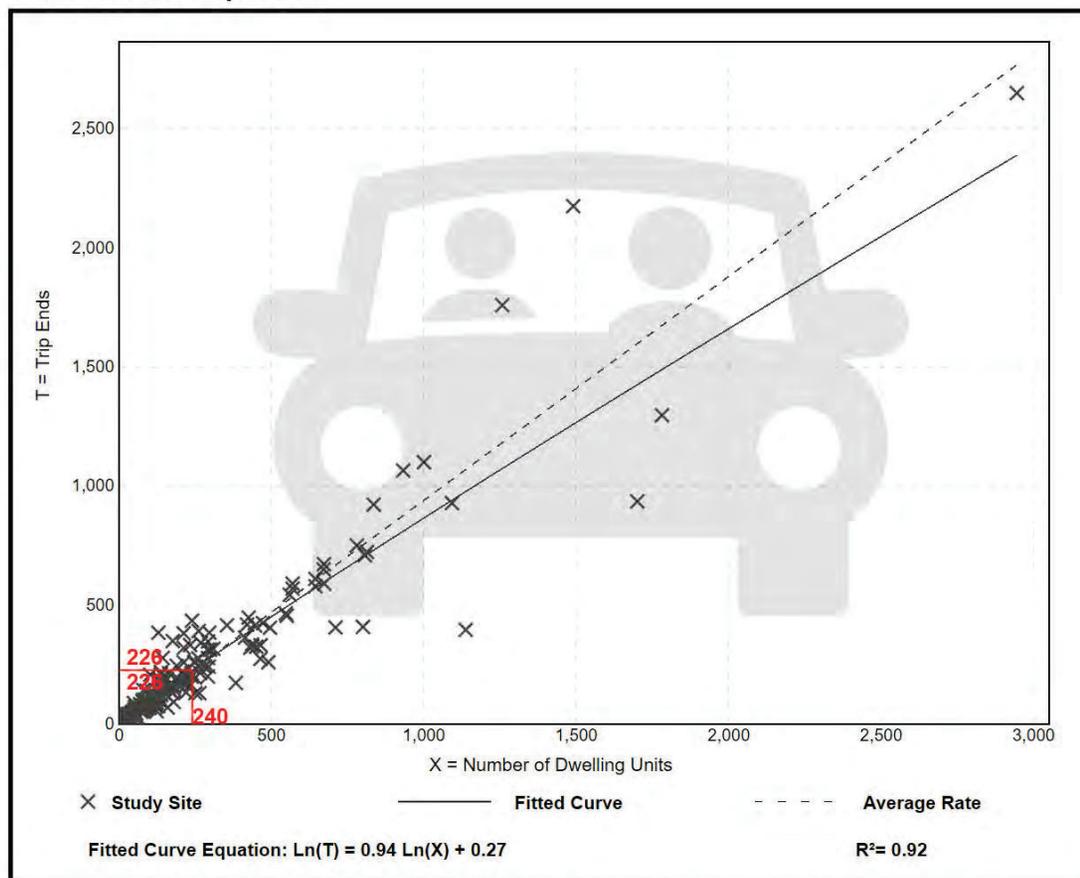
Single-Family Detached Housing (210)

Vehicle Trip Ends vs: Dwelling Units
On a: Weekday,
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: General Urban/Suburban
 Number of Studies: 208
 Avg. Num. of Dwelling Units: 248
 Directional Distribution: 63% entering, 37% exiting

Vehicle Trip Generation per Dwelling Unit

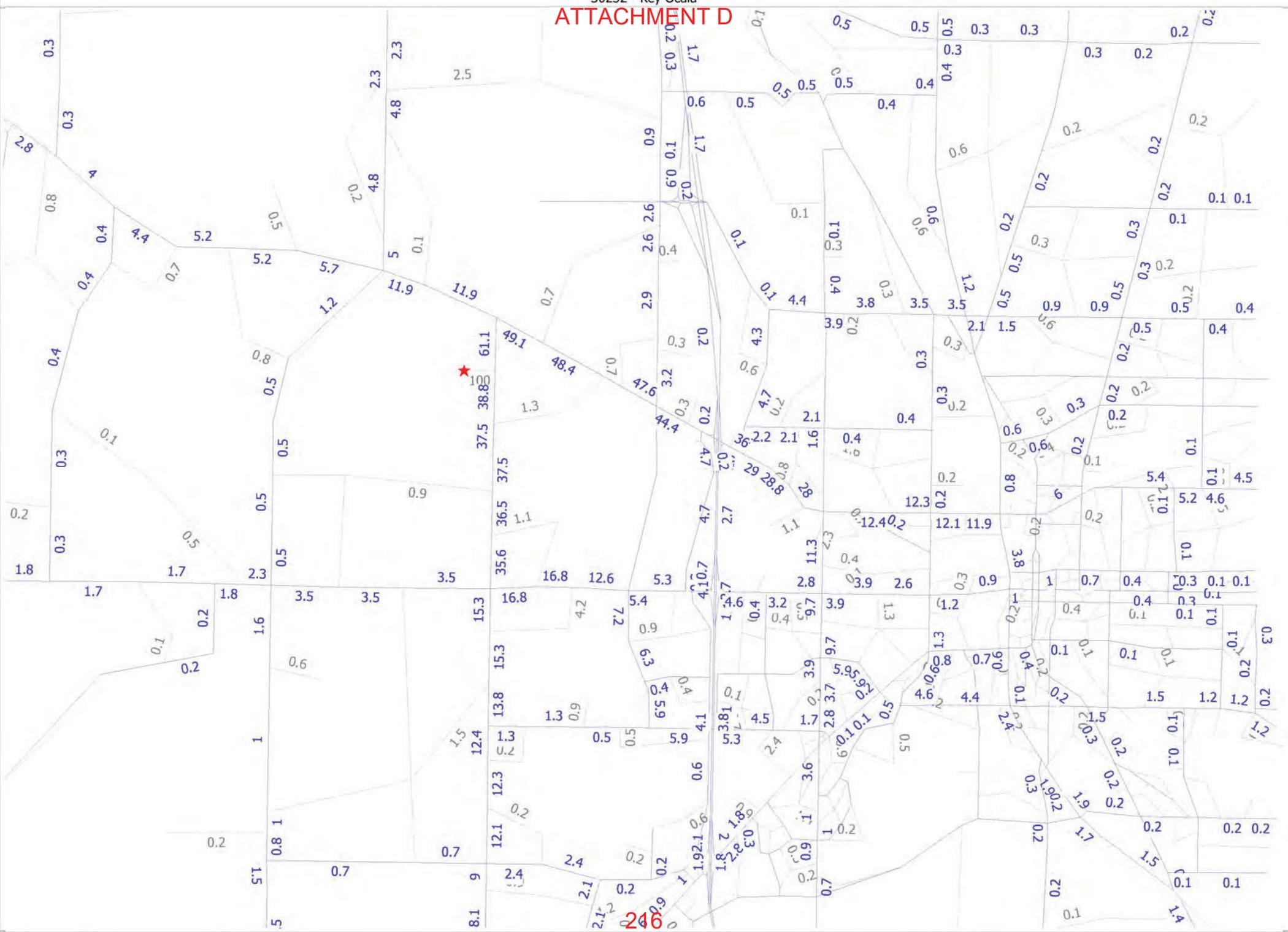
Average Rate	Range of Rates	Standard Deviation
0.94	0.35 - 2.98	0.31

Data Plot and Equation

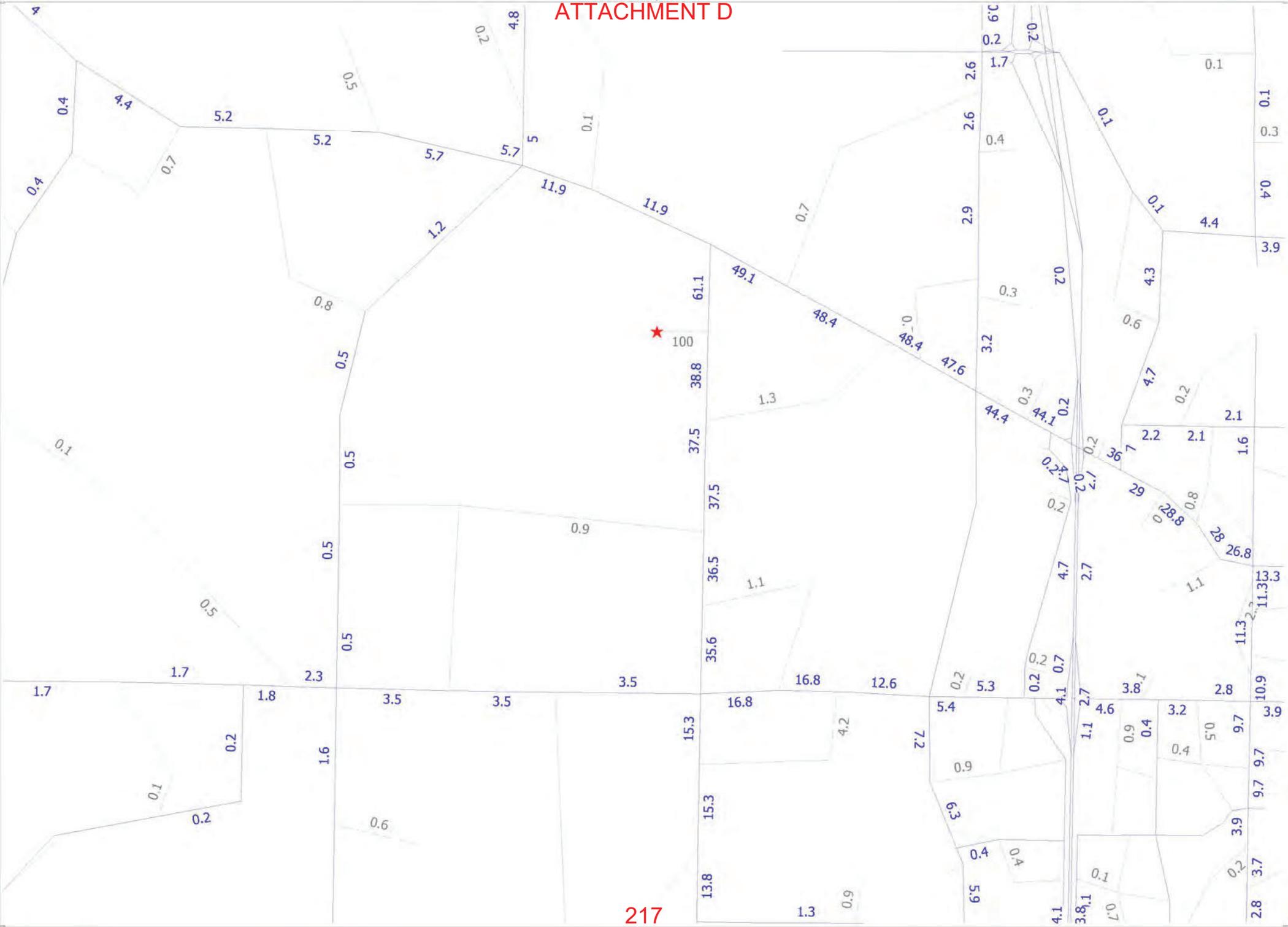


Appendix I:
CFRPM Travel Demand Model Plot

ATTACHMENT D

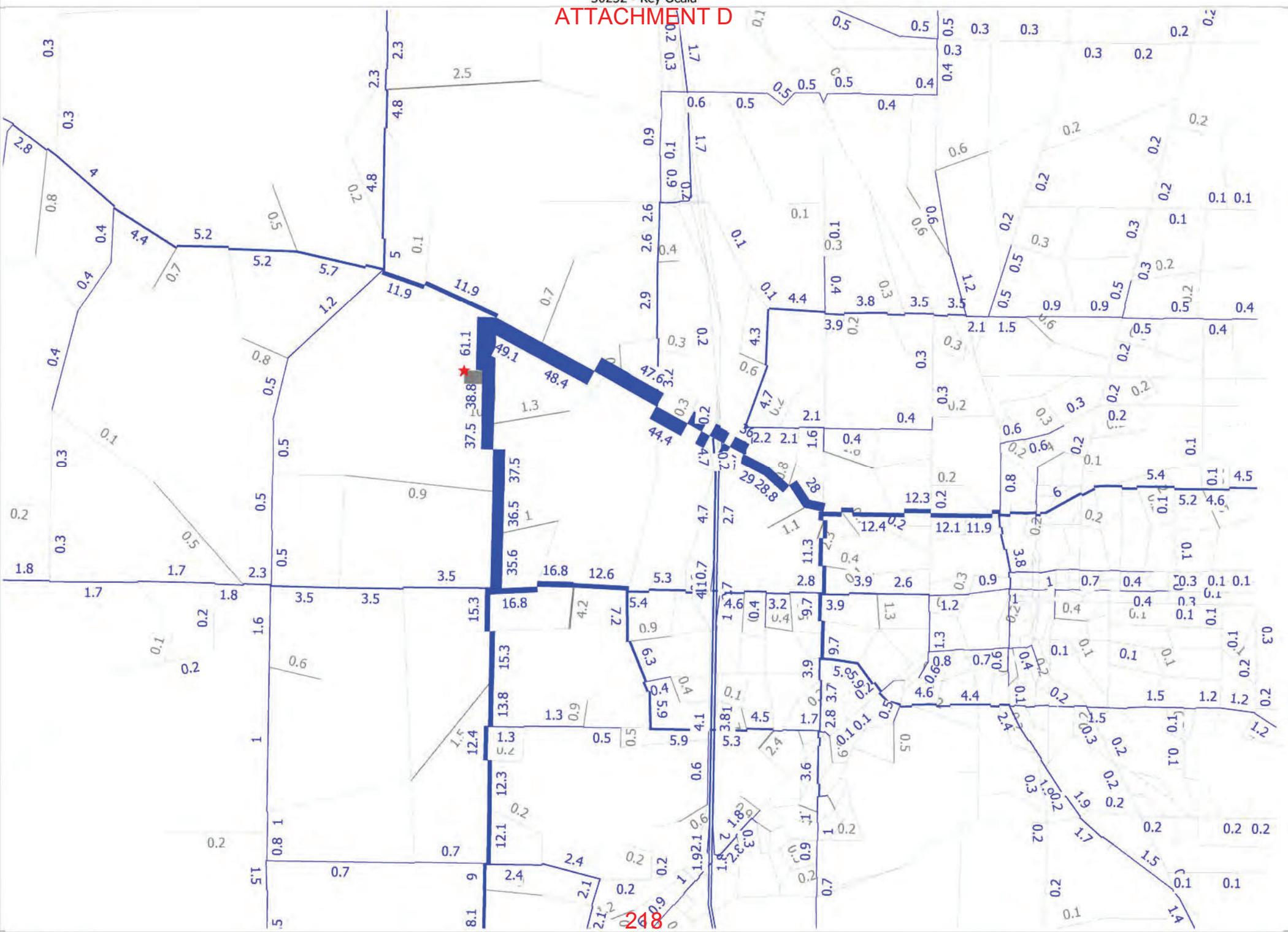


ATTACHMENT D



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ATTACHMENT D



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Appendix J:
Background Conditions Analysis

ATTACHMENT D

HCM 7th Signalized Intersection Summary

1: NW 60th Avenue & SR 40

07/01/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	693	361	156	454	90	193	285	333	94	373	96
Future Volume (veh/h)	157	693	361	156	454	90	193	285	333	94	373	96
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1856	1841	1737	1796	1841	1885	1885	1796	1870	1781
Adj Flow Rate, veh/h	162	714	316	161	468	69	199	294	239	97	385	76
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	5	3	4	11	7	4	1	1	7	2	8
Cap, veh/h	378	993	450	290	940	433	333	430	340	258	517	101
Arrive On Green	0.09	0.29	0.29	0.09	0.28	0.28	0.12	0.23	0.23	0.06	0.17	0.17
Sat Flow, veh/h	1753	3469	1571	1753	3300	1521	1753	1897	1498	1711	2959	578
Grp Volume(v), veh/h	162	714	316	161	468	69	199	277	256	97	230	231
Grp Sat Flow(s),veh/h/ln	1753	1735	1571	1753	1650	1521	1753	1791	1604	1711	1777	1760
Q Serve(g_s), s	5.6	16.3	15.9	5.6	10.4	3.0	8.0	12.5	13.0	4.0	10.8	11.0
Cycle Q Clear(g_c), s	5.6	16.3	15.9	5.6	10.4	3.0	8.0	12.5	13.0	4.0	10.8	11.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.93	1.00		0.33
Lane Grp Cap(c), veh/h	378	993	450	290	940	433	333	406	364	258	310	307
V/C Ratio(X)	0.43	0.72	0.70	0.56	0.50	0.16	0.60	0.68	0.70	0.38	0.74	0.75
Avail Cap(c_a), veh/h	563	1879	851	478	1791	825	580	791	709	588	558	552
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.9	28.3	28.1	21.3	26.3	23.7	25.8	31.2	31.4	27.6	34.5	34.6
Incr Delay (d2), s/veh	0.8	1.0	2.0	1.7	0.4	0.2	1.7	2.0	2.5	0.9	3.5	3.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	11.0	10.1	4.2	7.3	1.9	6.1	9.3	8.9	3.0	8.5	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	20.7	29.3	30.2	22.9	26.7	23.8	27.6	33.2	33.9	28.5	38.0	38.3
LnGrp LOS	C	C	C	C	C	C	C	C	C	C	D	D
Approach Vol, veh/h		1192			698			732			558	
Approach Delay, s/veh		28.4			25.6			31.9			36.5	
Approach LOS		C			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.7	32.3	13.0	27.3	15.5	32.5	17.6	22.7				
Change Period (Y+Rc), s	* 7.9	* 7.2	7.3	7.3	7.8	7.2	* 7.2	7.3				
Max Green Setting (Gmax), s	* 17	* 48	22.7	39.0	17.2	47.8	* 23	27.7				
Max Q Clear Time (g_c+I1), s	7.6	12.4	6.0	15.0	7.6	18.3	10.0	13.0				
Green Ext Time (p_c), s	0.3	3.7	0.2	3.5	0.3	6.9	0.4	2.4				

Intersection Summary												
HCM 7th Control Delay, s/veh											30.0	
HCM 7th LOS											C	

Notes
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

ATTACHMENT D

HCM 7th Signalized Intersection Summary 2: NW 60th Avenue & NW 21st Avenue

07/01/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (veh/h)	21	1	26	34	3	19	25	413	19	12	586	20
Future Volume (veh/h)	21	1	26	34	3	19	25	413	19	12	586	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No		No		No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1811	1900	1900	1693	1900	1811	1900	1767	1841	1500
Adj Flow Rate, veh/h	22	1	21	36	3	17	27	439	19	13	623	18
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	6	0	0	14	0	6	0	9	4	27
Cap, veh/h	192	39	97	236	39	60	408	1209	52	437	1198	35
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.04	0.36	0.36	0.02	0.35	0.35
Sat Flow, veh/h	524	303	755	776	299	469	1810	3360	145	1682	3471	100
Grp Volume(v), veh/h	44	0	0	56	0	0	27	224	234	13	314	327
Grp Sat Flow(s),veh/h/ln	1581	0	0	1544	0	0	1810	1721	1785	1682	1749	1823
Q Serve(g_s), s	0.0	0.0	0.0	0.2	0.0	0.0	0.4	4.2	4.2	0.2	6.2	6.2
Cycle Q Clear(g_c), s	1.0	0.0	0.0	1.3	0.0	0.0	0.4	4.2	4.2	0.2	6.2	6.2
Prop In Lane	0.50		0.48	0.64		0.30	1.00		0.08	1.00		0.05
Lane Grp Cap(c), veh/h	328	0	0	335	0	0	408	619	642	437	604	629
V/C Ratio(X)	0.13	0.00	0.00	0.17	0.00	0.00	0.07	0.36	0.36	0.03	0.52	0.52
Avail Cap(c_a), veh/h	828	0	0	827	0	0	744	1437	1491	785	1408	1468
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	16.9	0.0	0.0	17.0	0.0	0.0	8.7	10.2	10.2	8.9	11.4	11.4
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.2	0.0	0.0	0.1	0.4	0.3	0.0	0.7	0.7
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	0.7	0.0	0.0	0.8	0.0	0.0	0.2	2.4	2.5	0.1	3.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.1	0.0	0.0	17.2	0.0	0.0	8.7	10.6	10.6	8.9	12.0	12.0
LnGrp LOS	B			B			A	B	B	A	B	B
Approach Vol, veh/h		44			56			485			654	
Approach Delay, s/veh		17.1			17.2			10.5			12.0	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	9.0	22.1		12.3	8.4	22.7		12.3				
Change Period (Y+Rc), s	7.1	* 7.1		* 6.7	7.4	* 7.1		* 6.7				
Max Green Setting (Gmax), s	10	* 35		* 20	10.0	* 36		* 20				
Max Q Clear Time (g_c+1), s	12.4	8.2		3.0	2.2	6.2		3.3				
Green Ext Time (p_c), s	0.0	4.2		0.1	0.0	2.9		0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh		11.8
HCM 7th LOS		B

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

ATTACHMENT D

HCM 7th Signalized Intersection Summary 3: NW 60th Avenue & US 27

07/01/2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (veh/h)	654	226	348	609	118	326
Future Volume (veh/h)	654	226	348	609	118	326
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1707	1722	1900	1722	1811
Adj Flow Rate, veh/h	711	236	378	662	128	247
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	13	12	0	12	6
Cap, veh/h	930	309	418	2224	312	292
Arrive On Green	0.35	0.35	0.17	0.62	0.19	0.19
Sat Flow, veh/h	2757	884	1640	3705	1640	1535
Grp Volume(v), veh/h	482	465	378	662	128	247
Grp Sat Flow(s),veh/h/ln	1805	1741	1640	1805	1640	1535
Q Serve(g_s), s	20.2	20.2	11.8	7.3	5.8	13.2
Cycle Q Clear(g_c), s	20.2	20.2	11.8	7.3	5.8	13.2
Prop In Lane		0.51	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	630	608	418	2224	312	292
V/C Ratio(X)	0.76	0.76	0.90	0.30	0.41	0.85
Avail Cap(c_a), veh/h	1218	1174	462	3500	503	471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	24.6	16.9	7.7	30.3	33.3
Incr Delay (d2), s/veh	2.0	2.0	20.0	0.1	0.9	7.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	8.3	13.0	10.3	4.6	4.2	9.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	26.6	26.6	36.9	7.8	31.1	41.1
LnGrp LOS	C	C	D	A	C	D
Approach Vol, veh/h	947			1040	375	
Approach Delay, s/veh	26.6			18.4	37.7	
Approach LOS	C			B	D	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	22.7	37.3			60.0	25.1
Change Period (Y+Rc), s	8.6	7.6			* 7.6	8.9
Max Green Setting (Gmax), s	16.4	57.4			* 83	26.1
Max Q Clear Time (g_c+I), s	11.3	22.2			9.3	15.2
Green Ext Time (p_c), s	0.4	7.5			5.4	1.0

Intersection Summary						
HCM 7th Control Delay, s/veh			24.7			
HCM 7th LOS			C			

Notes
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

ATTACHMENT D

HCM 7th Signalized Intersection Summary

1: NW 60th Avenue & SR 40

07/01/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	97	702	176	320	924	96	368	465	123	72	352	132
Future Volume (veh/h)	97	702	176	320	924	96	368	465	123	72	352	132
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1826	1841	1870	1826	1633	1870	1885	1811	1737	1826	1796
Adj Flow Rate, veh/h	102	739	145	337	973	73	387	489	83	76	371	101
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	5	4	2	5	18	2	1	6	11	5	7
Cap, veh/h	207	914	410	350	1198	477	422	925	156	273	451	121
Arrive On Green	0.06	0.26	0.26	0.14	0.35	0.35	0.19	0.30	0.30	0.05	0.17	0.17
Sat Flow, veh/h	1725	3469	1558	1781	3469	1383	1781	3063	517	1654	2699	725
Grp Volume(v), veh/h	102	739	145	337	973	73	387	285	287	76	237	235
Grp Sat Flow(s),veh/h/ln	1725	1735	1558	1781	1735	1383	1781	1791	1790	1654	1735	1689
Q Serve(g_s), s	5.2	24.3	9.2	16.5	31.1	4.5	21.3	16.1	16.3	4.6	16.1	16.4
Cycle Q Clear(g_c), s	5.2	24.3	9.2	16.5	31.1	4.5	21.3	16.1	16.3	4.6	16.1	16.4
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.29	1.00		0.43
Lane Grp Cap(c), veh/h	207	914	410	350	1198	477	422	541	541	273	290	282
V/C Ratio(X)	0.49	0.81	0.35	0.96	0.81	0.15	0.92	0.53	0.53	0.28	0.82	0.83
Avail Cap(c_a), veh/h	348	1359	610	350	1362	543	422	572	572	497	394	383
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.1	42.1	36.5	29.6	36.4	27.6	32.8	35.3	35.4	39.1	49.0	49.2
Incr Delay (d2), s/veh	1.8	2.3	0.5	38.0	3.5	0.1	24.9	0.8	0.8	0.5	9.3	11.0
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.1	16.0	6.5	16.0	19.7	2.7	17.7	11.5	11.6	3.5	12.3	12.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	33.9	44.4	37.0	67.5	39.8	27.8	57.7	36.1	36.2	39.7	58.4	60.2
LnGrp LOS	C	D	D	E	D	C	E	D	D	D	E	E
Approach Vol, veh/h		986			1383			959			548	
Approach Delay, s/veh		42.2			45.9			44.9			56.5	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	49.3	13.5	44.2	25.0	39.4	30.0	27.7				
Change Period (Y+Rc), s	* 7.9	* 7.2	7.3	7.3	7.8	7.2	* 7.2	7.3				
Max Green Setting (Gmax), s	* 17	* 48	22.7	39.0	17.2	47.8	* 23	27.7				
Max Q Clear Time (g_c+I1), s	7.2	33.1	6.6	18.3	18.5	26.3	23.3	18.4				
Green Ext Time (p_c), s	0.1	6.3	0.1	3.5	0.0	5.8	0.0	1.9				

Intersection Summary												
HCM 7th Control Delay, s/veh											46.2	
HCM 7th LOS											D	

Notes
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

ATTACHMENT D

HCM 7th Signalized Intersection Summary

2: NW 60th Avenue & NW 21st Avenue

07/01/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↕	↕		↕	↕	
Traffic Volume (veh/h)	20	7	39	20	0	8	21	652	41	8	544	16
Future Volume (veh/h)	20	7	39	20	0	8	21	652	41	8	544	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No		No		No		No	
Adj Sat Flow, veh/h/ln	1811	1900	1900	1811	1900	1900	1811	1796	1900	1900	1811	1633
Adj Flow Rate, veh/h	22	8	35	22	0	7	23	716	42	9	598	15
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	6	0	0	6	0	0	6	7	0	0	6	18
Cap, veh/h	158	49	110	274	20	47	401	1194	70	332	1197	30
Arrive On Green	0.13	0.13	0.13	0.13	0.00	0.13	0.04	0.36	0.36	0.02	0.35	0.35
Sat Flow, veh/h	362	387	873	1007	159	371	1725	3276	192	1810	3430	86
Grp Volume(v), veh/h	65	0	0	29	0	0	23	373	385	9	300	313
Grp Sat Flow(s),veh/h/ln	1622	0	0	1538	0	0	1725	1706	1762	1810	1721	1796
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.4	7.6	7.6	0.1	5.9	5.9
Cycle Q Clear(g_c), s	1.5	0.0	0.0	0.6	0.0	0.0	0.4	7.6	7.6	0.1	5.9	5.9
Prop In Lane	0.34		0.54	0.76		0.24	1.00		0.11	1.00		0.05
Lane Grp Cap(c), veh/h	316	0	0	340	0	0	401	622	642	332	601	627
V/C Ratio(X)	0.21	0.00	0.00	0.09	0.00	0.00	0.06	0.60	0.60	0.03	0.50	0.50
Avail Cap(c_a), veh/h	849	0	0	827	0	0	735	1390	1435	723	1401	1462
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	17.1	0.0	0.0	16.7	0.0	0.0	8.6	11.1	11.1	9.3	11.0	11.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.1	0.0	0.0	0.1	0.9	0.9	0.0	0.6	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.0	0.0	0.0	0.4	0.0	0.0	0.2	4.3	4.5	0.1	3.4	3.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	17.4	0.0	0.0	16.8	0.0	0.0	8.6	12.0	12.0	9.3	11.7	11.6
LnGrp LOS	B			B			A	B	B	A	B	B
Approach Vol, veh/h		65			29			781			622	
Approach Delay, s/veh		17.4			16.8			11.9			11.6	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.8	22.1		12.1	8.1	22.8		12.1				
Change Period (Y+Rc), s	7.1	* 7.1		* 6.7	7.4	* 7.1		* 6.7				
Max Green Setting (Gmax), s	35	* 35		* 20	10.0	* 35		* 20				
Max Q Clear Time (g_c+1/2), s	7.9	7.9		3.5	2.1	9.6		2.6				
Green Ext Time (p_c), s	0.0	4.0		0.2	0.0	5.1		0.1				

Intersection Summary		
HCM 7th Control Delay, s/veh		12.1
HCM 7th LOS		B

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

ATTACHMENT D

HCM 7th Signalized Intersection Summary 3: NW 60th Avenue & US 27

07/01/2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↵	↑↑	↵	↵
Traffic Volume (veh/h)	609	171	369	994	236	449
Future Volume (veh/h)	609	171	369	994	236	449
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1707	1648	1826	1900	1826	1796
Adj Flow Rate, veh/h	648	172	393	1057	251	405
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	13	17	5	0	5	7
Cap, veh/h	805	213	415	2057	458	401
Arrive On Green	0.32	0.32	0.17	0.57	0.26	0.26
Sat Flow, veh/h	2621	672	1739	3705	1739	1522
Grp Volume(v), veh/h	414	406	393	1057	251	405
Grp Sat Flow(s),veh/h/ln	1622	1586	1739	1805	1739	1522
Q Serve(g_s), s	23.2	23.2	14.8	17.6	12.3	26.1
Cycle Q Clear(g_c), s	23.2	23.2	14.8	17.6	12.3	26.1
Prop In Lane		0.42	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	515	503	415	2057	458	401
V/C Ratio(X)	0.80	0.81	0.95	0.51	0.55	1.01
Avail Cap(c_a), veh/h	940	920	415	3008	458	401
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	31.0	31.0	21.9	13.0	31.4	36.5
Incr Delay (d2), s/veh	3.0	3.1	31.2	0.2	1.4	47.3
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	14.3	14.0	14.3	11.0	9.0	21.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	34.0	34.1	53.0	13.2	32.8	83.8
LnGrp LOS	C	C	D	B	C	F
Approach Vol, veh/h	820			1450	656	
Approach Delay, s/veh	34.1			24.0	64.3	
Approach LOS	C			C	E	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	35.0	39.0			64.0	35.0
Change Period (Y+Rc), s	8.6	7.6			* 7.6	8.9
Max Green Setting (Gmax), s	16.4	57.4			* 83	26.1
Max Q Clear Time (g_c+110), s	110.8	25.2			19.6	28.1
Green Ext Time (p_c), s	0.0	6.2			10.4	0.0

Intersection Summary						
HCM 7th Control Delay, s/veh			35.8			
HCM 7th LOS			D			

Notes
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

Appendix K: Volume Derivation Sheets

ATTACHMENT D

AM Peak Hour

		Eastbound			Westbound			Northbound			Southbound		
		L	T	R	L	T	R	L	T	R	L	T	R
NW 60th Avenue at SR 40	Raw Volume	140	619	322	139	405	80	172	230	297	84	307	86
	Existing	140	619	322	139	405	80	172	230	297	84	307	86
	Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Future background	157	693	361	156	454	90	193	258	333	94	344	96
	Vested Trip	0	0	0	0	0	0	0	27	0	0	29	0
	Background + Vested	157	693	361	156	454	90	193	285	333	94	373	96
	Project	2	0	0	0	0	8	0	6	0	22	19	6
	Total Volume	159	693	361	156	454	98	193	291	333	116	392	102
NW 60th Avenue at NW 21st Avenue	Raw Volume	19	1	23	30	3	17	22	345	17	11	497	18
	Existing	19	1	23	30	3	17	22	345	17	11	497	18
	Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Future background	21	1	26	34	3	19	25	386	19	12	557	20
	Vested Trip	0	0	0	0	0	0	0	27	0	0	29	0
	Background + Vested	21	1	26	34	3	19	25	413	19	12	586	20
	Project	0	0	0	0	0	0	0	16	0	55	47	0
	Total Volume	21	1	26	34	3	19	25	429	19	67	633	20
NW 60th Avenue at US 27	Raw Volume	0	533	202	285	488	0	105	0	267	0	0	0
	Existing	0	533	202	285	488	0	105	0	267	0	0	0
	Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Future background	0	597	226	319	547	0	118	0	299	0	0	0
	Vested Trip	0	57	0	29	62	0	0	0	27	0	0	0
	Background + Vested	0	654	226	348	609	0	118	0	326	0	0	0
	Project	0	0	5	20	0	0	15	0	61	0	0	0
	Total Volume	0	654	231	368	609	0	133	0	387	0	0	0

ATTACHMENT D

PM Peak Hour

		Eastbound			Westbound			Northbound			Southbound		
		L	T	R	L	T	R	L	T	R	L	T	R
NW 60th Avenue at SR 40	Raw Volume	87	627	157	286	825	86	329	384	110	64	285	118
	Existing	87	627	157	286	825	86	329	384	110	64	285	118
	Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Future background	97	702	176	320	924	96	368	430	123	72	319	132
	Vested Trip	0	0	0	0	0	0	0	35	0	0	33	0
	Background + Vested	97	702	176	320	924	96	368	465	123	72	352	132
	Project	7	0	0	0	0	26	0	21	0	15	13	4
	Total Volume	104	702	176	320	924	122	368	486	123	87	365	136
NW 60th Avenue at NW 21st Avenue	Raw Volume	18	6	35	18	0	7	19	551	37	7	456	14
	Existing	18	6	35	18	0	7	19	551	37	7	456	14
	Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Future background	20	7	39	20	0	8	21	617	41	8	511	16
	Vested Trip	0	0	0	0	0	0	0	35	0	0	33	0
	Background + Vested	20	7	39	20	0	8	21	652	41	8	544	16
	Project	0	0	0	0	0	1	0	54	0	37	32	0
	Total Volume	20	7	39	20	0	9	21	706	41	45	576	16
NW 60th Avenue at US 27	Raw Volume	0	476	153	300	824	0	211	0	370	0	0	0
	Existing	0	476	153	300	824	0	211	0	370	0	0	0
	Growth Rate	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
	Future background	0	533	171	336	923	0	236	0	414	0	0	0
	Vested Trip	0	76	0	33	71	0	0	0	35	0	0	0
	Background + Vested	0	609	171	369	994	0	236	0	449	0	0	0
	Project	0	0	17	70	0	0	10	0	41	0	0	0
	Total Volume	0	609	188	439	994	0	246	0	490	0	0	0

Appendix L: Buildout Conditions Analysis

ATTACHMENT D

HCM 7th Signalized Intersection Summary

1: NW 60th Avenue & US 40

08/12/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	159	693	361	156	454	98	193	291	333	116	391	103
Future Volume (veh/h)	159	693	361	156	454	98	193	291	333	116	391	103
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		0.99	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1841	1826	1856	1841	1737	1796	1841	1885	1885	1796	1870	1781
Adj Flow Rate, veh/h	164	714	316	161	468	75	199	300	239	120	403	81
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	4	5	3	4	11	7	4	1	1	7	2	8
Cap, veh/h	376	989	448	288	933	430	329	420	325	270	534	106
Arrive On Green	0.09	0.29	0.29	0.09	0.28	0.28	0.12	0.22	0.22	0.08	0.18	0.18
Sat Flow, veh/h	1753	3469	1571	1753	3300	1521	1753	1914	1483	1711	2948	587
Grp Volume(v), veh/h	164	714	316	161	468	75	199	280	259	120	241	243
Grp Sat Flow(s),veh/h/ln	1753	1735	1571	1753	1650	1521	1753	1791	1606	1711	1777	1759
Q Serve(g_s), s	5.8	16.6	16.1	5.7	10.6	3.3	8.0	12.9	13.4	5.0	11.5	11.7
Cycle Q Clear(g_c), s	5.8	16.6	16.1	5.7	10.6	3.3	8.0	12.9	13.4	5.0	11.5	11.7
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.92	1.00		0.33
Lane Grp Cap(c), veh/h	376	989	448	288	933	430	329	393	352	270	322	319
V/C Ratio(X)	0.44	0.72	0.71	0.56	0.50	0.17	0.60	0.71	0.73	0.44	0.75	0.76
Avail Cap(c_a), veh/h	555	1855	840	472	1768	815	572	781	701	572	550	545
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	28.8	28.6	21.7	26.8	24.2	25.9	32.3	32.5	27.1	34.7	34.8
Incr Delay (d2), s/veh	0.8	1.0	2.0	1.7	0.4	0.2	1.8	2.4	3.0	1.1	3.5	3.8
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.3	11.1	10.2	4.3	7.4	2.2	6.2	9.7	9.2	3.8	8.9	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	21.1	29.8	30.7	23.4	27.2	24.4	27.7	34.7	35.5	28.3	38.2	38.5
LnGrp LOS	C	C	C	C	C	C	C	C	D	C	D	D
Approach Vol, veh/h		1194			704			738			604	
Approach Delay, s/veh		28.8			26.0			33.1			36.4	
Approach LOS		C			C			C			D	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.8	32.5	14.2	26.9	15.6	32.7	17.6	23.5				
Change Period (Y+Rc), s	* 7.9	* 7.2	7.3	7.3	7.8	7.2	* 7.2	7.3				
Max Green Setting (Gmax), s	* 17	* 48	22.7	39.0	17.2	47.8	* 23	27.7				
Max Q Clear Time (g_c+I1), s	7.8	12.6	7.0	15.4	7.7	18.6	10.0	13.7				
Green Ext Time (p_c), s	0.3	3.8	0.2	3.5	0.3	6.9	0.4	2.5				
Intersection Summary												
HCM 7th Control Delay, s/veh			30.6									
HCM 7th LOS			C									
Notes												
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.												

ATTACHMENT D

HCM 7th Signalized Intersection Summary

2: NW 60th Avenue & NW 21st Avenue

08/12/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (veh/h)	21	1	26	34	3	19	25	429	19	67	633	20
Future Volume (veh/h)	21	1	26	34	3	19	25	429	19	67	633	20
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No		No		No		No	
Adj Sat Flow, veh/h/ln	1900	1900	1811	1900	1900	1693	1900	1811	1900	1767	1841	1500
Adj Flow Rate, veh/h	22	1	21	36	3	17	27	456	19	71	673	18
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	0	0	6	0	0	14	0	6	0	9	4	27
Cap, veh/h	183	37	94	226	37	59	411	1094	45	498	1314	35
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.04	0.32	0.32	0.09	0.38	0.38
Sat Flow, veh/h	528	298	754	781	294	468	1810	3366	140	1682	3480	93
Grp Volume(v), veh/h	44	0	0	56	0	0	27	233	242	71	338	353
Grp Sat Flow(s),veh/h/ln1580	0	0	1543	0	0	1810	1721	1786	1682	1749	1824	
Q Serve(g_s), s	0.0	0.0	0.0	0.3	0.0	0.0	0.4	4.9	4.9	1.2	6.9	6.9
Cycle Q Clear(g_c), s	1.0	0.0	0.0	1.3	0.0	0.0	0.4	4.9	4.9	1.2	6.9	6.9
Prop In Lane	0.50		0.48	0.64		0.30	1.00		0.08	1.00		0.05
Lane Grp Cap(c), veh/h	315	0	0	321	0	0	411	559	580	498	660	689
V/C Ratio(X)	0.14	0.00	0.00	0.17	0.00	0.00	0.07	0.42	0.42	0.14	0.51	0.51
Avail Cap(c_a), veh/h	779	0	0	779	0	0	722	1353	1404	710	1326	1383
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.1	0.0	0.0	18.2	0.0	0.0	9.5	12.2	12.2	8.5	11.1	11.1
Incr Delay (d2), s/veh	0.2	0.0	0.0	0.3	0.0	0.0	0.1	0.5	0.5	0.1	0.6	0.6
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/lr0.7	0.0	0.0	0.9	0.0	0.0	0.0	0.3	2.9	3.0	0.6	4.1	4.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	18.3	0.0	0.0	18.5	0.0	0.0	9.6	12.7	12.7	8.6	11.7	11.7
LnGrp LOS	B			B			A	B	B	A	B	B
Approach Vol, veh/h		44			56			502			762	
Approach Delay, s/veh		18.3			18.5			12.5			11.4	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s9.1	24.5			12.5	11.6	22.1		12.5				
Change Period (Y+Rc), s* 7.1	* 7.1			* 6.7	7.4	* 7.1		* 6.7				
Max Green Setting (Gmax)10	* 35			* 20	10.0	* 36		* 20				
Max Q Clear Time (g_c+12,4	8.9			3.0	3.2	6.9		3.3				
Green Ext Time (p_c), s	0.0	4.6		0.1	0.1	3.0		0.2				

Intersection Summary		
HCM 7th Control Delay, s/veh		12.3
HCM 7th LOS		B

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

ATTACHMENT D

HCM 7th Signalized Intersection Summary 3: NW 60th Avenue & US 27

08/12/2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↔	↑↑	↔	↔
Traffic Volume (veh/h)	654	231	368	609	132	387
Future Volume (veh/h)	654	231	368	609	132	387
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1900	1707	1722	1900	1722	1811
Adj Flow Rate, veh/h	711	241	400	662	143	295
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	0	13	12	0	12	6
Cap, veh/h	945	320	710	2135	329	501
Arrive On Green	0.36	0.36	0.13	0.59	0.20	0.20
Sat Flow, veh/h	2742	897	3182	3705	1640	1535
Grp Volume(v), veh/h	485	467	400	662	143	295
Grp Sat Flow(s),veh/h/ln	1805	1739	1591	1805	1640	1535
Q Serve(g_s), s	18.7	18.7	5.6	7.3	6.1	12.7
Cycle Q Clear(g_c), s	18.7	18.7	5.6	7.3	6.1	12.7
Prop In Lane		0.52	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	644	620	710	2135	329	501
V/C Ratio(X)	0.75	0.75	0.56	0.31	0.44	0.59
Avail Cap(c_a), veh/h	1261	1215	1047	3757	540	699
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	22.4	22.4	15.2	8.1	27.8	22.3
Incr Delay (d2), s/veh	1.8	1.9	0.7	0.1	0.9	1.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	12.4	12.0	3.4	4.5	4.3	8.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	24.2	24.3	15.9	8.2	28.7	23.4
LnGrp LOS	C	C	B	A	C	C
Approach Vol, veh/h	952			1062	438	
Approach Delay, s/veh	24.3			11.1	25.1	
Approach LOS	C			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	18.6	35.9			54.5	24.8
Change Period (Y+Rc), s	8.6	7.6			* 7.6	8.9
Max Green Setting (Gmax), s	18.4	55.4			* 83	26.1
Max Q Clear Time (g_c+1), s	17.6	20.7			9.3	14.7
Green Ext Time (p_c), s	1.1	7.6			5.4	1.2

Intersection Summary						
HCM 7th Control Delay, s/veh			18.7			
HCM 7th LOS			B			

Notes
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

ATTACHMENT D

HCM 7th TWSC
4: NW 60th Avenue & Driveway 1

08/12/2024

Intersection							
Int Delay, s/veh	1.2						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations		↗	↘	↑↑	↓	↑↓	
Traffic Vol, veh/h	0	99	16	508	22	577	12
Future Vol, veh/h	0	99	16	508	22	577	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	0	250	-	250	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	20	2	25	0
Mvmt Flow	0	108	17	552	24	627	13

Major/Minor	Minor2	Major1	Major2				
Conflicting Flow All	-	320	640	0	552	-	0
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-
Critical Hdwy	-	6.9	4.1	-	6.44	-	-
Critical Hdwy Stg 1	-	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-	-
Follow-up Hdwy	-	3.3	2.2	-	2.52	-	-
Pot Cap-1 Maneuver	0	682	954	-	641	-	-
Stage 1	0	-	-	-	-	-	-
Stage 2	0	-	-	-	-	-	-
Platoon blocked, %				-	-	-	-
Mov Cap-1 Maneuver	-	682	954	-	641	-	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	11.27	0.27	0.39
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	954	-	682	641	-	-
HCM Lane V/C Ratio	0.018	-	0.158	0.037	-	-
HCM Control Delay (s/veh)	8.8	-	11.3	10.8	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.6	0.1	-	-

ATTACHMENT D

HCM 7th TWSC
5: NW 60th Avenue & Driveway 2

08/12/2024

Intersection

Int Delay, s/veh 0.2

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	25	0	524	587	13
Future Vol, veh/h	0	25	0	524	587	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	20	25	0
Mvmt Flow	0	27	0	570	638	14

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	326	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.9	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	-
Pot Cap-1 Maneuver	0	676	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	676	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.55		0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT EBLn1	SBT	SBR
Capacity (veh/h)	-	676	-
HCM Lane V/C Ratio	-	0.04	-
HCM Control Delay (s/veh)	-	10.6	-
HCM Lane LOS	-	B	-
HCM 95th %tile Q(veh)	-	0.1	-

ATTACHMENT D

HCM 7th Signalized Intersection Summary

1: NW 60th Avenue & SR 40

08/12/2024

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↶	↷	↷	↶	↷	↷	↶	↷	↷	↶	↷	↷
Traffic Volume (veh/h)	105	702	176	320	924	122	368	486	123	87	365	136
Future Volume (veh/h)	105	702	176	320	924	122	368	486	123	87	365	136
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		0.99
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1811	1826	1841	1870	1826	1633	1870	1885	1811	1737	1826	1796
Adj Flow Rate, veh/h	111	739	145	337	973	92	387	512	83	92	384	104
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	6	5	4	2	5	18	2	1	6	11	5	7
Cap, veh/h	209	912	410	348	1178	470	418	913	147	276	463	124
Arrive On Green	0.06	0.26	0.26	0.14	0.34	0.34	0.19	0.30	0.30	0.06	0.17	0.17
Sat Flow, veh/h	1725	3469	1558	1781	3469	1383	1781	3086	498	1654	2701	723
Grp Volume(v), veh/h	111	739	145	337	973	92	387	296	299	92	245	243
Grp Sat Flow(s),veh/h/ln	1725	1735	1558	1781	1735	1383	1781	1791	1793	1654	1735	1690
Q Serve(g_s), s	5.7	24.5	9.3	16.6	31.6	5.8	21.4	17.1	17.3	5.6	16.7	17.1
Cycle Q Clear(g_c), s	5.7	24.5	9.3	16.6	31.6	5.8	21.4	17.1	17.3	5.6	16.7	17.1
Prop In Lane	1.00		1.00	1.00		1.00	1.00		0.28	1.00		0.43
Lane Grp Cap(c), veh/h	209	912	410	348	1178	470	418	530	530	276	297	289
V/C Ratio(X)	0.53	0.81	0.35	0.97	0.83	0.20	0.93	0.56	0.56	0.33	0.82	0.84
Avail Cap(c_a), veh/h	341	1350	606	348	1353	539	418	569	569	482	391	381
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.4	42.4	36.8	29.9	37.2	28.7	32.8	36.5	36.5	38.4	49.1	49.3
Incr Delay (d2), s/veh	2.1	2.4	0.5	39.8	3.9	0.2	26.4	1.1	1.1	0.7	10.4	12.1
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	4.5	16.1	6.5	16.3	20.0	3.5	17.9	12.2	12.3	4.2	12.8	12.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	34.5	44.8	37.3	69.6	41.1	28.9	59.2	37.6	37.7	39.1	59.5	61.4
LnGrp LOS	C	D	D	E	D	C	E	D	D	D	E	E
Approach Vol, veh/h		995			1402			982			580	
Approach Delay, s/veh		42.5			47.1			46.1			57.1	
Approach LOS		D			D			D			E	
Timer - Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.6	48.9	14.7	43.6	25.0	39.5	30.0	28.3				
Change Period (Y+Rc), s	* 7.9	* 7.2	7.3	7.3	7.8	7.2	* 7.2	7.3				
Max Green Setting (Gmax), s	* 17	* 48	22.7	39.0	17.2	47.8	* 23	27.7				
Max Q Clear Time (g_c+I1), s	7.7	33.6	7.6	19.3	18.6	26.5	23.4	19.1				
Green Ext Time (p_c), s	0.2	6.3	0.2	3.6	0.0	5.8	0.0	1.9				
Intersection Summary												
HCM 7th Control Delay, s/veh					47.2							
HCM 7th LOS					D							
Notes												
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.												

ATTACHMENT D

HCM 7th Signalized Intersection Summary 2: NW 60th Avenue & NW 21st Avenue

08/12/2024



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕		↗	↕		↗	↕	
Traffic Volume (veh/h)	20	7	39	20	0	9	21	706	41	45	576	16
Future Volume (veh/h)	20	7	39	20	0	9	21	706	41	45	576	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No		No		No		No	
Adj Sat Flow, veh/h/ln	1811	1900	1900	1811	1900	1900	1811	1796	1900	1900	1811	1633
Adj Flow Rate, veh/h	22	8	35	22	0	7	23	776	42	49	633	15
Peak Hour Factor	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Percent Heavy Veh, %	6	0	0	6	0	0	6	7	0	0	6	18
Cap, veh/h	146	47	105	257	18	45	418	1184	64	390	1366	32
Arrive On Green	0.12	0.12	0.12	0.12	0.00	0.12	0.04	0.36	0.36	0.07	0.40	0.40
Sat Flow, veh/h	360	388	873	1018	152	373	1725	3292	178	1810	3436	81
Grp Volume(v), veh/h	65	0	0	29	0	0	23	402	416	49	317	331
Grp Sat Flow(s),veh/h/ln	1622	0	0	1543	0	0	1725	1706	1764	1810	1721	1796
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.4	9.3	9.3	0.7	6.4	6.4
Cycle Q Clear(g_c), s	1.6	0.0	0.0	0.7	0.0	0.0	0.4	9.3	9.3	0.7	6.4	6.4
Prop In Lane	0.34		0.54	0.76		0.24	1.00		0.10	1.00		0.05
Lane Grp Cap(c), veh/h	297	0	0	320	0	0	418	614	634	390	684	714
V/C Ratio(X)	0.22	0.00	0.00	0.09	0.00	0.00	0.06	0.66	0.66	0.13	0.46	0.46
Avail Cap(c_a), veh/h	775	0	0	755	0	0	717	1314	1359	647	1278	1334
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.0	0.0	0.0	18.5	0.0	0.0	8.9	12.6	12.6	8.9	10.5	10.5
Incr Delay (d2), s/veh	0.4	0.0	0.0	0.1	0.0	0.0	0.1	1.2	1.2	0.1	0.5	0.5
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	1.1	0.0	0.0	0.5	0.0	0.0	0.2	5.6	5.8	0.4	3.7	3.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d), s/veh	19.3	0.0	0.0	18.7	0.0	0.0	8.9	13.8	13.8	9.0	11.0	10.9
LnGrp LOS	B			B			A	B	B	A	B	B
Approach Vol, veh/h		65			29			841			697	
Approach Delay, s/veh		19.3			18.7			13.7			10.8	
Approach LOS		B			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.9	25.8		12.4	10.7	24.0		12.4				
Change Period (Y+Rc), s	7.1	* 7.1		* 6.7	7.4	* 7.1		* 6.7				
Max Green Setting (Gmax), s	10	* 35		* 20	10.0	* 36		* 20				
Max Q Clear Time (g_c+1), s	12.4	8.4		3.6	2.7	11.3		2.7				
Green Ext Time (p_c), s	0.0	4.3		0.2	0.0	5.6		0.1				

Intersection Summary		
HCM 7th Control Delay, s/veh		12.8
HCM 7th LOS		B

Notes
 User approved pedestrian interval to be less than phase max green.
 * HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.

ATTACHMENT D

HCM 7th Signalized Intersection Summary 3: NW 60th Avenue & US 27

08/12/2024



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑		↖↗	↑↑	↖	↗
Traffic Volume (veh/h)	609	188	439	994	246	491
Future Volume (veh/h)	609	188	439	994	246	491
Initial Q (Qb), veh	0	0	0	0	0	0
Lane Width Adj.	1.00	1.00	1.00	1.00	1.00	1.00
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1707	1648	1826	1900	1826	1796
Adj Flow Rate, veh/h	648	189	467	1057	262	441
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	13	17	5	0	5	7
Cap, veh/h	807	235	681	1962	477	605
Arrive On Green	0.33	0.33	0.12	0.54	0.27	0.27
Sat Flow, veh/h	2563	722	3374	3705	1739	1522
Grp Volume(v), veh/h	424	413	467	1057	262	441
Grp Sat Flow(s),veh/h/ln	1622	1577	1687	1805	1739	1522
Q Serve(g_s), s	21.6	21.7	7.7	17.1	11.7	22.3
Cycle Q Clear(g_c), s	21.6	21.7	7.7	17.1	11.7	22.3
Prop In Lane		0.46	1.00		1.00	1.00
Lane Grp Cap(c), veh/h	528	514	681	1962	477	605
V/C Ratio(X)	0.80	0.80	0.69	0.54	0.55	0.73
Avail Cap(c_a), veh/h	831	808	1101	3090	501	626
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	27.9	27.9	19.3	13.3	28.1	23.2
Incr Delay (d2), s/veh	3.1	3.2	1.2	0.2	1.2	4.2
Initial Q Delay(d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(95%),veh/ln	18.3	13.1	5.3	10.7	8.5	13.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d), s/veh	31.0	31.1	20.5	13.6	29.2	27.3
LnGrp LOS	C	C	C	B	C	C
Approach Vol, veh/h	837			1524	703	
Approach Delay, s/veh	31.1			15.7	28.0	
Approach LOS	C			B	C	
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	19.7	37.1			56.8	33.7
Change Period (Y+Rc), s	8.6	7.6			* 7.6	8.9
Max Green Setting (Gmax), s	22.4	46.4			* 78	26.1
Max Q Clear Time (g_c+I), s	19.7	23.7			19.1	24.3
Green Ext Time (p_c), s	1.4	5.8			10.3	0.6
Intersection Summary						
HCM 7th Control Delay, s/veh			22.7			
HCM 7th LOS			C			
Notes						
* HCM 7th computational engine requires equal clearance times for the phases crossing the barrier.						

ATTACHMENT D

HCM 7th TWSC
4: NW 60th Avenue & Driveway 1

08/12/2024

Intersection							
Int Delay, s/veh	1						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations		↗	↘	↑↑	↓	↑↓	
Traffic Vol, veh/h	0	67	55	717	15	542	43
Future Vol, veh/h	0	67	55	717	15	542	43
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	0	250	-	250	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	13	2	22	0
Mvmt Flow	0	73	60	779	16	589	47

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	318	636
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.9	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	2.2
Pot Cap-1 Maneuver	0	684	957
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	684	957
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.89		0.64	0.33
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	957	-	684	460	-	-
HCM Lane V/C Ratio	0.062	-	0.107	0.035	-	-
HCM Control Delay (s/veh)	9	-	10.9	13.1	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	0.1	-	-

ATTACHMENT D

HCM 7th TWSC
5: NW 60th Avenue & Driveway 2

08/12/2024

Intersection

Int Delay, s/veh 0.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations		↗		↑↑	↑↑	
Traffic Vol, veh/h	0	17	0	735	583	44
Future Vol, veh/h	0	17	0	735	583	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	13	22	0
Mvmt Flow	0	18	0	799	634	48

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	341	0
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.9	-
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	-
Pot Cap-1 Maneuver	0	661	0
Stage 1	0	-	0
Stage 2	0	-	0
Platoon blocked, %			-
Mov Cap-1 Maneuver	-	661	-
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	10.6	0	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	-	661	-	-
HCM Lane V/C Ratio	-	0.028	-	-
HCM Control Delay (s/veh)	-	10.6	-	-
HCM Lane LOS	-	B	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-

Appendix M:
Turn Lane Documentation

ATTACHMENT D

Intersection	Movement	Speed	Total Existing Lane Length (ft)	Decel Source	Required Deceleration (ft)	Existing Conditions Analysis			2028 Future Background Conditions Analysis			2028 Future Buildout Conditions Analysis			Cause for Deficiency
						95 th % Queue (ft)	Total Required Turn Lane Length (ft)	Lane Length Def (ft)	95 th % Queue (ft)	Total Required Turn Lane Length (ft)	Lane Length Deficiency (ft)	95 th % Queue (ft)	Total Required Turn Lane Length (ft)	Lane Length Deficiency (ft)	
NW 60 th Avenue and SR 40	EBL	45	595	FDOT, 50 mph, rural	290	80	370	0	105	395	0	115	405	0	N/A
	WBR	45	685	FDOT, 50 mph, rural	290	55	345	0	70	360	0	90	380	0	N/A
	SBL	45	375	FDOT, 50 mph, rural	290	65	355	0	90	380	5	105	395	20	15 ft by the project
NW 60 th Avenue and NW 21 st Street	SBL	45	360	FDOT, 50 mph, rural	290	25	315	0	25	315	0	25	315	0	N/A
NW 60 th Avenue and US 27	WBL	55	450	FDOT, 60 mph, rural	405	185	590	140	360	765	315	485	890	440	125 ft by the project

Appendix N:
Single Entrance Analysis

ATTACHMENT D

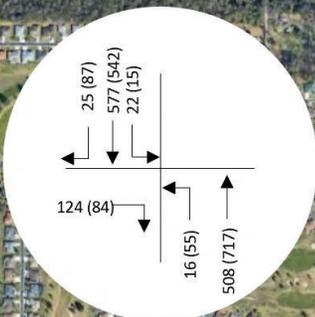
US 27



NW 60th Avenue

NW 21st Avenue

243



Legend

- Intersection
- Turning Movement
- XX (YY) – AM (PM) Trips build



ATTACHMENT D

HCM 7th TWSC
4: NW 60th Avenue & Driveway 1

09/03/2024

Intersection							
Int Delay, s/veh	1.4						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations		↗	↘	↕	↕	↗	↘
Traffic Vol, veh/h	0	124	16	508	22	577	25
Future Vol, veh/h	0	124	16	508	22	577	25
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	0	250	-	250	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	20	2	25	0
Mvmt Flow	0	135	17	552	24	627	27

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	314	654
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.9	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	2.2
Pot Cap-1 Maneuver	0	688	942
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %			
Mov Cap-1 Maneuver	-	688	942
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v	11.5	0.27	0.38
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	942	-	688	641	-	-
HCM Lane V/C Ratio	0.018	-	0.196	0.037	-	-
HCM Control Delay (s/veh)	8.9	-	11.5	10.8	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.7	0.1	-	-

ATTACHMENT D

HCM 7th TWSC
4: NW 60th Avenue & Driveway 1

09/03/2024

Intersection							
Int Delay, s/veh	1.1						
Movement	EBL	EBR	NBL	NBT	SBU	SBT	SBR
Lane Configurations		↗	↘	↑↑	↓	↑↑	↗
Traffic Vol, veh/h	0	84	55	717	15	542	87
Future Vol, veh/h	0	84	55	717	15	542	87
Conflicting Peds, #/hr	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	-	None
Storage Length	-	0	250	-	250	-	-
Veh in Median Storage, #	0	-	-	0	-	0	-
Grade, %	0	-	-	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92
Heavy Vehicles, %	0	0	0	13	2	22	0
Mvmt Flow	0	91	60	779	16	589	95

Major/Minor	Minor2	Major1	Major2
Conflicting Flow All	-	295	684
Stage 1	-	-	-
Stage 2	-	-	-
Critical Hdwy	-	6.9	4.1
Critical Hdwy Stg 1	-	-	-
Critical Hdwy Stg 2	-	-	-
Follow-up Hdwy	-	3.3	2.2
Pot Cap-1 Maneuver	0	708	919
Stage 1	0	-	-
Stage 2	0	-	-
Platoon blocked, %	-	-	-
Mov Cap-1 Maneuver	-	708	919
Mov Cap-2 Maneuver	-	-	-
Stage 1	-	-	-
Stage 2	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s/v10.84		0.65	0.31
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBU	SBT	SBR
Capacity (veh/h)	919	-	708	460	-	-
HCM Lane V/C Ratio	0.065	-	0.129	0.035	-	-
HCM Control Delay (s/veh)	9.2	-	10.8	13.1	-	-
HCM Lane LOS	A	-	B	B	-	-
HCM 95th %tile Q(veh)	0.2	-	0.4	0.1	-	-