Florida Department of
TRANSPORTATION

Interchange Justification Report

for

I-75 (SR 93) Interchange at NW 49th Street
Project Development & Environment Study
Marion County, Florida

Financial Project ID: 435209-1-22-01

Florida Department of Transportation
District Five

January 2021

Interchange Justification Report (IJR)

I-75 (SR 93) Interchange at NW 49th Street PD&E Study

FPID: 435209-1-22-01

Florida Department of Transportation

Determination of Safety, Operational and Engineering Acceptability

Acceptance of this document indicates successful completion of the review and determination of safety, operational and engineering acceptability of the Interchange Access Request. Approval of the access request is contingent upon compliance with applicable Federal requirements, specifically the National Environmental Policy Act (NEPA) or Department's Project Development and Environment (PD&E) Procedures. Completion of the NEPA/PD&E process is considered approval of the project location design concept described in the environmental document.

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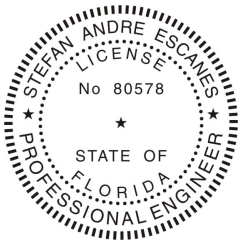
PROFESSIONAL ENGINEER CERTIFICATE

I hereby certify that I am a registered professional engineer in the State of Florida practicing with Metric Engineering, Inc., authorized under the provisions of Section 471.023, Florida Statutes, to offer engineering services to the public through a Professional Engineer, duly licensed under Chapter 471, Florida Statutes, Certificate of Authorization (CA) No. 2294, by the State of Florida Department of Professional Regulation, Board of Professional Engineers, and that I have prepared or approved the evaluation, findings, opinions, conclusions, or technical advice hereby reported for:

Financial Project Number: 435209-1-22-01

Federal Aid Number:	**N/A**
Project:	**I-75 (SR 93) Interchange at NW 49th Street PD&E Study Interchange Justification Report (IJR)**
County:	**Marion**

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.



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SYSTEMS IMPLEMENTATION OFFICE

QUALITY CONTROL CERTIFICATION FOR INTERCHANGE ACCESS REQUEST SUBMITTAL

Submittal Date: 01/08/2021

FM Number: 435209-1-22-01

Project Title: I-75 (SR 93) Interchange at NW 49th Street PD&E Study Interchange Justification Report

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Document Type: ☐ MLOU ☒ IJR ☐ IMR ☐ IOAR ☐ OTHER (Specify)

Status of Document (Only complete documents will be submitted for review; however, depending on the complexity of the project, interim reviews may be submitted as agreed upon in the MLOU)

Quality Control (QC) Statement

This document has been prepared following FDOT Procedure Topic No. 525-030-160 (New or Modified Interchanges) and complies with the FHWA two policy requirements. Appropriate District level quality control reviews have been conducted and all comments and issues have been resolved to their satisfaction. A record of all comments and responses provided during QC review is available in the project file or Electronic Review Comments (ERC) system.

Requestor DocuSigned by: Amy Windom B54C106D34D24DA... Date: 1/8/2021 | 4:43 PM EST

Amy Windom, P.E.

IRC DocuSigned by: Suraj Pamulapati FE89B6447E1043B... Date: 1/8/2021 | 5:48 PM EST

Suraj Pamulapati, P.E., PTOE

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1 Executive Summary

1.1 Introduction

This Interchange Justification Report (IJR) is being conducted on behalf of the Florida Department of Transportation (FDOT) as part of the *I-75 at NW 49th Street Project Development & Environment (PD&E) Study* for a new interchange on Interstate 75 (I-75) along the proposed extension of NW 49th Street in Marion County, Florida. This IJR follows a previously approved IJR completed in 2016 on behalf of Marion County. The 2016 IJR evaluated the No Build and Urban Diamond Interchange alternatives. This new IJR is being developed as part of the *I-75 at NW 49th Street PD&E Study* which updates the traffic forecasting and evaluates additional alternatives. **Figure 1-1** shows the project location and Area of Influence (AOI). The proposed interchange is needed to support the economic viability of the Ocala 489, a 489 acre industrial and commercial development, and contiguous commerce district/employment center. This commerce park is composed of a recently constructed FedEx Ground Distribution Hub; Chewy distribution center; an AutoZone distribution center, designated as a CSX Select Site; the Florida Crossroads Logistics Center, a Red Rock Development; and the remaining undeveloped sites. Development in this area will result in traffic volume increases along I-75 and the entire local roadway network; adding a projected 25,000+ daily trips to the roadway network upon full-buildout, 12%, or 3,000 vehicles of which are projected to be trucks.

1.2 Project Purpose and Need

The purpose of a new I-75 interchange at NW 49th/35th Street is to provide relief to the congestion and operational deficiencies at both existing contiguous I-75 interchanges, by providing an alternate access to I-75 for the projected increase in truck volumes resulting from the future commerce district. The need for an interchange at I-75 and NW 49th Street can be summarized into four (4) different discussion areas:

- ***Economic Viability and Job Creation:*** The proposed interchange is needed to support the economic viability of the Ocala 489, which is intended to serve as an economic engine for job creation in the region and is envisioned as a strategic central inland hub for freight-related traffic.
- ***Improve Interstate and Regional Mobility:*** The proposed interchange is needed to provide a more direct and efficient access to I-75 thus facilitating interstate and regional mobility. In particular, the interchange is needed to serve the “long haul” trips associated

with the Ocala 489. From a regional perspective, Marion County is approximately midway between Miami and Atlanta and occupies a strategic location due to its relative proximity to other important metropolitan areas. The proposed interchange is thus needed to support the efficient movements of goods.

- ***Address Locally Supported Long Term Regional Needs:*** The proposed project is needed to provide important access to I-75 as part of a locally supported long range vision to develop an east-west corridor parallel to US 27 and SR 326.

- ***Accommodate Future Traffic Growth:*** The proposed interchange is needed to accommodate projected future year traffic volumes. Marion County has experienced a significant and sustained growth in population since 1970. It is projected that build-out in design year 2045 will add 25,000 daily trips to the roadway network with approximately 12%, or 3,000 vehicles, of which are projected to be trucks. As a result of this growth, traffic volumes are increasing and will continue to increase in the future.

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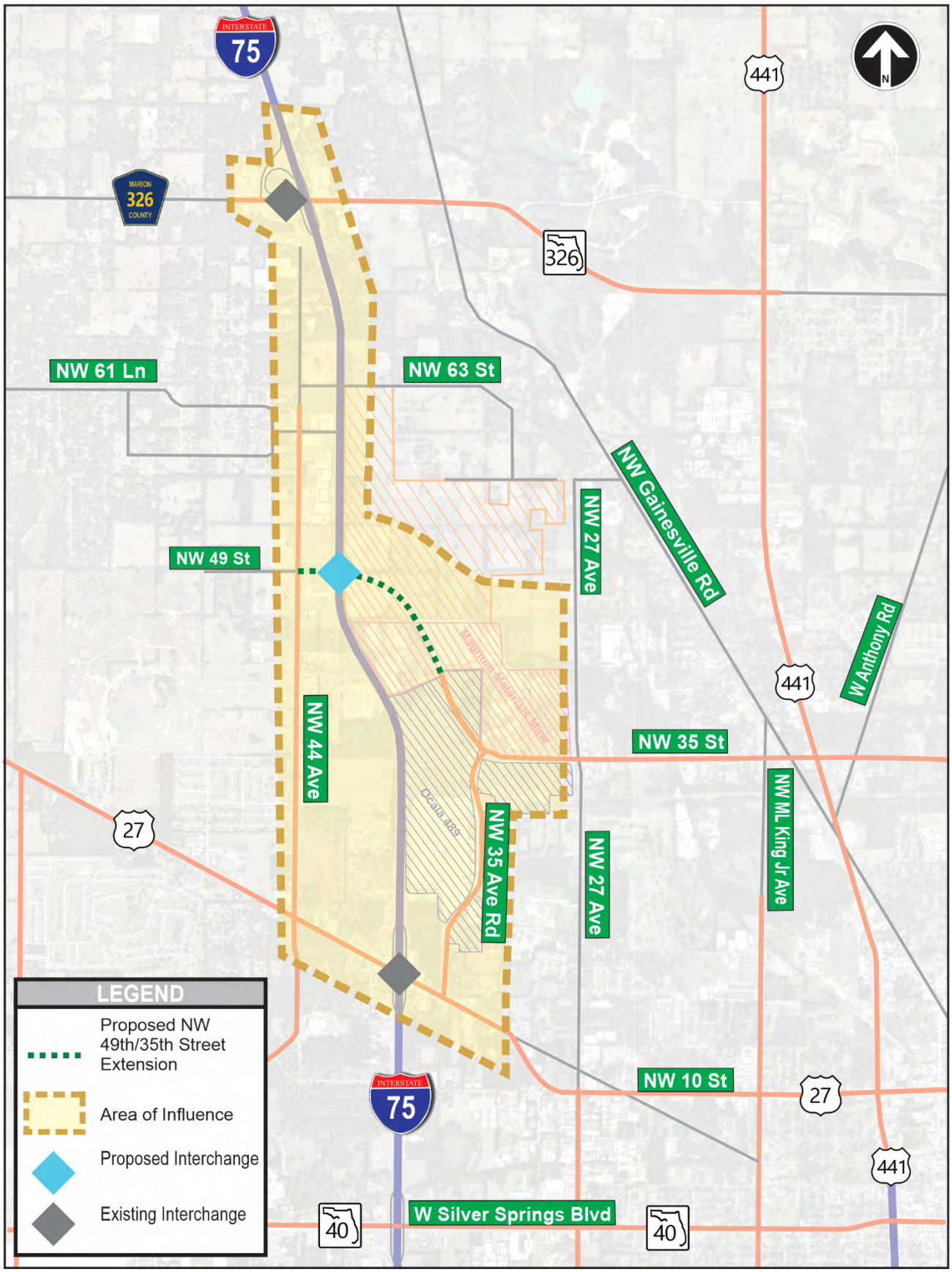

Figure 1-1: Project Location and Area of Influence

1.3 Qualifying Provisions

Via a Programmatic Agreement between the Federal Highway Administration (FHWA) and FDOT, the I-75 at NW 49th Street IJR will be reviewed for approval by FDOT. Per the Methodology Letter of Understanding (MLOU) along with the MLOU Amendment, and consistent with the 2020 *FDOT Interchange Access Request User's Guide (IARUG),* this document follows the two FHWA policy requirements. Therefore, the following specific evaluation criteria, termed FHWA's Policy Requirements, serve as the basis for review and approval of the proposed project as documented in the 2020 IARUG.

1. *An operational and safety analysis has concluded that the proposed change in access does not have a significant adverse impact on the safety and operation of the interstate facility (which includes mainline lanes, existing, new or modified ramps, ramp intersections with crossroads) or on the local street network based on both the current and the planned future traffic projections. The analysis shall, particularly in urbanized areas, include at least the first adjacent existing or proposed interchange on either side of the proposed change in access (23 CFR 625.2(a), 655.603(d) and 771.111(f)). The crossroads and the local street network, to at least the first major intersection on either side of the proposed change in access, shall be included in this analysis to the extent necessary to fully evaluate the safety and operational impacts that the proposed change in access and other transportation improvements may have on the local street network (23 CFR 625.2(a) and 655.603(d)). Requests for a proposed change in access must include a description and assessment of the impacts and ability of the proposed changes to safely and efficiently collect, distribute and accommodate traffic on the interstate facility, ramps, intersection of ramps with crossroad and local street network (23 CFR 625.2(a) and 655.603(d)). Each request also must include a conceptual plan of the type and location of the signs proposed to support each design alternative (23 U.S.C. 109(d) and 23 CFR 655.603(d)).*

A traffic operational analysis was conducted as part of this study. The analysis was performed for the AM and PM peak hours using the methodologies documented in the Highway Capacity Manual (HCM) 2010 as applied using the Highway Capacity Software (HCS) 6.8, Synchro 10 and Vissim 2020.00-07.

The operational analysis provided a performance evaluation for each individual element within the system (for example freeway segments, freeway ramp junctions, crossroad ramp terminals and other crossroad intersections). The analysis indicated that the proposed Diverging Diamond

Interchange (DDI) is the recommended alternative and is not projected to have a significant adverse impact on operations along the I-75 mainline system or the existing adjacent interchanges within the study limits.

Figures 1-2 and **1-3** present the segmented breakdown of the I-75 mainline and interchange ramps under the No Build and DDI alternatives; along with the summarized results for the 2045 AM segment and merge/diverge analysis. The differences between No Build and the DDI alternatives are as follow:

- **2045 AM Northbound:**
  - *No Build conditions*
    - I-75 south of US 27 including the off-ramp diverge operates at Level of Services (LOS) F and the basic segment between US 27 and SR 326, operates at LOS E.
  - *Build conditions*
    - Similar to No Build, I-75 south of US 27 operates at LOS F.
    - Shifts in travel patterns reflect the use of I-75 as a by-pass between US 27 and NW 49th Street. Under No Build, for segment densities that are close to the LOS D maximum threshold of 35 pc/mi/ln; the shift in traffic from improved connectivity corresponds to a minimal density increase resulting in LOS E segments under Build.
    - North of US 27 interchange, through the NW 49th Street interchange LOS are the same or better than under No Build.
    - SR 326 diverge segment, the minimal increase in density is at the 35 pc/mi/ln LOS D target threshold.
- **2045 AM Southbound:**
  - *No Build conditions*
    - I-75 south of US 27 including the on-ramp merge operates at LOS E.
  - *Build conditions*
    - I-75 at the US 27 on-ramp merge condition; the traffic pattern shift from improved connectivity creates a slight increase in density where the LOS E threshold is exceeded.
    - All remaining locations meet the LOS D target.

Figures 1-4 and **1-5** present the 2045 PM segment and merge/diverge analysis results for the No Build and DDI alternatives. Along with the directional peak change, the shifts in travel patterns, reflecting decreases and increases in traffic are similar to those observed for the AM.

Figure 1-2: No Build 2045 AM I-75 Segment & Merge/Diverge Analysis Summary

2045 AM No Build																	
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570	1,500	380	1500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616	17,881	1,073	380	1500	N/A	268	
	Speed (mph)	57.4	55.4	69.1	65.9	67.5	64.2	69.8	64.3	73.9	68.4	72.0
	Level of Service	E	E	C	D	D	C	C	C	B	D	C
	Density (pc/mi/ln)	39.4	36.6	25.0	28.4	27.1	25.9	24.2	23.8	17.8	28.2	21.1
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11	14	11	6	12	23	12	23	12	23	10
										Loop		
	Volumes	5,496	1,297	4,199	216	4,415	330	4,085	901	3,184	529	3,713
Interchange				US 27						SR 326		
I-75 Northbound	Volumes	6,200	1,204	4,996	244	5,240	1,239	4,001		772	4,773	
	Truck%	11	14	11	6	12	23	12		23	10	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	18,132	671	N/A		941		
	Speed (mph)	48.4	60.8	62.7	61.1	60.0	62.6	70.3		62.2	64.9	
	Level of Service	F	F	D	D	E	D	C		D	D	
	Density (pc/mi/ln)	52.7	40.8	32.8	31.2	36.1	34.1	23.5		30.3	30.1	

Figure 1-3: DDI Alternative 2045 AM I-75 Segment & Merge/Diverge Analysis Summary

DDI 2045 AM																	
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,676	1,500	7,530	1,500	2,307	1,500	380	1,500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616		1,010	N/A	580		1,073	N/A	1,500	N/A	268	
	Speed (mph)	53.4	53.4	63.5	64.8	61.0	59.5	66.9	64.5	64.9	63.2	69.0	63.1	73.7	67.9	72.1
	LOS	E	F	D	D	D	D	C	D	D	C	C	C	C	C	C
	Density (pc/mi/ln)	44.9	37.8	30.6	31.6	34.1	31.5	25.7	29.4	28.7	26.4	25.2	24.7	18.2	27.9	20.9
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0
														Loop		
	Volumes	5,825	1,092	4,733	306	5,039	883	4,156	351	4,507	307	4,200	959	3,241	442	3,683
Interchange			US 27				NW 49 Street				SR 326					
I-75 Northbound	Volumes	6,501	1,043	5,458	335	5,793	746	5,047	415	5,462	1,250	4,212		726	4,938	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	1,585	1,500	10,173	1,500	1,900	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	3,247	491	N/A	1,057	3,172	671	N/A		941		
	Speed (mph)	44.8	60.5	57.3	56.4	53.5	63.3	60.9	54.7	57.0	62.0	68.9		61.1	63.5	
	LOS	F	F	E	E	E	E	D	E	E	E	C		D	D	
	Density (pc/mi/ln)	59.7	44.0	39.2	35.9	44.8	38.4	34.3	36.0	39.6	35.0	25.3		30.9	31.8	

Figure 1-4: No Build 2045 PM I-75 Segment & Merge/Diverge Analysis Summary

2045 PM No Build															
I-75 Southbound	**Distance (ft)**		1,500	3,168	1,500	16,570	1,500	380	1500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616	17,881	1,073	380	1500	N/A	268	
	Speed (mph)	47.1	46.2	62.5	65.6	60.0	61.3	63.2	60.9	70.2	68.2	66.6
	Level of Service	F	F	D	D	E	D	D	D	C	D	D
	Density (pc/mi/ln)	54.9	41.1	33.0	32.3	36.0	30.7	32.1	28.8	23.6	32.8	28.1
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11.0	14.0	11.0	6.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0
										Loop		
	Volumes	**6,290**	**1,276**	**5,014**	**220**	**5,234**	**320**	**4,914**	**906**	**4,008**	**567**	**4,575**
Interchange			**US 27**							**SR 326**		
I-75 Northbound	**Volumes**	**5,413**	**1,265**	**4,148**	**265**	**4,413**	**1,326**	**3,087**		**750**	**3,837**	
	Truck%	11.0	14.0	11.0	6.0	12.0	23.0	12.0		23.0	10.0	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	18,132	671	N/A		941		
	Speed (mph)	58.4	61.1	69.5	63.7	67.5	62.1	74.2		65.1	71.4	
	LOS	E	D	C	C	D	D	B		C	C	
	Density (pc/mi/ln)	38.1	34.6	24.6	26.5	27.0	30.6	17.2		24.8	22.0	

Figure 1-5: DDI Alternative 2045 PM I-75 Segment & Merge/Diverge Analysis Summary

DDI 2045 PM															
I-75 Southbound	**Distance (ft)**		1,500	3,168	1,500	3,676	1,500	7,530	1,500	2,307	1,500	380	1,500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616		1,010	N/A	580		1,073	N/A	1,500	N/A	268	
	Speed (mph)	43.0	42.9	57.4	64.3	53.6	55.4	61.0	64.0	57.2	59.6	60.9	58.7	69.1	67.5	65.6
	LOS	F	F	E	E	E	E	D	D	E	D	D	D	C	D	D
	Density (pc/mi/ln)	63.3	42.3	39.1	37.1	44.6	35.4	34.1	33.9	39.4	31.9	35.0	30.4	25.0	33.2	29.3
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0
														Loop		
	Volumes	**6,626**	**1,175**	**5,451**	**330**	**5,781**	**746**	**5,035**	**415**	**5,450**	**299**	**5,151**	**967**	**4,184**	**506**	**4,690**
Interchange			**US 27**					**NW 49 Street**						**SR 326**		
I-75 Northbound	**Volumes**	**5,796**	**1,110**	**4,686**	**346**	**5,032**	**883**	**4,149**	**351**	**4,500**	**1,340**	**3,160**		**707**	**3,867**	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	1,585	1,500	10,173	1,500	1,900	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	3,247	491	N/A	1,057	3,172	671	N/A		941		
	Speed (mph)	53.7	60.9	63.9	60.2	61.0	63.2	66.9	46.2	64.9	62.1	74.0		64.3	71.2	
	LOS	E	E	D	D	D	D	C	E	D	D	B		C	C	
	Density (pc/mi/ln)	44.4	36.5	30.2	32.0	34.1	33.7	25.6	38.8	28.6	31.0	17.7		24.8	22.2	

The differences between the No Build and DDI alternatives under 2045 PM are as follow:

- **2045 PM Northbound:**
  - *No Build conditions*
    - I-75 mainline segment south of US 27 operates at LOS E.
    - All remaining locations meet the LOS D target.
  - *Build conditions*
    - For the US 27 off-ramp diverge; shift in travel pattern from improved connectivity corresponds to a minimal increase in density where the LOS D target threshold is exceeded at LOS E.
    - The NW 49th Street on-ramp merge operates at LOS E; both adjacent mainline segments meet the LOS D target.
    - Remaining northbound segments meet the LOS D target.
- **2045 PM Southbound:**
  - *No Build conditions*
    - I-75 on-ramp merge from US 27 and adjacent mainline segment operate at LOS F.
    - I-75 segment between US 27 and SR 326 operates at LOS E.
  - *Build conditions*
    - I-75 off-ramp diverge to US 27 and adjacent mainline segment, the ramp volume increase from improved connectivity creates a minor increase in density resulting in LOS E.
    - Remaining southbound segments operate similar to No Build conditions.

As shown in the No Build segment and merge/diverge analysis results, the segments of I-75 between US 27 and SR 326 do not meet the LOS D target in year 2045 and are anticipated to operate at LOS E during either the AM or PM peak hours. The proposed interchange along NW 49th Street is projected to meet the LOS D target; however, similar No Build I-75 segment operations (segments operating at LOS E) are also projected under build conditions. Therefore, a year of failure analysis was performed for the DDI alternative where I-75 segments reach LOS E in 2045. The analysis was conducted by interpolating volumes between years 2035 and 2045; then entering the volume for each year into HCS, until LOS E results were reached. Analysis results are summarized as follow:

- **AM Northbound:**
  - I-75 mainline segment south of US 27 - 2035

- I-75 mainline segment between US 27 and NW 49th Street – 2037
- NW 49th Street off-ramp diverge condition – 2041
- NW 49th Street on-ramp merge condition – 2044
- I-75 mainline segment between NW 49th Street and SR 326 – 2041

o **PM Southbound:**

- I-75 south of US 27 - 2035
- I-75 mainline segment between SR 326 and NW 49th Street – 2041
- NW 49th Street on-ramp merge condition – 2045
- I-75 mainline segment between NW 49th Street and US 27 – 2037

Based on the year of failure analysis, additional I-75 mainline improvements may be required in order for I-75 to meet the LOS D target through design year. The analysis also shows that the proposed DDI at the NW 49th Street interchange will not have a significant adverse impact on operations along the I-75 mainline system or the existing adjacent interchanges within the study limits, when compared to No Build conditions; therefore, meeting this FHWA policy requirement. To address identified mainline deficiencies, the District is looking into potential improvements via separate projects or other methods such as the I-75 PD&E Study (FM Number 443623-1-22-01 & 443624-1-22-01) to improve overall operations on the I-75 mainline. The results and recommendations of this IJR will be shared with the I-75 PD&E Study team and District Traffic Operations group.

Table 1-1 presents the 2045 No Build and DDI alternative intersection delay and LOS during the AM and PM peak hours. Under No Build conditions, none of the signalized intersections meet the LOS D target except for the intersection of I-75 northbound ramps at US 27; however, the northbound off-ramp approach fails.

For Build conditions, the only signalized intersections within the AOI operating at the LOS D Target or better are the US 27 northbound ramps and the SR 326 northbound ramps intersections. The shift in traffic patterns from improved connectivity is expected to reduce total ramp volumes at both existing interchanges (US 27 and SR 326) by approximately 1,000 vehicles per day under the build condition. Although not meeting the LOS D Target for some intersections, during the AM peak hour, all intersection delays are reduced when compared to No Build conditions. During the PM peak hour, delays are decreased at all but three intersections. The difference in overall intersection delay, compared to No Build is not significant at the three intersections.

Table 1-1: 2045 No Build & DDI Alternative Intersection Delay and LOS

#	Intersection	DIR	No Build								Build DDI							
			AM				PM				AM				PM			
			App.		Int.		App.		Int.		App.		Int.		App.		Int.	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
1	NW 44 Ave at US 27	EB	151.8	F	89.5	F	54.3	D	105.1	F	111.1	F	70.5	E	39.0	D	111.1	F
		WB	34.4	C			153.7	F			33.0	C			171.5	F		
		NB	64.2	E			66.2	E			49.7	D			60.4	E		
		SB	51.5	D			50.5	D			45.9	D			48.3	D		
2	I-75 SB at US 27	EB	142.4	F	108.3	F	77.5	E	68.8	E	90.5	F	57.6	E	62.2	E	58.5	E
		WB	73.3	E			63.7	E			21.4	C			53.7	D		
		SB	59.6	E			59.2	E			50.7	D			97.9	F		
3	I-75 NB at US 27	EB	6.7	A	25.4	C	1.2	A	46.2	D	2.2	A	15.5	B	1.5	A	39.6	D
		WB	21.8	C			36.3	D			19.4	B			45.4	D		
		NB	60.8	E			119.6	F			33.7	C			77.3	E		
4	NW 35 Ave Rd at US 27	EB	66.5	E	125.6	F	101.1	F	199.2	F	49.0	D	112.7	F	99.6	F	218.1	F
		WB	69.0	E			178.3	F			60.6	E			193.5	F		
		NB	57.4	E			54.8	D			55.0	E			55.0	D		
		SB	415.1	F			463.0	F			397.8	F			517.8	F		
5	NW 44 Ave at NW 49 ST	EB	61.6	E	96.8	F	64.7	E	88.4	F	43.0	D	30.1	C	42.6	D	28.4	C
		WB	81.6	F			159.6	F			36.1	D			33.2	C		
		NB	208.6	F			64.9	E			25.0	C			21.8	C		
		SB	37.7	D			25.3	C			27.2	C			27.2	C		
6	NW 44 Ave/ I-75 SB Off at SR 326	EB	22.7	C	68.6	E	25.6	C	74.2	E	15.8	B	19.4	B	19.8	B	24.9	C
		WB	47.6	D			43.2	D			15.9	B			20.5	C		
		NB	111.5	F			145.5	F			28.3	C			32.7	C		
		SB	116.3	F			96.8	F			24.2	C			31.5	C		
7	I-75 SB On-Ramp (Loop) at SR 326 *Unsignalized*	EB	0.0	A	10.4	B	0.0	A	1.5	A	0.0	A	4.4	A	0.0	A	1.2	A
		WB	17.1	C			2.2	A			6.5	A			1.5	A		
		NB	15	C			14.7	B			13.6	B			12.6	B		
8	I-75 NB Off/ I75 NB On at SR 326[1]	EB	45.7	D	418.3	F	95.7	F	332.0	F	13.9	B	365.7	F	57.8	E	367.2	F
		WB	329.8	F			395.6	F			251.1	F			431.3	F		
		NB	851.8	F			409.4	F			774.4	F			431.2	F		
9	I75 SB at NW 49 ST[1]	SBR									21.4	C	18.2	B	20.8	C	17.3	B
		SBL									34.8	C			28.3	C		
		EBT									18.2	B			9.9	A		
		WBT									13.8	B			18.4	B		
10	I75 NB at NW 49 ST[1]	NBL									32.4	C	20.5	B	30.1	C	19.3	B
		NBR									16.3	B			19.3	B		
		EBT									13.6	B			7.3	A		
		WBT									18.6	B			20.2	C		

[1]LOS results based on HCM 2000 methodology; [2]Delay in sec/veh

Table 1-2 summarizes the network performance from the Vissim analysis. The benefits of the build alternative are visibly higher during the AM peak period. During the PM peak period, the benefits are not as significant due to the higher demand volumes, which results in higher congestion on I-75 southbound at the US 27 interchange. Overall, all performance measures show improvement under the DDI alternative compared to No Build. Network statistic improvements are as follow:

- **AM Peak**
  - Total Delay: Reduced by 37%
  - Total Stops: Reduced by 47%
  - Average Speed: Increased by 3 mph
  - Vehicles Arrived: Increased by 1,188 vehicles
  - Vehicle-Miles Traveled: Increase by 15,464 miles
  - Latent Delay: Reduced by 387 hours
  - Latent Demand: Reduced by 1,697 hours
- **PM Peak**
  - Total Delay: Reduced by 15%
  - Total Stops: Reduced by 25%
  - Average Speed: Increased by 2 mph
  - Vehicles Arrived: Increased by 1,466 vehicles
  - Vehicle-Miles Traveled: Increase by 16,387 miles
  - Latent Delay: Reduced by 51 hours
  - Latent Demand: Reduced by 217 hours

Table 1-2 2045 Vissim Network Performance Summary

Peak Hour	15-min Period	No Build							DDI						
		Total Delay (Hours)	Total Stops	Average Speed (mph)	Vehicles Arrived (Vehicles)	Vehicle-Miles Traveled	Latent Delay (Hours)	Latent Demand (Vehicles)	Total Delay (Hours)	Total Stops	Average Speed (mph)	Vehicles Arrived (Vehicles)	Vehicle-Miles Traveled	Latent Delay (Hours)	Latent Demand (Vehicles)
AM	1	21	1,980	58	2,854	13,513	0	0	24	2,152	56	2,874	14,262	0	0
	2	33	3,034	56	3,558	16,829	0	0	36	3,142	55	3,565	17,796	0	0
	3	43	3,981	55	4,048	18,965	0	1	46	4,026	54	4,081	19,997	0	1
	4	53	5,095	54	4,283	20,027	0	1	53	4,666	54	4,359	21,230	0	1
	5	**93**	**9,964**	**50**	**4,667**	**22,275**	**0**	**3**	**83**	**7,802**	**51**	**4,746**	**23,652**	**1**	**5**
	6	**165**	**18,817**	**44**	**4,878**	**22,897**	**9**	**97**	**127**	**13,118**	**47**	**5,087**	**24,632**	**3**	**19**
	7	**215**	**24,529**	**40**	**4,832**	**22,799**	**47**	**293**	**166**	**17,774**	**44**	**5,032**	**24,507**	**14**	**109**
	8	**211**	**23,218**	**39**	**4,694**	**21,326**	**75**	**326**	**160**	**17,568**	**43**	**4,797**	**22,682**	**22**	**89**
	9	187	20,770	40	4,496	20,691	84	347	133	14,654	45	4,602	22,012	21	79
	10	182	20,154	41	4,507	20,757	91	382	116	12,211	47	4,630	22,262	19	74
	11	178	19,332	42	4,574	21,335	100	403	106	10,502	48	4,692	22,650	19	76
	12	176	20,012	41	4,393	19,981	97	357	89	8,646	49	4,507	21,177	17	60
	Total[1]	**1,557**	**170,886**	**46**	**51,784**	**241,395**	**503**	**2,210**	**1,139**	**116,261**	**49**	**52,972**	**256,859**	**116**	**513**
PM	1	78	6,781	51	4,465	20,171	0	2	85	6,904	50	4,545	21,429	1	9
	2	88	7,486	49	4,428	19,854	4	20	89	6,701	49	4,553	21,113	7	29
	3	113	9,992	47	4,572	21,238	12	73	108	8,479	48	4,672	22,600	21	127
	4	137	12,609	45	4,739	21,598	37	183	123	9,860	47	4,892	23,030	50	239
	5	158	16,407	43	4,748	21,700	67	330	135	11,555	46	4,870	23,210	79	374
	6	175	17,801	42	4,724	21,355	105	474	146	13,453	44	4,901	22,797	112	499
	7	198	20,597	41	4,759	22,182	151	717	160	15,527	44	4,911	23,637	153	702
	8	221	24,377	39	4,839	22,198	217	971	184	19,593	42	4,985	23,932	206	902
	9	236	26,684	38	4,797	21,984	275	1,199	211	23,172	40	4,912	23,441	255	1,110
	10	222	25,246	38	4,620	20,428	316	1,282	191	21,240	40	4,794	21,733	293	1,190
	11	176	19,134	40	4,429	19,423	327	1,310	144	14,620	43	4,504	20,576	302	1,201
	12	134	13,881	43	4,152	18,122	326	1,255	106	9,755	46	4,199	19,142	307	1,217
	Total[1]	**1,936**	**200,995**	**43**	**55,272**	**250,253**	**1,837**	**7,816**	**1,682**	**160,859**	**45**	**56,738**	**266,640**	**1,786**	**7,599**

[1]Average Speed results based on the weighted average with Arrived Vehicles

A predictive crash analysis was conducted to compare predicted crashes of the No Build and the five Build alternatives. The analysis was conducted for future conditions utilizing the predictive methods set forth in the Highway Safety Manual (HSM) Parts C and D. A summary of the predicted number of annual crashes for the project site (interchange alternatives) is provided in **Table 1-3** and for the AOI in **Table 1-4**. The predicted number of annual crashes for the interchange alternatives range from 96.3 crashes per year for the DDI alternative, the best in regard to safety; to 108.0 crashes per year for the Diamond alternative, ranking the worst. In addition, the project AOI shows a net reduction in total crashes from 321.9 crashes under No Build to 317.2 crashes under Build conditions. It should be noted that compared to No Build, Build Annual Average Daily Traffic (AADT) values are higher; which inherently increases predicted crashes, even when the same scenario is maintained.

Table 1-3: Project Site Predicted 2045 Annual Crashes

Location	DIAMOND			SPUI			ParClo SE			ParClo NE			DDI		
	FI	PDO	Total	FI	PDO	Total	FI	PDO	Total	FI	PDO	Total	FI	PDO	Total
I-75 (N of US 27 to NW 49th Street to S of SR 326)	19.4	48.5	**67.8**	19.8	49.9	**69.7**	17.6	44.3	**61.8**	18.5	46.8	**65.3**	19.4	48.5	**67.8**
I-75 & NW 49th Street Interchange[1]	11.9	25.3	**37.2**	8.0	22.2	**30.1**	12.9	26.6	**39.5**	10.2	19.2	**29.4**	8.0	17.5	**25.5**
NW 49th Street, NW 44th Avenue to I-75	0.1	0.2	**0.3**	0.1	0.3	**0.4**	0.1	0.2	**0.3**	0.1	0.2	**0.3**	0.1	0.2	**0.3**
NW 49th Street, East of I-75	0.2	0.5	**0.7**	0.2	0.5	**0.7**	0.2	0.5	**0.7**	0.2	0.5	**0.7**	0.2	0.5	**0.7**
NW 44th Avenue at NW 49th Street	0.7	1.3	**2.0**	0.7	1.3	**2.0**	0.7	1.3	**2.0**	0.6	1.3	**1.9**	0.7	1.3	**2.0**
TOTALS	**32.2**	**75.8**	**108.0**	**28.7**	**74.2**	**102.9**	**31.4**	**72.9**	**104.3**	**29.6**	**68.1**	**97.7**	28.3	68.1	**96.3**

[1]*Merge/Diverge/Ramps/Ramp Termini*

Table 1-4: AOI Cumulative Predicted 2045 Annual Crash Summary

Location	FI	PDO	NO BUILD	FI	PDO	BUILD
I-75 (S of US 27-N Ramps & S Ramps-N of SR 326)	18.5	48.1	**66.6**	19.4	51.0	**70.3**
I-75 & US 27 Interchange[1]	28.2	39.9	**68.0**	27.1	38.4	**65.5**
I-75 & SR 326 Interchange[1]	41.2	76.6	**117.7**	40.2	77.4	**117.7**
US 27 (Arterial & Intersections)	13.5	28.4	**41.8**	12.8	27.0	**39.8**
SR 326 (Arterial & Intersections)	4.7	12.0	**16.7**	4.6	11.8	**16.4**
NW 44th Avenue AOI (N & S of NW 49th St)	3.0	8.0	**11.0**	2.0	5.4	**7.4**
TOTALS	**109.0**	**212.9**	**321.9**	**106.1**	**211.0**	**317.2**

[1]*Merge/Diverge/Ramps/Ramp Termini*

The proposed interchange ramp gores would be located at a minimum of 0.87 miles away from the US 27 ramp gores and a minimum of 0.90 miles away from the SR 326 ramp gores; and do not create weaving segments.

2. *The proposed access connects to a public road only and will provide for all traffic movements. Less than "full interchanges" may be considered on a case-by-case basis for applications requiring special access for managed lanes (e.g., transit, HOVs, HOT lanes) or park and ride lots. The proposed access will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a)(2), and 655.603(d)).*

The new interchange will be designed to meet or exceed current FDOT Design Standards and will serve all traffic movements. The interchange will connect to the extension of NW 49th Street. This roadway project is currently under design, with funding for construction in 2024/25; it will conform to FDOT Design Standards and will be a public roadway.

Marion County and the City of Ocala have already constructed public roadways that will facilitate access to the proposed interchange. Specifically, the four-laning of NW 35th Street from US 441 (North Pine Avenue) to NW 35th Avenue Road and the four-lane construction of NW 35th Avenue Road north from US 27 (NW Blitchton Road) to intersect with the NW 35th Street project.

1.4 Summary Request

As discussed previously, the recommended DDI alternative meets FHWA's Two Policy Requirements. Based on the analysis presented in this document, approval is requested of a new interchange to be located at I-75 and the planned extension of NW 49th Street, as part of a PD&E Study. The I-75 and NW 49th Street interchange is currently listed as the number one (1) priority project on the Ocala/Marion Transportation Planning Organization (TPO) adopted Fiscal Year (FY) 2025 Priority Projects. In addition, the PD&E Study and Preliminary Design for this project are included in the current FDOT Five Year (2021 - 2025) Work Program in Years prior to 2020, 2020 and 2023, respectively; presented in more detail in Sections 2 and 9.

The DDI alternative provides the highest performing operations and lowest predicted number of crashes when compared to the other Build alternatives. In terms of environmental, socio-economic, cost, and other engineering factors, the DDI alternative ranked first in the alternative evaluation matrix. Based on the aforementioned, the DDI alternative is the recommended interchange configuration for I-75 at NW 49th Street. Recommended storage lengths are provided in **Table 1-5**. It should be noted that recommended storage lengths do not include deceleration and taper lengths. Additional storage is also suggested to accommodate the heavy truck traffic that is anticipated at the proposed interchange to support the industrial/commercial Ocala 489 commerce park.

For maximum operational efficiency, it is recommended to integrate the proposed interchange into the surrounding existing and planned Transportation Systems Management & Operations (TSM&O) network as identified in the Marion County TSM&O Master Plan and the FDOT F.R.A.M.E. project (FM Number 440900-1). In addition to inclusion of the recommended interchange into the TSM&O network, the recommended DDI alternative is also being designed to accommodate future improvements should the need arise. Finally, based on the year of failure analysis, additional I-75 mainline improvements may be required in order for I-75 to meet the LOS D target through design year. As previously mentioned, the District is looking into potential improvements to the I-75 mainline via separate projects or other methods such as the I-75 PD&E Study (FM Number 443623-1-22-01 & 443624-1-22-01) to improve overall operations on the I-75 mainline. The results and recommendations of this IJR will be shared with the I-75 PD&E Study team and District Traffic Operations group.

Table 1-5: 2045 Recommended Turn Lane Storage Lengths

Interchange	Ramps	Movement	Turn Bay Length[1] (ft)	95th Percentile Queue Length[2] (ft)		Vissim Max Queue Length (ft)		Recommended Storage Length[3] (ft)
				AM	PM	AM	PM	
DDI	I-75 NB	WBR	250	40	37	4	0	50
		NBL	-	0	0	228	256	275
	I-75 SB	EBR	300	24	13	201	265	275
		SBL	-	0	0	166	207	225

[1] Turn Bay Length used in traffic analysis; Turn Bay Length = Storage + Deceleration + Taper Lengths
[2] Queue length from Synchro Analysis
[3] Recommended Storage Length does not include Deceleration+ Taper Lengths.

2 Introduction

2.1 Background

This IJR follows a previously approved IJR completed on behalf of Marion County. The 2016 IJR documents the need for, and analysis of a new interchange on I-75 at the planned extension of NW 49th Street in Marion County, Florida; see **Figure 2-1** Project Location.

The 2016 IJR evaluated the No Build and Urban Diamond Interchange alternatives. This new IJR is being developed as part of the *I-75 at NW 49th Street PD&E Study* which updates the traffic forecasting, using the most recent Central Florida Regional Planning Model (CFRPM) version 6.1; and evaluates additional alternatives.

The greater Ocala area has recently experienced one of the highest growth rates in the country for a city its size, and the Marion County Comprehensive Plan outlines a vision to enhance the livability of its residents and promote economic growth in the region. In this vein, the County has designated approximately 3,000 acres adjacent to I-75 as a future commerce park. This commerce park is composed of a recently constructed FedEx Ground Distribution Hub; Chewy distribution center; an AutoZone distribution center, designated as a CSX Select Site; the Florida Crossroads Logistics Center, a Red Rock Development; and the remaining undeveloped sites. Development in this area will result in traffic volume increases along I-75 and the entire local roadway network; adding a projected 25,000+ daily trips to the roadway network upon full-buildout, 12%, or 3,000 vehicles of which are projected to be trucks.

Per request of FDOT, this IJR document is to maintain consistency with the 2016 IJR, when feasible. Therefore, direct excerpts from the 2016 IJR have been incorporated throughout this document for consistency and continuity.

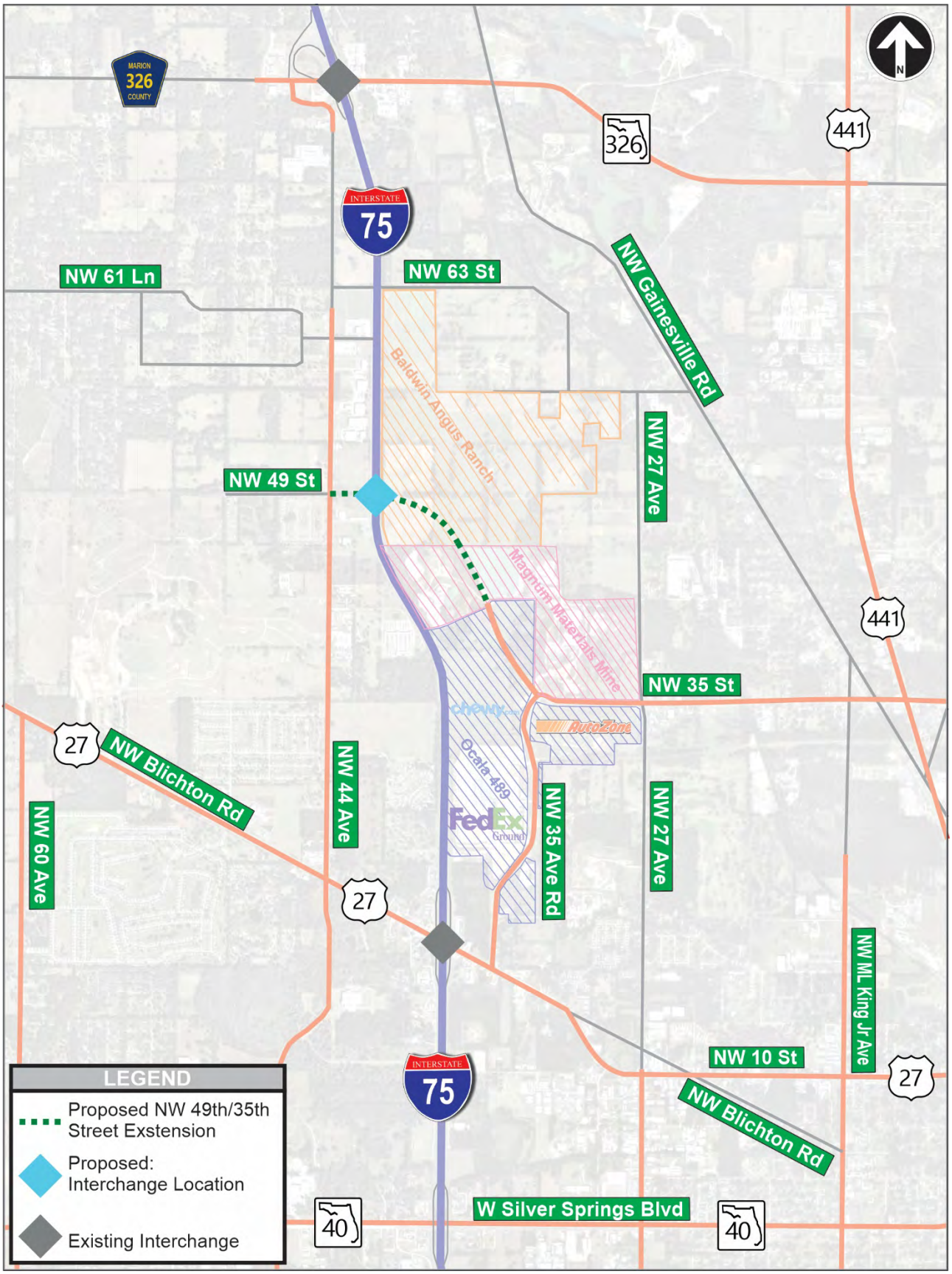

Figure 2-1: Project Location

2.2 Project Purpose and Need

2.2.1 Purpose

The purpose of a new I-75 interchange at NW 49th/35th Street is to provide relief to the congestion and operational deficiencies at both existing contiguous I-75 interchanges, by providing an alternate access to I-75 for the projected increase in truck volumes resulting from the future commerce district.

2.2.2 Need

The overall study was initiated with a detailed, comprehensive analysis of existing/projected substandard conditions. In general terms, some of the most critical potential needs include:

2.2.2.1 Economic Viability and Job Creation:

The proposed interchange is needed to support the economic viability of the Ocala 489, a 489 acre industrial and commercial development, which is intended to serve as an economic engine for job creation in the region and is envisioned as a strategic central inland hub for freight-related traffic (see **Figure 2-2**). The Ocala 489 has been established as a Florida Enterprise Zone, a designation which provides numerous tax credits to businesses located within the Commerce Park. In addition, this commerce park includes a site, recently developed by AutoZone, that was designated as a CSX Select Site (the first in Florida). Select Sites are properties identified and vetted as capable locations for future manufacturing facilities along the CSX rail network. FedEx Ground, Florida Crossroads Logistics Center, and Chewy also completed new facilities within the Ocala 489. Marion County has already made infrastructure improvements within the Park with the extension of NW 35th Street as a divided four lane facility.

Figure 2-2: Ocala 489 Commerce Park

It should be noted that the Ocala 489 is zoned M-1/M-2 or Light/Heavy Industrial and the businesses that are intended to occupy the commerce park will depend heavily on interstate and regional movement to transport raw materials and finished goods, around the State and beyond. In summary, due to its strategic location and incentives, the Ocala 489 and the commerce district/employment center will provide needed jobs in the area.

2.2.2.2 *Improve Interstate and Regional Mobility*

The proposed interchange will provide a more direct and efficient access to I-75 thus facilitating interstate and regional mobility. As previously stated, I-75 is a vital north-south interstate facility connecting six different states. From a regional perspective (see **Figure 2-3**) Marion County is

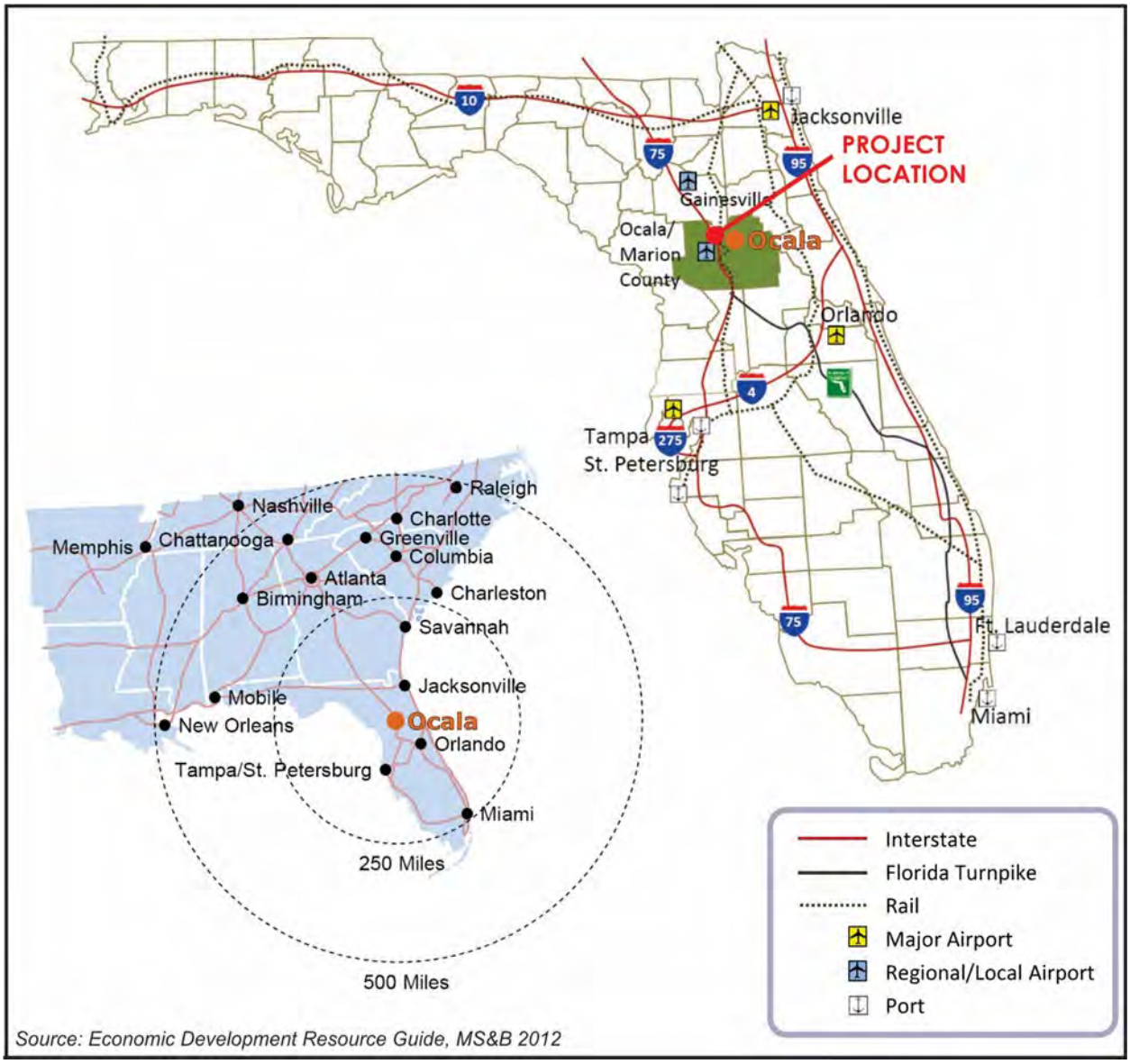

Figure 2-3: Regional Map

approximately midway between Miami and Atlanta and occupies a strategic location due to its relative proximity to other important metropolitan areas such as Jacksonville, Orlando, and Tampa. This strategic location coupled with the presence of a major interstate facility such as I-75 makes this area a key potential hub for commercial industry. The proposed interchange is thus needed to support the efficient movements of goods.

2.2.2.3 Address Locally Supported Long Term Regional Needs

The proposed project is needed to provide important access to I-75 as part of a locally supported long range vision to provide a future east-west corridor parallel to US 27 and SR 326. This east-west corridor begins at NE 36th Avenue, east of I-75 and Downtown Ocala and terminates at NW 70th Avenue, west of the proposed I-75 interchange. In conjunction with this new east-west corridor is a connection to US 27 at NW 35th Avenue Road and at NW 60th Avenue.

The proposed I-75 interchange is currently listed as the number one (1) priority project on the Ocala/Marion TPO FY 2025 Priority Projects List. Excerpts from plans published by FDOT, Marion County and the Ocala Marion TPO that reflect corresponding planned and programmed projects are provided in **Appendix A**. The County has completed a number of improvements in the area in support of the proposed interchange and the Ocala 489 (see **Figure 2-4**), including extension of NW 35th Avenue Road. Phase 2A of the NW 35th Avenue Road extension was recently completed by the County, Phase 2B is a Marion County project currently in Final Design and programmed for construction in 2021, and Phase 2C (see **Figure 2-4**) is the connection between the proposed interchange and the future NW 35th Avenue Road (Phase 2B) that will be completed as part of the proposed interchange.

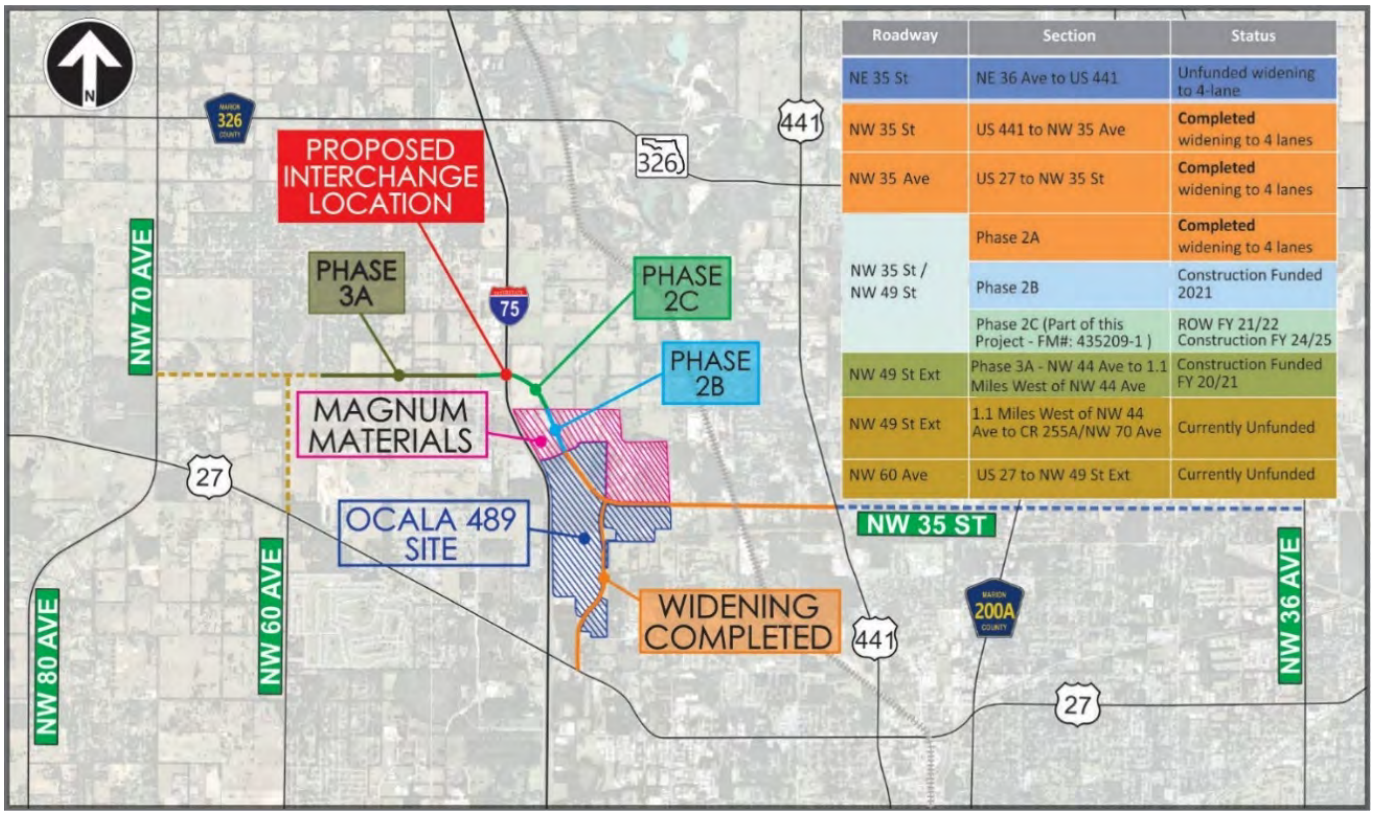

Figure 2-4: Adjacent Projects

2.2.2.4 Accommodate Future Traffic Growth

As previously stated, one of the primary justifications for the new interchange is to accommodate projected future year traffic volumes. Marion County has experienced a significant and sustained growth in population since 1970. This significant growth rate is expected to continue in the future. According to the currently adopted CFRPM socio-economic data for 2010 and 2040, the projected population for Marion County is expected to grow from approximately 325,199 to over 490,204 in population by 2040. As a result of this population growth, traffic volumes are increasing and will continue to increase in the future. As shown on **Table 2-1,** the proposed interchange will result in a reduction in the design year (2045) traffic volumes on US 27 and SR 326, the two contiguous I-75 interchange locations, as well as NW 35th Avenue Road, generally resulting in reduced delays and improved levels of service.

It should be noted that the existing SR 326 interchange located north of the proposed interchange would be a rather indirect option for trucks serving the Ocala 489 and therefore most of the truck traffic associated with the Commerce Park would likely utilize the US 27 interchange, severely degrading operations and safety at the interchange throughout the day. The need for the new interchange is based on projected traffic volumes in design year 2045 from build-out of not only the Ocala 489 but also the adjacent commerce district/employment center totaling 5,000

+/- acres. It is projected from the CFRPM 6.1 model that build-out in design year 2045 will add 25,000 daily trips to the roadway network with approximately 12%, or 3,000 vehicles, of which are projected to be trucks. As a result of this growth, traffic volumes are increasing and will continue to increase in the future.

Table 2-1: Projected Traffic Effects of the Proposed Interchange (Year 2045)

LOCATION	% of Traffic Impact Change (AADT)		
	No Build (2045)	Build (2045)	% Change
US 27 W of I-75	51,100	49,300	-3.52%
US 27 E of I-75	55,300	53,800	-2.71%
I 75 NB Off Ramp at US 27	14,600	12,800	-12.33%
I 75 SB On Ramp at US 27	15,200	13,500	-11.18%
I 75 NB On Ramp at US 27	2,700	3,600	33.33%
I 75 SB Off Ramp at US 27	2,900	4,300	48.28%
NW 35 Ave Rd N of US 27	24,700	21,600	-12.55%
SR 326 W of I-75	12,500	12,200	-2.40%
SR 326 E of I-75	38,200	37,700	-1.31%
NW 49th St East of I-75	14,600	17,500	19.86%
NW 49th St West of I-75	14,600	21,500	47.26%

2.3 Project Location and Area of Influence

Location

The proposed interchange would be located along I-75 at the planned extension of NW 49th Street in Marion County, Florida. This extension is currently under design by Marion County and is slated for construction in 2024/25. The interchange would be located at Milepost 356, north of US 27 (Milepost 354) and south of SR 326 (Milepost 358). The study interchange is located approximately 2.2 miles north of the I-75 and US 27 interchange and approximately 2.0 miles south of the I-75 and SR 326 interchange.

Area of Influence

The AOI defines the study area for the IJR. As defined in the FDOT IARUG and as directed by the Department, the AOI includes at a minimum, one interchange on either side of the subject interchange and signalized intersections within one-half mile on the cross streets, see **Figure 2-5**.

Figure 2-5: Area of Influence

The following interchanges are included in the AOI:

- I-75 at US 27
- NW 49th Street at I-75 northbound ramps (Proposed)
- NW 49th Street at I-75 southbound ramps (Proposed)
- I-75 at SR 326

The following existing intersections are within the AOI of the proposed interchange:

- US 27 at NW 44th Avenue
- US 27 at I-75 northbound ramps
- US 27 at I-75 southbound ramps
- US 27 at NW 35th Avenue Road
- NW 49th Street at NW 44th Avenue
- SR 326 at I-75 northbound ramps
- SR 326 at I-75 southbound ramps /NW 44th Avenue

2.4 Methodology

The methodology for the IJR was developed in accordance with procedures and methods outlined in the 2020 FDOT IARUG and Procedure No. 525-030-160. This procedure requires that the interchange request applicant develops an MLOU for approval by the District Interchange Review Coordinator (DIRC), and the Systems Implementation Office (SIO). The MLOU details the proposed approach to developing the IJR to document the need for, analysis of and impacts associated with the new interchange. The MLOU developed for this project was approved in January 2018.

The original MLOU was updated under an amendment in coordination with the Department and approved in September 2020. The MLOU amendment addresses and documents updates to the methodology such as use of more recent traffic and safety data as well as further operational and forecasting methodology details consistent with this IJR.

The MLOU and MLOU amendment are provided for reference in **Appendix B**.

2.5 Analysis Years

Per the MLOU, the following analysis years were utilized to evaluate interchange operations as part of this IJR:

- Traffic Demand Model Forecasting Years
  - Base Year 2015
  - Horizon Year 2045
- Traffic Operational Analysis
  - Existing Year 2017
  - Opening Year 2025
  - Interim Year 2035
  - Design Year 2045

2.6 Existing Condition Analysis

An analysis was conducted of the current operating conditions within the project AOI. This analysis served as the basis for comparison and analysis of the proposed interchange. The existing condition analysis is discussed further in Section 3.

2.7 Development of Future Design Traffic

Future traffic volumes were developed using CFRPM version 6.1. Although the CFRPM 6.1 has a 2010 base year, a 2015 network and socioeconomic dataset were developed by the Department with input from the local Metropolitan Planning Organization (MPO), the Ocala-Marion TPO, for the area under the Ocala-Marion TPO. The CFRPM 6.1 validation and subarea refinement was performed for the base year 2015. These adjustments were then used as a baseline to develop design traffic volumes for the Opening Year 2025, Interim Year 2035 and Design Year 2045. The development of future year estimates for intersection turning movements is consistent with the procedures outlined in the *FDOT Project Traffic Forecasting Handbook, 2019.* The future intersection volumes were developed from the existing (2017) turning movement percentage breakdown, corresponding future AADT, K and D factors; in the TMTool worksheets. The future conditions traffic and analyses are further discussed in Sections 5, 6 and 7.

2.8 Evaluation of Alternatives

Seven (7) alternatives were considered as part of the IJR: (1) the No Build alternative, (2) the TSM&O alternative, (3) Diamond Build alternative, (4) SPUI Build alternative, (5) Partial

Cloverleaf (Parclo)-SE Build alternative, (6) Parclo-NE Build alternative and (7) DDI Build alternative. The alternatives are discussed in more detail in Section 4.

2.9 Operational Analysis

An operational analysis and evaluation were conducted for both the No Build and the Build Alternatives; under Existing 2017, Opening Year 2025, Interim Year 2035, and Design Year 2045 conditions. The No Build Analysis served as a baseline for comparison of future year conditions. The evaluation involved an assessment of the freeway segments, intersections, ramps, merge and diverge areas.

The operational analysis was accomplished using the most current adopted procedures in the *FDOT Traffic Analysis Handbook, March 2014*. Software used to perform the operational analysis included the 2010 HCS package 6.8, Synchro 10 and Vissim 2020.00-07. The future operational analysis conducted as part of the IJR is discussed in greater detail in Section 6.

2.10 Transportation Plans

Interchange proposals must be consistent with regional and local government adopted transportation plans. This study considered all roadway improvements that are programmed and planned in the area. These capacity improvements are consistent with the following regional transportation plans; presented in greater detail in Section 9.

- FDOT State Transportation Improvement Program (STIP) Five-Year Work Program 2020-2024
- FDOT Strategic Intermodal Systems (SIS) Plans
- Marion County Transportation Improvement Program (TIP) Fiscal Years 2020/2021-2024/2025
- Ocala/Marion TPO 2040 Long Range Transportation Plan (LRTP)
- The Marion County Comprehensive Plan 2035
- Ocala/Marion TPO Future Year 2025 Priority Projects

2.11 Safety and Crashes

A review of the available crash data between 2013 and 2017 within the AOI was conducted and documented in this report. Crash data was obtained via the FDOT Crash Analysis and Reporting (CAR) Online database and the Signal Four Analytics system. The safety and crash history are discussed in greater detail in Section 3. Future conditions were analyzed using the predictive

methods set forth in the HSM Parts C and D. The analysis is presented in greater detail in Section 7.

2.12 Environmental Considerations

No significant impacts are expected as a result of the proposed interchange to the natural, physical, socio-cultural, or economic aspects of the environment. Section 8 provides additional detail regarding each of these environmental factors. Further analysis will be provided in the Preliminary Engineering Report (PER).

2.13 Funding Plan

As previously mentioned, the proposed project is listed as the number one (1) priority project by the Ocala/Marion TPO. Funding has been allocated for future phases of the I-75 at NW 49th Street interchange project, including the PD&E study, right of way, design and construction of both the new interchange and the NW 49th Street extension; see **Table 2-2** for a consolidation of funding source information. The funding plan is presented in greater detail in Section 9.

Table 2-2: Project Location Funding Source and Schedule

Project	Funding Source	Funding	Phase [1]	Years
I-75 at NW 49 Street Interchange	Ocala/Marion TPO TIP [2]	$10,200,000	ROW	2021/22
I-75 at NW 49 Street Interchange	Ocala/Marion TPO TIP [2]	$9,440,914	CST	2024/25
I-75 at NW 49 Street Interchange	Ocala/Marion TPO TIP [2]	$8,419,861	CST	2024/25
I-75 at NW 49 Street Interchange	Ocala/Marion TPO TIP [2]	$8,522,752	CST	2024/25
I-75 at NW 49 Street Interchange	Ocala/Marion TPO TIP [2]	$14,415,217	CST	2024/25
I-75 at NW 49 Street Interchange	Ocala/Marion TPO TIP [2]	$114,400	CST	2024/25
I-75 at NW 49 Street Interchange	Ocala/Marion TPO TIP [2]	$4,696,516	CST	2024/25
I-75 at NW 49 Street Interchange	Ocala/Marion TPO TIP [2]	$3,407,729	CST	2024/25
I-75 at NW 49 Street Interchange	FDOT 5-YEAR WP [3]	$15,990	PD&E	2021
I-75 at NW 49 Street Interchange	FDOT 5-YEAR WP [3]	$373,968	PE	2021
I-75 at NW 49 Street Interchange	FDOT 5-YEAR WP [3]	$10,200,000	ROW	2022
I-75 at NW 49 Street Interchange	FDOT 5-YEAR WP [3]	$47,774,814	CST	2025
I-75 at NW 49 Street Interchange	FDOT STIP [4]	$2,716,535	PD&E	<2020-2020
I-75 at NW 49 Street Interchange	FDOT STIP [4]	$2,104,131	PE	2022
NW 49th/35th Street Phase 2C [7]	Marion County TIP [5]	$5,700,000	ROW-A	2020/21
NW 49th/35th Street Phase 2C [7]	Marion County TIP [5]	$8,419,862	CST	2024/25
NW 49th/35th Street Phase 3A [8]	Marion County TIP [5]	$2,000,000	CST	2020/21

[1] PHASES: ROW Right of Way; CST Construction; PD&E Project Development & Environment; PE Preliminary Engineering; DES Design
[2] Ocala/Marion TPO Transportation Improvement Program FY 2020/21-2024/25
[3] FDOT FIVE-YEAR Work Program FY 2021 -2025
[4] FDOT State Transportation Improvement Program (STIP) FY 2020-2024
[5] Phase 2B NW 49th/35th Street From: NE 35th Street To: North End of Limerock Pit
[6] Marion County TIP FY 2020/21-2024/25
[7] Phase 2C NW 49th/35th Street From: NW 44th Avenue To: North End of Limerock Pit
[8] Phase 3A NW 49th/35th Street From: 1.1 mi W of NW 44th Avenue To: NW 44th Avenue

3 Existing Conditions

This section provides an overview of the existing conditions within the IJR AOI. The purpose of the existing conditions analyses is to provide a basis for comparison and to establish a framework for the project need.

As discussed previously, the proposed interchange would be located along I-75 at the planned extension of NW 49th Street in Marion County, Florida. The interchange would be located at Milepost 356, north of US 27 (Milepost 354) and south of SR 326 (Milepost 358). The study interchange is located approximately 2.2 miles north of the I-75 and US 27 interchange and approximately 2.0 miles south of the I-75 and SR 326 interchange.

3.1 Existing Transportation Network

US 27 and SR 326 are both four-lane divided arterials, with the following 2017 AADTs; vehicles per day (vpd), along each segment obtained from 2017 Florida Traffic Online (FTO) or traffic counts; count data source details provided in Section 3.4.

US 27

- West of NW 44th Avenue 20,700 vpd
- East of NW 44th Avenue to I-75 31,100 vpd
- I-75 to NW 35th Avenue Road 29,100 vpd
- East of NW 35th Avenue Road 25,000 vpd

SR 326

- West of NW 44th Avenue 10,300 vpd
- NW 44th Avenue to I-75 18,400 vpd
- East of I-75 23,400 vpd

US 27 connects to US 441/US 301 and SR 40; passes through downtown Ocala and is one of the primary arterial roadways in this region. SR 326 is also an important roadway facility which by-passes Downtown Ocala and allows improved connectivity to I-75, US 301 and SR 40, north of the City of Ocala.

The existing I-75 and US 27 interchange is a diamond interchange with signalized ramp terminal intersections on US 27 and single lane merge and diverge ramp gores on I-75; shown on **Figure 3-1**, from the FDOT Aerial Photo Lookup System (APLUS). The southbound ramp is a single lane approach with a left turn and channelized right turn onto US 27; the northbound ramp has dual left and dual right turn approach lanes onto US 27. The speed limit is 70 miles per hour (mph) and 45 mph on this section of I-75 and US 27, respectively.

Figure 3-1: I-75 at US 27 Interchange

The I-75 and SR 326 interchange (**Figure 3-2**) is a modified diamond interchange with a westbound SR 326 to southbound I-75 loop ramp located in the northwest quadrant of the interchange. NW 44th Avenue forms the south leg of the I-75 southbound off-ramp intersection with SR 326. The speed limit is 70 mph and 45 mph on this section of I-75 and SR 326, respectively.

The following existing signalized and two-way stop controlled (TWSC) intersections are within the AOI of the proposed interchange:

1. US 27 at NW 44th Avenue
2. US 27 at I-75 southbound ramps
3. US 27 at I-75 northbound ramps
4. US 27 at NW 35th Avenue Road
5. NW 49th Street at NW 44th Avenue (TWSC)
6. SR 326 at I-75 southbound ramps/NW 44th Avenue
7. SR 326 at I-75 northbound ramps

The AOI is shown on **Figure 2-5**; and the existing intersection lane configurations on **Figure 3-3**.

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Figure 3-2: I-75 at SR 326 Interchange

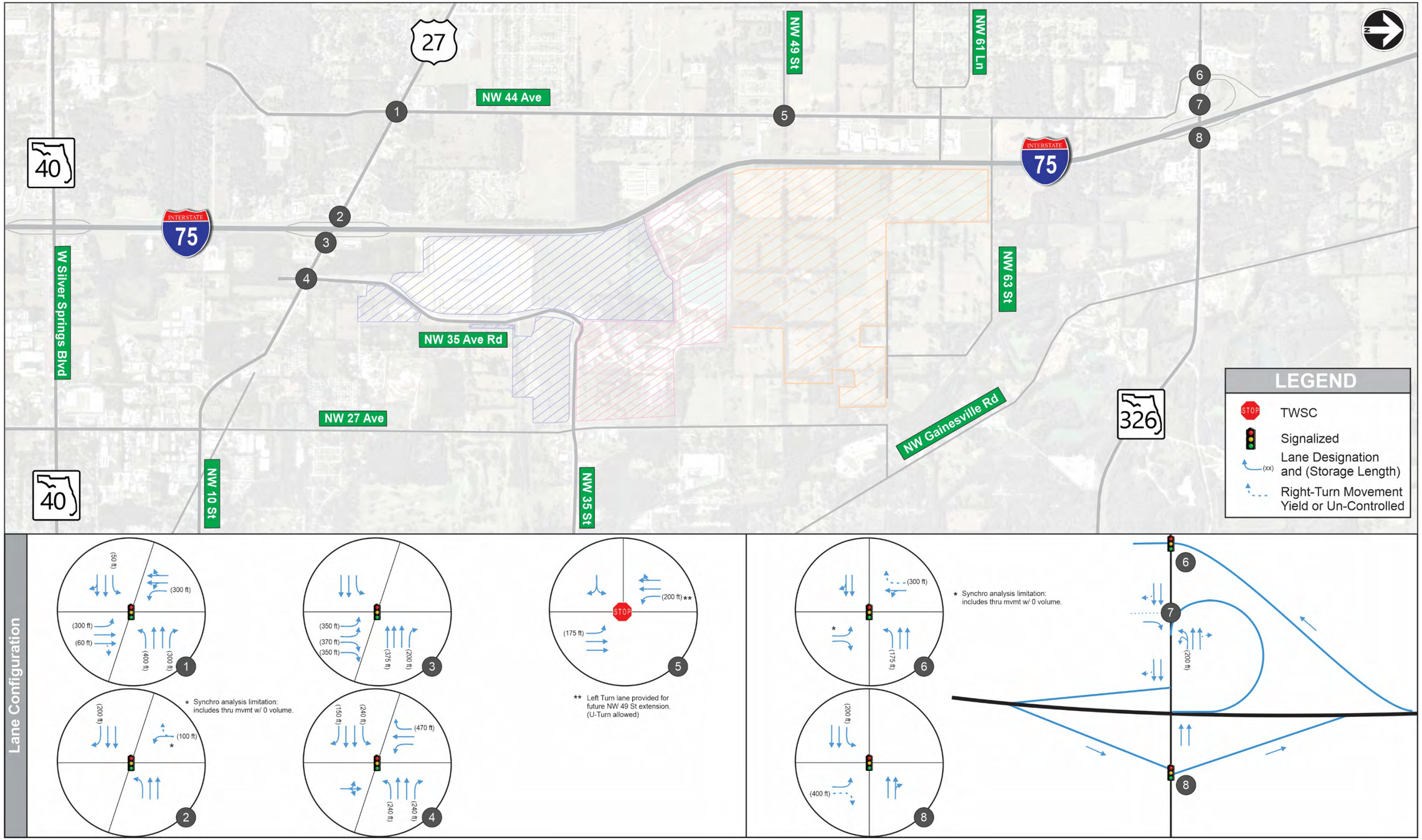

Figure 3-3: Existing Lane Configuration

3.2 Land Use

The area east of I-75 is primarily rural and is mainly comprised of large tracts of undeveloped land. The area west of I-75 contains several residential subdivisions. Commercial development is present along US 27 both to the east and to the west of I-75. Additional subdivisions are present along US 27 as well, though these are located outside the AOI. There are a few commercial parcels along SR 326 in the immediate vicinity of the I-75 interchange. NW 44th Avenue indirectly connects several subdivisions and some industrial parcels with the two existing interchanges at US 27 and SR 326.

The current comprehensive plan is year 2040; Marion County updated the 2035 Comprehensive Plan to establish an area of intense commercial and industrial development to capitalize on and leverage readily available transportation routes. These routes include the surrounding major roadways and freight rail connections (including the “S” Line which runs through Marion County and the City of Ocala and connections to the CSX line which runs between Lakeland and Jacksonville). The 2035 Comprehensive Plan created Ocala 489 and contiguous commerce district/employment center totaling +/- 5000 acres; see **Figure 3-4,** Marion County Future Land Use Map (FLUM); a layout of Ocala 489 is provided on **Figure 3-5**. This State established, Florida Enterprise Zone is intended to be an economic engine for job creation in the region and includes a new Chewy Fulfillment Center, AutoZone Distribution Center, FedEx Ground Hub and a recent CSX “Select Site” designation. Select Sites are properties identified and vetted as capable locations for future manufacturing facilities along the CSX rail network. These sites can be developed quickly since standard land use issues and comprehensive due diligence items have already been addressed. This District also includes the proposed I-75 interchange at NW 49th Street.

The Phase 1 Freight Feasibility Study conducted to evaluate the viability of an Intermodal Logistic Center (ILC) in Ocala revealed that the area is a particularly competitive location for facilities that transfer freight between transportation modes or large and small vehicles; breaking down large “unit loads” into smaller or mixed loads; storage; manufacturing; and value-added processing. The preferred location of the ILC is adjacent to Ocala 489; as the site has direct access to rail and would be an ideal location for rail-served clients.

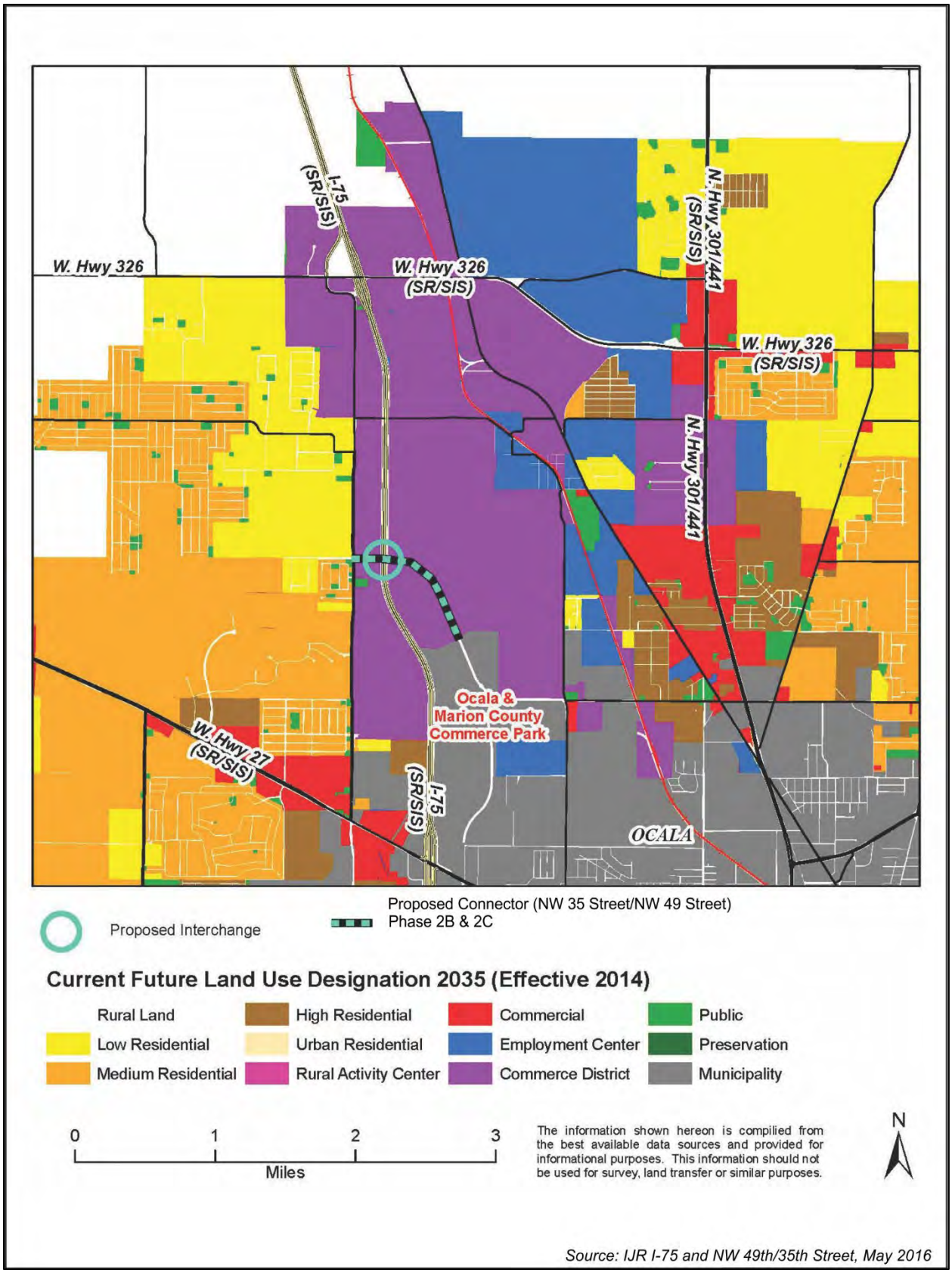

Figure 3-4: Future Land Use Map

Figure 3-5: Ocala 489 Layout

3.3 Base-Year (2015) Model Validation

Per the MLOU approved by FDOT in January 2018 and MLOU Amendment in September 2020, CFRPM version 6.1 was utilized to develop future traffic volume projections. Although the CFRPM 6.1 has a 2010 base year, a 2015 network and socioeconomic dataset was developed by the Department with input from the local MPO/TPO, for the area under the Ocala-Marion TPO. This model, provided by the Department, was used as a basis for the forecasting effort. The CFRPM 6.1 validation and subarea refinement was performed for the base year 2015. The work effort included identifying the traffic analysis zones (TAZ), and verifying socio-economic data, including population and employment. The roadway network was examined using GIS and Google Earth™ to replicate the 2015 network with focus on Marion County.

The study area is defined in accordance with the FDOT IARUG as including I-75 from US 27 to SR 326 and extends from NW 44th Avenue to NW 27th Avenue. The CFRPM 6.1 with 2015 base year, also has a corresponding network and socioeconomic dataset for a horizon year of 2045.

A project model validation was performed to ensure the reasonableness of the daily traffic demand forecasts. During the project model validation, one interchange to the north (at SR 326) and one to the south (at US 27) of the proposed NW 49th Street interchange were reviewed. Adjustments to the model, such as facility type, speed, and capacity, were made in order to accurately reflect the 2015 roadway network and improve the model performance, while maintaining or improving the validation statistics outside the study area. Consistent with the 2015 FTO Model Output Conversion Factor (MOCF), 0.97 was used for surface streets and 0.96, for I-75. Comparisons were made for Volume-to-Count (V/C) ratios and Percent Root Mean Square Error (%RMSE) between the original model validation, obtained from FDOT and the project model validation (refined) prior to using the model for future forecasts.

For the Refined 2015 CFRPM, using the sub-area model validation performed for the 2015 base year, corresponding validity factors were developed. The 2015 FTO AADTs were used for the 2015 “count” values and the 2015 Peak Season Weekly Average Daily Traffic (PSWADT) *MOCF model output for the AADT; 2015 “volume” values. Validity factor (A) = 2015 volume-count difference and validity factor (B) = 2015 volume/count ratio. Since FTO stations are not placed on all roadway segments, there are a significant number of segments in the CFRPM network without corresponding FTO stations. However, the model outputs for all segments within the study area must also be adjusted. For these segments, the adjustment factors developed for adjacent, segments are applied. For segments that currently do not exist or are not reflected in

the CFRPM roadway network, a roadway segment in close proximity with comparable characteristics is selected. The FTO station locations selected are considered reference stations and are reflected as such. This process is summarized for the analysis segments in **Table 3-1.** The *FDOT Project Traffic Assumption Form* and details of the sub-area model validation are provided in **Appendix C.**

Table 3-1: CFRPM Validity Factors

Roadway	Segment	FTO Station	2015 Count	CFRPM Volume	(A) Vol-Count	(B) Vol/Count
I-75 Mainline	N of SR 326 Interchange	360437	47,500	55,100	7,600	1.16
	N of Proposed Interchange	360438	65,500	62,800	-2,700	0.96
	N of US 27 Interchange	360438			*-2,700*	*0.96*
	S of US 27 Interchange	360439	69,500	71,900	2,400	1.03
I-75 at US 27 Interchange	US 27 W of I-75	*360459*			*2,100*	*1.11*
	US 27 E of I-75	*360033*			*-200*	*0.99*
	I-75 NB Off-Ramp	362012	5,900	6,600	700	1.12
	I-75 NB On-Ramp	362013	2,000	2,000	0	1.00
	I-75 SB Off-Ramp	362014	2,100	2,100	0	1.00
	I-75 SB On-Ramp	362015	6,300	6,700	400	1.06
US 27 at NW 44 Avenue	NW 44 Avenue N of US 27	368029/C-29	7,900	8,400	500	1.06
	NW 44 Avenue S of US 27	*368029/C-29*			*500*	*1.06*
	US 27 W of NW 44 Avenue	360459	18,700	20,800	2,100	1.11
	US 27 E of NW 44 Avenue	*360459*			*2,100*	*1.11*
US 27 at NW 35 Avenue Road	NW 35 Ave Rd N of US 27	*367008/C-21*	*4,300*	*6,200*	*-3,100*	*0.28*
	NW 35 Ave Rd S of US 27	*[2]*				
	US 27 W of NW 35 Ave Rd	*360033*			*-200*	*0.99*
	US 27 E of NW 35 Ave Rd	360033	22,000	21,800	-200	0.99
NW 49 Street at NW 44 Avenue	NW 44 Avenue N of NW 49 Street	*368029/C-29*			*500*	*1.06*
	NW 44 Avenue S of NW 49 Street	*368029/C-29*			*500*	*1.06*
	NW 49 Street W of NW 44 Avenue	*[2]*				
	NW 49 Street E of NW 44 Avenue	*368039/C-25*			*-2,300*	*0.61*
I-75 at NW 49 Street Interchange	NW 49 Street W of I-75	*368039/C-25*			*-2,300*	*0.61*
	NW 49 Street E of I-75	*368039/C-25*			*-2,300*	*0.61*
	I-75 NB Off-Ramp	*[1]*			*-1,133*	*0.77*
	I-75 NB On-Ramp	*[1]*			*-1,133*	*0.77*
	I-75 SB Off-Ramp	*[1]*			*-1,133*	*0.77*
	I-75 SB On-Ramp	*[1]*			*-1,133*	*0.77*
I-75 at SR 326 Interchange	SR 326 W of I-75	MAP A-7	6,800	2,300	-4,500	0.34
	SR 326 E of I-75	360465	19,500	20,500	600	1.03
	I-75 NB Off-Ramp	362016	10,000	6,800	-3,200	0.68
	I-75 NB On-Ramp	362017	4,500	2,400	-2,100	0.53
	I-75 SB Off-Ramp	362018	4,100	2,400	-1,700	0.59
	I-75 SB On-Ramp	362019	3,400	200	-3,200	0.06
	I-75 SB Loop Ramp	362024	6,600	5,500	-1,100	0.83
Reference Station	***NW 35 ST/NW 27 Ave***	***368039/C-25***	***5,900***	***3,600***	***-2,300***	***0.61***
	NW 27 Ave S of NW 21 ST	***367008/C-21***	***4,300***	***1,200***	***-3,100***	***0.28***

36XXXX – Location references an adjacent or comparable station for factors; [1] AVG OF US 27 & SR 326 Ramps; [2] No Comparable Road

3.4 Existing Year Traffic Count Data

Turning Movement Counts (TMCs) and 72-Hour Classification Counts were collected for the study intersections and roadway systems within the AOI. In addition to collecting traffic counts, data was obtained from the *FDOT 2017 FTO* and the *Ocala/Marion TPO 2013-2017 Traffic Counts & Trends Manual.* The County counts were used for comparison and supplemented FDOT counts as necessary. For locations where count data is not consistent between sources, counts on adjacent segments and historical count data were considered and the most appropriate data source was selected; source details are provided in **Appendix D**.

Per the approved MLOU, 72-hour bi-directional classification counts were collected between September 26th and September 28th, 2017. Count data for the same days at stations along I-75 was obtained from FDOT. Volumes on I-75 range from 75,000 vpd south of US 27 to 56,500 vpd north of SR 326; on US 27 from 20,700 vpd west of NW 44th Avenue, 31,100 vpd and 29,100 vpd adjacent to the interchange and 25,000 vpd east of NW 35th Avenue Road; and on SR 326 from 10,300 vpd west of NW 44th Avenue to 23,400 vpd east of the interchange. Based on the 72-hour counts, the predominant peak periods fell between the hours of 7:00 AM-9:00 AM and 4:00 PM-6:00 PM; therefore, the TMCs were collected at the following intersections during these times. From the TMCs, global intersection peak hours of 7:15 AM-8:15 AM and 4:30 PM-5:30 PM were selected based on the peak sum of TMCs for surface streets. The raw count data is provided in **Appendix D**.

- US 27 at I-75 northbound ramps
- US 27 at I-75 southbound ramps
- US 27 at NW 35th Avenue Road
- US 27 at NW 44th Avenue
- NW 49th Street at NW 44th Avenue
- SR 326 at I-75 northbound ramps
- SR 326 at I-75 southbound ramps/NW 44th Avenue

3.5 Existing Year Traffic

The raw traffic data was adjusted following the procedures set forth in the *2019 FDOT Project Traffic Forecasting Handbook.* The classification counts were reviewed including the percent heavy vehicles (% Truck) and directional (D) split for each location. Based on the results, D was established for surface street segments. An I-75 mainline D-factor was developed using the 5-year average (2013-2017) D for the corresponding locations; obtained from the 2017 FDOT

FTO. The daily %Trucks (%T_{Daily}) for I-75 mainline was developed the same way. Classification count data was used to establish the %T_{Daily} for ramps and roadway segments (surface street). **Table 3-2** summarizes the existing year (2017) AADT, T_{Daily} and D; detailed breakdown of calculations provided in **Appendix E**. The Peak Hour Factors (PHF) obtained from the data collection were maintained for Existing Conditions.

Table 3-2: 2017 Existing AADT

Roadway	Segment	Existing 2017	Count Station	Data Source[1,2,3]	T_{Daily}	D
I-75 Mainline	N of SR 326 Interchange	56,500	360437	FTO	0.191	0.543
	N of NW 49 Street Interchange (Build)	76,000	360438	FTO	0.233	0.543
	N of US 27 Interchange	76,000	360438	FTO	0.233	0.543
	S of US 27 Interchange	75,000	360439	FTO	0.223	0.543
I-75 at US 27 Interchange	US 27 W of I-75	31,100		COUNT	0.147	0.625
	US 27 E of I-75	29,100		COUNT	0.363	0.617
	I-75 NB Off-Ramp	8,100	362012	COUNT	0.218	1.000
	I-75 NB On-Ramp	2,200	362013	COUNT	0.300	1.000
	I-75 SB Off-Ramp	2,800	362014	COUNT	0.140	1.000
	I-75 SB On-Ramp	7,500	362015	COUNT	0.160	1.000
US 27 at NW 44th Avenue	NW 44 Avenue N of US 27	8,900	368029/C-29	TPO	0.056	0.525
	NW 44 Avenue S of US 27	400		TMC[3]	0.379	0.632
	US 27 W of NW 44 Avenue	20,700	360459	FTO	0.102	0.587
	US 27 E of NW 44 Avenue	31,100		COUNT	0.940	0.597
US 27 at NW 35th Avenue Road	NW 35 Ave Rd N of US 27	7,500		COUNT	0.167	0.535
	NW 35 Ave Rd S of US 27	1,400		COUNT	0.055	0.650
	US 27 W of NW 35 Ave Rd	29,100		COUNT	0.165	0.617
	US 27 E of NW 35 Ave Rd	25,000	360033	COUNT	0.169	0.641
NW 49th Street at NW 44th Avenue	NW 44 Avenue N of NW 49 Street	7,000		COUNT	0.040	0.650
	NW 44 Avenue S of NW 49 Street	7,100		COUNT	0.078	0.539
	NW 49 Street W of NW 44 Avenue	150	N/A	TMC	0.000	0.636
	NW 49 Street E of NW 44 Avenue					
Proposed I-75 at NW 49th Street Interchange	NW 49 Street W of I-75					
	NW 49 Street E of I-75					
	I-75 NB Off-Ramp					
	I-75 NB On-Ramp					
	I-75 SB Off-Ramp					
	I-75 SB On-Ramp					
I-75 at SR 326 Interchange	SR 326 W of I-75	10,300	MAP A-7	COUNT	0.231	0.621
	SR 326 E of I-75	23,400		COUNT	0.175	0.548
	I-75 NB Off-Ramp	11,000	362016	FTO[2]	0.218	1.000
	I-75 NB On-Ramp	3,300	362017	COUNT	0.380	1.000
	I-75 SB Off-Ramp	4,700	362018	FTO[2]	0.218	1.000
	I-75 SB On-Ramp	3,400	362019	COUNT	0.240	1.000
	I-75 SB Loop Ramp	5,900	362024	COUNT	0.260	1.000

[1]Florida Traffic Online (2017/2018); 2013 -2017 TRAFFIC COUNTS & TRENDS MANUAL, OCALA/MARION COUNTY TPO
[2]Machine count varied significantly with FDOT Historical AADT Report
[3]AADT from TMCs (see TMC2AADT); used for locations between interchange ramps or if closest AADT deemed unreasonable

The I-75 mainline daily peak direction is southbound during the PM peak. Therefore, the D-factor previously established was applied to I-75 northbound direction during the AM peak hour, with corresponding balance applied to the southbound direction. Conversely for the PM peak hour, the D-factor was applied to southbound direction. For the AM and PM peak hours on the surface streets, directional splits were extracted from the classification counts corresponding to the global peak hours (7:15 – 8:15 AM and 4:30 – 5:30 PM).

For the I-75 mainline segments, peak hour %Trucks ($\%T_{Peak}$) was developed using $\%T_{Daily}/2$. For the roadway segment/ intersection approaches, the approach %T was determined from TMCs. Then, location specific $\%T_{Peak}$ were established for each roadway and I-75 ramp; for the peak hour analysis. The resulting $\%\ T_{Peak}$ for each location is summarized in **Table 3-3;** detailed breakdown of calculations are provided in **Appendix E**. It should be noted that with availability of 2019 FTO, data corresponding to the study locations were reviewed. Arterial volumes in general, remained the same as the 2017 (existing) data. There was an increase in volumes on the I-75 mainline, south of US 27 and north of SR 326; details provided in **Appendix D**.

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Table 3-3: Recommended Peak Hour %Trucks for Analysis

Segment	Description	Analysis $\%T_{Peak}$
I-75 Mainline	North of SR 326 Interchange	0.10
	From SR 326 Interchange to NW 49 Street Interchange	0.12
	From NW 49 Street Interchange to US 27 Interchange	0.12
	South of US 27 Interchange	0.11
SR 326	From NW 44 Ave to I-75 SB Ramps From I-75 SB Ramps to I-75 NB Ramps East of I-75 NB Ramps	0.17
SR 326 Interchange Ramps	I-75 SB Off-Ramp I-75 NB On-Ramp NB Off-Ramp I-75 SB On-Ramp	0.23
US 27	From NW 44 Ave to I-75 SB Ramps From I-75 SB Ramps to I-75 NB Ramps From I-75 NB Ramps to NW 35 Ave Rd East of NW 35 Ave Rd	0.06
US 27 Interchange Ramps	I-75 SB Off-Ramp I-75 NB On-Ramp	0.06
	NB Off-Ramp I-75 SB On-Ramp	0.14
NW 49 Street	From NW 44 Ave to I-75 SB Ramps From I-75 SB Ramps to I-75 NB Ramps East of I-75 NB Ramps	
NW 49 Street Interchange Ramps	I-75 SB Off-Ramp I-75 NB On-Ramp NB Off-Ramp I-75 SB On-Ramp	
NW 44 Avenue	South of SR 326 North of NW 49 St South of NW 49 Street	0.10
	North of US 27 South of US 27	0.02
NW 35 Avenue Road	North of US 27 South of US 27	0.10

Note: $\%T_{Peak}$ for NW 49 Street & proposed Interchange discussed in Section 5.

Figure 3-6 illustrates the balanced volumes for intersections within the IJR AOI. The balanced intersection worksheets, are provided in **Appendix E**.

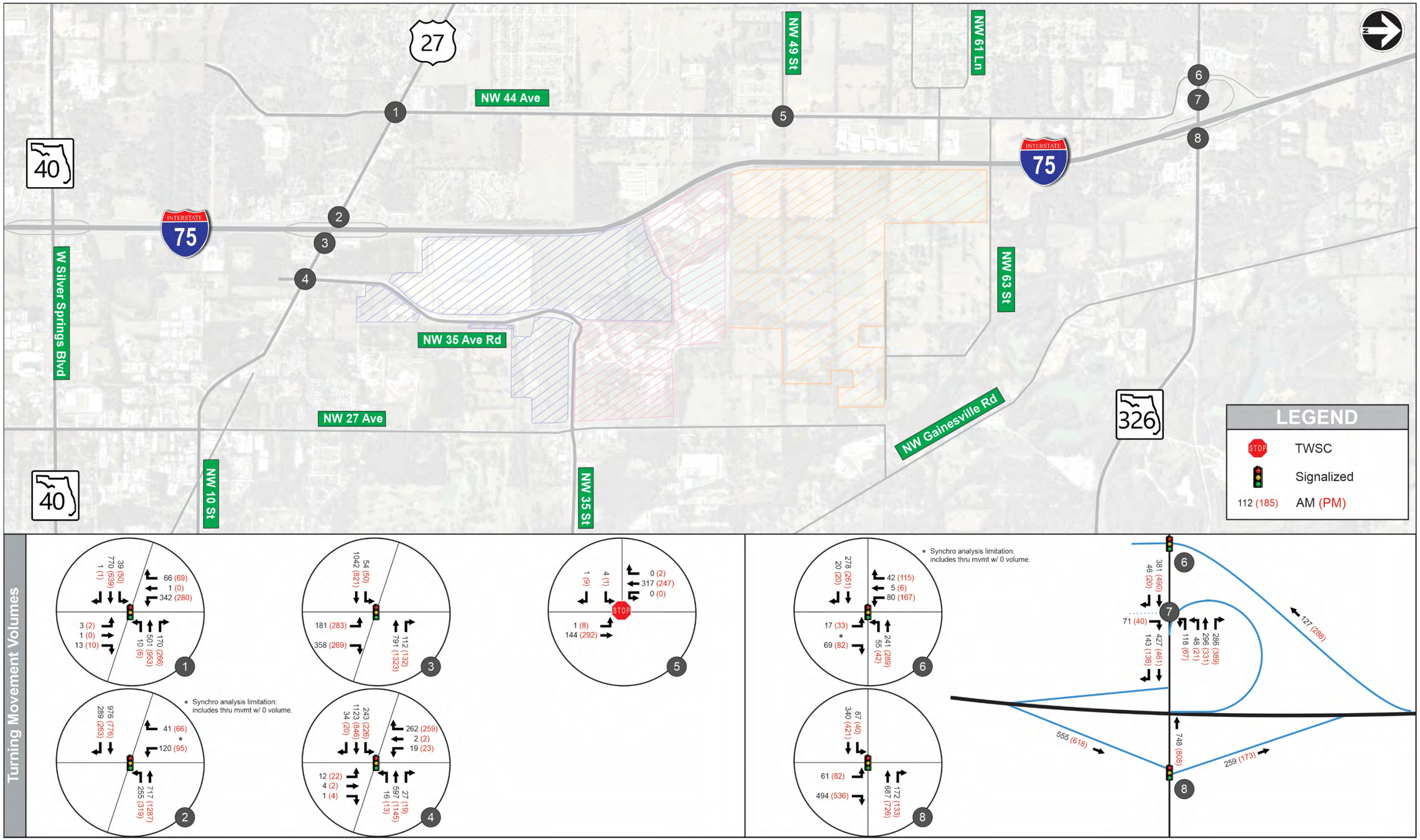

Figure 3-6: Existing Balanced Intersection Volumes (2017)

3.6 Existing Operational Performance

The LOS for the existing conditions was determined using the most current procedures as outlined in the HCM 2010. Per the approved MLOU, the analysis was performed for the peak hours established in Section 3.4 using the methodologies documented in the HCM 2010 as applied using HCS 6.8 and Synchro 10. It should be noted that HCM 2000 was used under certain phasing and lane configuration conditions that are not recognized by HCM 2010 analysis methodologies. Specific analysis techniques utilized in this study included procedures for basic freeway segments, merge/diverge analysis as well as stop controlled and signalized intersection analysis.

3.6.1 LOS Targets

Roadways within the AOI were evaluated to determine the operating LOS. The purpose of this evaluation is to identify any deficiency in the existing system. LOS is a qualitative measure of the effect of a number of factors including speed and travel time, traffic interruptions due to traffic signals, freedom to maneuver, safety, driving comfort, convenience, and operating cost. LOS is designated as “A” through “F” and covers the entire range of traffic operation for transportation facilities. LOS “A” represents the best operating condition while LOS “F” represents the worst.

The LOS targets for the study segments are presented in **Table 3-4** based upon *FDOT District 5 LOS Summary Report*, consistent with FDOT Policy 000-525-006c *Level of Service for the State Highway System (SHS)*, and the Transportation Element of the Ocala and Marion County Comprehensive Plans.

Table 3-4: LOS Targets

Roadway	Location/Segment	LOS Target
I-75	North of SR 326	C
I-75	South of US 27 to south of SR 326	D
US 27	West of I-75 to east of NE 35th Ave	D
SR 326	West of I-75 to east of I-75	D

3.6.2 Existing LOS Analyses

Figures 3-7 and **3-8** present the existing segmented breakdown of the I-75 mainline and interchange ramps by segment type, segment length and speed, change lane length, peak hour volume, and %Trucks. The figure also summarizes the HCS analysis results for mainline segment (basic freeway) and merge/diverge (ramp junction) locations; speed, density and LOS. The analyses indicate that the existing I-75 segments and merge/diverge areas are operating within LOS targets. A detailed breakdown of calculations; mainline and ramp volumes; along with HCS Analysis worksheets are provided in **Appendix E**.

Table 3-5 summarizes the Synchro analysis results for intersection approach, overall intersection delay and LOS. The overall LOS at each intersection meets the LOS D target. However, the southbound approach at the intersection of US 27 and NW 35th Avenue Road operates at LOS F during the AM and PM peak hours. In addition, the northbound approaches at the US 27 intersections of NW 35th Avenue Road and NW 44th Avenue operate at LOS E during the PM peak hour. It should be noted that Yield controlled right turn movements at the I-75 and SR 326 off-ramps were coded in Synchro as signalized with permitted right turn on red; since HCM2010 methodology omits Yield and Stop controlled movements at signalized intersections. HCM2000 was used for SR 326 at I-75 northbound ramps since HCM2010 generated an unrealistic LOS (over 500 sec/veh delay for the northbound right turn movement). Synchro Analysis worksheets are provided in **Appendix E**.

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Figure 3-7: Existing (2017) AM I-75 Segment & Merge/Diverge Analysis Summary

Existing AM I-75													
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570	1,500	380	1500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616	17,881	1,073	380	1500	N/A	268	
	Speed (mph)	75.0	66.5	75.0	65.3	75.0	68.1	75.0	68.3	75.0	68.9	75.0
	Level of Service	A	B	A	B	A	A	A	A	A	B	A
	Density (pc/mi/ln)	10.7	13.6	7.3	10.5	8.3	8.1	7.5	5.4	5.8	11.4	6.6
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck %	11	14	11	6	12	23	12	23	12	23	10
										Loop		
	Volumes	1850	545	1305	162	1467	143	1324	286	1038	127	1165
Interchange				US 27						SR 326		
I-75 Northbound	Volumes	2446	539	1907	166	2073	555	1518		259	1777	
	Truck %	11	14	11	6	12	23	12		23	10	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	18,132	671	N/A		941		
	Speed (mph)	75.0	62.2	75.0	67.0	75.0	61.6	75.0		67.8	75.0	
	Level of Service	B	B	A	B	B	B	A		B	A	
	Density (pc/mi/ln)	13.3	17.2	10.3	12.6	11.3	15.2	8.3		10.7	10.0	

Figure 3-8: Existing (2017) PM I-75 Segment & Merge/Diverge Analysis Summary

Existing PM I-75													
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570	1,500	380	1500	1,815	1,500	
	Accel/Decel Lanes (ft)		800		616	17,881	1,073	380	1500	N/A	268	
	Speed (mph)	75.0	66.0	75.0	65.6	75.0	67.7	75.0	68.1	75.0	68.5	75.0
	Level of Service	B	B	A	B	A	B	A	A	A	B	A
	Density (pc/mi/ln)	13.0	16.2	9.3	13.0	10.2	10.3	9.5	7.8	7.3	14.9	9.0
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11	14	11	6	12	23	12	23	12	23	10
										Loop		
	Volumes	2277	583	1694	162	1856	136	1720	389	1331	288	1619
Interchange				US 27						SR 326		
I-75 Northbound	Volumes	2519	552	1967	182	2149	618	1531		173	1704	
	Truck%	11	14	11	6	12	23	12		23	10	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	18,132	671	N/A		941		
	Speed (mph)	74.9	62.5	75.0	66.8	75.0	63.5	75.0		68.1	75.0	
	Level of Service	B	B	B	B	B	B	A		B	A	
	Density (vehicles)	14.3	18.3	11.1	13.7	12.5	16.5	8.9		10.7	9.3	

Table 3-5: Existing (2017) Intersection Delay and LOS

Intersection	DIR	AM Peak				PM Peak			
		App.		Int.		App.		Int.	
		Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
NW 44 Ave at US 27	EB	19.9	B	21.5	C	13.2	B	21.1	C
	WB	20.1	C			21.2	C		
	NB	39.2	D			56.3	E		
	SB	26.9	C			34.9	C		
I-75 SB at US 27	EB	19.3	B	15.7	B	19.6	B	11.7	B
	WB	6.1	A			4.6	A		
	NB								
	SB	53.3	D			54.6	D		
I-75 NB at US 27	EB	1.2	A	12.7	B	1.1	A	14.3	B
	WB	13.0	B			13.4	B		
	NB	35.1	D			36.9	D		
	SB								
NW 35 Ave Rd at US 27	EB	29.9	C	38.9	D	37.0	D	51.1	D
	WB	30.9	C			53.2	D		
	NB	54.5	D			56.9	E		
	SB	95.4	F			94.0	F		
NW 44 Ave at NW 49 ST *(Int. LOS reflective of Stop controlled movement)*	EB	11.7	B	11.7	B	9.9	A	9.9	A
	WB								
	NB	0.2	A			0.2	A		
	SB	0.0	A			0.0	A		
NW 44 Ave/I-75 SB Off at SR 326	EB	14.3	B	16.1	B	15.1	B	17.6	B
	WB	14.4	B			14.9	B		
	NB	26.1	C			25.6	C		
	SB	17.3	B			19.7	B		
I-75 SB On-Ramp (Loop) at SR 326	EB	0.0	A	2.5	A	0.0	A	1.4	A
	WB	3.3	A			1.8	A		
	NB	10.6	B			10.6	B		
I-75 NB Off/I-75 NB On at SR 326[2]	EB	7.8	A	21.7	C	7.7	A	21.8	C
	WB	20.9	C			20.5	C		
	NB	34.0	C			33.6	C		
	SB								

[1]Delay in sec/veh; [2]LOS results based on HCM 2000 methodology.

3.7 Vissim Model Calibration

A network analysis was performed using PTV Vissim software version 20.00-07 to evaluate the entire corridor as a system. The calibration and validation methodologies have been documented per the guidelines set forth in the *2014 FDOT Traffic Analysis Handbook*. Documentation includes a summary of the model verification methodology, any assumptions

and modeling issues, and a detailed calibration methodology. Default Vissim Parameters were used during the calibration process. Calibration data includes: Volume, Speed and Queuing/Visualization. Queue lengths measured from Vissim are based on actual queue lengths generated by the simulation, including maximum queue and average queue lengths.

The analysis was conducted for the AM and PM peak period for the existing year (2017). The following Measures of Effectiveness (MOEs) were used:

- Intersections
  - Volume (vph)
  - Delay (seconds/vehicle)
  - Queues (feet)
- Roadway Links
  - Average Speed (mph)
  - Travel Times (seconds)
- Freeway Links
  - Average Speed (mph)
  - Density (veh/mi/ln)
  - Volume (vph)
- Network
  - Total Delay (hrs)
  - Total Stops (# of stops)
  - Average Speed (mph)
  - Vehicles Arrived
  - Vehicle-Miles Traveled (VMT)
  - Latent Delay (hrs)
  - Latent Demand

3.7.1 Base Vissim Model Development

The following sections describe the data inputs and calibration targets used for development of the Vissim model.

3.7.1.1 Roadway Geometry

The FDOT APLUS aerials shown on **Figures 3-1 and 3-2,** were used to develop the roadway geometry. Lane configurations, turn bay storage lengths, and stop bar locations were verified in the field visit during the data collection effort and with 2018 Google Earth™.

3.7.1.2 Vehicle Inputs and Routing Decisions

The AM and PM traffic volume inputs were coded with a 15-minute initialization interval followed by a three-hour period in 15-minute intervals (13 total intervals); with the second hour being the peak hour. **Table 3-6** summarizes the peak hour entry link flow rates. The 15-minute interval

flow rates used for the Vissim analysis were calculated by multiplying the peak hour flow rates presented in **Table 3-6** by 15-minute volume ratios. The 15-minute volume ratios were developed based on total entering volume for each 15-minute divided by the total entering peak hour volume. Detailed calculations are provided in **Appendix E**. Static Routing (predetermined paths) was used for all routes. Given the number of access points between each major intersection, a few minor streets were coded with estimated turn volumes in order to balance the volumes within the network.

Table 3-6: Entry Link Flow Rates (vph)

Vehicle Input		AM Peak	PM Peak
1	NB NW 44th Avenue from NW 49th Street	145	300
2	SB NW 44th Avenue from NW 49th Street	317	249
3	EB NW 49th Street from NW 44th Avenue	5	10
4	EB S.R. 326 from I-75 SB	316	281
5	WB S.R. 326 from I-75 NB	845	859
6	NB NW 35th Avenue Road from US 27	17	28
7	SB NW 35th Avenue Road from US 27	283	284
8	WB US 27 from NW 35th Avenue Road	672	1206
9	NB NW 44th Avenue from US 27	17	12
10	SB NW 44th Avenue from US 27	409	349
11	EB US 27 from NW 44th Avenue	810	690
12	NB Donut from S.R. 326	71	40
13	NB NW 38th Avenue from US 27	26	26
14	SB I-75 North of S.R. 326	1165	1619
15	NB I-75 South of US 27	2446	2519
16	NB NW 44th Ave S of SR 326	86	115
17	Dummy Entrance on US 27	123	114

3.7.1.3 Speed Distributions

Network links were coded with “Desired Speed Decisions” and “Reduced Speed Areas” to control vehicle speeds in the Vissim models and accurately simulate the vehicle speeds within the study area. The Desired Speed Decisions were defined based on the posted speed limits. Reduced Speed Areas were coded at locations that require vehicles to reduce their speed; typical locations include ramps and turning movements. **Table 3-7** summarizes the “Desired Speed Distributions”.

Table 3-7: Desired Speed Decisions

Desired Speed	Minimum (mph)	Maximum (mph)
30 mph	29	33
35 mph	34	38
40 mph	39	43
45 mph	40	50
70 mph	65	90
Right turns	10	13
Left turns	15	18
Channelized Right Turns	25	28

3.7.1.4 Vehicle Compositions

Vissim is comprised of two main vehicle types, cars (Vehicle Type – Car – 10) and trucks or Heavy Goods Vehicle (Vehicle Type – HGV – 20). In addition, the two main types can be further broken into different model distributions. The standard North American Fleet vehicle class distribution was used for this modeling effort.

3.7.1.5 Traffic Control

Stop signs along with signal heads and detectors were coded into the network for traffic control based on the aerial imagery and field observations. The Ring Barrier Controller (RBC) signal timing files were developed using the data obtained from Marion County and the City of Ocala with Synchro 10 software and then imported into Vissim. Conflict areas were also coded and defined based on right-of-way rules and field observations.

3.7.1.6 Network Calibration

Calibration of Vissim Models involves adjusting default driver behavior (lane changing and car-following) parameters. The network calibration was performed in accordance to the *2014 FDOT Traffic Analysis Handbook* which provides calibration parameter guidance and model calibration checklists.

3.7.2 Calibration Targets and Results

3.7.2.1 Calibration Targets

The calibration process was conducted as a combination of visual examination and evaluation of statistical model outputs. The following calibration targets were used based on the *2014 FDOT Traffic Analysis Handbook:*

1) Traffic Volume
    a. Simulated and measured link volumes for more than 85% of links to be:

i. Within 100 vehicles per hour (vph) for volumes less than 700 vph.
ii. Within 15% for volumes between 700 vph and 2700 vph.
iii. Within 400 vph, for volumes greater than 2700 vph.

b. Simulated and measured link volumes for more than 85% of links to have a GEH* statistic value of five (5) or lower.
c. Sum of link volumes within calibration area to be within 5%.
d. Sum of link volumes to have a GEH* statistic value of 5 or lower.

2) Speed
   a. Modeled average link speeds to be within the ±10 mph of field-measured speeds on at least 85% of all network links.
3) Queue Length
   a. Difference between simulated and observed queue lengths to be within 20%.
4) Visualization
   a. Check consistency with field conditions for driver behavior, speed-flow relationship, queue lengths, lane utilization, congested links, bottlenecks; etc.

**GEH is an empirical formula expressed as* $\sqrt{2 * (M - C)^2/(M + C)}$ *where M is the simulation model volume and C is the field counted volume.*

3.7.2.2 Calibration Results

Tables 3-8, 3-9, and **3-10** summarize the AM and PM peak hour calibration of the traffic volume, speed, and queue lengths. It should be noted that additional data was collected for the calibration of the Vissim model including speed data and queue length observations. Speed data was obtained from classification count data for which the road tube installations allow for this data extraction. In addition, queue lengths were extracted for one or more approaches per intersection utilizing video from turning movement count data collection. Summary of this additional data is provided in **Appendix D**. Speed data shows that the eastbound SR 326 segment east of I-75 does not meet the calibration target with the field speed data 19.9 mph lower than simulated. Although there is a significant difference in speed on the subject segment, it is likely due to vehicles slowing down to access nearby properties while in Vissim this segment is an exit link and therefore does not quantify the effects of nearby driveways. No eastbound SR 326 congestion was observed east of I-75 on SR 326 during data collection that would impact the operational integrity of the Vissim model. All results are based on 10 simulation runs, the use of 10 simulation runs is considered adequate per the *2014 FDOT Traffic Analysis Handbook.* Visualization of the model simulation is consistent with the field conditions.

Queue length calibration results presented in **Table 3-10** show that 20 out of 32 observed queues meet the 20% threshold of which three (3) simulated queue lengths are within 21% of the observed queue lengths. Although 12 observed queue lengths are outside the 20% threshold, the difference in observed and simulated queue length is generally 3 passenger cars or less.

Table 3-8: Simulated versus Measured Link Volumes (vph)

Input Link	Location	AM Peak							PM Peak						
		Field	Sim.	GEH	Diff.	% Diff	Meets Target (Y/N)		Field	Sim.	GEH	Diff	%Diff	Meets Target (Y/N)	
							GEH	Vol Diff						GEH	Vol Diff
1	I-75 SB Off-Ramp to SR 326	127	129	0.18	-2	-1.6%	Y	Y	288	288	0.00	0	0.0%	Y	Y
2	I-75 NB Off-Ramp to SR 326	555	533	0.94	22	4.0%	Y	Y	618	595	0.93	23	3.7%	Y	Y
3	I-75 SB On-Ramp from SR 326	143	142	0.08	1	0.7%	Y	Y	136	135	0.09	1	0.7%	Y	Y
4	I-75 NB On-Ramp from SR 326	259	246	0.82	13	5.0%	Y	Y	173	161	0.93	12	6.9%	Y	Y
5	I-75 SB from SR 326 (Loop)	286	280	0.36	6	2.1%	Y	Y	389	387	0.10	2	0.5%	Y	Y
6	I-75 SB Off-Ramp to US 27	162	155	0.56	7	4.3%	Y	Y	162	155	0.56	7	4.3%	Y	Y
7	I-75 NB On-Ramp from US 27	166	164	0.16	2	1.2%	Y	Y	182	176	0.45	6	3.3%	Y	Y
8	I-75 SB On-Ramp from US 27	545	539	0.26	6	1.1%	Y	Y	583	573	0.42	10	1.7%	Y	Y
9, 11	I-75 NB Off-Ramp to US 27	539	536	0.13	3	0.6%	Y	Y	552	544	0.34	8	1.4%	Y	Y
21	I-75 NB S of US 27	2446	2403	0.87	43	1.8%	Y	Y	2519	2469	1.00	50	2.0%	Y	Y
25	I-75 SB S of US 27	1850	1840	0.23	10	0.5%	Y	Y	2277	2259	0.38	18	0.8%	Y	Y
29	I-75 NB N of US 27	2073	2031	0.93	42	2.0%	Y	Y	2149	2100	1.06	49	2.3%	Y	Y
33	I-75 SB N of US 27	1467	1458	0.24	9	0.6%	Y	Y	1856	1844	0.28	12	0.6%	Y	Y
41	I-75 NB S of SR 326	2073	2028	0.99	45	2.2%	Y	Y	2149	2088	1.33	61	2.8%	Y	Y
45	I-75 SB S of SR 326	1467	1456	0.29	11	0.7%	Y	Y	1856	1850	0.14	6	0.3%	Y	Y
49	I-75 NB N of SR 326	1777	1740	0.88	37	2.1%	Y	Y	1704	1653	1.24	51	3.0%	Y	Y
52	I-75 SB N of SR326	1165	1159	0.18	6	0.5%	Y	Y	1619	1618	0.02	1	0.1%	Y	Y
61	SR 326 EB W of I-75	316	309	0.40	7	2.2%	Y	Y	281	274	0.42	7	2.5%	Y	Y
64	SR 326 WB W of I-75	300	301	0.06	-1	-0.3%	Y	Y	437	437	0.00	0	0.0%	Y	Y
65	NW 44 Ave NB S of SR 326	86	78	0.88	8	9.3%	Y	Y	115	109	0.57	6	5.2%	Y	Y
67	NW 44 Ave SB S of SR 326	80	82	0.22	-2	-2.5%	Y	Y	68	65	0.37	3	4.4%	Y	Y
69	SR 326 EB E of I-75	834	803	1.08	31	3.7%	Y	Y	957	933	0.78	24	2.5%	Y	Y
71	SR 326 WB E of I-75	845	837	0.28	8	0.9%	Y	Y	862	850	0.41	12	1.4%	Y	Y
73	US 27 EB W of I-75	1198	1269	2.02	-71	-5.9%	Y	Y	982	1044	1.95	-62	-6.3%	Y	Y
75	US 27 WB W of I-75	695	740	1.68	-45	-6.5%	Y	Y	1250	1304	1.51	-54	-4.3%	Y	Y
77	US 27 EB E of I-75	1400	1407	0.19	-7	-0.5%	Y	Y	1090	1090	0.00	0	0.0%	Y	Y
79	US 27 WB E of I-75	903	898	0.17	5	0.6%	Y	Y	1455	1418	0.98	37	2.5%	Y	Y
81	US 27 EB E of NW 35 Ave Rd	1198	1145	1.55	53	4.4%	Y	Y	982	873	3.58	109	11.1%	Y	Y
83	US 27 WB E of NW 35 Ave Rd	695	661	1.31	34	4.9%	Y	Y	1250	1167	2.39	83	6.6%	Y	Y
91	NW 44 Av NB S of NW 49 St	145	143	0.17	2	1.4%	Y	Y	300	284	0.94	16	5.3%	Y	Y
93	NW 44 Av SB S of NW 49 St	318	310	0.45	8	2.5%	Y	Y	256	246	0.63	10	3.9%	Y	Y
95	NW 44 Av NB N of NW 49 St	148	144	0.33	4	2.7%	Y	Y	293	278	0.89	15	5.1%	Y	Y
97	NW 44 Av SB N of NW 49 St	317	309	0.45	8	2.5%	Y	Y	249	238	0.70	11	4.4%	Y	Y
Sum of Link Volumes		**26578**	**26275**	**1.86**	**303**	**1.1%**			**30039**	**29505**	**3.12**	**534**	**1.8%**	**30039**	
Meeting Threshold							**100%**	**100%**						**100%**	**100%**

Table 3-9: Simulated versus Measured Average Speeds (mph)

Segment	AM Peak				PM Peak			
	Field	Sim.	Diff.	Meets Target (Y/N)	Field	Sim.	Diff.	Meets Target (Y/N)
I-75 SB Off to SR 326	45.6	44.3	1.3	Y	51.3	43.9	7.4	Y
I-75 NB Off to SR 326	36.4	38.8	2.4	Y	35.2	39.1	3.9	Y
I-75 SB Off to US 27	37.5	37.2	0.3	Y	38.4	37.2	1.2	Y
I-75 NB Off to US 27	45.2	37.9	7.3	Y	50.6	38.3	12.3	N
W of I-75 on SR 326 EB	36.4	42.3	5.9	Y	35.2	42.3	7.1	Y
W of I-75 on SR 326 WB	24.4	34.4	10.0	Y	29.6	35.4	5.8	Y
S of SR 326 NB	20.5	21.2	0.7	Y	17.7	20.9	3.2	Y
S of SR 326 SB	21.0	28.0	7.0	Y	22.5	28.2	5.7	Y
E of I-75 on SR 326 EB	24.4	44.3	19.9	N	42.4	44.3	1.9	Y
E of I-75 on SR 326 WB	41.8	44.2	2.4	Y	42.4	44.1	1.7	Y
W of I-75 on US 27 EB	26.7	41.5	14.8	N	30.0	42.2	12.2	N
W of I-75 on US 27 WB	45.6	40.4	5.2	Y	38.8	37.7	1.1	Y
E of I-75 on US 27 EB	34.7	41.1	6.4	Y	33.5	41.7	8.2	Y
E of I-75 on US 27 WB	39.3	42.1	2.8	Y	33.3	39.1	5.8	Y
E of NW 35th Av on US 27 EB	45.8	43.2	2.6	Y	45.5	43.5	2.0	Y
E of NW 35th Av on US 27 WB	36.1	44.0	7.9	Y	36.2	42.7	6.5	Y
S of NW 49th ST on NW 44th Av NB	43.6	45.2	1.6	Y	36.4	45.1	8.7	Y
S of NW 49th ST on NW 44th Av SB	50.4	45.0	5.4	Y	49.2	45.0	4.2	Y
N of NW 49th ST on NW 44th Av NB	45.8	45.1	0.7	Y	39.3	45.0	5.7	Y
N of NW 49th ST on NW 44th Av SB	33.5	45.1	11.6	N	36.2	45.1	8.9	Y
%MEETING THRESHOLD				85.0%				85.0%

Table 3-10: Simulated versus Observed Queue Lengths (feet)

Intersection	Peak Hour	Movement or Approach	Field	Simulated	% Difference	Difference in passenger car equivalent[1]
SR 326 at I-75 NB Ramp	AM	WB	317	251	20%	2.64
		NB	97	124	**21%**	1.08
	PM	WB	327	243	**25%**	3.36
		NB	102	181	**43%**	3.16
SR 326 at NW 44 Ave	AM	EB	156	148	5%	0.32
		SBL	84	106	20%	0.88
	PM	EB	176	146	17%	1.20
		SBL	159	164	3%	0.20
US 27 at I-75 NB Ramp	AM	WBL	106	172	**38%**	2.64
		WBT	169	143	15%	1.04
		NBL	99	121	18%	0.88
		NBR	98	142	**30%**	1.76
	PM	WBL	143	234	**38%**	3.64
		WBT	365	286	**21%**	3.16
		NBL	137	149	8%	0.48
		NBR	114	117	2%	0.12
US 27 at I-75 SB Ramp	AM	SBL	95	149	**36%**	2.16
		EBT	381	302	20%	3.16
		EBR	129	150	14%	0.84
	PM	SBL	106	117	9%	0.44
		EBT	223	242	7%	0.76
		EBR	81	167	**51%**	3.44
US 27 at NW 35 Ave Rd	AM	SBL	42	48	12%	0.24
		SBR	96	176	**45%**	3.20
		EBL	99	126	**21%**	1.08
		EBT	324	295	8%	1.16
	PM	SBL	44	53	16%	0.36
		SBR	138	170	18%	1.28
		EBL	171	145	15%	1.04
		EBT	158	197	19%	1.56
US 27 at NW 44 Ave	AM	WBT	131	164	20%	1.32
	PM	WBT	199	298	**33%**	3.96

[1]*passenger car equivalent based on 25 ft/veh (queue/25 ft)*

Validation Results

Table 3-11 summarizes travel times for the arterial segments. **Table 3-12** summarizes the Vissim overall intersection delay (seconds/vehicle) and queue (feet) for the existing condition peak hours. This analysis is performed for network/system performance; the estimated LOS based on HCM thresholds along with Vissim delays are provided for informational purposes only. It should be noted that the sink/source intersection of US 27 at NW 38 Avenue was included in the **Table 3-11** summary since it was modeled in Vissim.

In comparison to the intersection Synchro results, a difference in delay is observed for the intersections of US 27 at NW 35th Avenue and SR 326 at I-75 northbound off-ramp. In general, Synchro reported higer delays for the eastbound and westbound approaches at the two subject intersections resulting in a higher overall intersection LOS when compared to Vissim results. Difference in LOS results is likely due to the difference in *HCM 2010* right-turn-on-red (RTOR) volume estimation calculations and the Vissim simulated RTOR which directly impacts green time distribution and ultimately approach delay. Results from the Vissim analysis were determined to be acceptable based on the observed queue lengths.

I-75 volume (veh/hour), speed (mph) and density (veh/ln/mi) 15-minute results are summarized in **Figures 3-9** thru **3-12**. In general, volume and speed results show that optimal speeds are maintained throughout the analysis period and demand volumes are processed. During the AM and PM peak hours (time periods 5 through 8), I-75 northbound densities range from 6.8 veh/mi/ln to 12.2 veh/mi/ln and from 7.0 veh/mi/ln to 12.3 veh/mi/ln, respectively. During the AM and PM peak hours, I-75 southbbound densities range from 4.3 veh/mi/ln to 9.7 veh/mi/ln and from 6.2 veh/mi/ln to 11.7 veh/mi/ln, respectively. Similar to the HCS results, densities are generally increase toward the south closer to the US 27 interchange. In comparison to the HCS results, Vissim is observed to generate slightly lower densities. Density calculation methodologies are significantly different between the two evaluation methods; however, relative density result trends along I-75 are similar.

The network performance summary is provided in **Table 3-13**. Detailed three hour analysis period results in 15-minute intervals are provided in **Appendix E**.

Table 3-11: Travel Time Summary (sec)

Peak Period	Segment		Time Period												
			1	2	3	4	5	6	7	8	9	10	11	12	PK HR
AM	US 27	US 27 EB from W of NW 44 Ave to I-75	121	124	124	125	129	131	129	127	127	124	126	126	129
		US 27 EB from I-75 to NW 35 Ave Rd	17	18	17	19	19	20	19	18	18	19	19	18	19
		US 27 EB from NW 35 Ave Rd to E of NW 35 Ave Rd	23	23	23	23	23	23	23	23	23	23	23	23	23
		US 27 WB from E of NW 35 Ave Rd to NW 35 Ave Rd	46	47	46	47	49	49	49	48	48	49	49	47	49
		US 27 WB from NW 35 Ave Rd to I-75	15	17	17	17	19	18	18	18	17	17	18	17	18
		US 27 WB from I-75 to W of NW 44 Ave	85	86	87	85	88	88	87	87	87	86	87	86	88
	SR 326	SR 326 EB from W of I-75 to I-75	35	37	38	38	41	41	41	39	39	39	39	38	41
		SR 326 EB from I-75 to E of I-75	21	21	21	21	21	21	21	21	21	21	21	21	21
		SR 326 WB from E of I-75 to I-75	33	33	33	34	34	34	34	34	33	33	33	33	34
		SR 326 WB from I-75 to W of I-75	6	7	7	7	7	7	7	7	7	7	7	7	7
	NW 44 Ave	NW 44 Ave NB from S of NW 49 St to NW 49 St	17	17	17	17	17	17	17	17	17	17	17	17	17
		NW 44 Ave NB from NW 49 St to N of NW 49 St	10	10	10	10	10	10	10	10	10	10	10	10	10
		NW 44 Ave SB from N of NW 49 St to NW 49 St	6	6	6	6	6	6	6	6	6	6	6	6	6
		NW 44 Ave SB from NW 49 St to S of NW 49 St	18	18	18	18	18	18	18	18	18	18	18	18	18
PM	US 27	US 27 EB from W of NW 44 Ave to I-75	122	123	124	123	123	124	125	124	123	121	121	121	124
		US 27 EB from I-75 to NW 35 Ave Rd	18	18	18	18	18	18	18	19	19	18	18	17	18
		US 27 EB from NW 35 Ave Rd to E of NW 35 Ave Rd	23	23	23	23	23	23	23	23	23	23	23	23	23
		US 27 WB from E of NW 35 Ave Rd to NW 35 Ave Rd	51	50	51	51	52	52	51	53	53	51	50	49	52
		US 27 WB from NW 35 Ave Rd to I-75	20	21	22	21	22	24	23	24	25	25	20	19	23
		US 27 WB from I-75 to W of NW 44 Ave	88	88	90	90	90	89	91	89	91	89	88	88	90
	SR 326	SR 326 EB from W of I-75 to I-75	42	43	43	43	44	43	43	44	44	42	43	41	44
		SR 326 EB from I-75 to E of I-75	21	21	21	21	21	21	21	21	21	21	21	21	21
		SR 326 WB from E of I-75 to I-75	34	33	34	34	33	34	34	34	33	33	33	33	34
		SR 326 WB from I-75 to W of I-75	7	7	7	7	7	7	7	7	7	7	7	7	7
	NW 44 Ave	NW 44 Ave NB from S of NW 49 St to NW 49 St	17	17	17	17	17	17	17	17	17	17	17	17	17
		NW 44 Ave NB from NW 49 St to N of NW 49 St	10	10	10	10	10	10	10	10	10	10	10	10	10
		NW 44 Ave SB from N of NW 49 St to NW 49 St	6	6	6	6	6	6	6	6	6	6	6	6	6
		NW 44 Ave SB from NW 49 St to S of NW 49 St	18	18	18	18	18	18	18	18	18	18	18	18	18

Table 3-12: Intersection Delay & Queue Summary

Intersection	Control	MVMT	AM[1]					PM[1]				
			Vol	Delay	LOS	Avg Q	Max Q	Vol	Delay	LOS	Avg Q	Max Q
NW 49 St at NW 44 Ave	U	NBL	1	0.5	A	0	0	8	0.5	A	0	0
		NBT	142	0.0	A	0	0	277	0.0	A	0	0
		SBT	309	0.0	A	0	0	237	0.0	A	0	0
		SBR	0	0.0	A	0	0	2	0.7	A	0	0
		EBL	4	5.6	A	0	35	1	5.5	A	0	19
		EBR	2	4.8	A	0	0	8	4.7	A	0	0
		Overall		**0.1**	**A**				**0.1**	**A**		
SR 326 at NW 44 Ave	S	NBL	15	20.5	C	3	70	32	21.9	C	6	96
		NBR	63	20.9	C	8	77	78	22.7	C	11	91
		SBL	78	18.3	B	9	106	165	20.0	B	21	164
		SBT	7	19.7	B	9	106	6	20.0	B	21	164
		SBR	42	1.0	A	0	9	117	1.3	A	0	28
		EBT	290	11.6	B	14	148	258	15.3	B	17	146
		EBR	19	6.4	A	1	51	18	7.6	A	1	45
		WBL	57	13.9	B	3	72	41	17.7	B	3	56
		WBT	244	11.5	B	12	133	287	16.2	B	20	150
		Overall		**12.6**	**B**				**15.5**	**B**		
SR 326 at I-75 NB	S	NBL	62	3.0	A	2	124	513	3.9	A	5	181
		NBR	472	19.6	B	7	92	82	18.5	B	9	94
		EBL	85	6.3	A	2	66	37	6.7	A	1	39
		EBT	331	4.3	A	4	80	421	5.6	A	6	99
		WBT	672	8.0	A	20	251	726	7.4	A	21	243
		WBR	163	3.7	A	0	54	124	3.6	A	0	23
		Overall		**5.9**	**A**				**6.3**	**A**		
US 27 at I-75 SB	S	SBL	118	40.1	D	28	149	93	37.9	D	21	117
		SBR	36	1.2	A	0	0	63	1.3	A	0	0
		EBT	986	15.2	B	45	302	780	14.1	B	33	242
		EBR	285	7.4	A	5	150	259	8.5	A	7	167
		WBL	256	11.1	B	15	212	314	10.3	B	19	254
		WBT	718	5.1	A	9	156	1252	5.0	A	20	295
		Overall		**11.9**	**B**				**9.5**	**A**		
US 27 at I-75 NB	S	NBL	181	25.8	C	24	121	279	26.8	C	36	149
		NBR	354	19.1	B	35	142	261	18.6	B	27	117
		EBL	54	7.4	A	1	46	51	9.9	A	1	49
		EBT	1052	7.6	A	26	309	826	7.9	A	19	257
		WBT	535	9.5	A	14	143	973	13.6	B	34	286
		WBT>L	256	10.9	B	12	172	313	14.6	B	20	234
		WBR	110	4.2	A	0	27	126	5.9	A	0	21
		Overall		**11.0**	**B**				**13.4**	**B**		
US 27 at NW 35 Ave Rd	S	NBL	12	51.4	D	5	44	21	49.9	D	7	60
		NBT	4	45.1	D	5	44	2	55.5	E	7	60
		NBR	0	13.7	B	7	57	4	12.4	B	10	75
		SBL	18	54.1	D	6	48	23	51.4	D	7	53
		SBT	3	52.6	D	0	10	1	60.0	E	0	9
		SBR	268	9.9	A	26	176	267	12.9	B	30	170
		EBL	242	10.0	A	7	126	219	16.1	B	12	145
		EBT	1127	6.4	A	19	295	845	5.3	A	11	197
		EBR	37	4.9	A	1	51	24	2.8	A	0	32
		WBL	17	9.6	A	0	19	13	7.7	A	0	15
		WBT	620	9.6	A	18	164	1131	11.6	B	41	335
		WBR	25	2.5	A	0	0	21	2.9	A	0	13
		Overall		**8.7**	**A**				**10.6**	**B**		
US 27 at NW 44 Ave	S	NBL	4	34.2	C	1	17	4	35.5	D	1	11
		NBT	0	39.8	D	0	5	0	0.0	A	0	0
		NBR	14	3.3	A	0	16	11	2.3	A	0	10
		SBL	341	21.5	C	30	139	273	24.1	C	28	129
		SBT	1	24.6	C	30	139	0	0.0	A	28	129
		SBR	65	6.0	A	38	154	66	7.4	A	36	143
		EBL	43	11.2	B	2	55	51	12.7	B	3	54
		EBT	781	11.7	B	26	220	647	9.1	A	16	157
		EBR	0	13.5	B	0	0	0	6.8	A	0	0
		WBL	10	10.7	B	0	21	6	11.2	B	0	13
		WBT	489	12.2	B	18	164	930	13.0	B	36	298
		WBR	166	5.4	A	7	140	252	6.1	A	10	151
		Overall		12.9	B				12.2	B		
SR 326 at I-75 SB	U	NBR	47	7.9	A	3	77	27	7.8	A	2	65
		EBT	290	0.9	A	0	2	381	0.6	A	0	0
		EBR	40	0.9	A	0	2	18	0.8	A	0	0
		WBL	52	3.3	A	1	75	22	3.6	A	0	41
		WBT	301	0.5	A	0	0	329	0.4	A	0	0
		WBR	280	0.9	A	0	0	386	0.9	A	0	0
		WBU	76	3.8	A	1	64	51	3.8	A	1	42
		Overall		1.5	A				1.1	A		
US 27 at NW 38 Ave	U	NBL	741	7.5	A	0	26	1295	10.8	B	1	48
		NBR	21	10.7	B	2	66	18	8.7	A	1	61
		EBT	1250	0.5	A	0	0	1025	0.3	A	0	0
		EBR	4	0.9	A	0	0	14	0.8	A	0	0
		WBL	13	5.8	A	0	25	20	4.2	A	0	27
		WBT	2	0.2	A	0	0	5	0.3	A	0	0
		Overall		0.5	A				0.5	A		

[1]Volume in vph; delay in sec/veh; LOS is Estimated LOS using HCM2010 thresholds; Queue Lengths in feet

Figure 3-9: I-75 Volume Contour Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)									
12	Processed	2066	2066	1650	1790	1798	1812	1335	1550	1556
	Demand	2036	2036	1588	1726	1726	1726	1264	1479	1479
	Diff.	30	30	62	64	72	86	71	71	77
11	Processed	2281	2271	1783	1941	1928	1921	1405	1638	1634
	Demand	2266	2266	1767	1921	1921	1921	1406	1646	1646
	Diff.	15	5	16	20	7	0	-1	-8	-12
10	Processed	2219	2211	1755	1918	1922	1927	1384	1603	1610
	Demand	2201	2201	1716	1865	1865	1865	1366	1599	1599
	Diff.	18	10	39	53	57	62	18	4	11
9	Processed	2211	2204	1736	1888	1883	1869	1363	1566	1565
	Demand	2204	2204	1718	1868	1868	1868	1368	1601	1601
	Diff.	7	0	18	20	15	1	-5	-35	-36
8	Processed	2145	2141	1682	1852	1874	1901	1406	1637	1649
	Demand	2153	2153	1679	1825	1825	1825	1336	1564	1564
	Diff.	-8	-12	3	27	49	76	70	73	85
7	Processed	2487	2478	1929	2091	2106	2117	1558	1819	1813
	Demand	2552	2552	1990	2163	2163	2163	1584	1854	1854
	Diff.	-65	-74	-61	-72	-57	-46	-26	-35	-41
6	Processed	2479	2466	1931	2108	2099	2087	1532	1781	1790
	Demand	2567	2567	2001	2175	2175	2175	1593	1865	1865
	Diff.	-88	-101	-70	-67	-76	-88	-61	-84	-75
5	Processed	2415	2407	1897	2065	2029	2007	1471	1711	1705
	Demand	2512	2512	1958	2129	2129	2129	1559	1825	1825
	Diff.	-97	-105	-61	-64	-100	-122	-88	-114	-120
4	Processed	2123	2105	1646	1781	1768	1752	1267	1502	1504
	Demand	2167	2167	1690	1837	1837	1837	1345	1575	1575
	Diff.	-44	-62	-44	-56	-69	-85	-78	-73	-71
3	Processed	2017	2007	1568	1720	1701	1687	1201	1401	1397
	Demand	2070	2070	1614	1755	1755	1755	1285	1504	1504
	Diff.	-53	-63	-46	-35	-54	-68	-84	-103	-107
2	Processed	1848	1832	1434	1546	1518	1503	1099	1285	1279
	Demand	1902	1902	1483	1612	1612	1612	1180	1382	1382
	Diff.	-54	-70	-49	-66	-94	-109	-81	-97	-103
1	Processed	1464	1450	1142	1231	1215	1182	865	1007	1009
	Demand	1498	1498	1168	1269	1269	1269	929	1088	1088
	Diff.	-34	-48	-26	-38	-54	-87	-64	-81	-79
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**US 27 Interchange**			**I-75**	**SR 326 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)											
12	Processed	966	951	856	1103	1102	1215	1215	1232	1102	1582	1589
	Demand	970	970	864	1102	1102	1221	1221	1221	1086	1540	1540
	Diff.	-4	-19	-8	1	0	-6	-6	11	16	42	49
11	Processed	1068	1052	957	1204	1201	1323	1317	1317	1177	1710	1702
	Demand	1079	1079	962	1227	1227	1359	1359	1359	1209	1714	1714
	Diff.	-11	-27	-5	-23	-26	-36	-42	-42	-32	-4	-12
10	Processed	1036	1021	917	1146	1146	1277	1277	1274	1145	1624	1627
	Demand	1048	1048	934	1191	1191	1320	1320	1320	1174	1664	1664
	Diff.	-12	-27	-17	-45	-45	-43	-43	-46	-29	-40	-37
9	Processed	1029	1018	920	1155	1156	1283	1278	1275	1141	1635	1639
	Demand	1050	1050	935	1193	1193	1322	1322	1322	1176	1667	1667
	Diff.	-21	-32	-15	-38	-37	-39	-44	-47	-35	-32	-28
8	Processed	1017	1001	901	1171	1172	1299	1321	1338	1203	1702	1716
	Demand	1026	1026	914	1166	1166	1291	1291	1291	1149	1629	1629
	Diff.	-9	-25	-13	5	6	8	30	47	54	73	87
7	Processed	1210	1192	1085	1376	1378	1524	1519	1519	1368	1938	1938
	Demand	1215	1215	1083	1381	1381	1530	1530	1530	1361	1930	1930
	Diff.	-5	-23	2	-5	-3	-6	-11	-11	7	8	8
6	Processed	1215	1199	1079	1373	1373	1520	1510	1510	1347	1910	1904
	Demand	1223	1223	1089	1389	1389	1539	1539	1539	1369	1941	1941
	Diff.	-8	-24	-10	-16	-16	-19	-29	-29	-22	-31	-37
5	Processed	1199	1180	1066	1325	1320	1478	1458	1434	1286	1805	1800
	Demand	1196	1196	1066	1360	1360	1507	1507	1507	1340	1900	1900
	Diff.	3	-16	0	-35	-40	-29	-49	-73	-54	-95	-100
4	Processed	1037	1017	919	1174	1174	1287	1274	1264	1122	1574	1569
	Demand	1032	1032	920	1173	1173	1300	1300	1300	1156	1639	1639
	Diff.	5	-15	-1	1	1	-13	-26	-36	-34	-65	-70
3	Processed	979	966	880	1083	1078	1198	1192	1183	1052	1489	1495
	Demand	986	986	879	1121	1121	1242	1242	1242	1105	1566	1566
	Diff.	-7	-20	1	-38	-43	-44	-50	-59	-53	-77	-71
2	Processed	895	874	780	982	981	1073	1042	1018	899	1286	1281
	Demand	906	906	807	1029	1029	1141	1141	1141	1015	1438	1438
	Diff.	-11	-32	-27	-47	-48	-68	-99	-123	-116	-152	-157
1	Processed	690	682	617	789	788	870	859	851	755	1068	1065
	Demand	713	713	636	811	811	898	898	898	799	1133	1133
	Diff.	-23	-31	-19	-22	-23	-28	-39	-47	-44	-65	-68
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**SR 326 Interchange**					**I-75**	**US 27 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 3-10: I-75 Volume Contour Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)									
12	Processed	1952	1946	1534	1675	1685	1701	1215	1360	1366
	Demand	1919	1919	1499	1638	1638	1638	1167	1298	1298
	Diff.	33	27	35	37	47	63	48	62	68
11	Processed	2112	2104	1678	1831	1833	1842	1298	1448	1455
	Demand	2087	2087	1630	1781	1781	1781	1269	1412	1412
	Diff.	25	17	48	50	52	61	29	36	43
10	Processed	2224	2223	1757	1928	1953	1974	1416	1567	1563
	Demand	2200	2200	1718	1877	1877	1877	1337	1488	1488
	Diff.	24	23	39	51	76	97	79	79	75
9	Processed	2498	2489	1959	2148	2159	2175	1524	1680	1691
	Demand	2513	2513	1963	2144	2144	2144	1527	1700	1700
	Diff.	-15	-24	-4	4	15	31	-3	-20	-9
8	Processed	2526	2514	2003	2194	2181	2174	1549	1697	1698
	Demand	2553	2553	1993	2178	2178	2178	1551	1727	1727
	Diff.	-27	-39	10	16	3	-4	-2	-30	-29
7	Processed	2524	2508	1961	2135	2122	2096	1499	1671	1668
	Demand	2593	2593	2025	2213	2213	2213	1576	1754	1754
	Diff.	-69	-85	-64	-78	-91	-117	-77	-83	-86
6	Processed	2347	2341	1833	2012	2020	2031	1457	1610	1610
	Demand	2429	2429	1896	2072	2072	2072	1476	1643	1643
	Diff.	-82	-88	-63	-60	-52	-41	-19	-33	-33
5	Processed	2407	2392	1880	2055	2052	2054	1472	1625	1627
	Demand	2501	2501	1953	2134	2134	2134	1520	1692	1692
	Diff.	-94	-109	-73	-79	-82	-80	-48	-67	-65
4	Processed	2384	2375	1880	2050	2047	2053	1459	1626	1628
	Demand	2454	2454	1916	2093	2093	2093	1491	1660	1660
	Diff.	-70	-79	-36	-43	-46	-40	-32	-34	-32
3	Processed	2399	2391	1875	2043	2019	1987	1395	1552	1552
	Demand	2478	2478	1935	2114	2114	2114	1506	1676	1676
	Diff.	-79	-87	-60	-71	-95	-127	-111	-124	-124
2	Processed	2153	2143	1678	1848	1850	1865	1313	1454	1461
	Demand	2210	2210	1726	1885	1885	1885	1343	1495	1495
	Diff.	-57	-67	-48	-37	-35	-20	-30	-41	-34
1	Processed	2212	2206	1744	1919	1917	1907	1352	1503	1498
	Demand	2290	2290	1788	1953	1953	1953	1392	1549	1549
	Diff.	-78	-84	-44	-34	-36	-46	-40	-46	-51
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**US 27 Interchange**			**I-75**	**SR 326 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)											
12	Processed	1228	1200	1008	1295	1297	1409	1420	1437	1314	1764	1775
	Demand	1234	1234	1014	1311	1311	1209	1414	1414	1291	1735	1735
	Diff.	-6	-34	-6	-16	-14	200	6	23	23	29	40
11	Processed	1334	1306	1086	1391	1392	1506	1516	1519	1413	1921	1915
	Demand	1342	1342	1103	1425	1425	1314	1538	1538	1404	1887	1887
	Diff.	-8	-36	-17	-34	-33	192	-22	-19	9	34	28
10	Processed	1407	1376	1155	1484	1485	1610	1627	1653	1528	2065	2078
	Demand	1414	1414	1162	1502	1502	1385	1621	1621	1479	1988	1988
	Diff.	-7	-38	-7	-18	-17	225	6	32	49	77	90
9	Processed	1601	1568	1321	1689	1688	1827	1825	1832	1675	2253	2253
	Demand	1615	1615	1328	1716	1716	1582	1852	1852	1690	2272	2272
	Diff.	-14	-47	-7	-27	-28	245	-27	-20	-15	-19	-19
8	Processed	1642	1610	1353	1734	1733	1874	1875	1879	1724	2328	2338
	Demand	1641	1641	1349	1743	1743	1607	1881	1881	1717	2307	2307
	Diff.	1	-31	4	-9	-10	267	-6	-2	7	21	31
7	Processed	1668	1626	1359	1760	1760	1892	1862	1843	1691	2261	2262
	Demand	1667	1667	1370	1771	1771	1633	1911	1911	1744	2344	2344
	Diff.	1	-41	-11	-11	-11	259	-49	-68	-53	-83	-82
6	Processed	1562	1519	1283	1660	1655	1788	1808	1814	1666	2207	2209
	Demand	1561	1561	1283	1658	1658	1529	1789	1789	1633	2195	2195
	Diff.	1	-42	0	2	-3	259	19	25	33	12	14
5	Processed	1598	1570	1323	1697	1702	1842	1817	1809	1666	2234	2231
	Demand	1608	1608	1322	1708	1708	1575	1843	1843	1682	2261	2261
	Diff.	-10	-38	1	-11	-6	267	-26	-34	-16	-27	-30
4	Processed	1572	1536	1292	1648	1645	1778	1778	1781	1641	2192	2197
	Demand	1577	1577	1297	1675	1675	1545	1808	1808	1650	2218	2218
	Diff.	-5	-41	-5	-27	-30	233	-30	-27	-9	-26	-21
3	Processed	1585	1549	1289	1659	1657	1791	1767	1741	1585	2114	2110
	Demand	1593	1593	1310	1692	1692	1560	1826	1826	1667	2240	2240
	Diff.	-8	-44	-21	-33	-35	231	-59	-85	-82	-126	-130
2	Processed	1422	1387	1167	1484	1480	1599	1611	1625	1484	1964	1970
	Demand	1420	1420	1168	1509	1509	1391	1628	1628	1486	1998	1998
	Diff.	2	-33	-1	-25	-29	208	-17	-3	-2	-34	-28
1	Processed	1467	1435	1213	1567	1571	1689	1674	1657	1516	2033	2033
	Demand	1472	1472	1210	1563	1563	1442	1687	1687	1540	2070	2070
	Diff.	-5	-37	3	4	8	247	-13	-30	-24	-37	-37
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**SR 326 Interchange**					**I-75**	**US 27 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 3-11: I-75 Speed Contour Plots

I-75 NORTHBOUND

Time Period	Average Speed (mph)– AM Peak								
12	69.4	68.3	69.2	68.8	68.8	67.7	69.2	68.4	68.9
11	69.3	68.1	69.2	68.6	68.8	67.5	69.1	68.3	68.8
10	69.2	68.1	69.1	68.6	68.7	67.4	69.1	68.4	68.9
9	69.3	68.2	69.1	68.7	68.8	67.6	69.2	68.3	68.9
8	69.3	68.3	69.2	68.7	68.8	67.8	69.0	68.0	68.7
7	69.2	67.9	68.9	68.5	68.5	67.3	68.9	68.0	68.7
6	69.1	68.0	69.0	68.5	68.6	67.5	69.1	68.3	68.9
5	69.1	68.1	69.0	68.5	68.7	67.3	69.0	68.3	68.9
4	69.3	68.4	69.1	68.6	68.8	67.7	69.1	68.3	68.9
3	69.3	68.2	69.1	68.7	68.9	67.9	69.2	68.5	68.9
2	69.4	68.5	69.3	68.9	69.0	68.1	69.5	68.8	69.2
1	69.7	68.9	69.6	69.3	69.3	68.5	69.6	68.9	69.3
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	2,702	1,479	3,134	1,500	16,309	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>

Time Period	Average Speed (mph)– PM Peak								
12	69.5	68.4	69.4	68.8	68.9	67.6	69.3	68.6	69.0
11	69.3	68.4	69.2	68.7	68.8	67.5	69.0	68.5	68.9
10	69.2	68.1	69.1	68.6	68.7	67.4	69.1	68.5	68.9
9	69.1	67.8	68.9	68.4	68.5	67.1	69.0	68.5	68.8
8	69.1	67.7	68.9	68.3	68.6	67.2	69.0	68.5	68.8
7	69.1	67.8	69.0	68.4	68.6	67.5	69.1	68.5	68.9
6	69.2	68.1	69.1	68.2	68.6	67.2	69.0	68.6	68.9
5	69.1	67.9	69.0	68.5	68.6	67.5	69.1	68.5	68.9
4	69.1	68.0	68.9	68.5	68.6	67.3	69.1	68.6	68.9
3	69.1	68.2	69.0	68.5	68.7	67.2	69.1	68.7	69.0
2	69.2	68.2	69.1	68.7	68.8	67.7	69.1	68.6	69.0
1	69.3	68.3	69.1	68.6	68.7	67.5	69.0	68.6	68.9
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	2,702	1,479	3,134	1,500	16,309	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

I-75 SOUTHBOUND

Time Period	Average Speed (mph)– AM Peak										
12	69.9	69.7	69.8	68.0	68.9	68.4	69.2	68.9	69.2	67.4	68.7
11	69.8	69.6	69.6	68.0	68.7	68.4	69.1	68.8	69.2	67.0	68.7
10	69.8	69.6	69.7	68.2	68.9	68.5	69.2	68.9	69.2	67.7	68.8
9	69.8	69.6	69.6	68.0	68.9	68.5	69.2	68.8	69.2	67.1	68.6
8	69.8	69.6	69.7	68.0	68.8	68.4	69.1	68.7	69.1	67.5	68.7
7	69.8	69.5	69.6	68.0	68.7	68.3	69.1	68.7	69.1	66.8	68.6
6	69.9	69.6	69.6	68.0	68.8	68.3	69.0	68.6	69.1	67.1	68.6
5	69.9	69.6	69.5	68.1	68.8	68.3	69.1	68.7	69.2	67.4	68.7
4	69.9	69.7	69.7	68.2	68.9	68.6	69.2	68.8	69.3	67.5	68.9
3	70.0	69.8	69.8	68.3	69.0	68.7	69.3	69.0	69.4	67.8	68.9
2	70.1	69.9	69.9	68.3	69.0	68.9	69.5	69.1	69.5	67.8	69.0
1	70.1	69.9	70.0	68.3	69.1	69.1	69.5	69.2	69.6	68.1	69.2
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	16,086	1,500	3,464	1,461	2,429
Direction of Travel		>	>	>	>	>	>	>	>	>	>

Time Period	Average Speed (mph)– PM Peak										
12	69.8	69.5	69.7	68.1	68.8	68.6	69.1	68.9	69.2	67.5	68.7
11	69.8	69.4	69.6	68.1	68.8	68.5	69.1	68.9	69.1	67.2	68.6
10	69.7	69.3	69.5	67.7	68.5	68.2	68.8	68.4	68.9	66.7	68.4
9	69.6	69.0	69.3	67.6	68.5	68.1	68.7	68.5	68.8	66.7	68.3
8	69.6	69.1	69.4	67.4	68.3	68.0	68.7	68.4	68.8	66.2	68.2
7	69.7	69.1	69.4	67.7	68.5	68.2	68.8	68.5	68.8	66.6	68.3
6	69.7	69.2	69.5	67.6	68.4	68.3	68.8	68.5	68.8	66.8	68.3
5	69.7	69.2	69.5	67.7	68.5	68.2	68.8	68.5	68.8	66.8	68.4
4	69.7	69.3	69.5	67.7	68.4	68.2	68.8	68.6	68.8	66.7	68.4
3	69.7	69.2	69.5	67.8	68.6	68.3	69.0	68.6	69.0	67.1	68.5
2	69.8	69.4	69.7	68.1	68.8	68.7	69.1	68.8	69.1	67.5	68.7
1	69.8	69.4	69.6	67.6	68.5	68.4	69.0	68.7	69.0	67.3	68.6
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	16,086	1,500	3,464	1,461	2,429
Direction of Travel		>	>	>	>	>	>	>	>	>	>

Figure 3-12: I-75 Density Contour Plots

I-75 NORTHBOUND

Time Period	Average Density (veh/mi/ln) – AM Peak								
12	9.9	10.1	7.9	8.7	8.7	8.9	6.4	7.6	7.5
11	11.0	11.1	8.6	9.4	9.4	9.5	6.8	8.0	7.9
10	10.7	10.8	8.5	9.3	9.3	9.5	6.7	7.8	7.8
9	10.6	10.8	8.4	9.1	9.1	9.2	6.6	7.6	7.6
8	10.3	10.5	8.1	9.0	9.1	9.4	6.8	8.0	8.0
7	12.0	12.2	9.3	10.2	10.2	10.5	7.5	8.9	8.8
6	12.0	12.1	9.3	10.3	10.2	10.3	7.4	8.7	8.7
5	11.6	11.8	9.2	10.0	9.9	9.9	7.1	8.3	8.3
4	10.2	10.3	7.9	8.6	8.6	8.7	6.1	7.3	7.3
3	9.7	9.8	7.6	8.3	8.2	8.3	5.8	6.8	6.8
2	8.9	8.9	6.9	7.5	7.4	7.4	5.3	6.2	6.2
1	7.0	7.0	5.5	5.9	5.8	5.7	4.1	4.9	4.8
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	2,702	1,479	3,134	1,500	16,309	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln) – AM Peak								
12	9.4	9.5	7.4	8.1	8.1	8.4	5.8	6.6	6.6
11	10.2	10.3	8.1	8.9	8.9	9.1	6.3	7.0	7.0
10	10.7	10.9	8.5	9.4	9.5	9.8	6.8	7.6	7.6
9	12.0	12.2	9.5	10.5	10.5	10.8	7.4	8.2	8.2
8	12.2	12.3	9.7	10.7	10.6	10.8	7.5	8.3	8.2
7	12.2	12.3	9.5	10.4	10.3	10.4	7.2	8.1	8.1
6	11.3	11.5	8.8	9.8	9.8	10.1	7.0	7.8	7.8
5	11.6	11.7	9.1	10.0	10.0	10.2	7.1	7.9	7.9
4	11.5	11.6	9.1	10.0	9.9	10.2	7.0	7.9	7.9
3	11.6	11.7	9.1	9.9	9.8	9.9	6.7	7.5	7.5
2	10.4	10.5	8.1	9.0	8.9	9.2	6.3	7.1	7.1
1	10.6	10.8	8.4	9.3	9.3	9.4	6.5	7.3	7.3
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	2,702	1,479	3,134	1,500	16,309	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>

I-75 SOUTHBOUND

Time Period	Average Density (veh/mi/ln) – AM Peak										
12	4.6	4.6	4.1	5.4	5.3	5.9	5.8	5.9	5.3	7.8	7.7
11	5.1	5.0	4.6	5.9	5.8	6.4	6.4	6.4	5.7	8.5	8.3
10	4.9	4.9	4.4	5.6	5.5	6.2	6.2	6.1	5.5	8.0	7.9
9	4.9	4.9	4.4	5.7	5.6	6.2	6.2	6.2	5.5	8.1	8.0
8	4.9	4.8	4.3	5.8	5.7	6.3	6.4	6.5	5.8	8.4	8.3
7	5.8	5.7	5.2	6.8	6.7	7.4	7.4	7.3	6.6	9.7	9.4
6	5.8	5.7	5.2	6.8	6.7	7.4	7.3	7.3	6.5	9.5	9.3
5	5.7	5.7	5.1	6.5	6.4	7.2	7.0	6.9	6.2	8.9	8.7
4	4.9	4.9	4.4	5.8	5.7	6.2	6.2	6.1	5.4	7.8	7.6
3	4.7	4.6	4.2	5.3	5.2	5.8	5.7	5.7	5.1	7.3	7.2
2	4.3	4.2	3.7	4.8	4.7	5.2	5.0	4.9	4.3	6.3	6.2
1	3.3	3.3	2.9	3.9	3.8	4.2	4.1	4.1	3.6	5.2	5.1
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	US 27 Interchange			I-75
Length (ft)	3,001	1,503	2,225	1,499	272	1,500	16,086	1,500	3,464	1,461	2,429
Direction of Travel		>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln) – AM Peak										
12	5.9	5.8	4.8	6.4	6.3	6.8	6.9	6.9	6.3	8.7	8.6
11	6.4	6.3	5.2	6.8	6.7	7.3	7.3	7.3	6.8	9.6	9.3
10	6.7	6.6	5.5	7.3	7.2	7.8	7.9	8.0	7.4	10.3	10.1
9	7.7	7.6	6.4	8.3	8.2	8.9	8.9	8.9	8.1	11.3	11.0
8	7.9	7.8	6.5	8.6	8.5	9.1	9.1	9.2	8.4	11.7	11.4
7	8.0	7.8	6.5	8.7	8.6	9.2	9.0	9.0	8.2	11.3	11.0
6	7.5	7.3	6.2	8.2	8.1	8.7	8.8	8.8	8.1	11.0	10.8
5	7.6	7.6	6.3	8.4	8.3	9.0	8.8	8.8	8.1	11.2	10.9
4	7.5	7.4	6.2	8.1	8.0	8.7	8.6	8.6	7.9	11.0	10.7
3	7.6	7.5	6.2	8.2	8.1	8.7	8.5	8.4	7.7	10.5	10.3
2	6.8	6.7	5.6	7.3	7.2	7.7	7.8	7.9	7.2	9.7	9.6
1	7.0	6.9	5.8	7.7	7.7	8.2	8.1	8.0	7.3	10.1	9.9
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	US 27 Interchange			I-75
Length (ft)	3,001	1,503	2,225	1,499	272	1,500	16,086	1,500	3,464	1,461	2,429
Direction of Travel		>	>	>	>	>	>	>	>	>	>

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Table 3-13: Network Performance Summary

Peak Hour	15-min Period	Total Delay (Hours)	Total Stops	Average Speed (mph)	Vehicles Arrived (Vehicles)	Vehicle-Miles Traveled	Latent Delay (Hours)	Latent Demand (Vehicles)
AM	P1	5	615	58	1118	4325	0	0
	P2	7	883	57	1394	5391	0	0
	P3	8	952	57	1565	6016	0	0
	P4	8	1045	57	1660	6358	0	0
	P5	11	1323	56	1888	7287	0	0
	P6	12	1434	56	1986	7556	0	0
	P7	12	1392	56	2004	7588	0	0
	P8	9	1138	57	1776	6648	0	0
	P9	9	1137	57	1718	6575	0	0
	P10	9	1095	57	1748	6650	0	0
	P11	10	1180	57	1776	6786	0	0
	P12	8	1025	57	1675	6286	0	0
	PK Hour	**108**	**13,219**	**57**	**20,308**	**77,466**	**0**	**0**
PM	P1	11	1249	57	1908	7431	0	0
	P2	10	1226	57	1898	7199	0	0
	P3	12	1423	56	2011	7861	0	0
	P4	12	1399	56	2084	7963	0	0
	P5	13	1465	56	2090	8064	0	0
	P6	13	1469	56	2080	7950	0	0
	P7	13	1566	56	2161	8341	0	0
	P8	13	1565	56	2191	8417	0	0
	P9	14	1586	56	2152	8273	0	0
	P10	11	1276	56	1972	7433	0	0
	P11	10	1131	57	1825	6966	0	0
	P12	9	1047	57	1705	6460	0	0
	PK Hour	**141**	**16,402**	**56**	**24,077**	**92,358**	**0**	**0**

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3.8 Safety Analysis

In accordance with the approved MLOU, a safety analysis was conducted for existing conditions utilizing crash data recorded within the IJR AOI between years 2013 and 2017. The AOI encompasses the I-75 mainline between US 27 and SR 326, the I-75 interchanges with US 27 and with SR 326, as well as the following adjacent segments and intersections:

- Intersection of US 27 at NW 44th Avenue
- Intersection of US 27 at NW 35th Avenue Road
- Segment of US 27 from NW 44th Avenue to I-75 southbound ramps
- Segment of US 27 from I-75 northbound ramps to NW 35th Avenue Road
- Segment of SR 326 from one-half mile west to I-75 southbound off-ramp
- Segment of SR 326 from I-75 northbound ramps to one-half mile east
- Segment of NW 44th Avenue from US 27 to NW 49th Street
- Segment of NW 44th Avenue from NW 49th Street to SR 326

Crash data was obtained for a five-year period from January 1, 2013 through December 31, 2017. The crash data was obtained from the FDOT CAR Online database; the Signal Four Analytics application was used to obtain off system crash data, as well as a check against the CAR Online data. The following sections summarize the recorded crash data. Section 3.8.1 includes a summary of intersections within the AOI, and Sections 3.8.2 and 3.8.3 provide a summary of the crashes recorded on ramps and segments within the AOI, respectively. Police crash reports were reviewed for identified crash clusters/patterns. **Figure 3-13** depicts the locations detailed in the following sections.

Each of the following sections will provide a comparison of the 5-year average actual crash rate for each facility against the statewide 5-year average crash rate on a similar facility, based on characteristics such as number of lanes, divided/undivided, number of legs at an intersection, freeway, arterial, collector, etc.

The equation for actual crash rates of an intersection is:

$$R = \frac{1{,}000{,}000 \text{ x } C}{365 \text{ x } N \text{ x } V}$$

Where:

R = Crash rate for the intersection expressed as crashes per million entering vehicles (MEV).
C = Total number of intersection crashes in the study period.
N = Number of years of data.
V = Traffic volumes entering the intersection daily (source: FTO 5-year Historical AADT Reports).

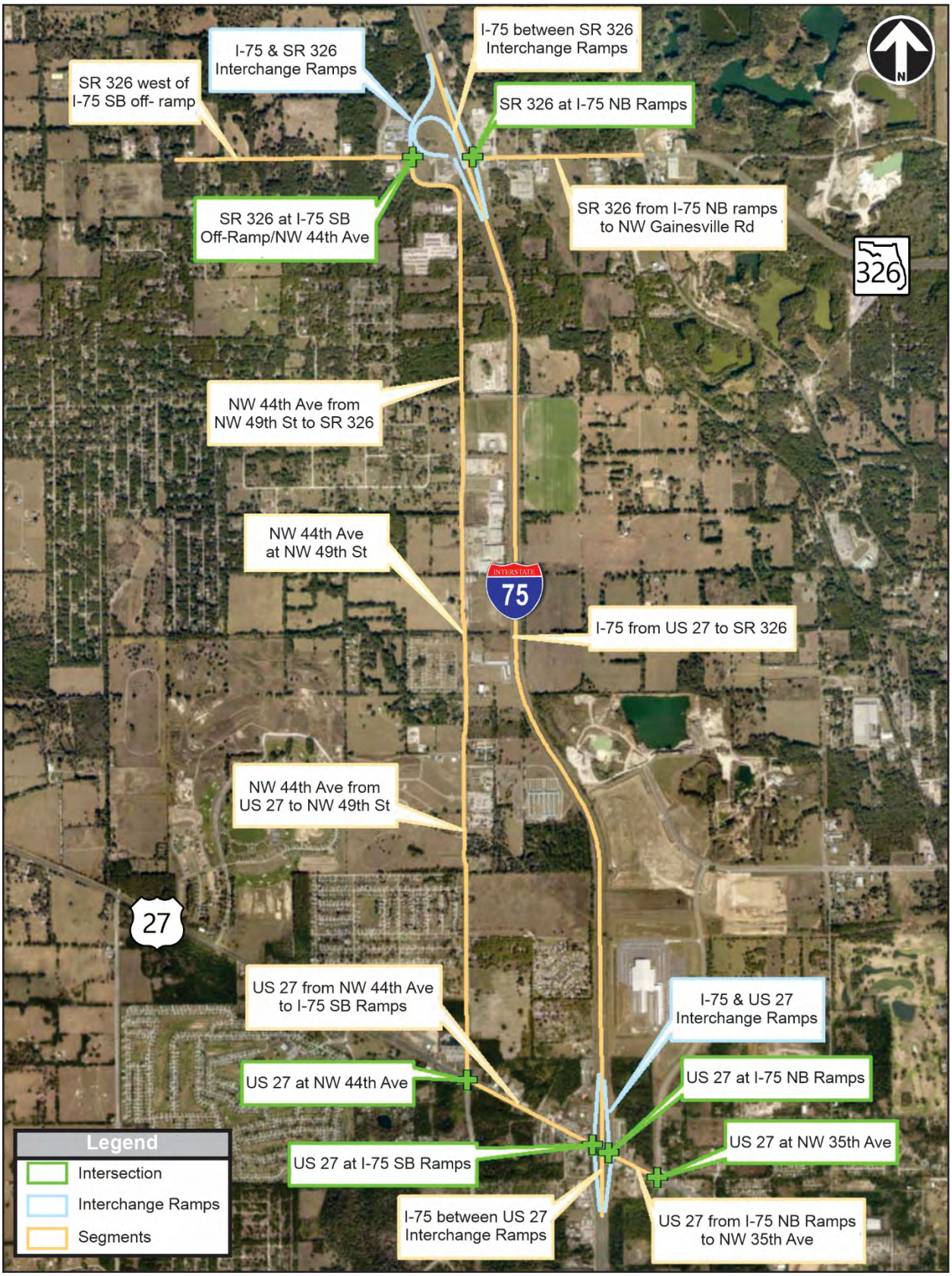

Figure 3-13: Existing Crash Analysis Location Legend

The equation for actual crash rates of a segment or on a ramp is:

$$R = \frac{1{,}000{,}000 \text{ x C}}{365 \text{ x N x V x L}}$$

Where:

R = Crash rate for the road segment expressed as crashes per million vehicle-miles of travel (MVMT).
C = Total number of crashes in the study period.
N = Number of years of data.
V = Number of vehicles per day (both directions); obtained from FTO 5-year Historical AADT Reports.
L = Length of the roadway segment in miles.

Crash rate calculation worksheets are provided in **Appendix E.**

District 5 intersection and segment High Crash Locations for the period from 2013 to 2017 were also obtained from the FDOT CAR Online database. The data was filtered to only include locations within Marion County; and then to only include intersections and segments corresponding to roadway section numbers going thru the study area. It should be noted that although the High Crash Locations are districtwide, actual crash rates are compared to statewide average crash rates per MEV or MVMT, for corresponding similar facilities. The resultant locations are further discussed in this section; detailed data is provided in **Appendix E.**

3.8.1 Intersections

Six intersections were included in the existing conditions analysis, including two at each existing interchange ramp within the AOI. The crash severity and type recorded for each of the six intersections within the AOI during the five-year period, are summarized in **Table 3-14** and crash rates provided in **Table 3-15**; 2013-2017 statewide average crash rate data is provided in **Appendix E.**

Table 3-14: Intersection Crash Summaries

Location	Crash Severity & Type		Year					Total
			2013	2014	2015	2016	2017	
US 27 & NW 44th Ave		*Overall*	*9*	*9*	*11*	*7*	*10*	***46***
	Severity	Injury	6	5	3	4	6	**24**
		Property Damage Only	3	4	8	3	4	**22**
	Crash Type	Rear End	3	5	6	5	7	**26**
		Left Turn	2	2	1	2	2	**9**
		Angle	0	2	1	0	0	**3**
		Off Road	1	0	1	0	0	**2**
		Other	3	0	2	0	1	**6**
US 27 at I-75 SB ramps		*Overall*	*2*	*3*	*5*	*6*	*11*	***27***
	Severity	Injury	1	1	4	1	4	**11**
		Property Damage Only	1	2	1	5	7	**16**
	Crash Type	Rear End	1	2	1	2	6	**12**
		Left Turn	1	1	4	1	4	**11**
		Other	0	0	0	3	1	**4**
US 27 at I-75 NB ramps		*Overall*	*6*	*6*	*10*	*4*	*4*	***30***
	Severity	Injury	3	4	5	0	2	**14**
		Property Damage Only	3	2	5	4	2	**16**
	Crash Type	Rear End	2	2	4	2	1	**11**
		Left Turn	1	1	2	0	1	**5**
		Other	3	3	4	2	2	**14**
US 27 at NW 35th Avenue Road		*Overall*	*3*	*4*	*10*	*7*	*14*	***38***
	Severity	Injury	0	2	2	3	9	**16**
		Property Damage Only	3	2	8	4	5	**22**
	Crash Type	Rear End	1	2	5	4	8	**20**
		Left Turn	0	1	2	0	2	**5**
		Other	2	1	3	3	4	**13**
NW 44th Avenue/I-75 SB off-ramp at SR 326		*Overall*	*6*	*4*	*7*	*2*	*12*	***31***
	Severity	Injury	2	0	2	1	4	**9**
		Property Damage Only	4	4	5	1	8	**22**
	Crash Type	Rear End	3	1	4	1	9	**18**
		Left Turn	2	2	1	1	1	**7**
		Sideswipe	1	0	2	0	0	**3**
		Other	0	1	0	0	2	**3**
SR 326 at I-75 NB ramps		*Overall*	*21*	*15*	*14*	*5*	*7*	***62***
	Severity	Injury	7	3	5	1	4	**20**
		Property Damage Only	14	12	9	4	3	**42**
	Crash Type	Rear End	10	13	8	0	0	**31**
		Sideswipe	3	0	2	1	1	**7**
		Left Turn	5	1	1	2	2	**11**
		Other	3	1	3	2	4	**13**
NW 44th Avenue at NW 49th Street		*Overall*	*0*	*1*	*0*	*1*	*1*	***3***
	Severity	Injury	0	1	0	1	1	**3**
		Property Damage Only	0	0	0	0	0	**0**
	Crash Type	Head On	0	1	0	0	0	**1**
		Right Turn	0	0	0	1	0	**1**
		Other	0	0	0	0	1	**1**

Table 3-15: 5-Year (2013-2017) Intersection Crash Rates

Intersection		Total Crashes	5-Year AADT[1]	Annual Crash Frequency	Crash Rate (per MEV)[2]	Statewide 5YR Avg Crash Rate
US 27	NW 44th Avenue	46	131,200	9.2	0.96	0.533
	I-75 SB ramps	27	106,300	5.4	0.70	0.623
	I-75 NB ramps	30	136,400	6.0	0.60	0.623
	NW 35th Avenue Road	38	123,900	7.6	0.84	0.623
SR 326	I-75 SB off-ramp/NW 44th Avenue	31	139,200	6.2	0.61	0.623
	I-75 NB ramps	62	150,100	12.4	1.13	0.623
NW 44th Ave	NW 49th Street	3	36,800	0.6	0.22	0.419

[1]*AADT entering intersection*
[2]*Corresponding AADTs obtained from 2017 FTO Historical AADT Reports*

US 27 at NW 44th Avenue

A total of 46 crashes were recorded at the intersection of US 27 at NW 44th Avenue during the five-year period. Based on the AADT on US 27 and NW 44th Avenue during the five-year period, 9.2 crashes per year represents a rate of approximately 0.96 crashes per MEV. The 2017 five-year average crash rate per MEV for similar *Urban 4-5 Lane 2-Way Divided Paved* intersections was approximately 0.533; showing that actual crashes for this location were substantially higher than average. US 27 at NW 44th Avenue is reflected as a districtwide high crash intersection location.

Of the 24 injury crashes recorded at the intersection of US 27 and NW 44th Avenue, 12 were rear end crashes, eight were left turn crashes, and three were angle crashes. According to crash data, four of the left turn crashes were between a through vehicle and a vehicle turning left during the permitted phase at the traffic signal.

US 27 at I-75 Southbound Ramps

A total of 27 crashes were recorded at the intersection of US 27 and the I-75 southbound ramps during the five-year period. Based on the AADT on US 27 and on the I-75 southbound off-ramp during the five-year period, 5.4 crashes per year represents a rate of approximately 0.70 crashes per MEV. The 2017 five-year average crash rate per MEV for similar *Urban 4-5 Lane 2-Way Divided Raised* intersections was approximately 0.623, showing that actual crashes for this location were higher than average. US 27 at the I-75 southbound ramps is reflected as a districtwide high crash intersection location.

Of the 11 injury crashes recorded at the intersection of US 27 and the I-75 southbound ramps, six were left turn crashes. Five of the left turn crashes were between an eastbound through vehicle and a westbound vehicle turning left during the permitted phase at the traffic signal.

US 27 at I-75 Northbound Ramps

A total of 30 crashes were recorded at the intersection of US 27 and the I-75 northbound ramps during the five-year period. Based on the AADT of US 27 and the I-75 northbound off-ramp during the five-year period, 6.0 crashes per year represents a rate of approximately 0.60 crashes per MEV. The 2017 five-year average crash rate per MEV for similar *Urban 4-5 Lane 2-Way Divided Raised* intersections was approximately 0.623; showing that actual crashes for this location were slightly lower than average. However, US 27 at the I-75 northbound ramps is reflected as a districtwide high crash intersection location.

Of the 30 crashes recorded at the intersection of US 27 and the I-75 northbound ramps, 14 resulted in at least one injury. Eight of the injury crashes were rear end crashes and two were left turn crashes. Among the crash types classified as 'Other' at this location are two angle crashes, three off road crashes, one right turn crash, one sideswipe crash, and one pedestrian crash.

US 27 at NW 35th Avenue Road

A total of 38 crashes were recorded at the intersection of US 27 and NW 35th Avenue Road during the five-year period. Based on the AADT of US 27 and NW 35th Avenue Road during the five-year period, 7.6 crashes per year represents a rate of approximately 0.84 crashes per MEV. The 2017 five-year average crash rate per MEV for similar *Urban 4-5 Lane 2-Way Divided Raised* intersections was approximately 0.623; showing that actual crashes for this location were higher than average. However, it is not reflected as a districtwide high crash intersection location; possibly due to the reconfiguration of the intersection occurring within the 2013 – 2017 period.

Of the 38 crashes recorded at the intersection of US 27 and NW 35th Avenue Road, 16 resulted in at least one injury. Nine of the injury crashes were rear end crashes and two were left turn crashes.

SR 326 at I-75 Southbound Off-Ramp/NW 44th Avenue

A total of 31 crashes were recorded at the intersection of SR 326 and the I-75 southbound off-ramp/NW 44th Avenue during the five-year period. Based on the AADT of SR 326, the I-75

southbound off-ramp, and NW 44th Avenue, 6.2 crashes per year represents a rate of approximately 0.61 crashes per MEV. The 2017 five-year average crash rate per MEV for similar *Urban 4-5 Lane 2-Way Divided Raised* intersections was approximately 0.623; showing that actual crashes for this location were slightly lower than average. However, this intersection is reflected as a districtwide high crash location.

Nine of the 26 crashes at the intersection of SR 326 and the I-75 southbound off-ramp/NW 44th Avenue resulted in at least one injury. Seven of the nine injury crashes recorded at the intersection of SR 326 and the I-75 southbound off-ramp/NW 44th Avenue were rear end crashes and one was a left turn crash. Six of the 17 total rear end crashes were in the westbound direction.

SR 326 at I-75 Northbound Ramps

A total of 62 crashes were recorded at the intersection of SR 326 and the I-75 northbound ramps during the five-year period. Based on the AADT of SR 326 and the I-75 northbound off-ramp, 12.4 crashes per year represents a rate of approximately 1.13 crashes per MEV. The 2017 five-year average crash rate per MEV for similar *Urban 4-5 Lane 2-Way Divided Raised* intersections was approximately 0.623. With this intersection having a crash rate significantly higher than that of similar intersections; it should be noted that in 2016, an auxiliary lane was added to the northbound off-ramp; showing that actual crashes for this location were significantly higher than average. SR 326 at the I-75 northbound ramps is reflected as a districtwide high crash intersection location.

Approximately 90 percent (27 crashes) of the rear end crashes recorded at the intersection of SR 326 and the I-75 northbound ramp involved two northbound vehicles on the I-75 off-ramp. This crash type represents almost half of the recorded injury crashes. Among the crash types classified as ‘Other’ at this location are four right turn crashes, one angle crash, and three off road crashes.

NW 44th Avenue at NW 49th Street

A total of 3 crashes were recorded at the intersection of NW 44th Avenue and NW 49th Street during the five-year period. Based on the AADT of NW 44th Avenue and NW 49th Street during the five-year period, 0.6 crashes per year represents a rate of approximately 0.22 crashes per MEV. The 2017 five-year average crash rate per MEV for similar Urban 4-5 Lane 2-Way Raised

intersections was approximately 0.419; showing that actual crashes for this location were significantly lower than average.

All three (3) of the crashes recorded resulted in injury. One (1) of the crashes was head on and one (1) of the crashes was a right turn.

3.8.2 Interchange Ramps

The I-75 at US 27 interchange is a standard diamond interchange, featuring four ramps. The I-75 and SR 326 interchange is a modified diamond interchange with a single "cloverleaf" ramp for westbound SR 326 traffic entering I-75 southbound. The crash severity and type recorded for the interchange ramp during the five-year period are summarized in **Table 3-16** with crash rates provided in **Table 3-17.**

Table 3-16: Interchange Ramp Crash Summaries

Location	Crash Severity & Type		Year					Total
			2013	2014	2015	2016	2017	
I-75 at US 27 Interchange ramps	*Overall*		*2*	*1*	*3*	*3*	*5*	***14***
	Severity	Fatality	0	0	0	0	0	**0**
		Injury	2	0	0	2	2	**6**
		Property Damage Only	0	1	3	1	3	**8**
	Crash Type	Rollover	2	0	0	0	0	**2**
		Sideswipe	0	0	1	1	0	**2**
		Rear End	0	0	1	2	2	**5**
		Other	0	1	1	0	3	**5**
I-75 at SR 326 Interchange ramps	*Overall*		*5*	*6*	*4*	*12*	*19*	***46***
	Severity	Fatality	0	0	0	0	1	**1**
		Injury	3	2	1	4	6	**16**
		Property Damage Only	2	4	3	8	12	**29**
	Crash Type	Rollover	3	3	3	0	0	**9**
		Sideswipe	0	0	0	3	3	**6**
		Right Turn	0	1	0	0	1	**2**
		Off Road	1	1	0	3	1	**6**
		Other	1	1	1	6	14	**23**

Table 3-17: 5-Year (2013-2017) Individual Ramp Crash Rates

Location	Length (mi)	Total Crashes	5-Year AADT	Annual Crash Frequency	Crash Rate (per MVMT)[2]
I-75 NB to US 27	0.26	4	31,500	0.8	1.34
I-75 NB from US 27	0.31	2	10,350	0.4	1.71
I-75 SB to US 27	0.30	6	11,900	1.2	4.60
I-75 SB from US 27	0.30	2	33,100	0.4	0.55
I-75 SB to SR 326	0.44	12	21,200	2.4	3.52
I-75 NB to SR 326	0.25	25	50,500	5.0	5.43
I-75 NB from SR 326	0.28	0[3]	19,200	0.0	0.00
I-75 SB from SR 326 EB	0.46	3	17,400	0.6	1.03
I-75 SB from SR 326 WB	0.29	6	32,100	1.2	1.77

[1]No statewide 5-year average crash rate for ramps provided in CAR Online
[2]Corresponding AADTs obtained from 2017 FTO Historical AADT Reports
[3]Zero crashes verified

I-75 at US 27 Interchange

A total of 14 crashes were recorded on the ramps and merge/diverge areas at the I-75 at US 27 interchange during the five-year period (not including the intersections at ramp termini). There were six injury crashes. Two were rollovers by northbound vehicles on the northbound I-75 on-ramp and one involving a bicyclist being struck while crossing the northbound on-ramp. Based on the AADT reported for the ramps, the calculated crash rates for the northbound off/on ramps were 1.34 and 1.71 crashes per MVMT; with 4.60 and 0.55 for the southbound off/on ramps, respectively, during the five-year period. Calculation details are provided in **Appendix E**.

I-75 at SR 326 Interchange

A total of 46 crashes were recorded on the ramps and merge/diverge areas at the I-75 at SR 326 interchange during the five-year period (not including the intersections at ramp termini).

The I-75 southbound off-ramp to SR 326 had 12 recorded crashes during the five-year period (3.52 crashes per MVMT), eight of which were rollover crashes. Five of the rollover crashes resulted in injuries to one or more persons involved in the crash. Five of the rollover crashes occurred under dark conditions and two occurred on a wet road surface. Detailed analysis of the adjacent interchanges is beyond the scope of this IJR; therefore, further study by the Department for possible causes and potential mitigation of the rollover crashes is recommended.

The I-75 southbound on-ramp from SR 326 eastbound had three recorded crashes during the five-year period, zero resulting in injury (1.03 crashes per MVMT). Two of the crashes were related to vehicles exiting the driveway immediately adjacent to the on-ramp diverge on SR 326.

The I-75 southbound on-ramp from SR 326 westbound had six recorded crashes during the five-year period, two resulting in injury (1.77 crashes per MVMT). Four of the crashes involved a same direction sideswipe and one was a rear end crash at the merge onto I-75.

The I-75 northbound off-ramp to SR 326 had 25 recorded crashes during the five-year period (5.43 crashes per MVMT), One being a rollover crash that resulted in an injury. These crashes are in addition to those recorded at the signalized intersection with SR 326.

Although crashes occurred at the ramp terminal, there were no recorded crashes during the five-year period for the I-75 northbound on-ramp from SR 326.

3.8.3 Segments

The segments evaluated for the existing conditions analysis include the segments of I-75 between ramps at each study interchange, the 3.7-mile segment of I-75 between the two interchanges, the segment of US 27 and SR 326 from the I-75 ramps to the nearest signalized intersection in either direction (or a half-mile segment, if no signalized intersection is within the AOI), and two segments of NW 44th Avenue. The crash severity and type recorded for the segments during the five-year period are summarized in **Table 3-18** with crash rates provided in **Table 3-19**; 2013-2017 statewide average crash rate data is provided in **Appendix E.**

Table 3-18: Segment Crash Summaries

Location	Crash Severity & Type		Year 2013	2014	2015	2016	2017	Total
I-75 btwn US 27 Ramps	*Overall*		*15*	*26*	*11*	*11*	*6*	***69***
	Severity	Injury	4	4	4	3	2	**17**
		Property Damage Only	11	22	7	8	4	**52**
	Crash Type	Rear End	4	14	8	6	3	**35**
		Off Road	7	6	3	2	1	**19**
		Sideswipe	3	3	0	2	0	**8**
		Other	1	3	0	1	2	**7**
I-75 from US 27 to SR 326	*Overall*		*55*	*81*	*111*	*82*	*82*	***411***
	Severity	Fatal	0	0	0	1	0	**1**
		Injury	9	21	29	20	23	**102**
		Property Damage Only	46	60	82	61	59	**308**
	Crash Type	Rear End	22	40	45	28	40	**175**
		Off Road	12	16	18	20	17	**83**
		Sideswipe	10	14	23	15	14	**76**
		Rollover	3	3	6	6	3	**21**
		Other	8	8	19	13	8	**56**
I-75 btwn SR 326 Ramps	*Overall*		*11*	*19*	*22*	*24*	*33*	***109***
	Severity	Injury	2	5	5	7	11	**30**
		Property Damage Only	9	14	17	17	22	**79**
	Crash Type	Rear End	2	6	11	11	16	**46**
		Sideswipe	4	5	2	10	6	**27**
		Off Road	3	4	4	1	3	**15**
		Rollover	2	0	2	0	0	**4**
		Other	0	4	3	2	8	**17**
US 27 from NW 44th Avenue to I-75 SB Ramps	*Overall*		*14*	*14*	*25*	*11*	*9*	***73***
	Severity	Fatal	0	0	0	1	0	**1**
		Injury	6	3	7	4	3	**23**
		Property Damage Only	8	11	18	6	6	**49**
	Crash Type	Rear End	5	4	11	2	5	**27**
		Left Turn	3	4	4	4	1	**16**
		Sideswipe	1	1	3	2	1	**8**
		Angle	2	2	3	0	1	**8**
		Other	3	3	4	3	1	**14**
US 27 from I-75 NB to NW 35th Avenue Road	*Overall*		*4*	*4*	*1*	*1*	*0*	***10***
	Severity	Injury	1	0	1	1	0	**3**
		Property Damage Only	3	4	0	0	0	**7**
	Crash Types	Rear End	1	0	0	0	0	**1**
		Sideswipe	0	2	0	0	0	**2**
		Other	3	2	1	1	0	**7**

(continued on next page)

Table 3-18: Segment Crash Summaries *(continued)*

Location	Crash Severity & Type		Year					Total
			2013	2014	2015	2016	2017	
SR 326 W of I-75	*Overall*		*3*	*2*	*2*	*1*	*6*	***14***
	Severity	Injury	0	1	0	1	3	**5**
		Property Damage Only	3	1	2	0	3	**9**
	Crash Type	Rear End	1	1	1	0	2	**5**
		Left Turn	1	1	0	1	4	**7**
		Other	1	0	1	0	0	**2**
SR 326 east of I-75 NB ramps	*Overall*		*11*	*23*	*35*	*35*	*28*	***132***
	Severity	Fatality	0	1	0	0	0	**1**
		Injury	3	4	7	9	12	**35**
		Property Damage Only	8	18	28	26	16	**96**
	Crash Type	Rear End	3	3	2	7	8	**23**
		Off Road	1	0	0	0	1	**2**
		Sideswipe	4	9	10	5	5	**33**
		Rollover	0	0	1	0	0	**1**
		Other	3	11	22	23	14	**73**
NW 44th Avenue south of NW 49th Street	*Overall*		*7*	*3*	*8*	*6*	*5*	***29***
	Severity	Injury	2	1	3	1	3	**10**
		Property Damage Only	5	2	5	5	2	**19**
	Crash Type	Off Road	3	2	2	2	0	**9**
		Rear End	1	0	1	0	1	**3**
		Left Turn	1	0	0	1	0	**2**
		Angle	1	0	3	0	2	**6**
		Other	1	1	2	3	2	**9**
NW 44th Avenue north of NW 49th Street	*Overall*		*4*	*3*	*1*	*2*	*4*	***14***
	Severity	Injury	1	1	0	1	1	**4**
		Property Damage Only	3	2	1	1	3	**10**
	Crash Type	Off Road	2	0	1	0	2	**5**
		Rear End	0	2	0	0	1	**3**
		Left Turn	1	0	0	0	1	**2**
		Other	1	1	0	2	0	**4**

Table 3-19: 5-Year (2013-2017) Segment Crash Rates

Roadway	Segment Limits	Length (mi)	Total Crashes	5-Year AADT	Annual Crash Frequency	Crash Rate (per MVMT)[1]	Statewide 5YR Avg Crash Rate
I-75	between US 27 ramps	0.70	69	170,800	13.8	1.58	0.976
	US 27 to SR 326	3.70	411	333,500	82.2	0.91	0.976
	between SR 326 ramps	0.70	109	129,500	21.8	3.29	0.976
US 27	NW 44th Avenue to I-75 SB ramps	0.57	73	94,400	14.6	3.72	5.884
	I-75 NB ramps to NW 35th Ave Rd	0.25	10	104,900	2.0	1.04	3.364
SR 326	1/2 mile west of SB ramps	0.50	14	99,600	2.8	0.77	3.364
	NB ramps to 1/2 mile east	0.68	132	99,600	26.4	5.34	5.884
NW 44th Avenue	US 27 to NW 49th Street	1.85	29	36,800	5.8	1.17	3.364
	NW 49th Street to SR 326	2.13	14	36,800	2.8	0.49	3.654

[1]*Corresponding AADTs obtained from 2017 FTO Historical AADT Reports*

I-75 between US 27 Ramps

A total of 69 crashes were recorded on the 0.70-mile segment of I-75 between the US 27 interchange ramps during the five-year period. Based on the AADT of I-75 during this period, 13.8 crashes per year represents a rate of approximately 1.58 crashes per MVMT. The average crash rate for urban interstate segments in 2017 was approximately 0.976 crashes per MVMT; showing that actual crashes for this location were significantly higher than average. I-75 between the US 27 interchange ramps is reflected as a districtwide high crash segment location.

Rear end crashes accounted for 11 of the 17 injury crashes on this segment. Approximately two-thirds (22 crashes) of the 35 total rear end crashes were between southbound vehicles. More than half (43 crashes) of the recorded crashes on this segment occurred between 1:00 and 6:00 PM.

I-75 from US 27 to SR 326

A total of 411 crashes were recorded on the 3.70-mile segment of I-75 between US 27 and SR 326 during the five-year period. Based on the AADT of I-75 during the five-year period, 82.2 crashes per year represents a rate of approximately 0.91 crashes per MVMT. The average crash rate for urban interstate segments in 2017 was approximately 0.976 crashes per MVMT; showing that actual crashes for this location were slightly lower than average. However, I-75 between the US 27 and SR 326 is reflected as a districtwide high crash segment location.

Of the injury crashes, 45 percent were rear end crashes. Forty-three percent of total crashes were rear end and 15 percent were sideswipe crashes. The directionality of crashes included 55 percent occurring on the northbound lanes and 45 percent on the southbound lanes.

Approximately 35 percent of crashes occurred under dark conditions (including dawn and dusk) and 24 percent of crashes occurred with wet surface conditions. Of the 56 crashes classified as 'Other' at this location, 50 percent (23 crashes) involved a vehicle striking debris or lost cargo on the interstate.

I-75 between SR 326 Ramps

A total of 109 crashes were recorded on the 0.70-mile segment of I-75 between the SR 326 interchange ramps during the five-year period. Based on the AADT of I-75 during this period, 21.8 crashes per year represents a rate of approximately 3.29 crashes per MVMT. The average crash rate for urban interstate segments in 2017 was approximately 0.976 crashes per MVMT; showing that actual crashes for this location were significantly higher than average. I-75 between the SR 326 interchange ramps is reflected as a districtwide high crash segment location.

The highest crash type recorded on this segment of I-75 between SR 326 ramps was rear end with 46 crashes, 26 sideswipe and 15 off-road crashes. Approximately two-thirds of the recorded crashes occurred in the southbound lanes during the five-year period.

US 27 from NW 44th Avenue to I-75 Southbound Ramps

A total of 72 crashes were recorded on the 0.57-mile segment of US 27 between NW 44th Avenue and the I-75 southbound ramps during the five-year period. Based on the AADT of US 27 during this period, 14.6 crashes per year represents a rate of approximately 3.72 crashes per MVMT. The average crash rate in 2017 for an urban four-lane arterial with raised median was approximately 5.884 crashes per MVMT; showing that actual crashes for this location were lower than average. However, US 27 between NW 44th Avenue and the I-75 southbound ramps is reflected as a districtwide high crash segment location.

Ten of the injury crashes were rear end and six were left turn. Approximately 41 percent of the recorded crashes during the five-year period occurred under dark conditions (including dawn and dusk) and 25 percent occurred with wet surface conditions.

US 27 from I-75 Northbound Ramps to NW 35th Avenue Road

A total of 10 crashes were recorded on the 0.25-mile segment of US 27 between the I-75 northbound ramps and NW 35th Avenue Road during the five-year period. Based on the AADT of US 27 during the five-year period, two crashes per year represents a rate of approximately 1.04 crashes per MVMT. The average crash rate in 2017 for an urban four-lane arterial with

raised median was approximately 3.364 crashes per MVMT; showing that actual crashes for this location were lower than average.

Five of the ten crashes were recorded on Short Forms by the Ocala Police Department, with limited information. The other five crashes included two sideswipe crashes, one rear end crash, and one angle crash.

SR 326 one-half mile west of I-75

A total of 14 crashes were recorded on SR 326 on the half-mile segment west of the I-75 southbound off-ramp. Based on the AADT of SR 326 during the five-year period, 2.8 crashes per year represent a rate of approximately 0.77 crashes per MVMT. The average crash rate in 2017 for an urban four-lane arterial with raised median was approximately 3.364 crashes per MVMT and for an urban two-lane undivided arterial was approximately 3.1 crashes per MVMT; showing that actual crashes for this location were slightly higher than average.

SR 326 from I-75 Northbound Ramps to one-half mile East

A total of 132 crashes were recorded on the 0.68-mile segment of SR 326 from the I-75 northbound ramps to one-half mile east. Based on the AADT of SR 326 during the five-year period, 26.4 crashes per year represent a rate of approximately 5.34 crashes per MVMT. The average crash rate in 2017 for an urban four-lane arterial with paved median was approximately 5.884 crashes per MVMT; showing that actual crashes for this location were lower than average.

The only fatal crash within the AOI occurred on this segment of SR 326, when a westbound vehicle struck an intoxicated pedestrian who was improperly walking in the roadway.

Fourteen of the 35 injury crashes were left turn crashes and 12 were rear end crashes. Approximately 15 percent of crashes occurred under dark conditions (including dawn and dusk) and approximately 14 percent of the crashes occurred with wet surface conditions.

NW 44th Avenue from US 27 to NW 49th Street

A total of 29 crashes were recorded on the 1.85-mile segment of NW 44th Avenue between US 27 and NW 49th Street. Based on the AADT of NW 44th Avenue during the five-year period, 5.8 crashes per year represent a rate of approximately 1.17 crashes per MVMT. The average crash rate in 2017 for an urban four-lane collector with raised median was approximately 3.364 crashes per MVMT; showing that actual crashes for this location were lower than average.

Approximately 31 percent of the recorded crashes occurred under dark conditions and 14 percent occurred with wet surface conditions.

NW 44th Avenue from NW 49th Street to SR 326

A total of 17 crashes were recorded on the 2.13-mile segment of NW 44th Avenue between NW 49th Street and SR 326. Based on the AADT of NW 44th Avenue during the five-year period, 2.8 crashes per year represent a rate of approximately 0.49 crashes per MVMT. The average crash rate in 2017 for an urban four-lane collector with raised median was approximately 3.654 crashes per MVMT; showing that actual crashes for this location were significantly lower than average.

Approximately 35 percent of the recorded crashes occurred under dark conditions (including dawn and dusk) and 12 percent occurred with wet surface conditions.

3.8.4 Overall Summary

Overall, 1,157 crashes were recorded within the AOI during the five-year period. **Figures 3-14** through **3-16** summarize the crash severity, crash types, and various crash conditions of the cumulative data recorded within the AOI. There was a noticeable increase in annual crashes in years 2014 and 2015; however, there was not a proportionate change in AADTs to suggest these increases were directly correlated to increased exposure. The findings from this safety analysis will be shared with the District Safety Office. Corresponding crash data tables for the five-year evaluation period are provided in **Appendix E**.

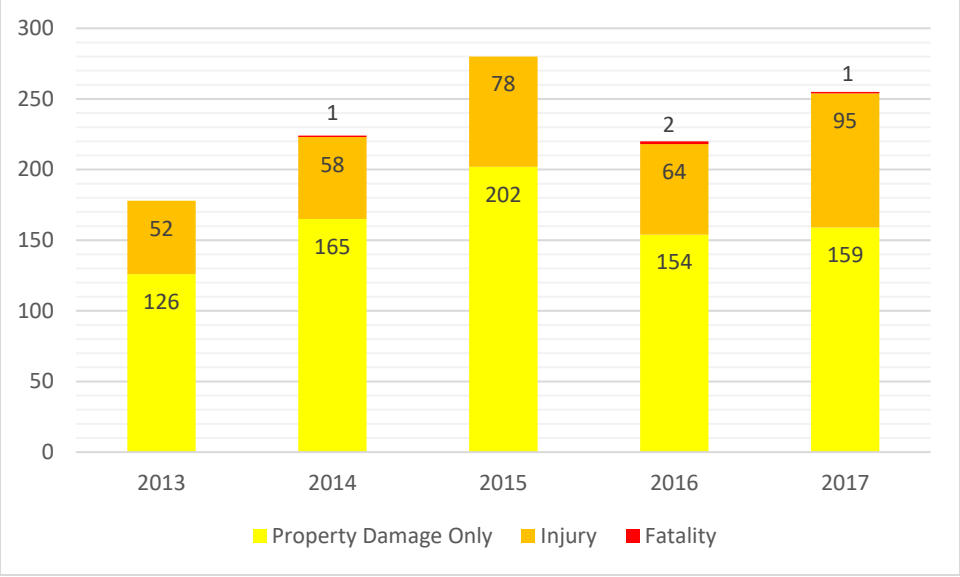

Figure 3-14: Crash Severity by Year

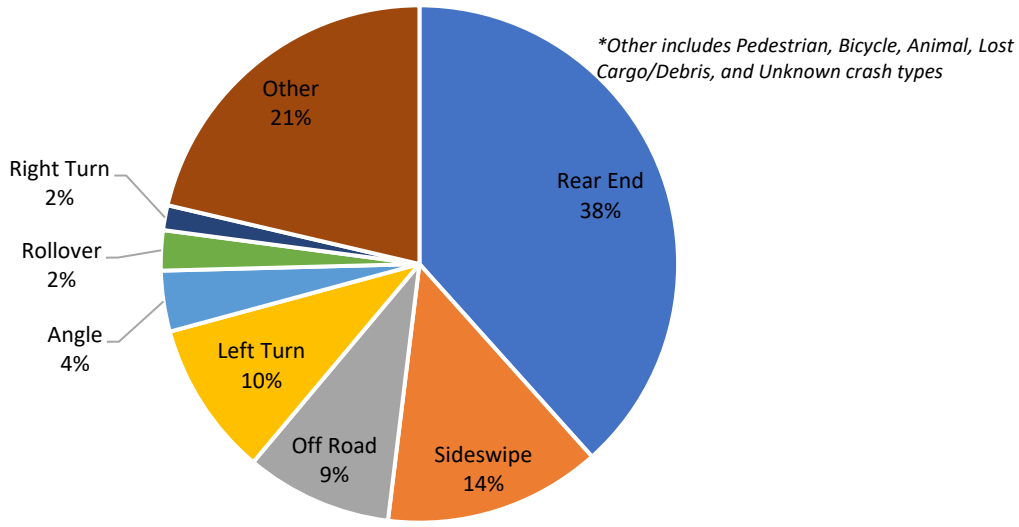

Figure 3-15: Crash Type Summary (2013-2017)

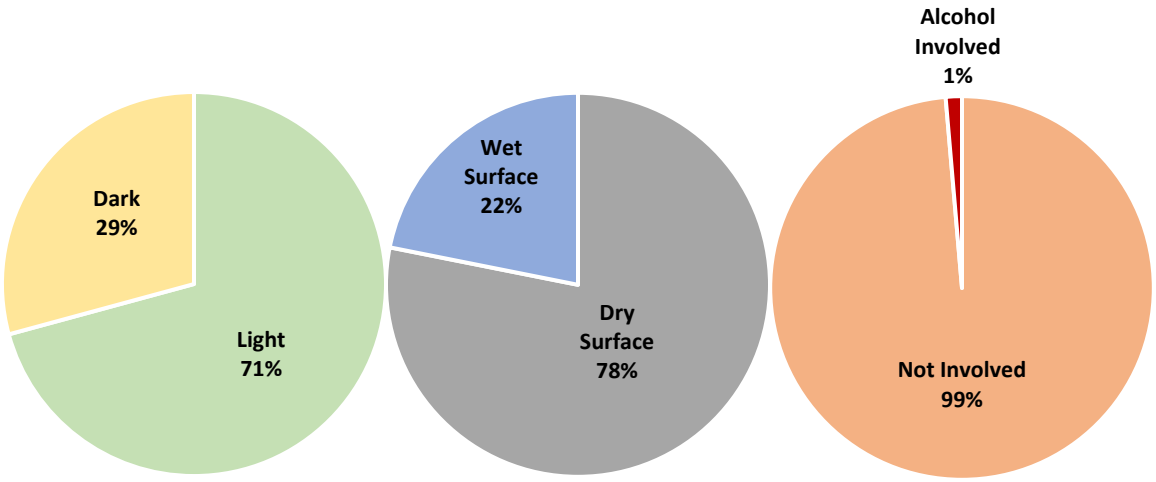

Figure 3-16: Crash Conditions (2013-2017)

4 Alternatives Discussion

This section of the report discusses the interchange alternatives considered as part of the IJR process. The general alternatives considered for the project are No Build, TSM&O and Build alternatives. Each of the alternatives are discussed in greater detail in the following sections.

4.1 No Build Alternative

The No Build alternative assumes that a new interchange facility will not be constructed within the AOI and that existing conditions will remain. The purpose of the No Build condition analysis is to identify the need for improvements and to compare it to the future Build condition analysis. For this study, the No Build alternative includes all other planned and programmed roadway improvements (financially feasible) expected to be open to traffic as specified in the 2040 Ocala/Marion TPO LRTP. The No Build alternative includes projects such as Phases 2B and 2C of the NW 49th Street Extension.

4.2 Transportation Systems Management & Operations Alternative

TSM&O Improvements typically involve the utilization of comparatively lower cost traffic management strategies to serve the projected traffic demand in lieu of implementing/constructing the proposed project. Examples of TSM&O improvements include adding turn lanes at existing intersections, improving the operation of the existing signals and widening existing roadways. The intent of the TSM&O alternative is to determine whether there is a more cost-effective alternative to constructing a new interchange.

As discussed in Section 2 regarding the purpose and need for the project, one of the primary intents of the proposed interchange at I-75 and NW 49th Street is to provide a direct connection to I-75 to serve traffic; including significant truck traffic associated with Ocala 489 and the contiguous employment center and commercial district. Consequently, a standalone TSM&O alternative does not meet this need; therefore, was not further considered as part of this IJR. Although a TSM&O alternative does not meet the purpose and need for the project as a standalone alternative; it is recommended to integrate the proposed interchange into the surrounding existing and planned TSM&O network as identified in the Marion County TSM&O Master Plan and the FDOT F.R.A.M.E. project (FM Number 440900-1). As part of the F.R.A.M.E. project, roadside units are being deployed along I-75 as well as the adjacent interchanges of US 27 and SR 326. **Figure 4-1** illustrates the surrounding existing and planned TSM&O network as well as recommended elements for the proposed interchange.

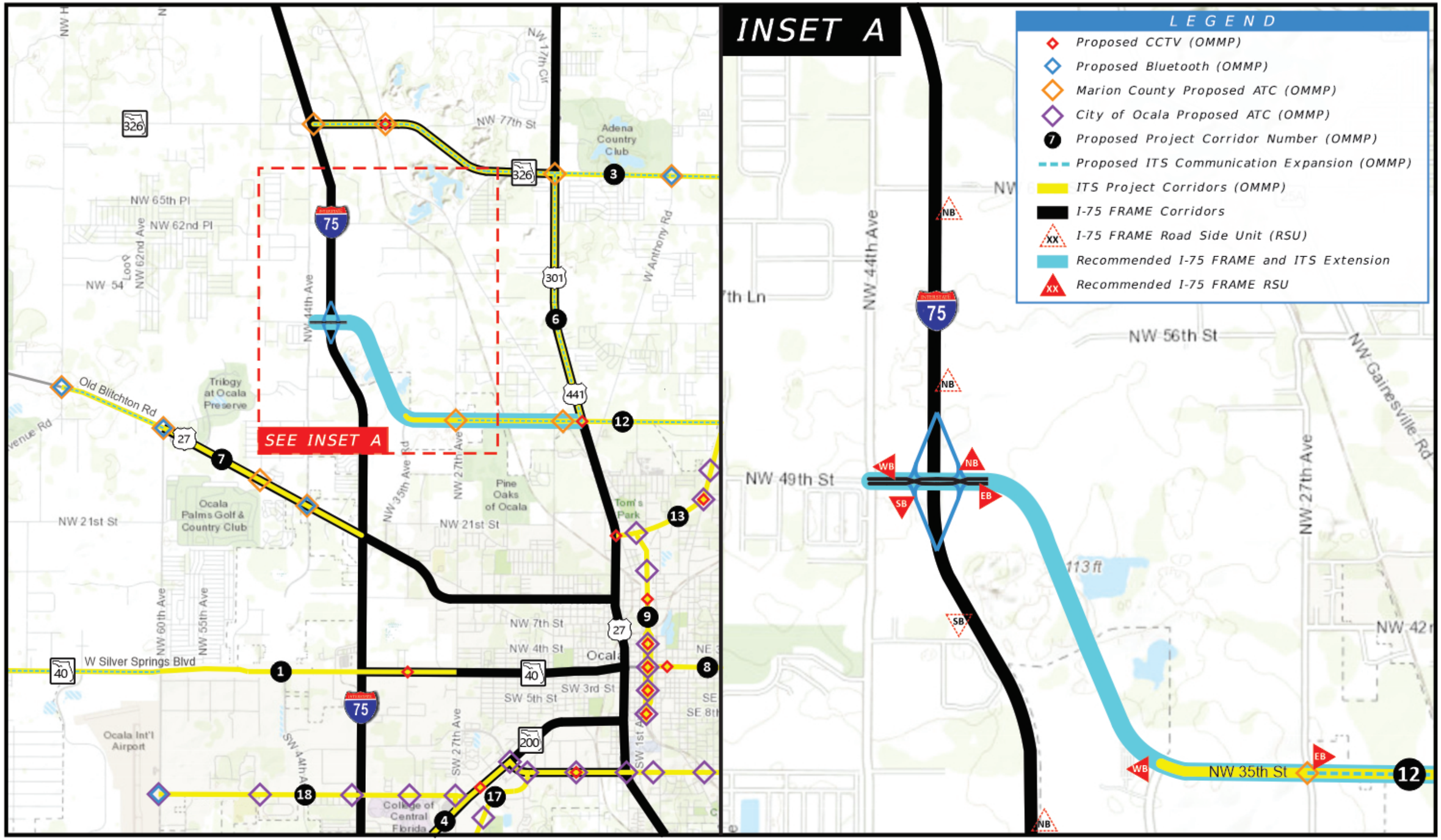

Figure 4-1: TSM&O Network Integration

4.3 Build Alternatives

Eight (8) build interchange alternatives were initially considered. Five (5) of the alternatives involved different variations of diamond interchanges, while other options included Parclo, SPUI, roundabout and bowtie configurations. A preliminary evaluation was conducted using a numerical/descriptive matrix approach; to identify which configurations were inferior. This initial evaluation included 13 engineering, environmental, socio-economic and cost factors (see **Appendix F** for excerpt from the PER). Based on the results, five (5) build alternative interchange layouts will be further considered: Diamond Interchange, SPUI, Parclo-SE, Parclo-NE and DDI.

It should be noted, an Intersection Control Evaluation (ICE) CAP-X analysis was not performed for the proposed I-75 interchange at NW 49th Street; based on coordination with Traffic Engineering and Operations in Central Office. The current version of ICE published by FDOT is intended to be used only for at grade intersections.

4.3.1 Access Management

The preferred alternative of NW 49th Street from NW 44th Avenue to Marion County's future NW 35th Street extension (currently in final design). NW 49th Street (shown on **Figure 4-2**) will be signalized at NW 44th Avenue and the I-75 ramp terminals; there will be no traffic signals within one-half mile, east of the interchange. NW 49th Street will feature four 12-foot travel lanes with 7-foot bicycle lanes, a 28-foot raised median, and 6-foot sidewalk. The proposed right-of-way for NW 49th Street is 120 feet. NW 49th Street will curve towards the south east of I-75 to connect to Marion County's future NW 35th Street extension through Magnum Materials Mine.

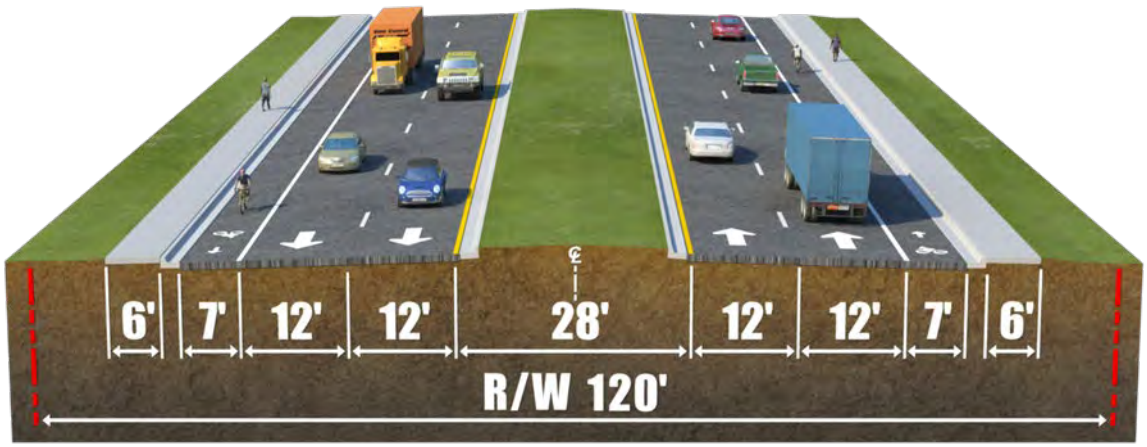

Figure 4-2: NW 49th Street Preferred Typical Section

A *Context Classification Assignment Evaluation* was performed for NW 49th Street and is included as part of the PER. Results of this effort show that NW 49th Street should be classified as "*C3C-Suburban Commercial*". A summary of the primary measurements for the evaluation is shown in **Table 4-1**. The *C3C-Suburban Commercial* context classification falls under FDOT Roadway Class 3, per *Chapter 14-97, F.A.C. State Highway System Access Control Classification System and Access Management Standards;* see **Table 4-2**. The detailed *Context Classification Assignment Evaluation* is presented in the PER.

Table 4-1: NW 49th Street Context Classification

Primary Measures	NW 49th Street from NW 44th Avenue to west of NW 35th Street
Land Use	Commerce District w/ abutting low/medium residential to the west
Building Height	1-2 Floors Serving Commercial and Offices
Building Placement	Large (> 75') Setbacks
Fronting Uses	N/A
Location of On-Street Parking	N/A
Intersection Density	4 Intersections Per Square Mile
Block Perimeter	9,744 Feet
Block Length	2,335 Feet
Proposed Context Classification	Suburban (C3C)

Table 4-2: NW 49th Street Roadway Access Class

Roadway Access Class	FDOT Context Classification	Median Type	Connection Spacing (feet)		Median Opening Spacing (feet)		Minimum Signal Spacing (feet)
			<45mph Posted	>45mph Posted	Directional	Full	
3	C3C Suburban Commercial	Restrictive	440	660	1,320	2,640	2,640

Source: 2019 FDOT Access Management Guidebook

4.3.2 Diamond Interchange Build Alternative

The Diamond interchange is a common interchange type characterized by diverge ramps in advance of the interchange and merge ramps beyond the interchange. Both the merge and diverge ramps connect to the grade separated intersecting roadway. Viewed from above, the Diamond interchange resembles a diamond shape. Advantages of this interchange are a smaller footprint and the fact that a wide range of drivers are familiar with this interchange form. Another advantage of this interchange is that longer on and off ramps could be provided to facilitate truck acceleration, deceleration and storage.

This Diamond alternative is a hybrid of a Tight Diamond and Typical Diamond interchange; while the previous (May 2016) IJR considered a Typical Diamond interchange. The smaller footprint of this interchange is advantageous given that the NW 44th Avenue intersection is located only approximately 1,100 feet west of I-75. Therefore, the southbound ramps are designed as a Tight Diamond interchange, which increases the distance to NW 44th Avenue. The northbound ramps are designed as a typical Diamond interchange. A Preliminary Conceptual Plan of the Diamond interchange is provided in **Figures 4-3** and **4-4**.

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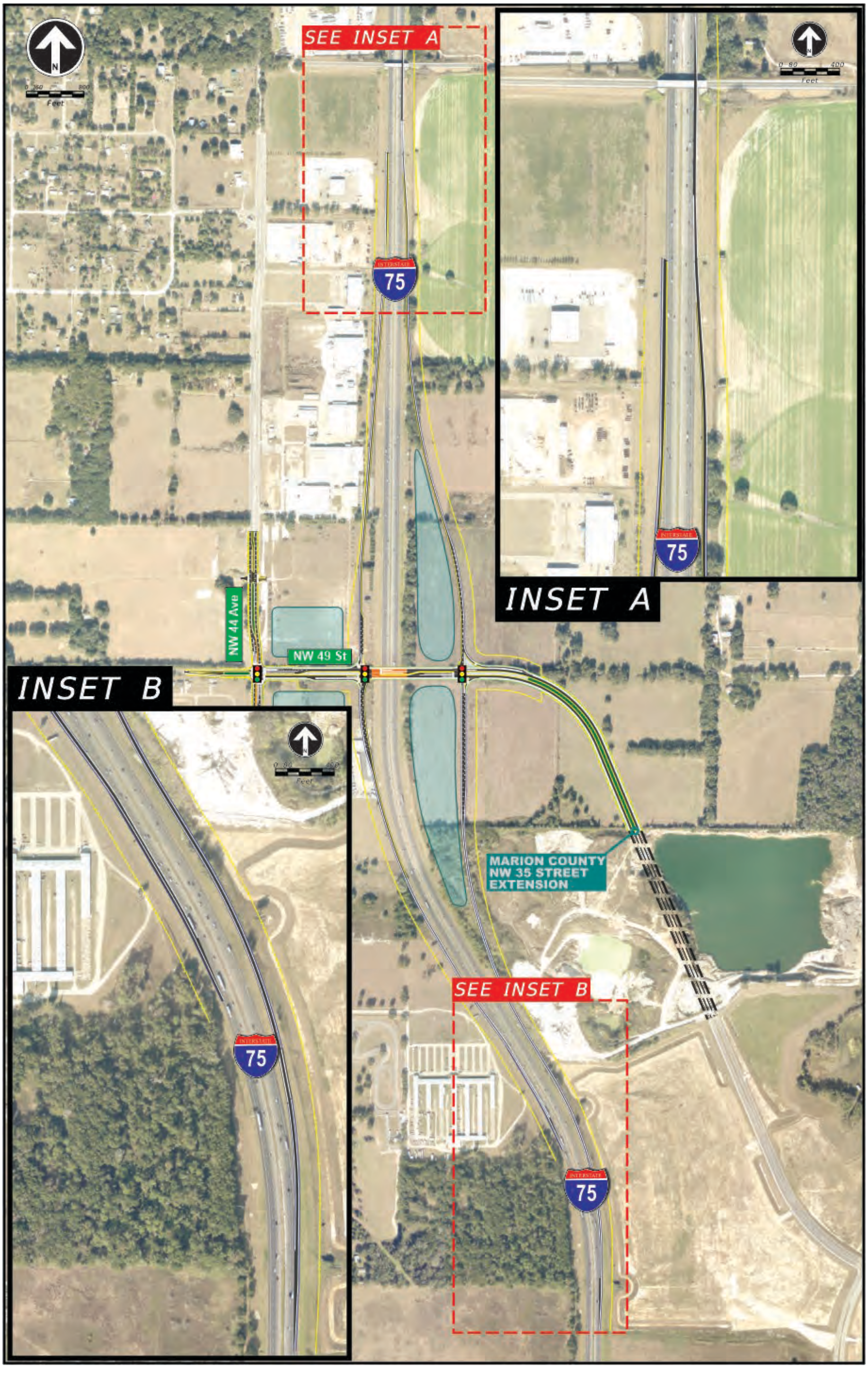

Figure 4-3: Preliminary Concept Diamond

Figure 4-4: Preliminary Concept Diamond

4.3.3 Single Point Urban Interchange Build Alternative

A SPUI is a type of Diamond interchange that compresses the movements associated with the ramps to the interstate/major roadway as a single signalized intersection with the interstate/major roadway through lanes accommodated via an underpass or overpass. One potential operational advantage of the single intersection is it allows opposing left turns to proceed simultaneously by compressing the two intersections of a diamond interchange. On the other hand, potential disadvantages include its higher bridge cost, availability of sufficient right of way, and Maintenance of Traffic (MOT) considerations on the interstate. A Preliminary Conceptual Plan of the SPUI interchange is provided in **Figures 4-5** and **4-6**.

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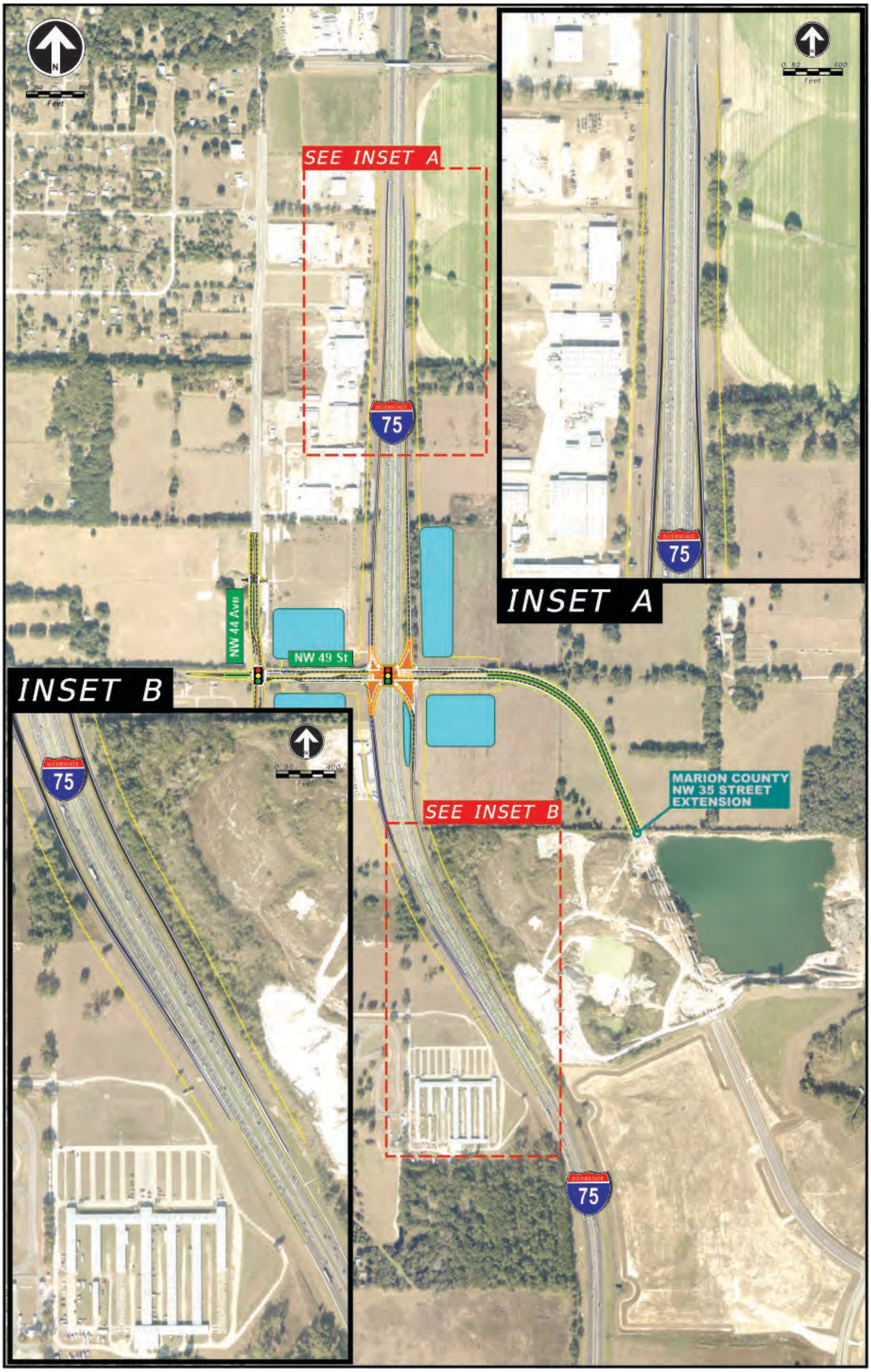

Figure 4-5: Preliminary Concept SPUI

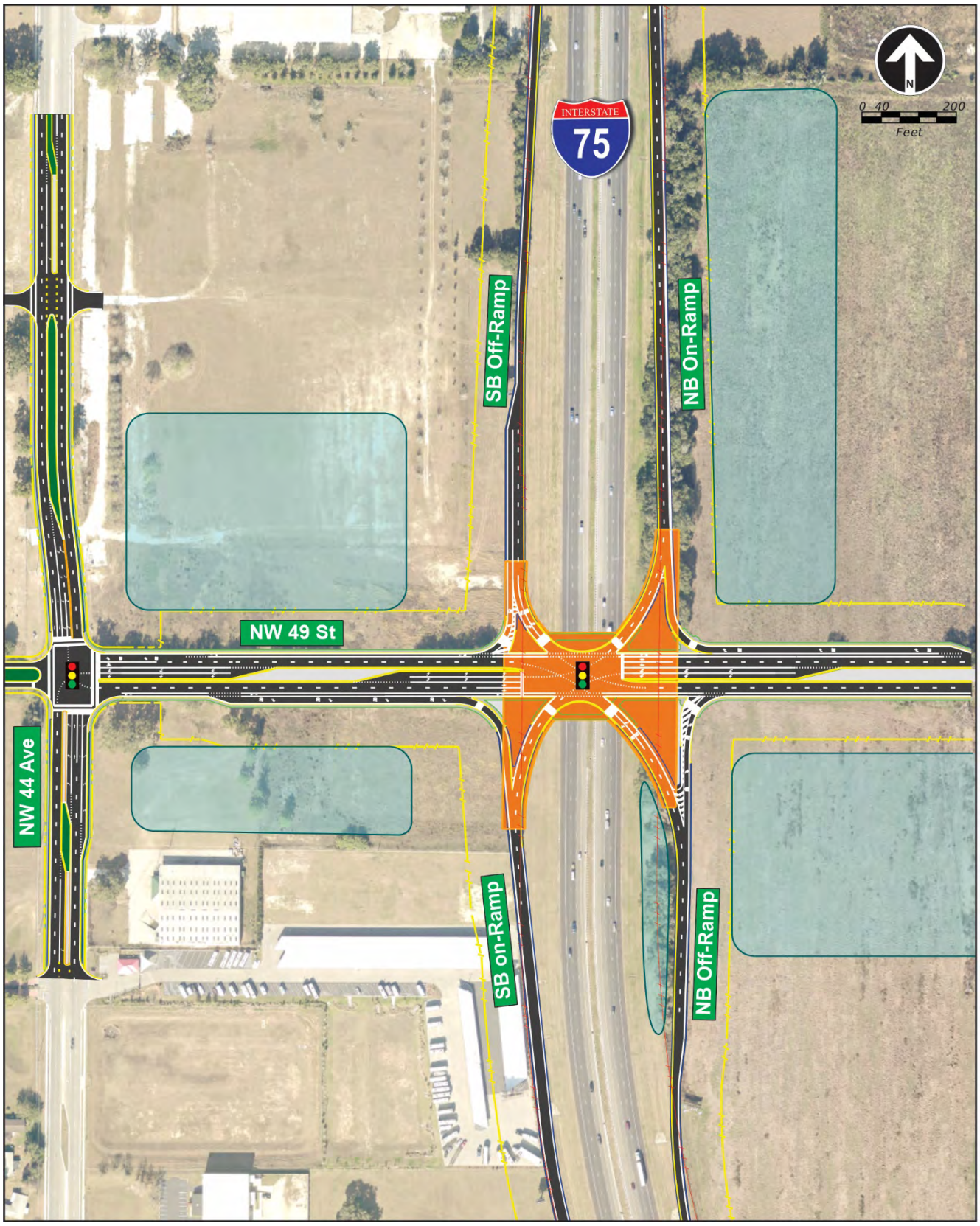

Figure 4-6: Preliminary Concept SPUI

4.3.4 Partial Cloverleaf Interchange Build Alternatives

A Cloverleaf interchange has left turns which are handled by loop ramps and right turns which are handled by slip ramps. Typically, to go left vehicles first continue beyond the intersecting road, then exit right onto a one-way loop ramp and merge onto the intersecting road. Similarly, typically to go right, vehicles diverge prior to the loop ramp and come to an intersection on the intersecting road. Viewed from above the Cloverleaf interchange resembles a four-leaf clover. A full Cloverleaf interchange has loop and slip ramps in all four quadrants whereas a Parclo has at least one quadrant without a loop ramp. Typically loop ramps are implemented where there is a heavy left turn movement, which is accommodated on the directional/free-flow loop ramp.

The large right-of-way footprint required for loop ramps for the westbound to southbound on ramp and southbound to eastbound off ramp (loop ramps on the southwest and northwest quadrants) would potentially impact the operations at the NW 44th Avenue intersection located approximately 1,100 feet to the west of I-75 by creating an undesirably short weave section between the interchange and this intersection. Therefore, loop ramps were only considered for the southeast and northeast quadrants; where sufficient right-of-way is available without conflict. Two Parclo alternatives were developed and evaluated; the Parclo-SE provides a loop ramp for the eastbound to northbound movement and Parclo-NE provides a loop ramp for the northbound to westbound movement. The remaining movements are served by diamond ramps. The southbound on/off ramps reflect a tight diamond design to minimize impacts at NW 44th Avenue. Preliminary Conceptual Plans of the Parclo-SE and Parclo-NE interchanges are provided in **Figures 4-7** and **4-8,** and **Figures 4-9** and **4-10**, respectively.

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Figure 4-7: Preliminary Concept Parclo-SE

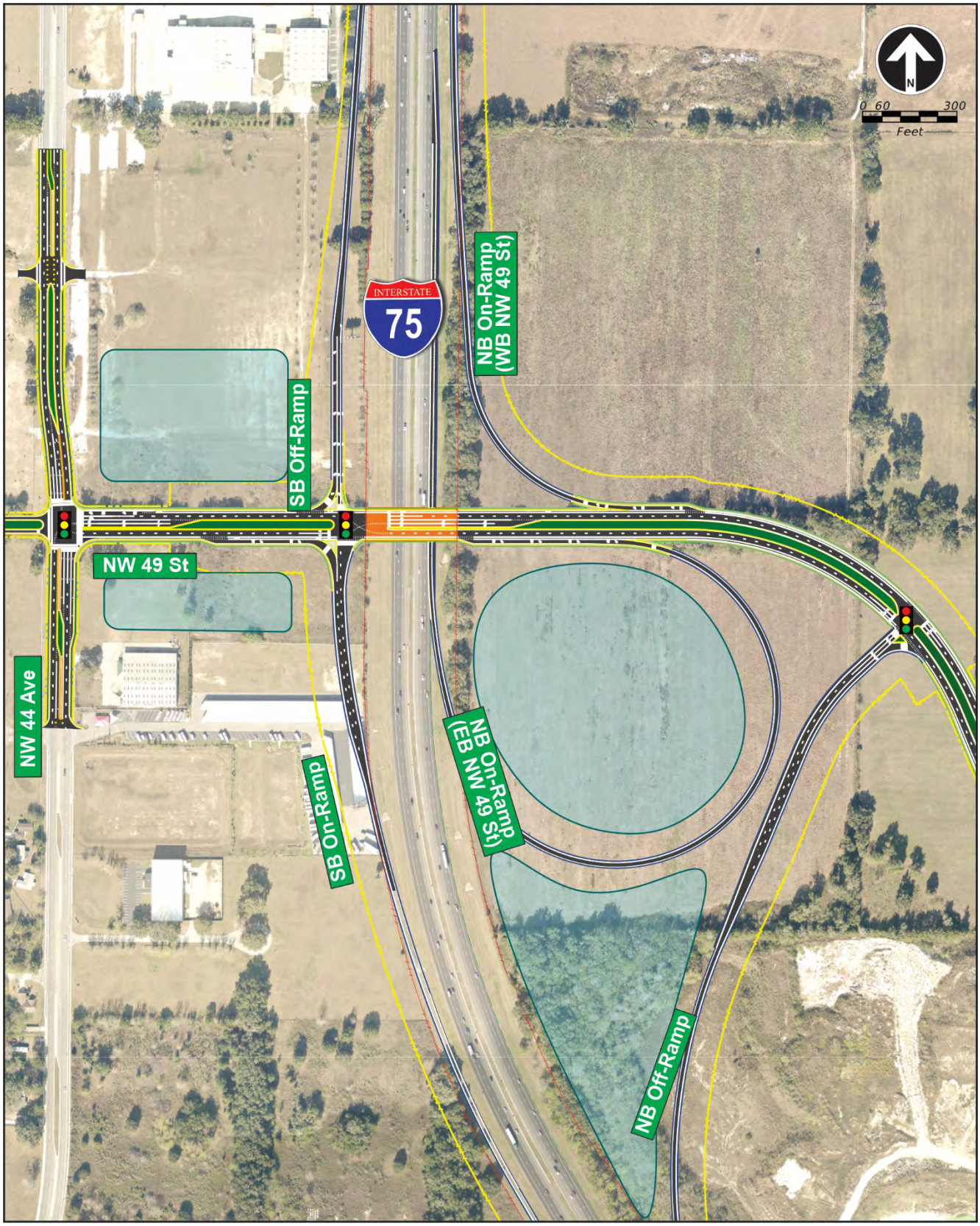

Figure 4-8: Preliminary Concept Parclo-SE

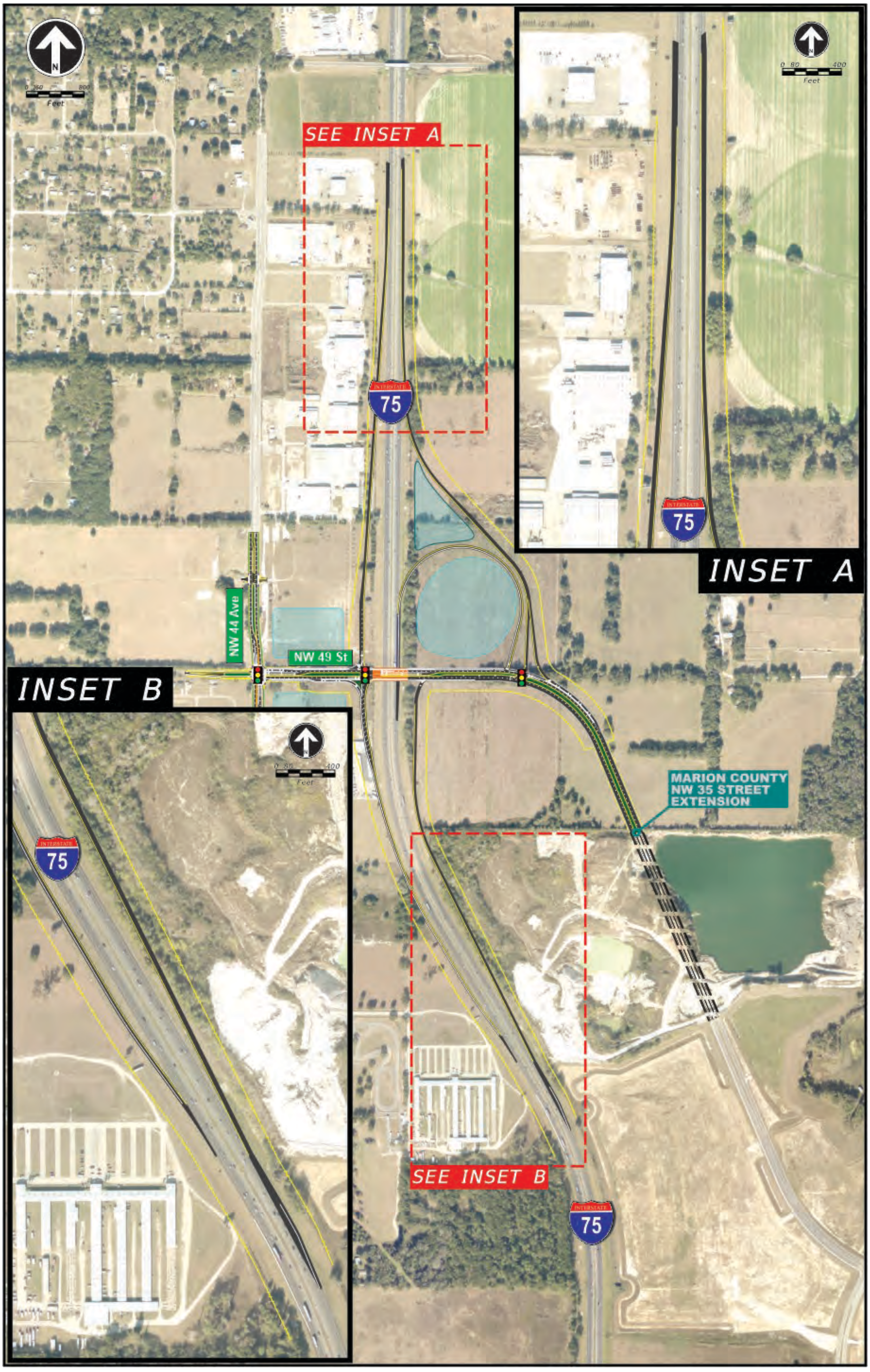

Figure 4-9: Preliminary Concept Parclo-NE

Figure 4-10: Preliminary Concept Parclo-NE

4.3.5 Diverging Diamond Interchange Build Alternative

The DDI is an alternative to the conventional diamond interchange. The primary difference between a DDI and a conventional diamond interchange is the design of directional crossovers on either side of the interchange. This eliminates the need for left-turning vehicles to cross the paths of approaching through vehicles. By shifting cross street traffic to the left side of the street between the signalized crossover intersections, vehicles on the crossroad making a left turn on to or off of ramps do not conflict with vehicles approaching from other directions. This allows for a simple two-phase operation at the two signalized intersections within the interchange (no left turns), thus improving efficiency.

The DDI alternative for the proposed project consists of an east-west crossover over I-75. Critical design and operational components that are considered when evaluating a DDI include:

Operational:

- Signal operations favor either cross-street traffic or off-ramps traffic.
- Signal progression; only obtainable in one direction.
- Lane configuration and utilization; use of shared through/left turn lanes may result in blocking of the on-ramps if storage is inadequate between the on-ramp and the crossover leaving the DDI.
- Proximity to adjacent intersections which may create weaving conflicts and queue spillbacks into the DDI. NW 44th Avenue intersection located less than 700 feet to the west of the potential west side crossover intersection.
- Pedestrian paths, inside versus outside the DDI. Facilities on the inside minimize conflicts with left-turning vehicles.

Design:

- Design speed that affects the reverse curve radii though the intersection crossover; typical range is 25 mph to 35 mph.
- Avoid abrupt curvature and design for a “Natural Path” providing tangents between reverse curves and performing a direct path test to eliminate wrong-way driving and same direction path overlaps. Minimum recommended crossing angle is 30 degrees.
- “Sum of the Parts” that should be considered collectively; crossing angle, length of tangent, setback distance, “eyebrow” design, and pass through test.

A Preliminary Conceptual Plan of the DDI interchange is provided in **Figures 4-11** and **4-12**.

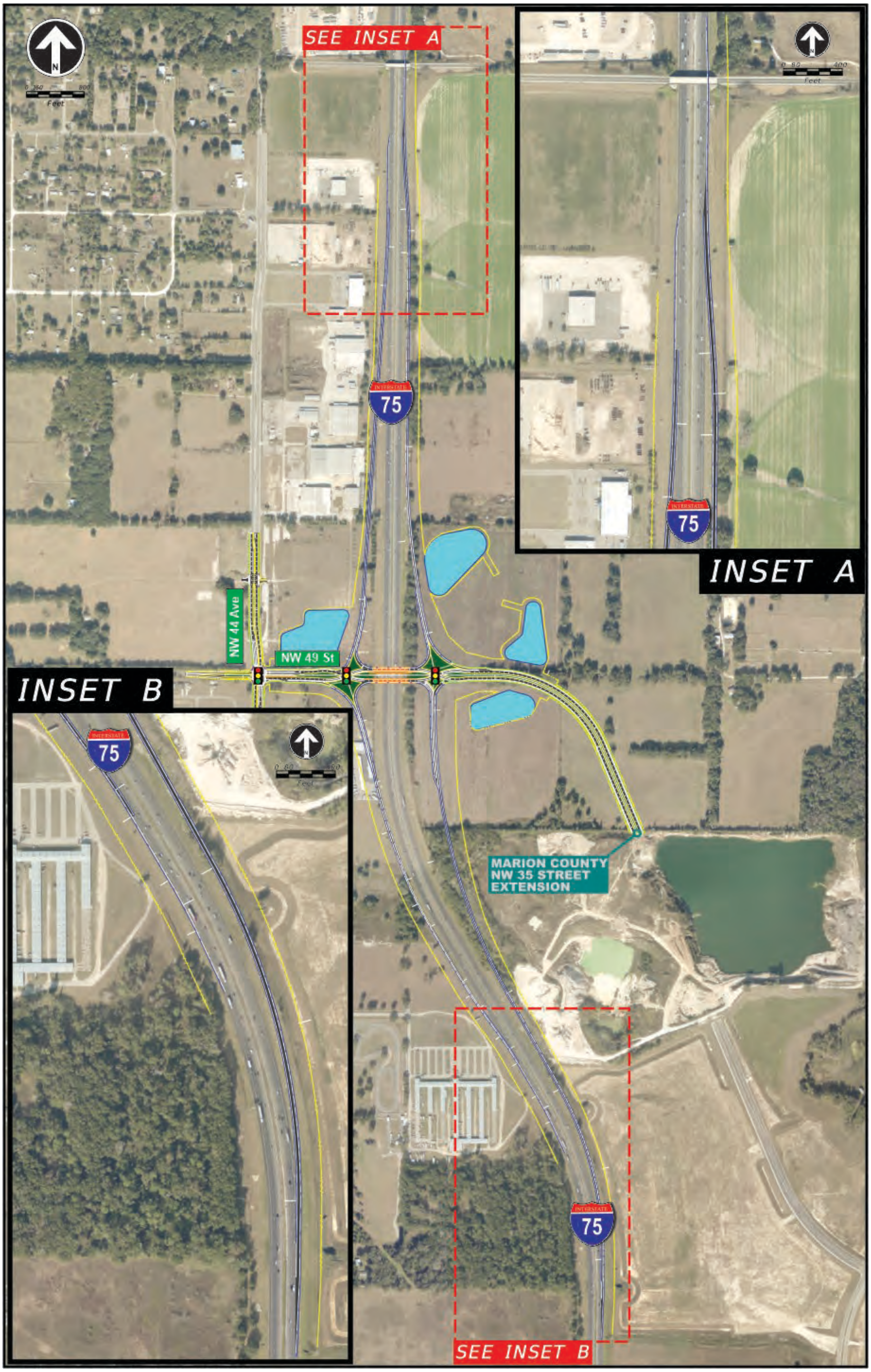

Figure 4-11: Preliminary Concept DDI

Figure 4-12: Preliminary Concept DDI

4.4 Right-of-Way

The proposed project is anticipated to require one business relocation and will impact 26 parcels with a total of 86 acres. Additionally, 13 outdoor advertising signs are anticipated to be impacted. During final design, existing billboards should be preserved where feasible.

The relocation of one business, Barracuda Boat and RV Storage, is anticipated under the preferred alternative. There would be no residential relocations under the preferred alternative. Nearby replacement commercial sites are available. Relocation advisory services and assistance will be provided in accordance with the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970, as amended (Uniform Act).

4.5 Design Variation

I-75/SR 93 at NW 49 Street in Marion County is a limited access state road facility where a new I-75 interchange at NW 49 Street and an extension from NW 44 Avenue to NW 35 Avenue is planned. The project location is in a C3C – Suburban Commercial environment due to the agricultural and industrial land uses, with nearby commercial and low-density residential land uses.

Although the project strives to meet the standards as set by FDOT, it's not feasible to provide the minimum requirements of the border width due to the impact to the public. Therefore, a design variation is required for border width. The proposed conditions meet standards with the exception of STA 593+80.00 to STA 636+09.37 along the I-75 Southbound off-ramp.

5 Future Year Traffic

This section summarizes the methodology used to develop the future year traffic volumes and provides a summary of the results. Future year traffic volumes were developed for both the No Build and the Build scenarios for the Opening Year (2025), Interim Year (2035), and Design Year (2045) as specified in the MLOU.

5.1 Travel Demand Modeling

The following provides a brief synopsis of the travel demand modeling efforts conducted in support of forecasting future traffic. The refined 2015 CFRPM presented in Section 3 of this document was utilized to develop future traffic volume projections. Consistent with the 2045 CFRPM 6.1 MOCF, 0.97 was used for surface streets and 0.98, for I-75. Criteria used for refinement of the base year model was carried thru to the 2045 CFRPM provided by the Department, to develop the year 2045 travel demand models for the No Build and Build alternatives.

5.2 Future Traffic Development

The CFRPM 2045 PSWADT*MOCF output (AADT) was adjusted by the 2015 validity factors established in Section 3, using the equation: Adjusted 2045 AADT = (2045 AADT – A + 2045 AADT / B) / 2; where (A) is the 2015 volume-count difference and (B) is the 2015 volume/count ratio; resulting in the validity factors (A) and (B). The validity factors, 2015 Adjusted AADTs, No Build and Build 2045 Adjusted AADTs are summarized in **Table 5-1**. Detailed calculations are provided in **Appendix G**.

Table 5-1: CFRPM Adjusted AADTs

Roadway	Segment	FTO Station	2015 CFRPM AADT	2015 (A) Vol-Count	2015 (B) Vol/Count	2015 Adjusted AADT	2045 CFRPM MOCF	2045 No Build PSWADT	2045 No Build AADT	2045 No Build Adjusted AADT	2045 Build PSWADT	2045 Build AADT	2045 Build Adjusted AADT
I-75 Mainline	N of SR 326 Interchange	360437	55, 100	7,600	1.16	47,500	0.98	84,003	82,323	72,800	83,900	82,222	72,800
	N of Proposed Interchange	360438	62,800	-2,700	0.96	65,500	0.98	93,195	91,331	94,600	95,226	93,321	96,700
	N of US 27 Interchange	360438	62,800	*-2,700*	*0.96*	65,500	0.98	93,195	91,331	94,600	103,773	101,698	105,200
	S of US 27 Interchange	360439	71,900	2,400	1.03	69,500	0.98	119,782	117,386	114,200	124,156	121,673	118,400
I-75 at US 27 Interchange	US 27 W of I-75	*360459*	28,500	*2,100*	*1.11*	26,000	0.97	56,671	54,971	51,100	54,703	53,062	49,300
	US 27 E of I-75	*360033*	26,200	*-200*	*0.99*	26,500	0.97	56,638	54,939	55,300	55,141	53,487	53,800
	I-75 NB Off-Ramp	362012	6,600	700	1.12	5,900	0.98	16,077	15,755	14,600	14,138	13,855	12,800
	I-75 NB On-Ramp	362013	2,000	0	1.00	2,000	0.98	2,765	2,710	2,700	3,712	3,638	3,600
	I-75 SB Off-Ramp	362014	2,100	0	1.00	2,100	0.98	2,948	2,889	2,900	4,413	4,325	4,300
	I-75 SB On-Ramp	362015	6,700	400	1.06	6,300	0.98	16,223	15,899	15,200	14,371	14,084	13,500
US 27 at NW 44 Avenue	NW 44 Avenue N of US 27	368029/C-29	8,400	500	1.06	7,900	0.97	16,266	15,778	15,100	12,966	12,577	12,000
	NW 44 Avenue S of US 27	*368029/C-29*		*500*	*1.06*		0.97	4,572	4,435	4,100	2,969	2,880	2,500
	US 27 W of NW 44 Avenue	360459	20,800	2,100	1.11	18,700	0.97	46,811	45,407	42,100	46,664	45,264	41,900
	US 27 E of NW 44 Avenue	*360459*	27,400	*2,100*	*1.11*	24,900	0.97	53,516	51,911	48,200	51,003	49,473	45,900
US 27 at NW 35 Avenue	NW 35 Ave Rd N of US 27	*367008/C-21*[3]	6,200	-3,100	0.28[4]	15,700	0.97	22,224	21,557	24,700	19,041	18,470	21,600
	NW 35 Ave Rd S of US 27	*[2]*											
	US 27 W of NW 35 Ave Rd	*360033*	26,200	*-200*	*0.99*	26,400	0.97	56,647	54,948	55,300	55,134	53,480	53,800
	US 27 E of NW 35 Ave Rd	360033	21,800	-200	0.99	22,000	0.97	45,599	44,231	44,500	46,152	44,767	45,100
NW 49 Street at NW 44 Avenue	NW 44 Ave N of NW 49 St	*368029/C-29*	6,200	*500*	*1.06*	5,700	0.97	16,411	15,919	15,200	13,873	13,457	12,800
	NW 44 Ave S of NW 49 St	*368029/C-29*	6,200	*500*	*1.06*	5,700	0.97	14,895	14,448	13,800	10,544	10,228	9,700
	NW 49 St W of NW 44 Ave	*[2]*											
	NW 49 St E of NW 44 Ave	*368039/C-25*[3]		*-2,300*	*0.61*[4]		0.97	12,720	12,338	14,600	19,786	19,192	21,500
I-75 at NW 49 Street Interchange	NW 49 Street W of I-75	*368039/C-25*[3]		*-2,300*	*0.61*[4]		0.97	12,720	12,338	14,600	19,786	19,192	21,500
	NW 49 Street E of I-75	*368039/C-25*[3]		*-2,300*	*0.61*[4]		0.97	12,720	12,338	14,600	15,662	15,192	17,500
	I-75 NB Off-Ramp	*[1]*		*-1,133*	*0.77*		0.98				7,642	7,489	9,200
	I-75 NB On-Ramp	*[1]*		*-1,133*	*0.77*		0.98				3,331	3,264	4,300
	I-75 SB Off-Ramp	*[1]*		*-1,133*	*0.77*		0.98				3,195	3,131	4,200
	I-75 SB On-Ramp	*[1]*		*-1,133*	*0.77*		0.98				7,432	7,283	8,900
I-75 at SR 326 Interchange	SR 326 W of I-75	MAP A-7	2,300	-4,500	0.34[4]	6,700	0.97	8,220	7,973	12,500	7,971	7,732	12,200
	SR 326 E of I-75	360465	20,500	600	1.03	19,900	0.97	40,243	39,036	38,200	39,749	38,557	37,700
	I-75 NB Off-Ramp	362016	6,800	-3,200	0.68	10,000	0.98	11,743	11,508	15,800	12,148	11,905	16,300
	I-75 NB On-Ramp	362017	2,400	-2,100	0.53[4]	4,500	0.98	7,145	7,002	9,100	6,617	6,485	8,600
	I-75 SB Off-Ramp	362018	2,400	-1,700	0.59	4,000	0.98	5,957	5,838	8,800	5,087	4,985	7,600
	I-75 SB On-Ramp	362019	200	-3,200	0.06[4]	3,400	0.98	1,201	1,177	4,400	798	782	4,000
	I-75 SB Loop Ramp	362024	5,500	-1,100	0.83	6,600	0.98	9,351	9,164	10,600	10,085	9,883	11,400

36XXXX – Location references an adjacent or comparable station for factors; [1] Average of US 27 & SR 326 Ramps; [2] No Comparable Road in CFRPM; [3] Reference Station located adjacent to project AOI, see Table 3-1
Adjusted 2045 AADT = (2045 AADT – A + 2045 AADT / B) / 2, rounding variances may occur, Adjusted AADTs calculated including A and B calculations, see Appendix G;
[4] Validity Ratio Factor, B, omitted from Adjustment equation, consistent with NCHRP 255

5.2.1 Trends Analysis

Historical traffic count growth was evaluated with trends analysis for AADTs from FDOT count sites, using the FDOT Traffic Trends V03a spreadsheet with the 2045 Florida Standard Urban Transportation Model Structure (FSUTMS) CFRPM forecasts for both No Build and Build scenarios.

The Trends Analysis R^2 results for the scenarios are summarized in **Table 5-2**. Per the *2019 FDOT Traffic Forecasting Handbook*, only growth with an R^2 value greater than or equal to 75% should be considered when determining growth factors with trends. The FDOT Traffic Trends Worksheets are provided in **Appendix G**.

From the trends analysis, based on the low R^2 for Historic FTO AADT Trends, the results are not reliable for establishing a growth rate.

Table 5-2: Trends Analysis R^2 Results

Roadway	Segment	FTO Station	R^2 No Build	R^2 Build
I-75 Mainline	N of SR 326 Interchange	360437	25.95	25.95
	N of NW 49th Street Interchange (Build)	360438	60.64	62.61
	N of US 27 Interchange	360438	60.64	62.61
	S of US 27 Interchange	360439	61.21	63.80
I-75 at US 27 Interchange	US 27 W of I-75	360459	39.77	39.42
	US 27 E of I-75	360033	53.02	53.75
	I-75 NB Off-Ramp	362012	74.77	0.30
	I-75 NB On-Ramp	362013	13.25	46.89
	I-75 SB Off-Ramp	362014	5.12	46.44
	I-75 SB On-Ramp	362015	76.37	74.89
US 27 at NW 35th Avenue Road	NW 35th Avenue Road N of US 27	367008	89.16	88.03
	NW 35th Avenue Road S of US 27	367006	-	-
	US 27 W of NW 35th Avenue Road	360033	53.02	53.75
	US 27 E of NW 35th Avenue Road	360033	53.02	53.75
I-75 at NW 49th Street Interchange	NW 49th Street W of I-75	368039	98.48	98.40
	NW 49th Street E of I-75	368039	98.48	98.40
	I-75 NB Off-Ramp	-	-	-
	I-75 NB On-Ramp	-	-	-
	I-75 SB Off-Ramp	-	-	-
	I-75 SB On-Ramp	-	-	-
I-75 at SR 326 Interchange	SR 326 W of I-75	-	-	-
	SR 326 E of I-75	360465	58.75	58.05
	I-75 NB Off-Ramp	362016	41.56	44.49
	I-75 NB On-Ramp	362017	73.53	72.37
	I-75 SB Off-Ramp	362018	77.97	72.53
	I-75 SB On-Ramp	362019	80.80	69.75
	I-75 SB Loop Ramp	362024	31.30	38.52

5.2.2 Development of Growth Rate

Several scenarios were considered when developing the project growth rates, scenarios included: (1) Trends Analysis based on historic AADTs and 2045 CFRPM Adjusted AADTs, summarized in **Table 5-2**; (2) calculation based on 2015 CFRPM Adjusted AADTs to 2045 CFRPM Adjusted AADTs, summarized in **Table 5-3**; (3) calculation based on 2017 Existing AADTs to 2045 CFRPM Adjusted AADTs, also summarized in **Table 5-3**; and (4) calculation based on Bureau of Economics and Business Research (BEBR) 2017 estimates and 2045 Population Projections, see **Table 5-4**.

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Table 5-3: CFRPM Growth Rate Summary

Roadway	Segment	FTO Station	A	B	C		D [(C/A)$^{1/(2045-2015)}$]-1		E [B x (1+D) $^{(2045-2017)}$]		F [(C/B)$^{1/(2045-2017)}$]-1	
			2015 CFRPM Adjusted AADT	2017 Existing AADT	2045 CFRPM Adjusted AADT		CFRPM Adjusted 2015/2045 Growth		2045 AADT (2017 AADT [B] using Model Growth [D])		2017 AADT [B] / 2045 Adjusted CFRPM Growth [C]	
					No Build	Build	No Build	Build	No Build	Build	No Build	Build
I-75 Mainline	N of SR 326 Interchange	360437	47,500	56,500	72,800	72,800	1.43%	1.43%	84,200	84,200	0.91%	0.91%
	N of Proposed Interchange	360438	65,500	76,000	94,600	96,700	1.23%	1.31%	107,100	109,300	0.78%	0.86%
	N of US 27 Interchange	360438	65,500	76,000	94,600	105,200	1.23%	1.59%	107,100	118,300	0.78%	1.17%
	S of US 27 Interchange	360439	69,500	75,000	114,200	118,400	1.67%	1.79%	119,200	123,300	1.51%	1.64%
I-75 at US 27 Interchange	US 27 W of I-75	*360459*	26,000	31,100	51,100	49,300	2.28%	2.16%	58,400	56,500	1.79%	1.66%
	US 27 E of I-75	*360033*	26,500	29,100	55,300	53,800	2.48%	2.39%	57,800	56,400	2.32%	2.22%
	I-75 NB Off-Ramp	362012	5,900	8,100	14,600	12,800	3.07%	2.62%	18,900	16,700	2.13%	1.65%
	I-75 NB On-Ramp	362013	2,000	2,200	2,700	3,600	1.01%	1.98%	2,900	3,800	0.73%	1.77%
	I-75 SB Off-Ramp	362014	2,100	2,800	2,900	4,300	1.08%	2.42%	3,800	5,500	0.13%	1.54%
	I-75 SB On-Ramp	362015	6,300	7,500	15,200	13,500	2.98%	2.57%	17,100	15,300	2.55%	2.12%
US 27 at NW 44 Avenue	NW 44 Avenue N of US 27	368029/C-29	7,900	8,900	15,100	12,000	2.18%	1.40%	16,300	13,100	1.91%	1.07%
	NW 44 Avenue S of US 27	*368029/C-29*		400	4,100	2,500						
	US 27 W of NW 44 Avenue	360459	18,700	20,700	42,100	41,900	2.74%	2.73%	44,100	44,000	2.57%	2.55%
	US 27 E of NW 44 Avenue	*360459*	24,900	31,100	48,200	45,900	2.23%	2.06%	57,600	55,000	1.58%	1.40%
US 27 at NW 35th Avenue Road	NW 35th Ave Rd N of US 27	*367008/C-21*	15,700	7,500	24,700	21,600	1.52%	1.07%	11,400	10,100	4.35%	3.85%
	NW 35th Ave Rd S of US 27	*[1]*		1,400	1,600	1,600						
	US 27 W of NW 35th Ave Rd	*360033*	26,400	29,100	55,300	53,800	2.50%	2.40%	58,000	56,600	2.32%	2.22%
	US 27 E of NW 35th Ave Rd	360033	22,000	25,000	44,500	45,100	2.38%	2.42%	48,200	48,900	2.08%	2.13%
NW 49 Street at NW 44 Avenue	NW 44 Ave N of NW 49 St	*368029/C-29*	5,700	7,000	15,200	12,800	3.32%	2.73%	17,500	14,900	2.81%	2.18%
	NW 44 Ave S of NW 49 St	*368029/C-29*	5,700	7,100	13,800	9,700	2.99%	1.79%	16,200	11,700	2.40%	1.12%
	NW 49 St W of NW 44 Ave	*[1]*		150	200	200						
	NW 49 St E of NW 44 Ave	*368039/C-25*		7,100	14,600	21,500						
I-75 at NW 49th Street Interchange	NW 49th Street W of I-75	*368039/C-25*			14,600	21,500						
	NW 49th Street E of I-75	*368039/C-25*			14,600	17,500						
	I-75 NB Off-Ramp					9,200						
	I-75 NB On-Ramp					4,300						
	I-75 SB Off-Ramp					4,200						
	I-75 SB On-Ramp					8,900						
I-75 at SR 326 Interchange	SR 326 W of I-75	MAP A-7	6,700	10,300	12,500	12,200	2.10%	2.02%	18,400	18,000	0.69%	0.61%
	SR 326 E of I-75	*360465*	19,900	23,400	38,200	37,700	2.20%	2.15%	43,000	42,500	1.77%	1.72%
	I-75 NB Off-Ramp	362016	10,000	11,000	15,800	16,300	1.54%	1.64%	16,900	17,400	1.30%	1.41%
	I-75 NB On-Ramp	362017	4,500	3,300	9,100	8,600	2.38%	2.18%	6,400	6,000	3.69%	3.48%
	I-75 SB Off-Ramp	362018	4,000	4,700	8,800	7,600	2.66%	2.16%	9,800	8,600	2.27%	1.73%
	I-75 SB On-Ramp	362019	3,400	3,400	4,400	4,000	0.86%	0.54%	4,300	4,000	0.93%	0.58%
	I-75 SB Loop Ramp	362024	6,600	5,900	10,600	11,400	1.59%	1.84%	9,200	9,800	2.11%	2.38%
						MIN	0.86%	0.54%		MIN	0.13%	0.58%
						MAX	3.32%	2.73%		MAX	4.35%	3.85%
						AVG	2.12%	2.01%		AVG	1.80%	1.84%
						MED	2.28%	2.14%		MED	1.67%	1.65%

36XXXX – Location references an adjacent or comparable station for factors; [1] No Comparable Road in CFRPM

Table 5-4: Marion County - Population Growth

Year	2017	2045	2017/2045 Growth
Population	349,267		
	Low	374,700	0.25%
	Medium	452,900	0.93%
	High	545,900	1.61%

Source: BEBR Florida Population Estimates and Population Projection Studies

Results from the growth rate developments show that:

1) The historic growth from the trends analysis was deemed unreliable for establishing growth rates based on the overall low R^2 values.

2) 2015 CFRPM Adjusted AADTs to 2045 CFRPM Adjusted AADTs resulted in growth rates ranging from 0.86% to 3.32% for No Build and 0.54% to 2.73% for Build. The overall average growth rates were 2.12% for No Build and 2.01% for Build. The median growth rates were 2.28% for No Build and 2.14% for Build.

3) 2017 AADTs to 2045 CFRPM Adjusted AADTs resulted in growth rates ranging from 0.13% to 4.35% for No Build and 0.58% to 3.85% for Build. The overall average growth rates were 1.80% for No Build and 1.84% for Build. The median growth rates were 1.67% for No Build and 1.65% for Build.

4) Population growth for Marion County between 2017 and 2045 resulted in growth rates of 0.25% (Low), 0.93% (Medium), and 1.61% (High).

Overall, 2015 CFRPM Adjusted AADTs to 2045 CFRPM Adjusted AADTs growth rates are generally higher when compared to the other growth rate scenarios for the ramp segments and arterials; and are similar to the I-75 mainline. However, Medium and High BEBR population growth projections fall in line with the calculated 2017 AADTs to 2045 CFRPM Adjusted AADTs growth rates for the arterials. Also, as mentioned in Section 3, 2019 FTO volumes reflected a slight increase from 2017 volumes. Therefore, the 2015 to 2045 CFRPM Adjusted AADTs growth rates are recommended for the I-75 Mainline under No Build and Build alternatives; and the 2017 AADTs to 2045 CFRPM Adjusted AADTs annual growth rates along with the 2045 CFRPM Adjusted AADTs, are recommended for No Build and Build alternatives on the ramp segments and arterials. **Table 5-5** summarizes the recommended growth rates and 2045 CFRPM Adjusted AADTs. Growth rate data and information are provided in **Appendix G**.

Table 5-5: Recommended Growth Rates

Roadway	Segment	2017 Existing AADT	2045 AADT		Growth Rate		Notes
			No Build	Build	No Build	Build	
I-75 Mainline	N of SR 326 Interchange	56,500	84,200	84,200	1.43%	1.43%	
	N of Proposed Interchange	76,000	107,100	109,300	1.23%	1.31%	
	N of US 27 Interchange	76,000	107,100	118,300	1.23%	1.59%	
	S of US 27 Interchange	75,000	119,200	123,300	1.67%	1.79%	
I-75 at US 27 Interchange	US 27 W of I-75	31,100	51,100	49,300	1.79%	1.66%	
	US 27 E of I-75	29,100	55,300	53,800	2.32%	2.22%	
	I-75 NB Off-Ramp	8,100	14,600	12,800	2.13%	1.65%	
	I-75 NB On-Ramp	2,200	2,700	3,600	0.73%	1.77%	
	I-75 SB Off-Ramp	2,800	2,900	4,300	0.13%	1.54%	
	I-75 SB On-Ramp	7,500	15,200	13,500	2.55%	2.12%	
US 27 at NW 44 Avenue	NW 44 Avenue N of US 27	8,900	15,100	12,000	1.91%	1.07%	*[2] A min 0.5% growth applied to roadways (a) not in the CFRPM where no comparable reference station exists; (b) or roadways with a resultant growth <0.0%*
	NW 44 Avenue S of US 27[2]	400	4,100	2,500	8.67%	6.76%	
	US 27 W of NW 44 Avenue	20,700	42,100	41,900	2.57%	2.55%	
	US 27 E of NW 44 Avenue	31,100	48,200	45,900	1.58%	1.40%	
US 27 at NW 35th Avenue	NW 35th Ave Rd N of US 27	7,500	24,700	21,600	4.35%	3.85%	*[2] see previous note*
	NW 35th Ave Rd S of US 27[2]	1,400	1,600	1,600	0.50%	0.50%	
	US 27 W of NW 35th Ave Rd	29,100	55,300	53,800	2.32%	2.22%	
	US 27 E of NW 35th Ave Rd	25,000	44,500	45,100	2.08%	2.13%	
NW 49 Street at NW 44 Avenue	NW 44 Ave N of NW 49 St	7,000	15,200	12,800	2.81%	2.18%	*[2] see previous note*
	NW 44 Ave S of NW 49 St	7,100	13,800	9,700	2.40%	1.12%	*[3] Under Build Condition for NW 49 Street, consistent with ramps, growth is the average of growth rates on US 27 and SR 326 ramps.*
	NW 49 St W of NW 44 Ave[2]	150	200	200	0.50%	0.50%	
	NW 49 St E of NW 44 Ave[3]	7,100	14,600	21,500	2.61%	1.85%	
I-75 at NW 49th Street Interchange	NW 49th Street W of I-75[3]		14,600	21,500	2.61%	1.85%	
	NW 49th Street E of I-75[3]		14,600	17,500	2.61%	1.85%	
	I-75 NB Off-Ramp[1]			9,200		1.85%	*[1] average of growth rates on US 27 and SR 326 ramps.*
	I-75 NB On-Ramp[1]			4,300		1.85%	
	I-75 SB Off-Ramp[1]			4,200		1.85%	
	I-75 SB On-Ramp[1]			8,900		1.85%	
I-75 at SR 326 Interchange	SR 326 W of I-75	10,300	12,500	12,200	0.69%	0.61%	
	SR 326 E of I-75	23,400	38,200	37,700	1.77%	1.72%	
	I-75 NB Off-Ramp	11,000	15,800	16,300	1.30%	1.41%	
	I-75 NB On-Ramp	3,300	9,100	8,600	3.69%	3.48%	
	I-75 SB Off-Ramp	4,700	8,800	7,600	2.27%	1.73%	
	I-75 SB On-Ramp	3,400	4,400	4,000	0.93%	0.58%	
	I-75 SB Loop Ramp	5,900	10,600	11,400	2.11%	2.38%	
				Overall Average[4]	***2.02%***	***1.83%***	*[4] Average excludes segments reflected with note [2]; roadways where min 0.5% growth established*
				Mainline	***1.44%***	***1.53%***	
				Ramps	***1.76%***	***1.85%***	
				Surface Streets[4]	***2.29%***	***1.89%***	

[1] AVG OF US 27 & SR 326 RAMPS
[2] NO COMPARABLE ROAD IN CFRPM, MIN 0.5% GROWTH APPLIED TO <0.0% GROWTH OR TO ROADWAYS NOT IN CFRPM
[3] Growth for NW 49 Street under Build Condition reflects average of adjacent interchange, consistent with ramps; not the 2017/2045 growth.
[4] Excludes segments reflected with note [2]

5.3 Future Traffic Volumes

Roadway segment 2025 and 2035 AADTs were developed by applying the recommended growth rates to the 2017 AADTs. These AADTs are the basis for both the Design Directional Hour Volumes (DDHV)s and intersection turning movement volumes presented in this section.

5.3.1 *Future Year Annual Average Daily Traffic*

The development of future year AADTs was based on the methodology described previously in this section. The balanced No Build and Build AADTs are provided in **Tables 5-6** and **5-7**.

Table 5-6: No Build AADT

Roadway	Segment	AADT			D
		2025	2035	2045	
I-75 Mainline	N of SR 326 Interchange	70,900	81,600	94,200	0.543
	N of Proposed Interchange	83,800	94,800	107,100	0.543
	N of US 27 Interchange	83,800	94,800	107,100	0.543
	S of US 27 Interchange	97,500	113,000	131,300	0.543
I-75 at US 27 Interchange	US 27 W of I-75	35,800	42,800	51,100	0.625
	US 27 E of I-75	35,000	44,000	55,300	0.617
	I-75 NB Off-Ramp	9,600	11,800	14,600	1.000
	I-75 NB On-Ramp	2,300	2,500	2,700	1.000
	I-75 SB Off-Ramp	2,800	2,900	2,900	1.000
	I-75 SB On-Ramp	9,200	11,800	15,200	1.000
US 27 at NW 44 Avenue	NW 44 Avenue N of US 27	10,400	12,500	15,100	0.525
	NW 44 Avenue S of US 27	800	1,800	4,100	0.632
	US 27 W of NW 44 Avenue	25,400	32,700	42,100	0.587
	US 27 E of NW 44 Avenue	35,200	41,200	48,200	0.597
US 27 at NW 35 Ave Rd	NW 35 Ave Rd N of US 27	10,500	16,100	24,700	0.535
	NW 35 Ave Rd S of US 27	1,500	1,500	1,600	0.650
	US 27 W of NW 35 Ave Rd	35,000	44,000	55,300	0.617
	US 27 E of NW 35 Ave Rd	29,500	36,200	44,500	0.641
NW 49 Street at NW 44 Avenue	NW 44 Avenue N of NW 49 Street	8,700	11,500	15,200	0.650
	NW 44 Avenue S of NW 49 Street	8,600	10,900	13,800	0.539
	NW 49 Street W of NW 44 Avenue	200	200	200	0.636
	NW 49 Street E of NW 44 Avenue	8,700	11,300	14,600	0.630
I-75 at NW 49 Street Interchange	NW 49 Street W of I-75	8,700	11,300	14,600	0.635
	NW 49 Street E of I-75	8,700	11,300	14,600	0.635
	I-75 NB Off-Ramp				
	I-75 NB On-Ramp				
	I-75 SB Off-Ramp				
	I-75 SB On-Ramp				
I-75 at SR 326 Interchange	SR 326 W of I-75	10,900	11,700	12,500	0.621
	SR 326 E of I-75	26,900	32,100	38,200	0.548
	I-75 NB Off-Ramp	12,200	13,900	15,800	1.000
	I-75 NB On-Ramp	4,400	6,300	9,100	1.000
	I-75 SB Off-Ramp	5,600	7,000	8,800	1.000
	I-75 SB On-Ramp	3,700	4,000	4,400	1.000
	I-75 SB Loop Ramp	7,000	8,600	10,600	1.000

New segment

Table 5-7: Build AADT

Roadway	Segment	AADT			D
		2025	2035	2045	
I-75 Mainline	N of SR 326 Interchange	71,000	81,500	93,800	0.543
	N of Proposed Interchange	84,300	96,000	109,300	0.543
	N of US 27 Interchange	91,000	104,000	118,900	0.543
	S of US 27 Interchange	103,400	119,100	137,300	0.543
I-75 at US 27 Interchange	US 27 W of I-75	35,500	41,800	49,300	0.625
	US 27 E of I-75	34,700	43,200	53,800	0.617
	I-75 NB Off-Ramp	9,200	10,900	12,800	1.000
	I-75 NB On-Ramp	2,500	3,000	3,600	1.000
	I-75 SB Off-Ramp	3,200	3,700	4,300	1.000
	I-75 SB On-Ramp	8,900	10,900	13,500	1.000
US 27 at NW 44 Avenue	NW 44 Avenue N of US 27	9,700	10,800	12,000	0.525
	NW 44 Avenue S of US 27	700	1,300	2,500	0.632
	US 27 W of NW 44 Avenue	25,300	32,600	41,900	0.587
	US 27 E of NW 44 Avenue	34,800	39,900	45,900	0.597
US 27 at NW 35 Ave Rd	NW 35 Ave Rd N of US 27	10,100	14,800	21,600	0.535
	NW 35 Ave Rd S of US 27	1,500	1,500	1,600	0.650
	US 27 W of NW 35 Ave Rd	34,700	43,200	53,800	0.617
	US 27 E of NW 35 Ave Rd	29,600	36,500	45,100	0.641
NW 49 Street at NW 44 Avenue	NW 44 Ave N of NW 49 Street	8,300	10,300	12,800	0.650
	NW 44 Ave S of NW 49 Street	7,800	8,700	9,700	0.539
	NW 49 St W of NW 44 Avenue	200	200	200	0.636
	NW 49 St E of NW 44 Avenue	14,900	17,900	21,500	0.630
I-75 at NW 49 Street Interchange	NW 49 Street W of I-75	14,900	17,900	21,500	0.635
	NW 49 Street E of I-75[1]	12,100	14,600	17,500	0.583
	I-75 NB Off-Ramp	6,400	7,700	9,200	1.000
	I-75 NB On-Ramp	3,000	3,600	4,300	1.000
	I-75 SB Off-Ramp	2,900	3,500	4,200	1.000
	I-75 SB On-Ramp	6,200	7,400	8,900	1.000
I-75 at SR 326 Interchange	SR 326 W of I-75	10,800	11,500	12,200	0.621
	SR 326 E of I-75	26,800	31,800	37,700	0.548
	I-75 NB Off-Ramp	12,300	14,200	16,300	1.000
	I-75 NB On-Ramp	4,300	6,100	8,600	1.000
	I-75 SB Off-Ramp	5,400	6,400	7,600	1.000
	I-75 SB On-Ramp	3,600	3,800	4,000	1.000
	I-75 SB Loop Ramp	7,100	9,000	11,400	1.000

New segment; [1] AVG OF US 27 E of I-75& SR 326 E of I-75

Build volumes at the interchange ramps adjacent to proposed NW 49th Street interchange reflect an increase, compared to No Build. Based on CFRPM select link runs, the predominant pattern to/from US 27 east of the interchange uses I-75 to access NW 44th Avenue, north of NW 49th Street to/from residential areas south of SR 326. To/from SR 326 east of the interchange uses I-75 to access NW 44th Avenue south of NW 49th Street; west of the interchange, SR 326 vehicular traffic uses I-75 to access the vicinity of Ocala 489. The corresponding CFRPM plots are provided in **Appendix G**.

5.3.2 Design Directional Hour Volumes

The DDHVs for opening year (2025), interim (2035) and design (2045) year were developed using the standard equation: AADT x K(0.09) x D. The No Build and Build DDHVs, with corresponding %T are provided in **Tables 5-8** and **5-9**, respectively. The I-75 mainline DDHVs were then balanced with AM and PM peak hour ramp volumes (presented in Section 4.3.3) for use in the operational analysis in Section 5. Schematics of the balanced freeway volumes are provided on **Figures 5-1** thru **5-4**; volume balancing worksheets provided in **Appendix H**.

Table 5-8: No Build DDHV

Roadway	Segment	Tpeak	DDHV		
			2025	2035	2045
I-75 Mainline	N of SR 326 Interchange	0.10	3,460	3,990	4,600
	N of Proposed Interchange	0.12	4,100	4,630	5,230
	N of US 27 Interchange	0.12	4,100	4,630	5,230
	S of US 27 Interchange	0.11	4,760	5,520	6,420
I-75 at US 27 Interchange	US 27 W of I-75	0.06	2,010	2,410	2,870
	US 27 E of I-75	0.06	1,940	2,440	3,070
	I-75 NB Off-Ramp	0.14	860	1,060	1,310
	I-75 NB On-Ramp	0.06	210	230	240
	I-75 SB Off-Ramp	0.06	250	260	260
	I-75 SB On-Ramp	0.14	830	1,060	1,370
US 27 at NW 44 Avenue	NW 44 Avenue N of US 27	0.02	490	590	710
	NW 44 Avenue S of US 27	0.02	50	100	230
	US 27 W of NW 44 Avenue	0.06	1,340	1,730	2,220
	US 27 E of NW 44 Avenue	0.06	1,890	2,210	2,590
US 27 at NW 35 Ave Rd	NW 35 Ave Rd N of US 27	0.10	510	780	1,190
	NW 35 Ave Rd S of US 27	0.10	90	90	90
	US 27 W of NW 35 Ave Rd	0.06	1,940	2,440	3,070
	US 27 E of NW 35 Ave Rd	0.06	1,700	2,090	2,570
NW 49 Street at NW 44 Avenue	NW 44 Ave N of NW 49 Street	0.10	510	670	890
	NW 44 Ave S of NW 49 Street	0.10	420	530	670
	NW 49 St W of NW 44 Avenue	0.12	10	10	10
	NW 49 St E of NW 44 Avenue	0.12	490	640	830
I-75 at NW 49 Street Interchange	NW 49 Street W of I-75	0.12	500	650	830
	NW 49 Street E of I-75	0.12	500	650	830
	I-75 NB Off-Ramp				
	I-75 NB On-Ramp				
	I-75 SB Off-Ramp				
	I-75 SB On-Ramp				
I-75 at SR 326 Interchange	SR 326 W of I-75	0.17	610	650	700
	SR 326 E of I-75	0.17	1,330	1,580	1,880
	I-75 NB Off-Ramp	0.23	1,100	1,250	1,420
	I-75 NB On-Ramp	0.23	400	570	820
	I-75 SB Off-Ramp	0.23	500	630	790
	I-75 SB On-Ramp	0.23	330	360	400
	I-75 SB Loop Ramp	0.23	630	770	950

New segment

Table 5-9: Build DDHV

Roadway	Segment	Tpeak	DDHV		
			2025	2035	2045
I-75 Mainline	N of SR 326 Interchange	0.10	3,470	3,980	4,580
	N of Proposed Interchange	0.12	4,120	4,690	5,340
	N of US 27 Interchange	0.12	4,450	5,080	5,810
	S of US 27 Interchange	0.11	5,050	5,820	6,710
I-75 at US 27 Interchange	US 27 W of I-75	0.06	2,000	2,350	2,770
	US 27 E of I-75	0.06	1,930	2,400	2,990
	I-75 NB Off-Ramp	0.14	830	980	1,150
	I-75 NB On-Ramp	0.06	230	270	320
	I-75 SB Off-Ramp	0.06	290	330	390
	I-75 SB On-Ramp	0.14	800	980	1,220
US 27 at NW 44 Avenue	NW 44 Avenue N of US 27	0.02	460	510	570
	NW 44 Avenue S of US 27	0.02	40	70	140
	US 27 W of NW 44 Avenue	0.06	1,340	1,720	2,210
	US 27 E of NW 44 Avenue	0.06	1,870	2,140	2,470
US 27 at NW 35 Ave Rd	NW 35 Ave Rd N of US 27	0.10	490	710	1,040
	NW 35 Ave Rd S of US 27	0.10	90	90	90
	US 27 W of NW 35 Ave Rd	0.06	1,930	2,400	2,990
	US 27 E of NW 35 Ave Rd	0.06	1,710	2,110	2,600
NW 49 Street at NW 44 Avenue	NW 44 Ave N of NW 49 Street	0.10	490	600	750
	NW 44 Ave S of NW 49 Street	0.10	380	420	470
	NW 49 St W of NW 44 Avenue	0.12	10	10	10
	NW 49 St E of NW 44 Avenue	0.12	840	1,010	1,220
I-75 at NW 49 Street Interchange	NW 49 Street W of I-75	0.12	850	1,020	1,230
	NW 49 Street E of I-75	0.12	630	770	920
	I-75 NB Off-Ramp	0.12	580	690	830
	I-75 NB On-Ramp	0.12	270	320	390
	I-75 SB Off-Ramp	0.12	260	320	380
	I-75 SB On-Ramp	0.12	560	670	800
I-75 at SR 326 Interchange	SR 326 W of I-75	0.17	600	640	680
	SR 326 E of I-75	0.17	1,320	1,570	1,860
	I-75 NB Off-Ramp	0.23	1,110	1,280	1,470
	I-75 NB On-Ramp	0.23	390	550	770
	I-75 SB Off-Ramp	0.23	490	580	680
	I-75 SB On-Ramp	0.23	320	340	360
	I-75 SB Loop Ramp	0.23	640	810	1,030

New segment

Figure 5-1: No Build Mainline Balanced Volumes AM Peak Hour

	No Build AM Peak												
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570	1,500	380	1,500	1,815	1,500	
	Accel/Decel Lanes (ft)	4,429	800		616	17,881	1,073	380	1,500	N/A	268	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11	14	11	6	12	23	12	23	12	23	10
										Loop		
	2045	5,496	1,297	4,199	216	4,415	330	4,085	901	3,184	529	3,713
	2035	4,676	974	3,702	197	3,899	252	3,647	623	3,024	358	3,382
	2025	3,992	711	3,281	175	3,456	192	3,264	404	2,860	219	3,079
Interchange			US 27				SR 326					
I-75 Northbound	2025	4,593	680	3,913	190	4,103	712	3,391		351	3,742	
	2035	5,326	902	4,424	218	4,642	953	3,689		520	4,209	
	2045	6,200	1,204	4,996	244	5,240	1,239	4,001		772	4,773	
	Truck%	11	14	11	6	12	23	12		23	10	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)	4,300	671	N/A	847	18,132	671	N/A		941		

Figure 5-2: No Build Mainline Balanced Volumes PM Peak Hour

	No Build PM Peak											
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570	1,500	380	1,500	1,815	1,500	
	Accel/Decel Lanes (ft)		800		616	17,881	1,073	380	1,500	N/A	268	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11	14	11	6	12	23	12	23	12	23	10
										Loop		
	2045	6,290	1,276	5,014	220	5,234	320	4,914	906	4,008	567	4,575
	2035	5,402	961	4,441	200	4,641	247	4,394	675	3,719	449	4,168
	2025	4,677	742	3,935	177	4,112	180	3,932	493	3,439	354	3,793
Interchange			US 27				SR 326					
I-75 Northbound	2025	3,951	702	3,249	202	3,451	779	2,672		270	2,942	
	2035	4,614	942	3,672	234	3,906	1,025	2,881		454	3,335	
	2045	5,413	1,265	4,148	265	4,413	1,326	3,087		750	3,837	
	Truck%	11	14	11	6	12	23	12		23	10	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	18,132	671	N/A		941		

Figure 5-3: Build Mainline Balanced Volumes AM Peak Hour

Build AM Peak																
I-75 Southbound	Distance (ft)		1,500	3,168	1,500						1,500	380	1500	1,815	1,500	
	Accel/Decel Lanes (ft)		800		616						1,073		1500		268	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11	14	11	6	12	12	12	12	12	23	12	23	12	23	10
														Loop		
	2045	5,825	1,092	4,733	306	5,039	883	4,156	351	4,507	307	4,200	959	3,241	442	3,683
	2035	5,045	896	4,149	244	4,393	736	3,657	292	3,949	249	3,700	645	3,055	327	3,382
	2025	4,318	677	3,641	193	3,834	615	3,219	244	3,463	183	3,280	412	2,868	211	3,079
Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound	2025	4,822	651	4,171	202	4,373	519	3,854	288	4,142	716	3,426		342	3,768	
	2035	5,543	832	4,711	263	4,974	622	4,352	346	4,698	961	3,737		501	4,238	
	2045	6,501	1,043	5,458	335	5,793	746	5,047	415	5,462	1,250	4,212		726	4,938	
	Truck%	11	14	11	6	12	12	12	12	12	23	12		23	10	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500						1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671		847						671			941		

Figure 5-4: Build Mainline Balanced Volumes PM Peak Hour

Build PM Peak																
I-75 Southbound	Distance (ft)		1,500	3,168	1,500						1,500	380	1500	1,815	1,500	
	Accel/Decel Lanes (ft)		800		616						1,073		1500		268	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11	14	11	6	12	12	12	12	12	23	12	23	12	23	10
														Loop		
	2045	6,626	1,175	5,451	330	5,781	746	5,035	415	5,450	299	5,151	967	4,184	506	4,690
	2035	5,691	933	4,758	249	5,007	622	4,385	346	4,731	235	4,496	697	3,799	419	4,218
	2025	4,882	720	4,162	198	4,360	519	3,841	288	4,129	179	3,950	503	3,447	346	3,793
Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound	2025	4,304	675	3,629	224	3,853	615	3,238	244	3,482	781	2,701		260	2,961	
	2035	4,995	868	4,127	346	4,409	736	3,673	292	3,965	1,034	2,931		445	3,376	
	2045	5,796	1,110	4,686	346	5,032	883	4,149	351	4,500	1,340	3,160		707	3,867	
	Truck%	11	14	11	6	12	12	12	12	12	23	12		23	10	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500						1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671		847						671			941		

5.3.3 Peak Hour Intersection Volumes

The development of future year intersection turning movement estimates is consistent with the procedures outlined in the *FDOT Project Traffic Forecasting Handbook, 2019.* The future intersection volumes were developed from the existing (2017) turning movement percentage breakdown and corresponding future AADT, K and D factors, using TMTool worksheets. The proposed NW 49th Street interchange volumes were developed based on the manual method; also, as outlined in the handbook and checked for reasonableness against the CFRPM Select Link Runs. The resultant intersection volumes were smoothed and balanced where necessary. Years 2025, 2035 and 2045 intersection turning movement volumes for AM and PM peak hours are provided on **Figure 5-5** thru **Figure 5-14**. Detailed intersection movement volume breakdown and TMTool worksheets are provided in **Appendix H**.

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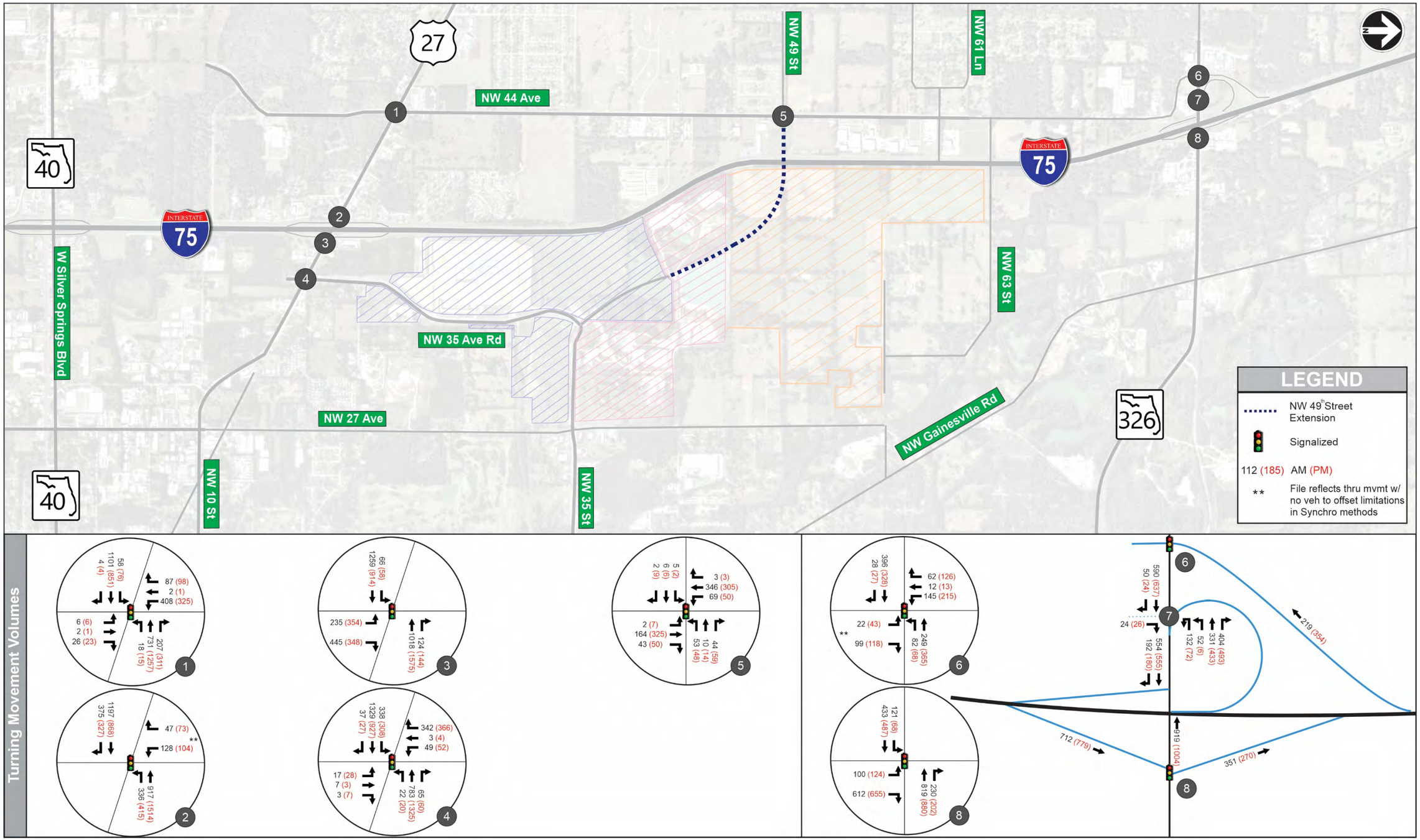

Figure 5-5: No Build Intersection & Interchange Balanced Volumes (2025)

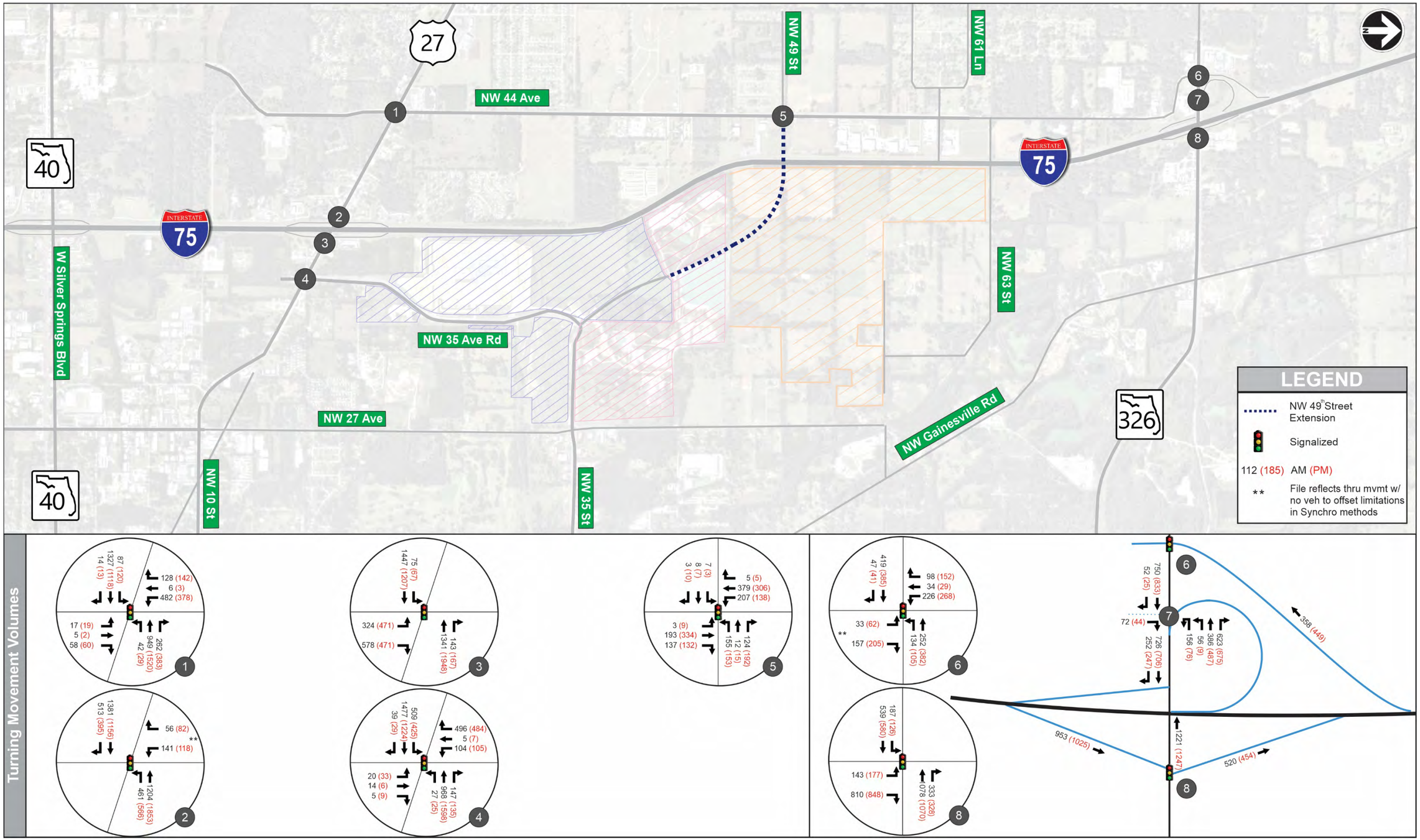

Figure 5-6: No Build Intersection & Interchange Balanced Volumes (2035)

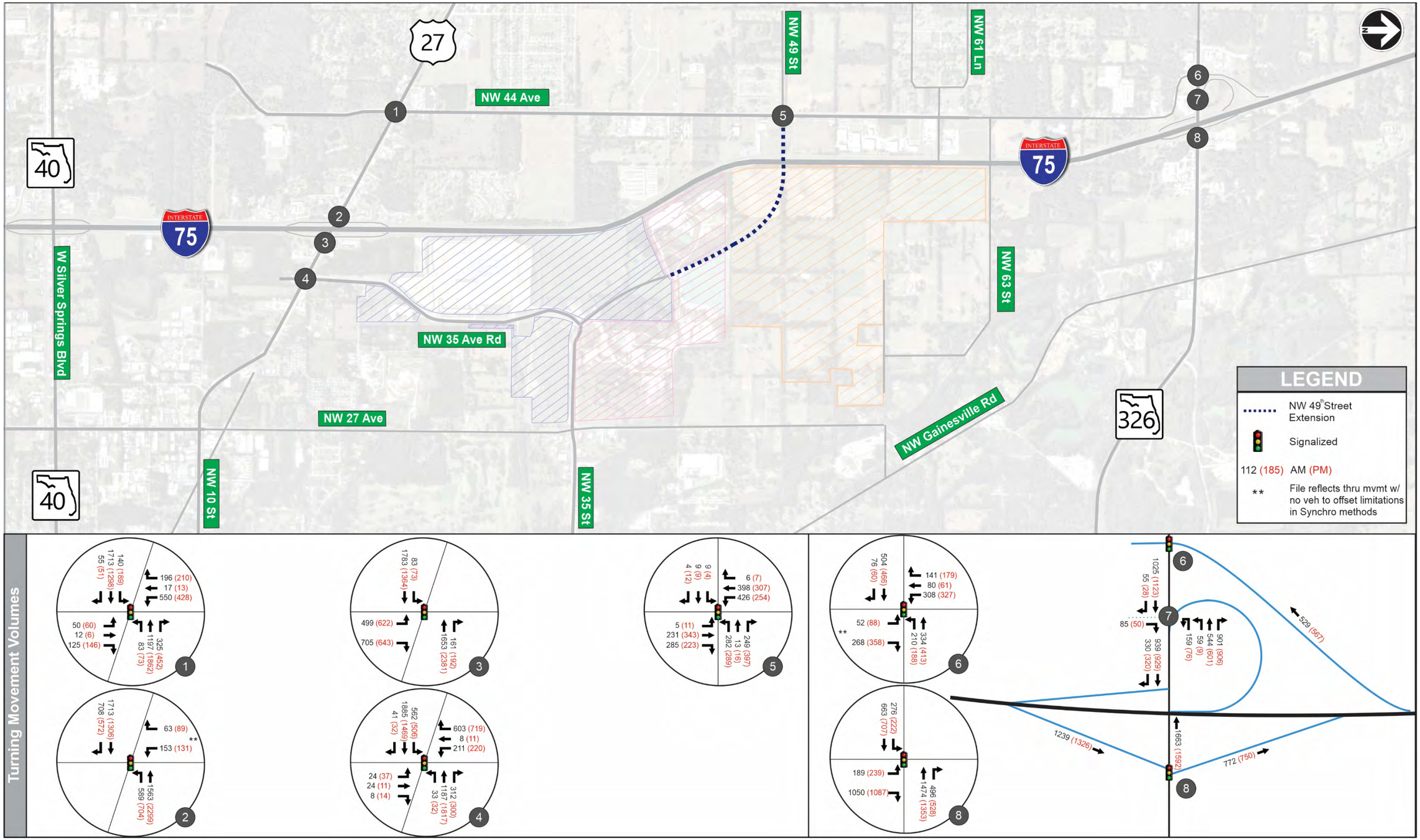

Figure 5-7: No Build Intersection & Interchange Balanced Volumes (2045)

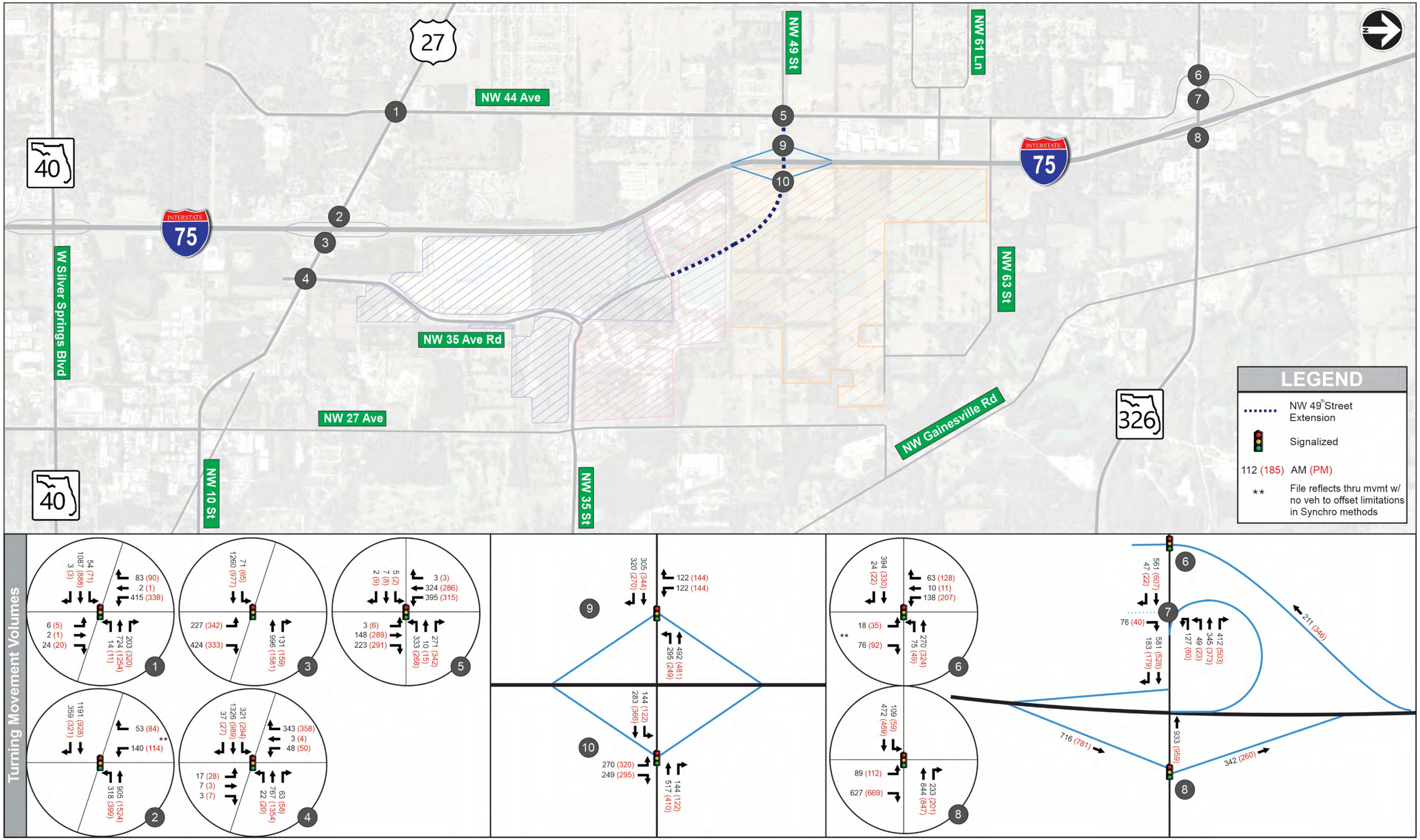

Figure 5-8: Build Diamond Intersection & Interchange Balanced Volumes (2025)

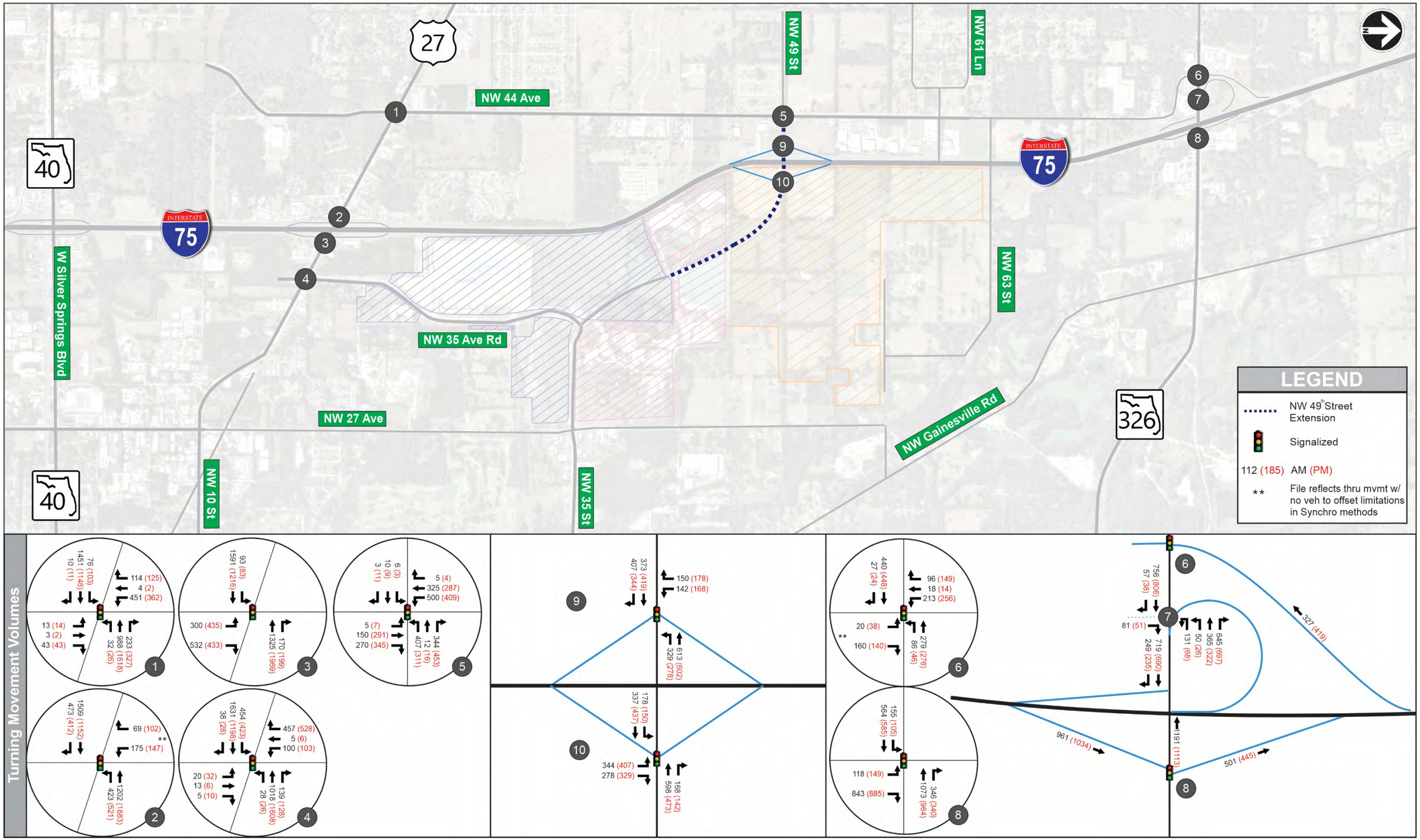

Figure 5-9: Build Diamond Intersection & Interchange Balanced Volumes (2035)

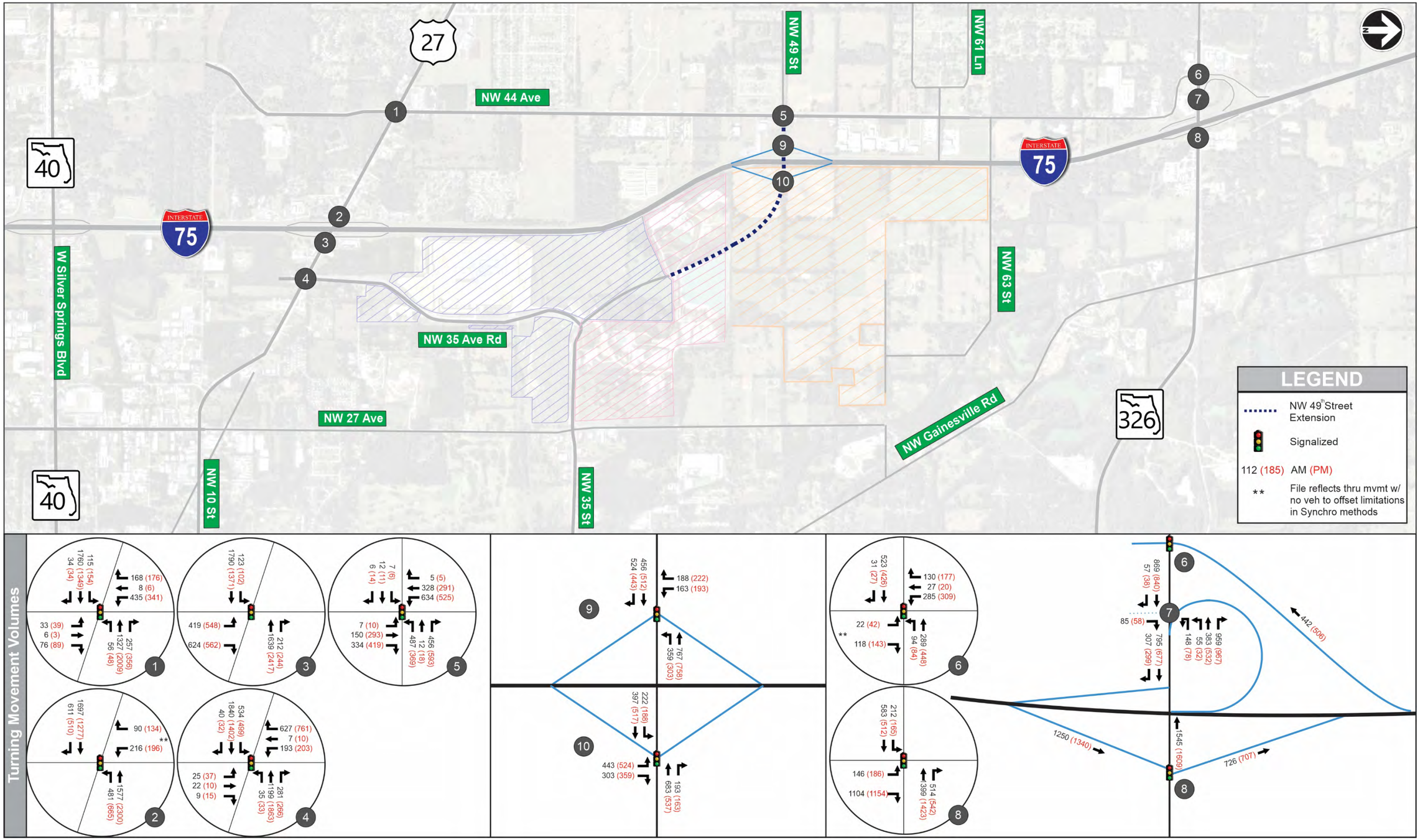

Figure 5-10: Build Diamond Intersection & Interchange Balanced Volumes (2045)

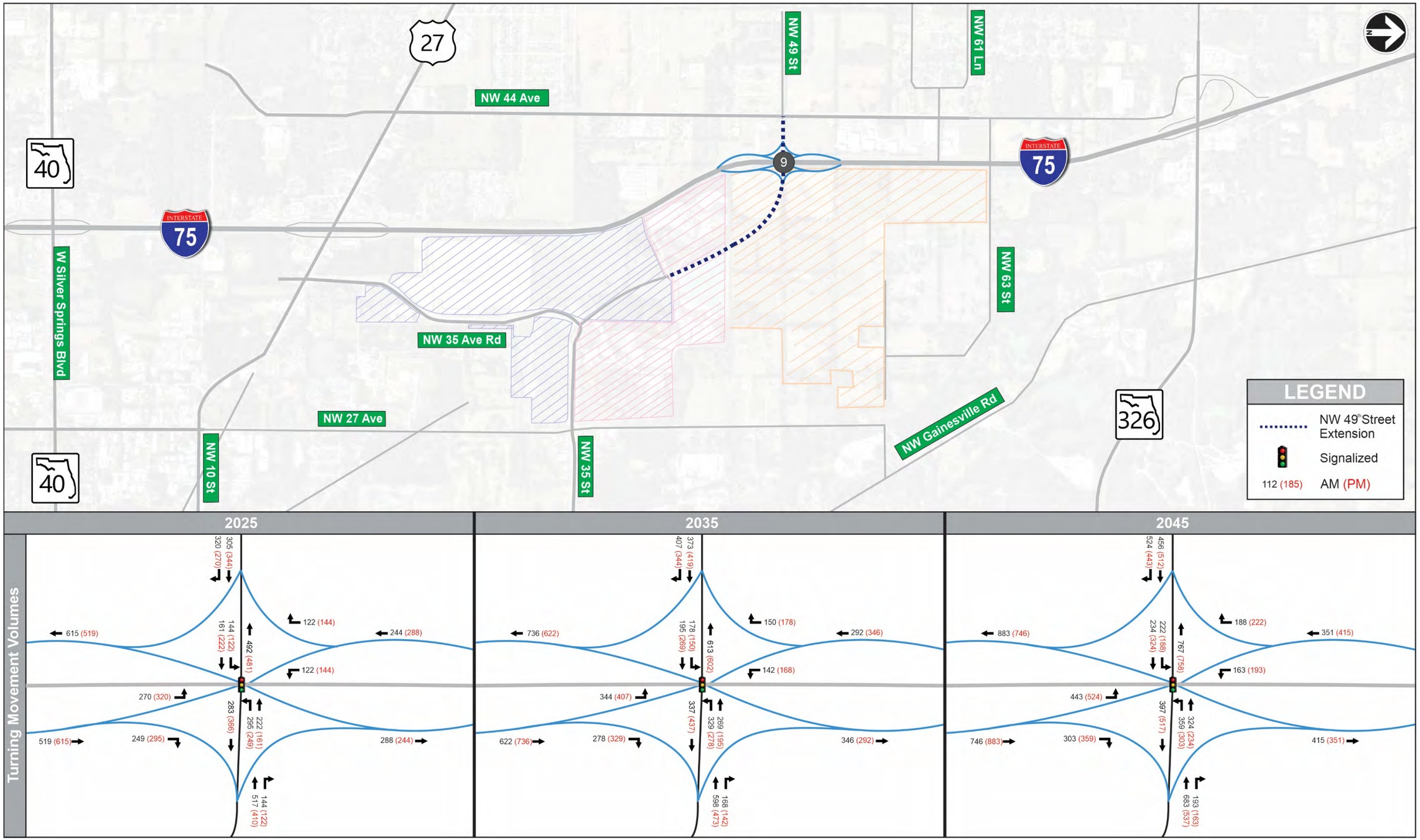

Figure 5-11: Build SPUI Intersection & Interchange Balanced Volumes (2025/35/45)

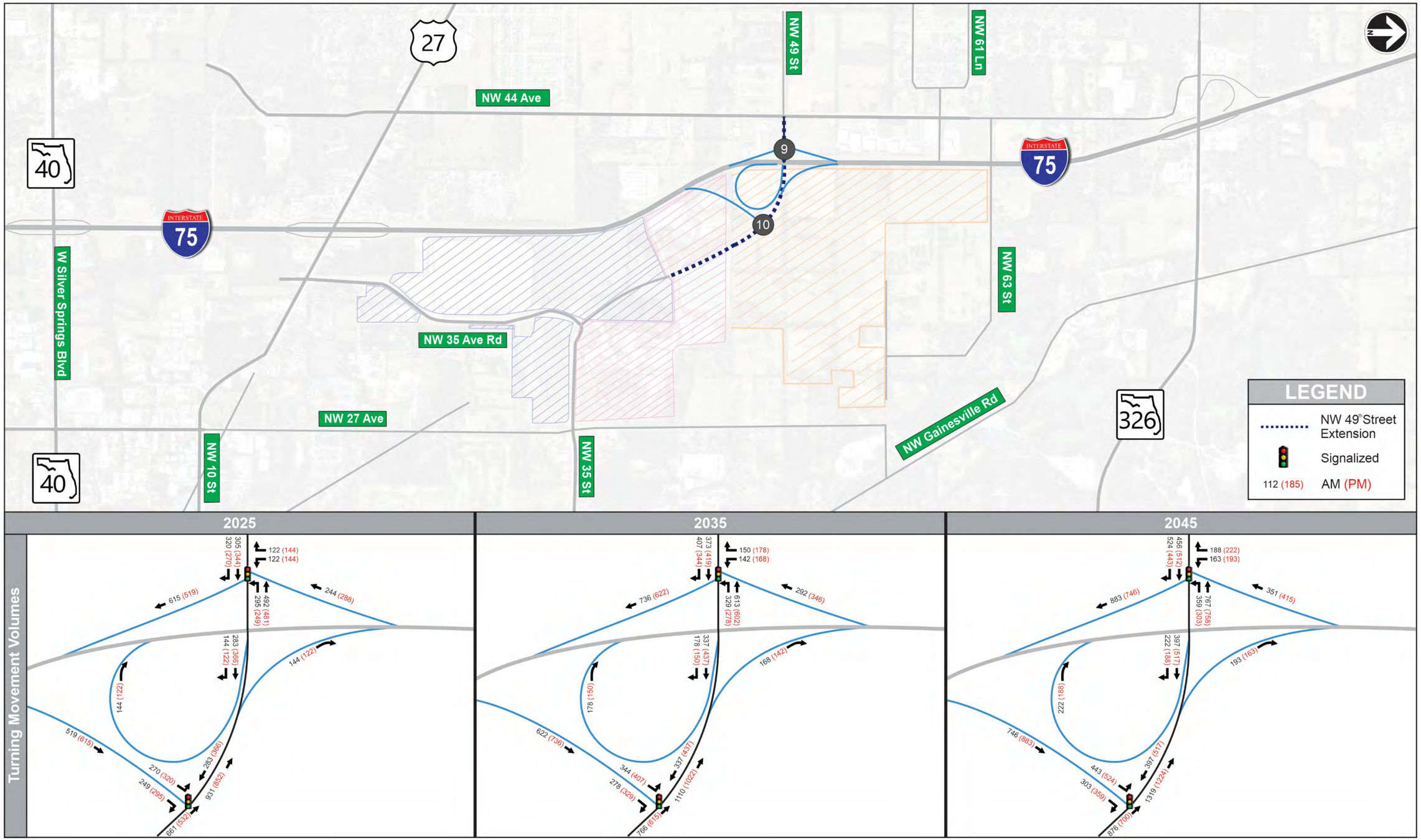

Figure 5-12: Build Parclo-SE Intersection & Interchange Balanced Volumes (2025/35/45)

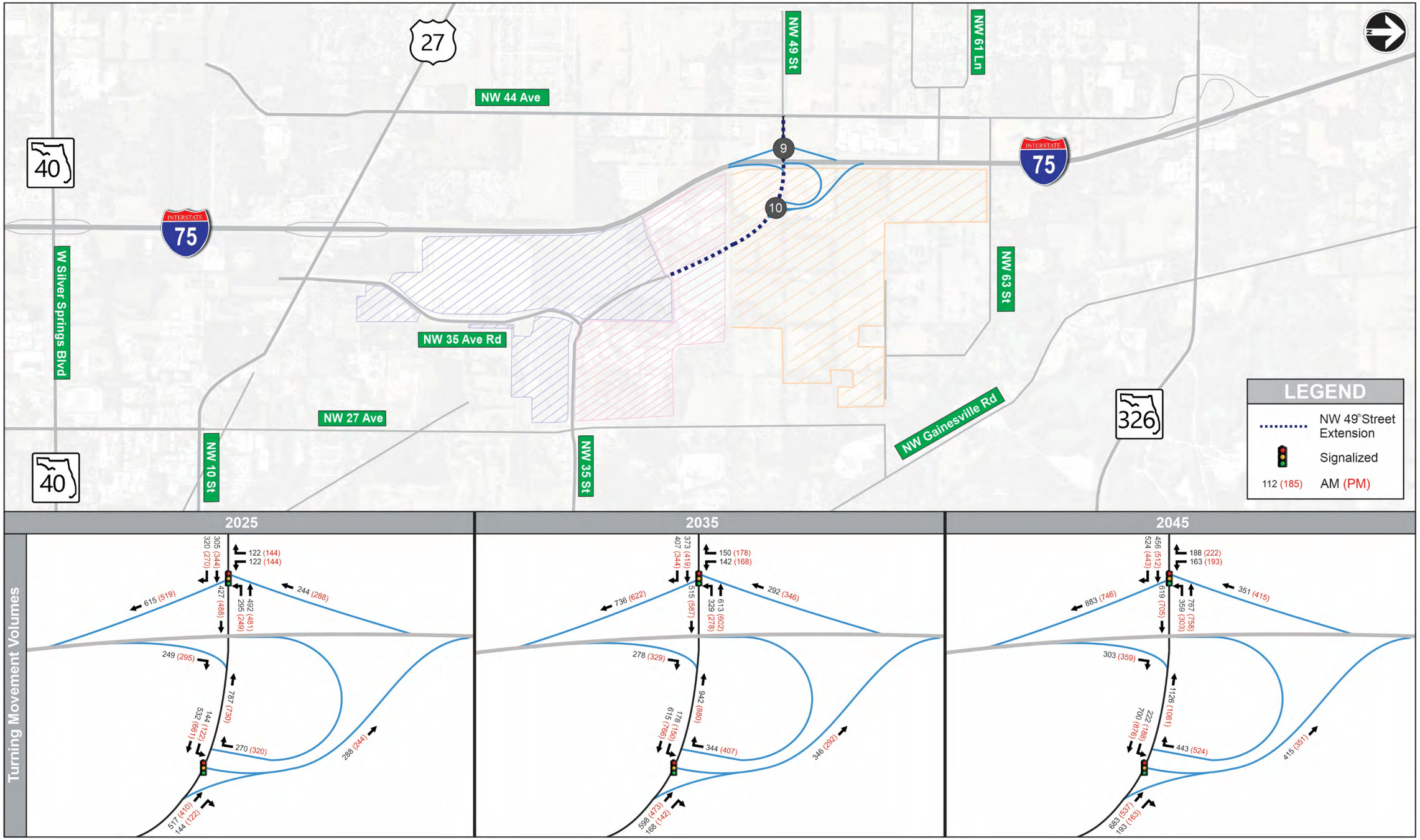

Figure 5-13: Build Parclo-NE Intersection & Interchange Balanced Volumes (2025/35/45)

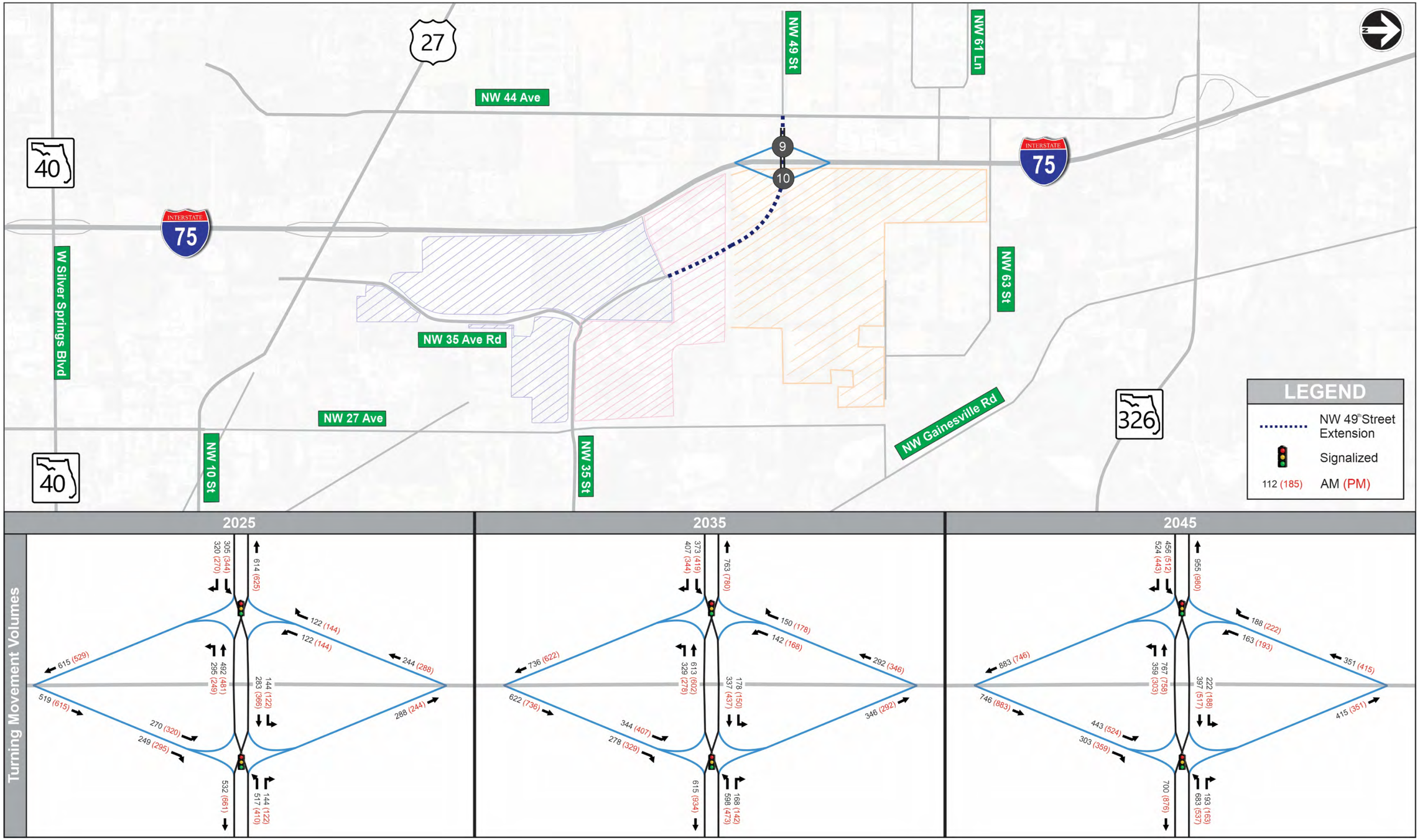

Figure 5-14: DDI Alternative Intersection & Interchange Balanced Volumes (2025/35/45)

6 Operational Analysis

An operational analysis was performed to compare the No Build and Build alternatives for analysis years 2025, 2035 and 2045. Per the approved MLOU (see **Appendix B**), the analysis was performed for the peak hours as determined under existing conditions, using the methodologies documented in the HCM 2010 as applied using HCS 6.8, Synchro 10 and Vissim 2020.00-07. As previously mentioned, HCM 2000 was used under certain phasing and lane configuration conditions that are not recognized by HCM 2010 analysis methodologies. Per the *FDOT 2014 Traffic Analysis Handbook,* for future traffic a PHF of 0.95 was used for freeway facilities/urban arterials and 0.92 for other facilities. Clearance intervals used for each Build alternative analysis were calculated based on the concept designs, provided in Section 4. Detailed clearance interval calculation worksheets are provided in **Appendix I**.

The operational analysis provides a performance evaluation for each individual element within the system (for example freeway segments, freeway ramp junctions, crossroad ramp terminals and other crossroad intersections). The HCS, Synchro and Vissim worksheets and reports for the No Build and Build alternatives are provided in **Appendix I**.

6.1 No Build Analyses

This section presents the segment, merge/diverge and intersection analyses under No Build conditions. The No Build lane configuration and traffic control is illustrated in **Figure 6-1**.

Figures 6-2 thru **6-7** present the segmented breakdown of the I-75 mainline and interchange ramps under No Build; along with the summarized results for the 2025, 2035 and 2045 segment and merge/diverge analysis. The I-75 study segments were projected to meet the LOS D target in the No Build Condition for year 2025. For year 2035, the mainline segment south of US 27 was projected to operate at LOS E in the northbound direction during the AM peak hour and southbound direction during the PM peak hour. For year 2045 during the AM peak hour, northbound I-75 south of US 27 including the off-ramp diverge operates at LOS F and north of US 27 from the on-ramp merge to the off-ramp diverge to SR 326, operates at LOS E; southbound I-75 south of US 27 operates at LOS E beginning at the on-ramp merge. During the PM peak hour northbound I-75 south of US 27 operates at LOS E; southbound, north of US 27 from the on-ramp merge to the off-ramp diverge to US 27, operates at LOS E and south of US 27 operates at LOS F beginning at the on-ramp merge. All other mainline segments are projected to meet the LOS D target. The merge/diverge locations projected to not meet the LOS D target

in 2045 are the US 27 ramps to/from the south during both the AM and PM peak hours; all other merge/diverge locations are projected to meet the LOS D target. The mainline/ramp schematics and HCS worksheets are provided in **Appendix I.**

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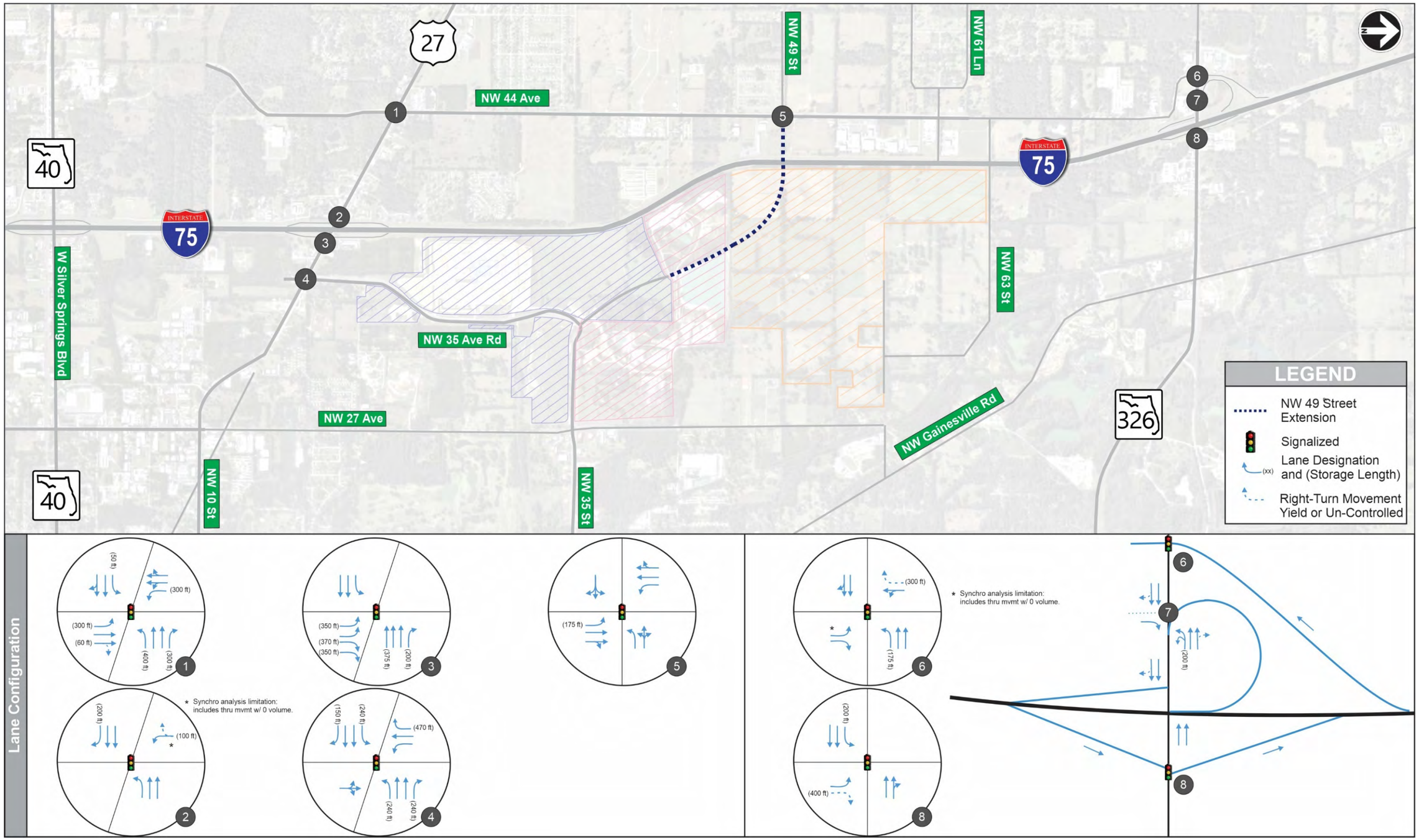

Figure 6-1: No Build Lane Configuration

Figure 6-2: No Build 2025 AM I-75 Segment & Merge/Diverge Analysis Summary

2025 AM No Build												
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570	1,500	380	1500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616	17,881	1,073	380	1500	N/A	268	
	Speed (mph)	70.4	64.0	73.7	66.1	73.0	66.2	73.7	66.7	74.6	69.5	74.3
	Level of Service	C	C	C	C	C	B	C	B	B	C	B
	Density (pc/mi/ln)	23.3	25.8	18.3	23.1	19.6	19.8	18.3	17.1	15.8	23.9	17.0
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11	14	11	6	12	23	12	23	12	23	10
										Loop		
	Volumes	**3,992**	**711**	**3,281**	**175**	**3,456**	**192**	**3,264**	**404**	**2,860**	**219**	**3,079**
Interchange			**US 27**					**SR 326**				
I-75 Northbound	Volumes	**4,593**	**680**	**3,913**	**190**	**4,103**	**712**	**3,391**		**351**	**3,742**	
	Truck%	11	14	11	6	12	23	12		23	10	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	18,132	671	N/A		941		
	Speed (mph)	66.3	63.0	70.9	64.4	69.6	64.3	73.2		65.8	71.9	
	Level of Service	D	D	C	C	C	C	C		C	C	
	Density (pc/mi/ln)	28.5	29.5	22.7	24.5	24.4	27.3	19.1		22.7	21.3	

Figure 6-3: No Build 2025 PM I-75 Segment & Merge/Diverge Analysis Summary

2025 PM No Build												
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570	1,500	380	1500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616	17,881	1,073	380	1500	N/A	268	
	Speed (mph)	65.5	62.0	70.8	66.1	69.6	65.1	70.7	65.4	73.0	69.0	71.6
	Level of Service	D	D	C	C	C	C	C	C	C	D	C
	Density (pc/mi/ln)	29.4	30.0	22.9	26.7	24.4	23.6	23.0	21.4	19.5	28.3	21.7
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11.0	14.0	11.0	6.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0
										Loop		
	Volumes	**4,677**	**742**	**3,935**	**177**	**4,112**	**180**	**3,932**	**493**	**3,439**	**354**	**3,793**
Interchange			**US 27**					**SR 326**				
I-75 Northbound	Volumes	**3,951**	**702**	**3,249**	**202**	**3,451**	**779**	**2,672**		**270**	**2,942**	
	Truck%	11.0	14.0	11.0	6.0	12.0	23.0	12.0		23.0	10.0	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	18,132	671	N/A		941		
	Speed (mph)	70.7	62.8	73.8	65.5	73.0	64.5	74.9		67.0	74.5	
	Level of Service	C	C	C	C	C	C	B		B	B	
	Density (pc/mi/ln)	23.0	26.3	18.1	20.7	19.5	24.0	14.7		17.8	16.2	

Figure 6-4: No Build 2035 AM I-75 Segment & Merge/Diverge Analysis Summary

	2035 AM No Build											
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570	1,500	380	1500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616	17,881	1,073	380	1500	N/A	268	
	Speed (mph)	65.6	61.5	72.0	66.1	70.9	65.4	72.2	65.8	74.3	69.0	73.4
	Level of Service	D	D	C	C	C	C	C	C	B	C	C
	Density (pc/mi/ln)	29.3	30.8	21.2	25.6	22.7	22.6	20.9	20.1	16.8	26.0	18.9
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11	14	11	6	12	23	12	23	12	23	10
										Loop		
	Volumes	4,676	974	3,702	197	3,899	252	3,647	623	3,024	358	3,382
	Interchange		US 27				SR 326					
I-75 Northbound	Volumes	5,326	902	4,424	218	4,642	953	3,689		520	4,209	
	Truck%	11	14	11	6	12	23	12		23	10	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	18,132	671	N/A		941		
	Speed (mph)	59.3	62.2	67.6	63.2	65.7	63.5	72.0		64.6	69.2	
	Level of Service	E	D	D	C	D	D	C		C	C	
	Density (pc/mi/ln)	36.9	33.4	26.9	27.7	29.2	30.6	21.2		26.1	24.9	

Figure 6-5: No Build 2035 PM I-75 Segment & Merge/Diverge Analysis Summary

	2035 PM No Build											
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570	1,500	380	1500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616	17,881	1,073	380	1500	N/A	268	
	Speed (mph)	58.5	57.9	67.4	65.9	65.7	63.7	67.6	63.8	71.8	68.6	69.5
	Level of Service	E	D	D	D	D	C	D	C	C	D	C
	Density (pc/mi/ln)	38.0	34.9	27.1	29.5	29.2	26.9	26.9	24.8	21.4	30.5	24.6
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11.0	14.0	11.0	6.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0
										Loop		
	Volumes	5,402	961	4,441	200	4,641	247	4,394	675	3,719	449	4,168
	Interchange		US 27				SR 326					
I-75 Northbound	Volumes	4,614	942	3,672	234	3,906	1,025	2,881		454	3,335	
	Truck%	11.0	14.0	11.0	6.0	12.0	23.0	12.0		23.0	10.0	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	18,132	671	N/A		941		
	Speed (mph)	66.1	62.1	72.1	64.8	70.8	63.1	74.6		66.3	73.5	
	Level of Service	D	D	C	C	C	C	B		C	C	
	Density (pc/mi/ln)	28.7	30.2	20.9	23.5	22.8	27.1	16.0		20.7	18.6	

Figure 6-6: No Build 2045 AM I-75 Segment & Merge/Diverge Analysis Summary

2045 AM No Build													
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570	1,500	380	1500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616	17,881	1,073	380	1500	N/A	268		
	Speed (mph)	57.4	55.4	69.1	65.9	67.5	64.2	69.8	64.3	73.9	68.4	72.0	
	Level of Service	E	E	C	D	D	C	C	C	B	D	C	
	Density (pc/mi/ln)	39.4	36.6	25.0	28.4	27.1	25.9	24.2	23.8	17.8	28.2	21.1	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11	14	11	6	12	23	12	23	12	23	10	
										Loop			
	Volumes	5,496	1,297	4,199	216	4,415	330	4,085	901	3,184	529	3,713	
Interchange			US 27						SR 326				
I-75 Northbound	Volumes	6,200	1,204	4,996	244	5,240	1,239	4,001		772	4,773		
	Truck%	11	14	11	6	12	23	12		23	10		
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic		
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500			
	Accel/Decel Lanes (ft)		671	N/A	847	18,132	671	N/A		941			
	Speed (mph)	48.4	60.8	62.7	61.1	60.0	62.6	70.3		62.2	64.9		
	Level of Service	F	F	D	D	E	D	C		D	D		
	Density (pc/mi/ln)	52.7	40.8	32.8	31.2	36.1	34.1	23.5		30.3	30.1		

Figure 6-7: No Build 2045 PM I-75 Segment & Merge/Diverge Analysis Summary

2045 PM No Build													
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570	1,500	380	1500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616	17,881	1,073	380	1500	N/A	268		
	Speed (mph)	47.1	46.2	62.5	65.6	60.0	61.3	63.2	60.9	70.2	68.2	66.6	
	Level of Service	F	F	D	D	E	D	D	D	C	D	D	
	Density (pc/mi/ln)	54.9	41.1	33.0	32.3	36.0	30.7	32.1	28.8	23.6	32.8	28.1	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
										Loop			
	Volumes	6,290	1,276	5,014	220	5,234	320	4,914	906	4,008	567	4,575	
Interchange			US 27						SR 326				
I-75 Northbound	Volumes	5,413	1,265	4,148	265	4,413	1,326	3,087		750	3,837		
	Truck%	11.0	14.0	11.0	6.0	12.0	23.0	12.0		23.0	10.0		
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic		
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500			
	Accel/Decel Lanes (ft)		671	N/A	847	18,132	671	N/A		941			
	Speed (mph)	58.4	61.1	69.5	63.7	67.5	62.1	74.2		65.1	71.4		
	Level of Service	E	D	C	C	D	D	B		C	C		
	Density (pc/mi/ln)	38.1	34.6	24.6	26.5	27.0	30.6	17.2		24.8	22.0		

Table 6-1 summarizes the Synchro analysis results for the AM and PM peak hours, including intersection approach, overall intersection delay and corresponding LOS. In year 2025, during the AM peak hour, the LOS D target is met for overall intersection at all locations; however, several cross-street approaches on US 27 along with the northbound approach of the SR 326 off-ramp terminus are projected to fail. During the PM peak hour, in addition to cross-street approaches, the US 27 at NW 35th Avenue Road and the SR 326 northbound off-ramp terminus intersections operate at LOS E. During the AM and PM peak hours in year 2035, the same intersections of US 27 at NW 35th Avenue Road and the SR 326 northbound off-ramp terminus fail. In 2045, during the AM and PM peak hours, the only signalized intersection not projected to fail is the I-75 northbound ramps at US 27; however, the northbound off-ramp approach fails. Synchro outputs are provided in **Appendix I**.

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Table 6-1: No Build Intersection Delay and LOS

#	Intersection	DIR	AM Peak										PM Peak									
			2025				2035				2045				2025				2035				2045	
			App.		Int.		App.		Int.		App.		Int.		App.		Int.		App.		Int.		App.		Int.	
			Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS	Delay[1]	LOS
1	NW 44 Ave at US 27	EB	22.4	C	23.8	C	39.2	D	34.6	C	151.8	F	89.5	F	15.5	B	24.2	C	23.2	C	39.3	D	54.3	D	105.1	F
		WB	20.4	C			24.4	C			34.4	C			24.3	C			47.3	D			153.7	F		
		NB	44.7	D			55.1	E			64.2	E			55.3	E			58.2	E			66.2	E		
		SB	33.3	C			44.4	D			51.5	D			42.3	D			47.5	D			50.5	D		
2	I-75 SB at US 27	EB	23.7	C	19.6	B	48.4	D	43.0	D	142.4	F	108.3	F	19.4	B	13.4	B	38.8	D	32.3	C	77.5	E	68.8	E
		WB	11.0	B			35.7	D			73.3	E			7.6	A			26.9	C			63.7	E		
		NB	0.0	0			0.0	0			0.0	0			0.0	0			0.0	0			0.0	0		
		SB	55.8	E			57.6	E			59.6	E			53.2	D			57.0	E			59.2	E		
3	I-75 NB at US 27	EB	1.1	A	13.6	B	1.0	A	16.7	B	6.7	A	25.4	C	1.1	A	15.7	B	1.2	A	19.6	B	1.2	A	46.2	D
		WB	14.8	B			19.2	B			21.8	C			14.4	B			18.5	B			36.3	D		
		NB	36.4	D			39.6	D			60.8	E			39.9	D			47.9	D			119.6	F		
		SB	0.0	0			0.0	0			0.0	0			0.0	0			0.0	0			0.0	0		
4	NW 35 Ave Rd at US 27	EB	25.2	C	42.8	D	41.3	D	89.3	F	66.5	E	125.6	F	39.3	D	63.0	E	71.8	E	118.9	F	101.1	F	199.2	F
		WB	27.7	C			51.8	D			69.0	E			64.6	E			125.2	F			178.3	F		
		NB	55.8	E			56.5	E			57.4	E			52.8	D			53.6	D			54.8	D		
		SB	151.4	F			323.0	F			415.1	F			129.1	F			238.1	F			463.0	F		
5	NW 44 Ave at NW 49 Ss	EB	41.2	D	17.4	B	47.8	D	24.3	C	61.6	E	96.8	F	43.0	D	19.0	B	53.4	D	27.4	C	64.7	E	88.4	F
		WB	23.8	C			30.0	C			81.6	F			27.0	C			31.7	C			159.6	F		
		NB	22.7	C			34.4	C			208.6	F			22.4	C			34.0	C			64.9	E		
		SB	12.3	B			14.9	B			37.7	D			11.5	B			15.8	B			25.3	C		
6	NW 44 Ave/I-75 SB Off at SR 326	EB	15.4	B	17.3	B	17.5	B	24.1	C	22.7	C	68.6	E	15.8	B	18.4	B	21.0	C	27.7	C	25.6	C	74.2	E
		WB	15.3	B			19.4	B			47.6	D			16.2	B			22.1	C			43.2	D		
		NB	28.1	C			34.5	C			111.5	F			26.2	C			36.5	D			145.5	F		
		SB	17.9	B			32.5	C			116.3	F			20.3	C			35.1	D			96.8	F		
7	I-75 SB On-Ramp (Loop) at SR 326 *Unsignalized*	EB	0.0	A	2.1	A	0.0	A	3.5	A	0.0	A	10.4 B		0.0	A	0.9	A	0.0	A	1.1	A	0.0	A	1.5 A	
		WB	3.3	A			5.3	A			17.1	C			1.2	A			1.4	A			2.2	A		
		NB	10.8	B			12.3	B			15	C			10.9	B			12.3	B			14.7	B		
8	I-75 NB Off/I75 NB On at SR 326[2]	EB	10.9	B	39.4	D	16.1	B	191.2	F	45.7	D	418.3	F	22.8	C	56.1	E	34.2	C	161.6	F	95.7	F	332.0	F
		WB	30.0	C			115.7	F			329.8	F			64.8	E			189.3	F			395.6	F		
		NB	76.3	E			442.4	F			851.8	F			68.0	E			212.8	F			409.4	F		
		SB	0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		

[1]Delay in sec/veh; [2]LOS results based on HCM 2000 methodology.

6.2 Build Analyses

An FDOT ICE Stage 1 Screening was performed for the intersections along NW 49th Street at: NW 44th Avenue, I-75 southbound ramp terminal and I-75 northbound ramp terminal. The screening is based on the FDOT CAP-X analysis rankings; worksheets require intersection lane geometry, peak hour volumes and %trucks. The ranking results become input data for the *ICE Stage 1 Screening Form* along with basic roadway characteristics, environmental data, multimodal use(s), and roadway context classifications. This section presents the CAP-X analysis and ranking results by intersection type.

For the intersection of NW 49th Street at NW 44th Avenue, the ranking results for AM and PM peak hours along with average of AM/PM rank, are summarized in **Table 6-2**. Five intersection types had average AM/PM V/Cs less than 0.60. In ascending order, they include Displaced Left Turn Full, Partial Displaced Left Turn N-S, Quadrant Roadway N-W, Traffic Signal and Partial Displaced Left Turn E-W. Due to an AM peak hour V/C of 0.87 and right-of-way requirements, a roundabout was not considered in more detail for this location.

Table 6-2: Peak Hour V/C Rank at NW 44th Avenue at NW 49th Avenue

	AM PK		PM PK		AVERAGE	
Type of Intersection	**V/C**	**Ranking**	**V/C**	**Ranking**	**V/C**	**Ranking**
Displaced Left Turn FULL	0.55	4	0.45	1	0.50	1
Partial Displaced Left Turn N-S	0.44	1	0.58	3	0.51	2
Quadrant Roadway N-W	0.56	5	0.55	2	0.56	3
Traffic Signal	0.51	2	0.66	6	0.59	4
Partial Displaced Left Turn E-W	0.55	3	0.63	4	0.59	5
Quadrant Roadway N-E	0.79	7	0.69	7	0.74	6
Quadrant Roadway S-E	0.79	8	0.71	8	0.75	7
2 X 2	0.87	10	0.64	5	0.76	8
Quadrant Roadway S-W	0.84	9	0.74	9	0.79	9
Signalized Restricted Crossing U-Turn E-W	0.76	6	0.85	11	0.81	10
Median U-Turn E-W	0.88	11	0.75	10	0.82	11
V/C thresholds			< 0.75	0.75 - 0.88	0.88 - 1.00	≥ 1.00

For NW 49th Street at the I-75 ramp terminal intersections, the results for AM and PM peak hours along with average of AM/PM, are summarized in **Table 6-3** for the southbound ramps and **Table 6-4** for northbound. Traffic Signal was ranked #1 for both ramp locations. A 2x2 roundabout ranked #2 for the southbound ramps. For the northbound ramps, no other intersection type had an average AM/PM V/C less than 0.75.

Table 6-3: Peak Hour V/C Rank at Southbound Ramp Terminal at NW 49th Street

	AM PK		PM PK		AVERAGE	
Type of Intersection	**V/C**	**Ranking**	**V/C**	**Ranking**	**V/C**	**Ranking**
Traffic Signal	0.66	1	0.60	1	0.63	1
2 X 2	0.68	2	0.64	2	0.66	**2**
1NS X 2EW	0.81	3	0.90	3	0.86	**3**
2NS X 1EW	1.27	4	1.21	4	1.24	**4**
Unsignalized Restricted Crossing U-Turn	1.47	5	1.71	5	1.59	**5**
	V/C thresholds		< 0.75	0.75 - 0.88	0.88 - 1.00	≥1.00

Table 6-4: Peak Hour V/C Rank at Northbound Ramp Terminal at NW 49th Street

	AM PK		PM PK		AVERAGE	
Type of Intersection	**V/C**	**Ranking**	**V/C**	**Ranking**	**V/C**	**Ranking**
Traffic Signal	0.52	1	0.51	1	0.52	1
2 X 2	0.70	2	0.90	2	0.80	2
2NS X 1EW	1.30	4	1.09	3	1.20	3
1NS X 2EW	1.06	3	1.36	4	1.21	4
Unsignalized Restricted Crossing U-Turn	1.60	5	2.35	5	1.98	5
	V/C thresholds		< 0.75	0.75 - 0.88	0.88 - 1.00	≥1.00

Based on right of way limitations, intersection volumes, and potential cost, a typical signalized intersection appears to be the appropriate control type for both northbound and southbound ramps. The CAP-X worksheet results, ICE Stage 1 Screening Forms, and supporting documentation are provided in **Appendix J**.

The lane configuration and traffic control for the Diamond and AOI intersections are presented in **Figure 6-8**. The AOI intersection geometry is maintained for all build alternatives. The SPUI and Parclo-SE Build alternatives are illustrated in **Figure 6-9** and the ParClo-NE and DDI are illustrated on **Figure 6-10**.

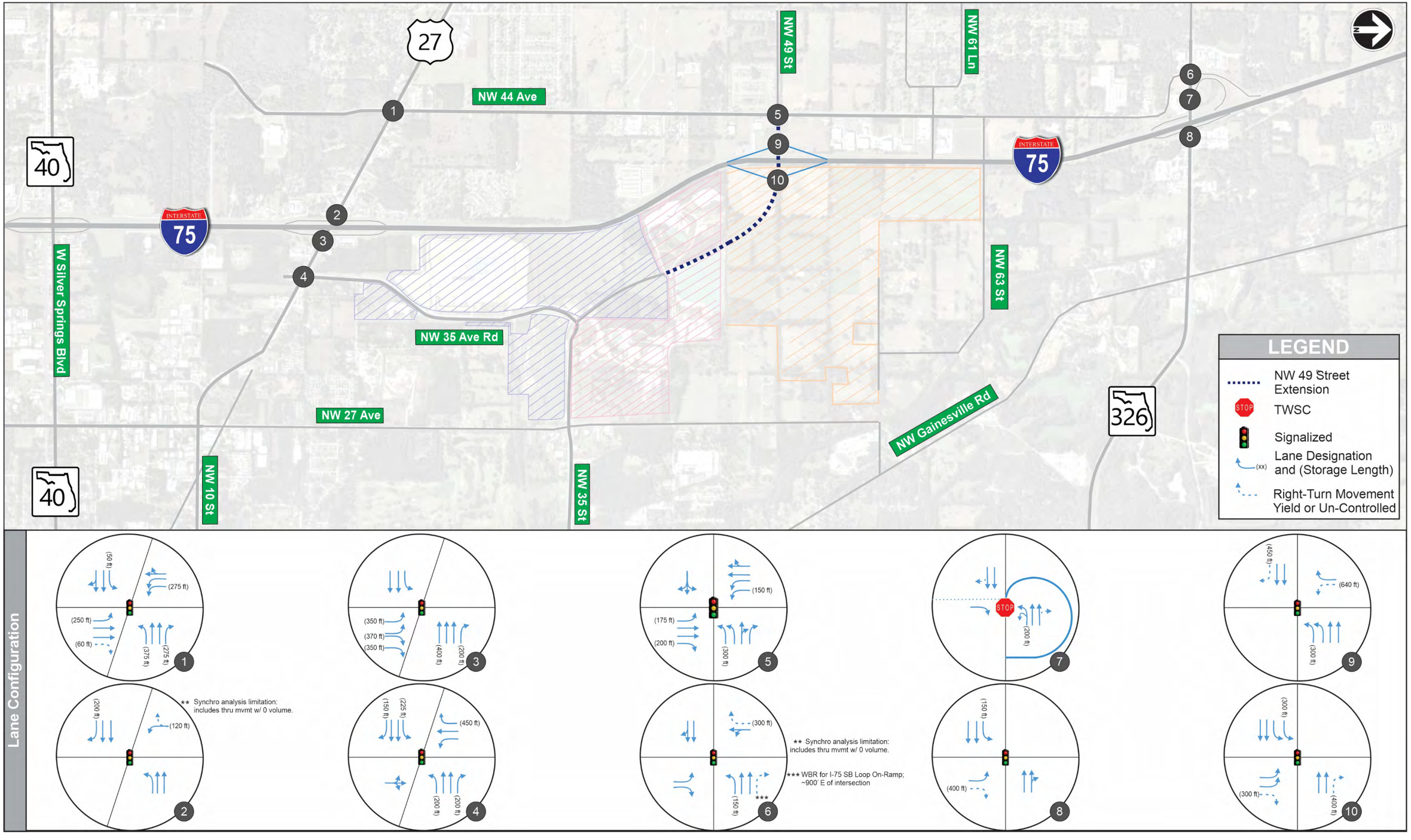

Figure 6-8: Build Diamond Lane Configuration

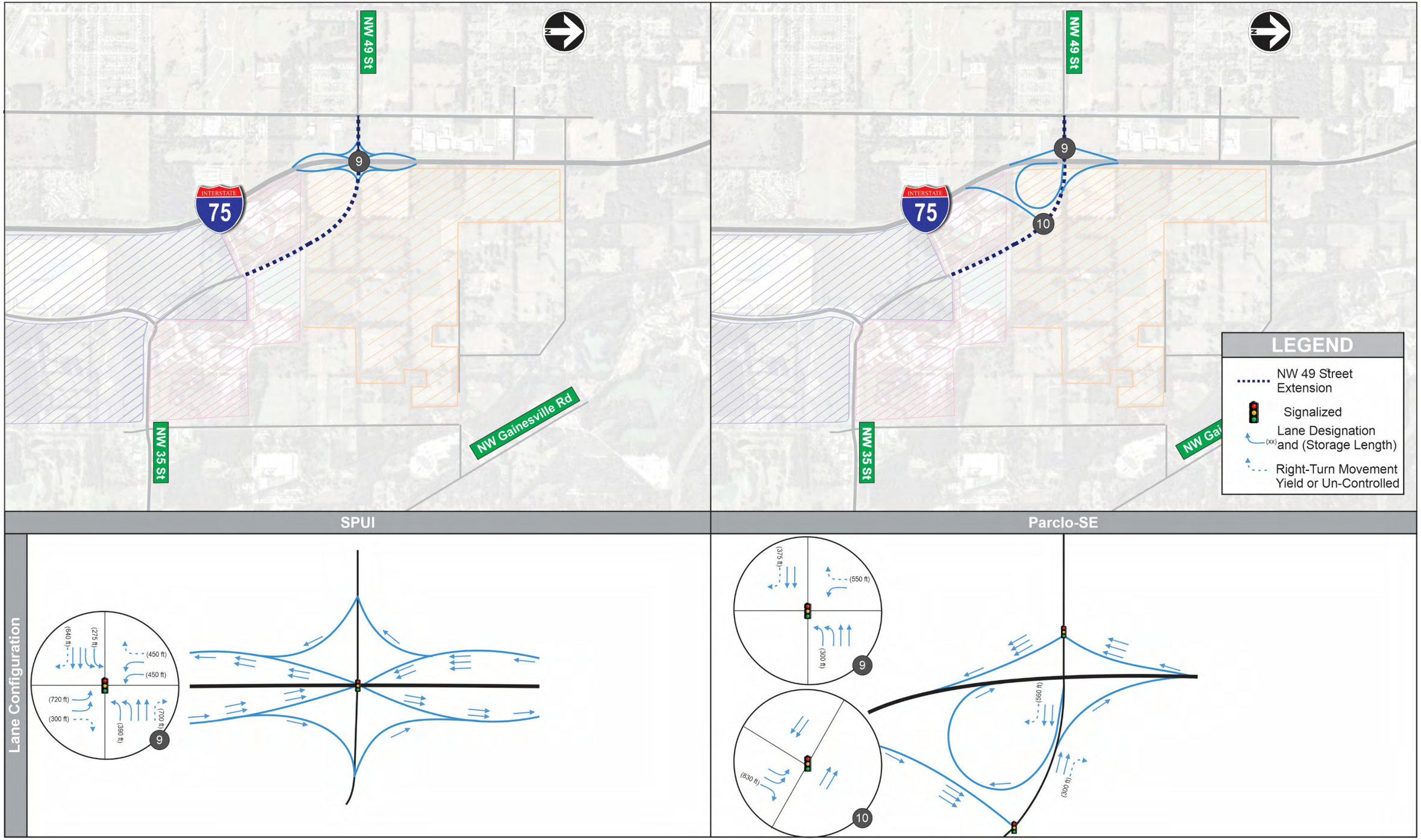

Figure 6-9*:* Build SPUI & Parclo-SE Lane Configuration

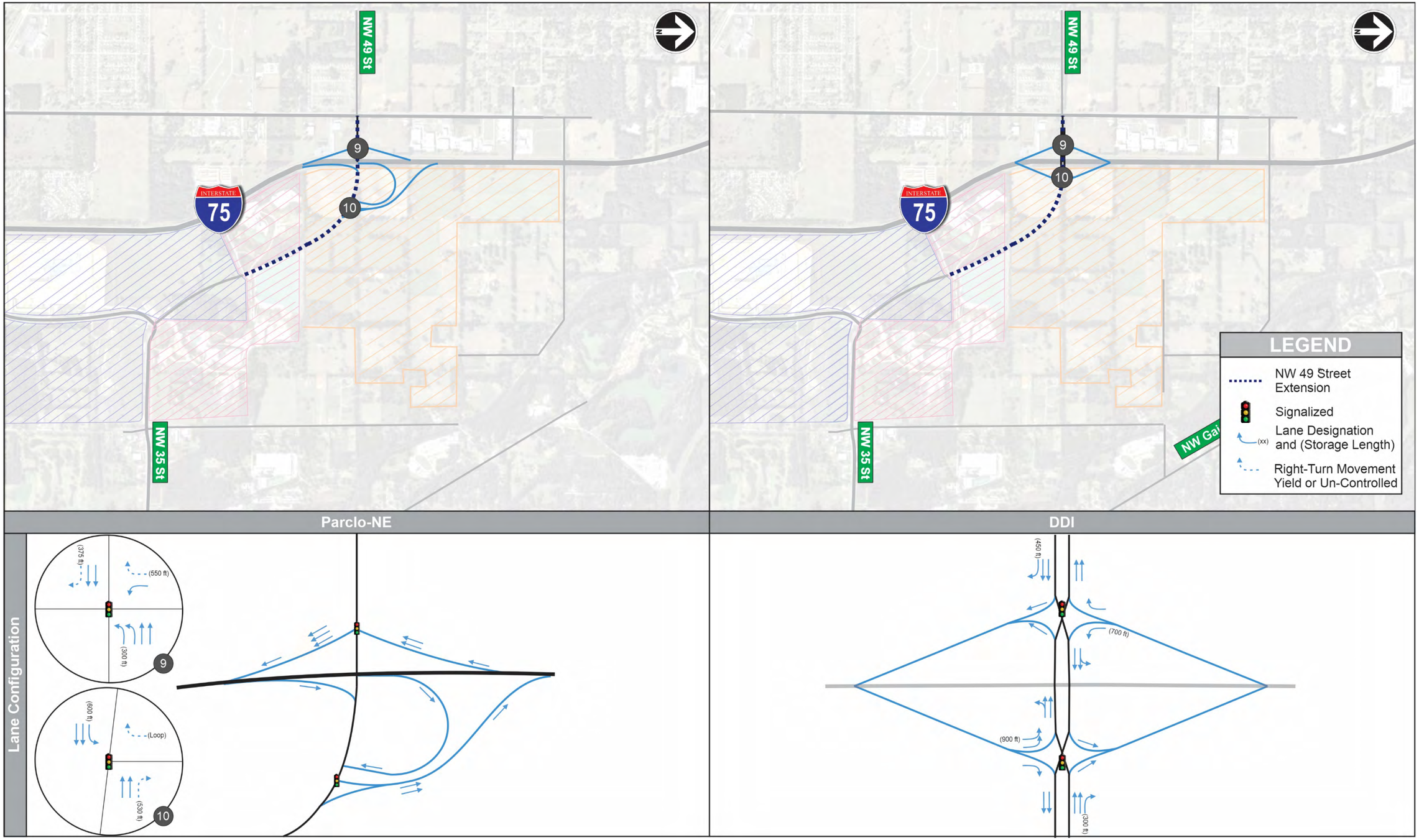

Figure 6-10*:* Build Parclo-NE & DDI Lane Configuration

6.2.1 Segment and Merge/Diverge Analysis

Figures 6-11 thru **6-16** present the segmented breakdown of the I-75 mainline and interchange ramps under all five Build alternatives; along with the summarized results for the 2025, 2035 and 2045 segment and merge/diverge analysis. The I-75 study segments were projected to meet the LOS D target in the Build Condition for year 2025. In year 2035, the northbound segment south of US 27 operates at LOS E during the AM peak hour. The southbound merge and mainline segment south of US 27 operates at LOS E during the PM peak hour.

In year 2045, under all five Build alternatives, most mainline segments and merge/diverge segments south of SR 326 do not meet the LOS D target during either the AM peak hour or PM peak hour. In general, the northbound segments do not meet the LOS D target during the AM peak hour and the southbound segments do not meet the LOS D target during the PM peak hour. The following summarizes the analysis segments of the NW 49th Street interchange per alternative that do not meet the LOS D target in 2045; HCS worksheets are provided in **Appendix I.**

- Diamond and DDI alternatives
  - AM Peak Hour: Northbound diverge, northbound merge, and northbound basic segments (north and south of NW 49th Street)
  - PM Peak Hour: northbound merge, southbound merge, and southbound basic segments (north and south of NW 49th Street)
- SPUI
  - AM Peak Hour: Northbound diverge and northbound basic segments (north and south of NW 49th Street)
  - PM Peak Hour: Southbound merge and southbound basic segments (north and south of NW 49th Street)
- ParClo SE
  - AM Peak Hour: Northbound diverge and three (3) northbound basic segments
  - PM Peak Hour: Southbound basic segments north and south of NW 49th Street
- ParClo NE
  - AM Peak Hour: Northbound diverge and three (3) northbound basic segments
  - PM Peak Hour: Southbound basic segments north and south of NW 49th Street

Figure 6-11: Build 2025 (AM) I-75 Segment & Merge/Diverge Analysis Summary

Diamond & DDI 2025 AM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,676	1,500	7,530	1,500	2,307	1,500	380	1,500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616		1,010	N/A	580		1,073	N/A	1,500	N/A	268	
	Speed (mph)	66.2	62.6	69.0	65.4	68.3	63.7	69.8	64.9	69.4	65.8	73.6	65.8	74.6	68.7	74.3
	LOS	D	C	C	C	C	C	C	C	C	B	C	B	B	C	B
	Density (pc/mi/ln	26.8	27.7	21.7	25.2	23.2	23.6	19.1	23.6	20.6	19.8	18.4	17.2	15.9	23.9	17.0
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0
														Loop		
	Volumes	4,318	677	3,641	193	3,834	615	3,219	244	3,463	183	3,280	412	2,868	211	3,079
	Interchange		US 27			NW 49 Street					SR 326					
I-75 Northbound	Volumes	4,822	651	4,171	202	4,373	519	3,854	288	4,142	716	3,426		342	3,768	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	1,585	1,500	10,173	1,500	1,900	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	3,247	491	N/A	1,057	3,172	671	N/A		941		
	Speed (mph)	62.9	62.5	66.9	63.2	65.7	64.4	68.2	63.6	67.0	63.7	73.1		65.0	71.7	
	LOS	D	D	C	C	D	D	C	C	C	C	C		C	C	
	Density (pc/mi/ln	31.5	30.6	25.6	26.1	27.5	29.8	23.4	24.8	25.6	27.5	19.4		22.9	21.5	

SPUI 2025 AM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	4,276	1,500	6,274	1,500	2,954	1,500	380	1,500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616		660	N/A	881		1,073	N/A	1,500	N/A	268	
	Speed (mph)	66.2	62.6	69.0	65.4	68.3	63.2	69.8	64.9	69.4	65.8	73.6	65.8	74.6	68.7	74.3
	LOS	D	C	C	C	C	C	C	C	C	B	C	B	B	C	B
	Density (pc/mi/ln	26.8	27.7	21.7	25.2	23.2	25.5	19.1	20.9	20.6	19.8	18.4	17.2	15.9	23.9	17.0
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck %	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0
														Loop		
	Volumes	4,318	677	3,641	193	3,834	615	3,219	244	3,463	183	3,280	412	2,868	211	3,079
	Interchange		US 27			NW 49 Street					SR 326					
I-75 Northbound	Volumes	4,822	651	4,171	202	4,373	519	3,854	288	4,142	716	3,426		342	3,768	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	3,697	1,500	6,717	1,500	3,219	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847		654	N/A	956		671	N/A		941		
	Speed (mph)	62.9	62.5	66.9	63.2	65.7	64.4	68.2	63.7	67.0	63.7	73.1		65.0	71.7	
	LOS	D	D	C	C	D	D	C	C	C	C	C		C	C	
	Density (pc/mi/ln	31.5	30.6	25.6	26.1	27.5	28.3	23.4	24.6	25.6	27.5	19.4		22.9	21.5	

2025 AM

Parclo SE 2025 AM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,810	1,500	7,403	1,500	2,357	1,500	380	1,500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616		1,139	N/A	702		1,073	N/A	1,500	N/A	268	
	Speed (mph)	66.2	62.6	69.0	65.4	68.3	63.8	69.8	64.9	69.4	65.8	73.6	65.8	74.6	68.7	74.3
	Level of Service	D	C	C	C	C	C	C	C	C	B	C	B	B	C	B
	Density (pc/mi/ln	26.8	27.7	21.7	25.2	23.2	22.9	19.1	22.5	20.6	19.8	18.4	17.2	15.9	23.9	17.0
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0
														Loop		
	Volumes	4,318	677	3,641	193	3,834	615	3,219	244	3,463	183	3,280	412	2,868	211	3,079
	Interchange		US 27			NW 49 Street							SR 326			
I-75 Northbound	Volumes	4,822	651	4,171	202	4,373	519	3,854	144	3,998	144	4,142	716	3,426	342	3,768
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	10.0
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
	Distance (ft)		1,500	3,029	1,500	3,578	1,500	3,544	1,500		1,500	3,267	1,500	2,809	1,500	
	Accel/Decel Lanes (ft)		671	N/A	847		649	N/A	1,677		1,213		671	N/A	941	
	Speed (mph)	62.9	62.5	66.9	63.2	65.7	64.0	68.2	64.4	67.6	63.8	67.0	63.7	73.1	65.0	71.7
	LOS	D	D	C	C	D	D	C	C	C	C	C	C	C	C	C
	Density (pc/mi/ln	31.5	30.6	25.6	26.1	27.5	28.4	23.4	20.5	24.4	22.8	25.6	27.5	19.4	22.9	21.5

Parclo NE 2025 AM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,808	1,500	7,400	1,500	2,310	1,500	380	1,500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616		1,141	N/A	702		1,073	N/A	1,500	N/A	268	
	Speed (mph)	66.2	62.6	69.0	65.4	68.3	63.9	69.8	64.9	69.4	65.8	73.6	65.8	74.6	68.7	74.3
	Level of Service	D	C	C	C	C	C	C	C	C	B	C	B	B	C	B
	Density (pc/mi/ln	26.8	27.7	21.7	25.2	23.2	22.9	19.1	22.5	20.6	19.8	18.4	17.2	15.9	23.9	17.0
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10
														Loop		
	Volumes	4,318	677	3,641	193	3,834	615	3,219	244	3,463	183	3,280	412	2,868	211	3,079
	Interchange		US 27			NW 49 Street							SR 326			
I-75 Northbound	Volumes	4,822	651	4,171	202	4,373	249	4,124	270	3,854	288	4,142	716	3,426	342	3,768
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	10.0
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
	Distance (ft)		1,500	3,029	1,500	3,574	1,500	N/A	1,500	2,781	1,500	3,108	1,500	2,809	1,500	
	Accel/Decel Lanes (ft)		671	N/A	847		667		915	N/A	1,275		671	N/A	941	
	Speed (mph)	62.9	62.5	66.9	63.2	65.7	64.8	67.1	63.3	68.2	63.7	67.0	63.7	73.1	65.0	71.7
	LOS	D	D	C	C	D	C	C	C	C	C	C	C	C	C	C
	Density (pc/mi/ln	31.5	30.6	25.6	26.1	27.5	27.7	25.4	24.2	23.4	23.0	25.6	27.5	19.4	22.9	21.5

Figure 6-12: Build 2025 (PM) I-75 Segment & Merge/Diverge Analysis Summary

Diamond & DDI 2025 PM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,676	1,500	7,530	1,500	2,307	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,010	N/A	580		1,073	N/A	1,500	N/A	268		
	Speed (mph)	62.4	60.8	67.0	65.3	65.8	62.6	68.3	64.7	67.0	64.2	70.6	64.5	73.0	68.2	71.6	
	LOS	D	D	C	D	D	C	C	C	C	C	C	C	C	D	C	
	Density (pc/mi/ln)	32.2	31.1	25.6	28.0	27.4	26.4	23.2	27.3	25.5	23.7	23.1	21.5	19.5	28.3	21.7	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	4,882	720	4,162	198	4,360	519	3,841	288	4,129	179	3,950	503	3,447	346	3,793	
	Interchange		US 27			NW 49 Street					SR 326						
I-75 Northbound	Volumes	4,304	675	3,629	224	3,853	615	3,238	244	3,482	781	2,701		260	2,961		
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0		
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic		
	Distance (ft)		1,500	3,029	1,500	1,585	1,500	10,173	1,500	1,900	1,500	2,809		1,500			
	Accel/Decel Lanes (ft)		671	N/A	847	3,247	491	N/A	1,057	3,172	671	N/A		941			
	Speed (mph)	66.2	62.4	69.0	64.1	68.2	64.1	69.8	64.9	69.3	63.3	74.9		66.2	74.5		
	LOS	D	D	C	C	C	C	C	C	C	C	B		B	B		
	Density (pc/mi/ln)	26.7	28.1	21.6	23.5	23.3	27.3	19.2	20.9	20.8	24.1	14.9		17.8	16.3		

SPUI 2025 PM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	4,276	1,500	6,274	1,500	2,954	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		660	N/A	881		1,073	N/A	1,500	N/A	268		
	Speed (mph)	62.4	60.8	67.0	65.3	65.8	62.2	68.3	64.7	67.0	64.2	70.6	64.5	73.0	68.2	71.6	
	LOS	D	D	C	D	D	D	C	C	C	C	C	C	C	D	C	
	Density (pc/mi/ln)	32.2	31.1	25.6	28.0	27.4	28.2	23.2	24.6	25.5	23.7	23.1	21.5	19.5	28.3	21.7	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	4,882	720	4,162	198	4,360	519	3,841	288	4,129	179	3,950	503	3,447	346	3,793	
	Interchange		US 27			NW 49 Street					SR 326						
I-75 Northbound	Volumes	4,304	675	3,629	224	3,853	615	3,238	244	3,482	781	2,701		260	2,961		
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0		
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic		
	Distance (ft)		1,500	3,029	1,500	3,697	1,500	6,717	1,500	3,219	1,500	2,809		1,500			
	Accel/Decel Lanes (ft)		671	N/A	847		654	N/A	956		671	N/A		941			
	Speed (mph)	66.2	62.4	69.0	64.1	68.2	64.1	69.8	64.8	69.3	63.3	74.9		66.2	74.5		
	LOS	D	D	C	C	C	C	C	C	C	C	B		B	B		
	Density (pc/mi/ln)	26.7	28.1	21.6	23.5	23.3	25.8	19.2	20.7	20.8	24.1	14.9		17.8	16.3		

2025 PM

Parclo SE 2025 PM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,810	1,500	7,403	1,500	2,357	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,139	N/A	702		1,073	N/A	1,500	N/A	268		
	Speed (mph)	62.4	60.8	67.0	65.3	65.8	62.8	68.3	64.7	67.0	64.2	70.6	64.5	73.0	68.2	71.6	
	Level of Service	D	D	C	D	D	C	C	C	C	C	C	C	C	D	C	
	Density (pc/mi/ln)	32.2	31.1	25.6	28.0	27.4	25.7	23.2	26.2	25.5	23.7	23.1	21.5	19.5	28.3	21.7	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	4,882	720	4,162	198	4,360	519	3,841	288	4,129	179	3,950	503	3,447	346	3,793	
	Interchange		US 27			NW 49 Street								SR 326			
I-75 Northbound	Volumes	4,304	675	3,629	224	3,853	615	3,238	122	3,360	122	3,482	781	2,701		260	2,961
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic
	Distance (ft)		1,500	3,029	1,500	3,578	1,500	3,544	1,500		1,500	3,267	1,500	2,809		1,500	
	Accel/Decel Lanes (ft)		671	N/A	847		649	N/A	1,677		1,213		671	N/A		941	
	Speed (mph)	66.2	62.4	69.0	64.1	68.2	63.7	69.8	65.5	69.6	65.3	69.3	63.3	74.9		66.2	74.5
	LOS	D	D	C	C	C	C	C	B	C	B	C	C	B		B	B
	Density (pc/mi/ln)	26.7	28.1	21.6	23.5	23.3	25.9	19.2	16.6	20.0	17.4	20.8	24.1	14.9		17.8	16.3

Parclo NE 2025 PM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,808	1,500	7,400	1,500	2,310	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,141	N/A	702		1,073	N/A	1,500	N/A	268		
	Speed (mph)	62.4	60.8	67.0	65.3	65.8	62.8	68.3	64.7	67.0	64.2	70.6	64.5	73.0	68.2	71.6	
	Level of Service	D	D	C	D	D	C	C	C	C	C	C	C	C	D	C	
	Density (pc/mi/ln)	32.2	31.1	25.6	28.0	27.4	25.7	23.2	26.2	25.5	23.7	23.1	21.5	19.5	28.3	21.7	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10	
	Volumes	4,882	720	4,162	198	4,360	519	3,841	288	4,129	179	3,950	503	3,447	346	3,793	
	Interchange		US 27			NW 49 Street								SR 326			
I-75 Northbound	Volumes	4,304	675	3,629	224	3,853	295	3,558	320	3,238	244	3,482	781	2,701		260	2,961
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic
	Distance (ft)		1,500	3,029	1,500	3,574	1,500	N/A	1,500	2,781	1,500	3,108	1,500	2,809		1,500	
	Accel/Decel Lanes (ft)		671	N/A	847		667		915	N/A	1,275		671	N/A		941	
	Speed (mph)	66.2	62.4	69.0	64.1	68.2	64.7	69.2	63.1	69.8	64.9	69.3	63.3	74.9		66.2	74.5
	LOS	D	D	C	C	C	C	C	C	C	B	C	C	B		B	B
	Density (pc/mi/ln)	26.7	28.1	21.6	23.5	23.3	25.1	21.3	21.2	19.2	18.9	20.8	24.1	14.9		17.8	16.3

Figure 6-13: Build 2035 (AM) I-75 Segment & Merge/Diverge Analysis Summary

Diamond & DDI 2035 AM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,676	1,500	7,530	1,500	2,307	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,010	N/A	580		1,073	N/A	1,500	N/A	268		
	Speed (mph)	61.1	59.6	67.0	65.2	65.6	62.2	68.9	64.7	67.8	64.5	71.9	64.9	74.2	68.3	73.4	
	LOS	D	D	C	D	D	C	C	C	C	C	C	C	B	C	C	
	Density (pc/mi/ln)	34.0	32.6	25.5	28.3	27.7	27.3	21.9	26.4	24.1	22.9	21.3	20.5	17.0	25.9	18.9	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	5,045	896	4,149	244	4,393	736	3,657	292	3,949	249	3,700	645	3,055	327	3,382	
	Interchange		US 27			NW 49 Street					SR 326						
I-75 Northbound	Volumes	5,543	832	4,711	263	4,974	622	4,352	346	4,698	961	3,737		501	4,238		
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0		
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic		
	Distance (ft)		1,500	3,029	1,500	1,585	1,500	10,173	1,500	1,900	1,500	2,809		1,500			
	Accel/Decel Lanes (ft)		671	N/A	847	3,247	491	N/A	1,057	3,172	671	N/A		941			
	Speed (mph)	56.5	61.8	63.7	61.5	61.5	64.0	65.9	61.4	63.6	62.9	71.7		63.8	69.0		
	LOS	E	D	D	D	D	D	D	D	D	D	C		C	C		
	Density (pc/mi/ln)	40.4	34.2	30.4	29.8	33.4	32.9	27.3	29.5	30.5	30.9	21.5		26.2	25.1		

SPUI 2035 AM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	4,276	1,500	6,274	1,500	2,954	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		660	N/A	881		1,073	N/A	1,500	N/A	268		
	Speed (mph)	61.1	59.6	67.0	65.2	65.6	61.8	68.9	64.7	67.8	64.5	71.9	64.9	74.2	68.3	73.4	
	LOS	D	D	C	D	D	D	C	C	C	C	C	C	B	C	C	
	Density (pc/mi/ln)	34.0	32.6	25.5	28.3	27.7	29.1	21.9	23.6	24.1	22.9	21.3	20.5	17.0	25.9	18.9	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck %	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	5,045	896	4,149	244	4,393	736	3,657	292	3,949	249	3,700	645	3,055	327	3,382	
	Interchange		US 27			NW 49 Street					SR 326						
I-75 Northbound	Volumes	5,543	832	4,711	263	4,974	622	4,352	346	4,698	961	3,737		501	4,238		
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0		
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic		
	Distance (ft)		1,500	3,029	1,500	3,697	1,500	6,717	1,500	3,219	1,500	2,809		1,500			
	Accel/Decel Lanes (ft)		671	N/A	847		654	N/A	956		671	N/A		941			
	Speed (mph)	56.5	61.8	63.7	61.5	61.5	64.0	65.9	61.9	63.6	62.9	71.7		63.8	69.0		
	LOS	E	D	D	D	D	D	D	D	D	D	C		C	C		
	Density (pc/mi/ln)	40.4	34.2	30.4	29.8	33.4	31.5	27.3	28.7	30.5	30.9	21.5		26.2	25.1		

2035AM

Parclo SE 2035 AM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,810	1,500	7,403	1,500	2,357	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,139	N/A	702		1,073	N/A	1,500	N/A	268		
	Speed (mph)	61.1	59.6	67.0	65.2	65.6	62.4	68.9	64.7	67.8	64.5	71.9	64.9	74.2	68.3	73.4	
	Level of Service	D	D	C	D	D	C	C	C	C	C	C	C	B	C	C	
	Density (pc/mi/ln)	34.0	32.6	25.5	28.3	27.7	26.6	21.9	25.3	24.1	22.9	21.3	20.5	17.0	25.9	18.9	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	5,045	896	4,149	244	4,393	736	3,657	292	3,949	249	3,700	645	3,055	327	3,382	
	Interchange		US 27			NW 49 Street								SR 326			
I-75 Northbound	Volumes	5,543	832	4,711	263	4,974	622	4,352	178	4,530	168	4,698	961	3,737		501	4,238
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic
	Distance (ft)		1,500	3,029	1,500	3,578	1,500	3,544	1,500		1,500	3,267	1,500	2,809		1,500	
	Accel/Decel Lanes (ft)		671	N/A	847		649	N/A	1,677		1,213		671	N/A		941	
	Speed (mph)	56.5	61.8	63.7	61.5	61.5	63.6	65.9	63.2	64.8	62.2	63.6	62.9	71.7		63.8	69.0
	LOS	E	D	D	D	D	D	D	C	D	C	D	D	C		C	C
	Density (pc/mi/ln)	40.4	34.2	30.4	29.8	33.4	31.5	27.3	23.8	28.9	26.7	30.5	30.9	21.5		26.2	25.1

Parclo NE 2035 AM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,808	1,500	7,400	1,500	2,310	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,141	N/A	702		1,073	N/A	1,500	N/A	268		
	Speed (mph)	61.1	59.6	67.0	65.2	65.6	62.4	68.9	64.7	67.8	64.5	71.9	64.9	74.2	68.3	73.4	
	Level of Service	D	D	C	D	D	C	C	C	C	C	C	C	B	C	C	
	Density (pc/mi/ln)	34.0	32.6	25.5	28.3	27.7	26.6	21.9	25.3	24.1	22.9	21.3	20.5	17.0	25.9	18.9	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10	
	Volumes	5,045	896	4,149	244	4,393	736	3,657	292	3,949	249	3,700	645	3,055	327	3,382	
	Interchange		US 27			NW 49 Street								SR 326			
I-75 Northbound	Volumes	5,543	832	4,711	263	4,974	278	4,696	344	4,352	346	4,698	961	3,737		501	4,238
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic
	Distance (ft)		1,500	3,029	1,500	3,574	1,500	N/A	1,500	2,781	1,500	3,108	1,500	2,809		1,500	
	Accel/Decel Lanes (ft)		671	N/A	847		667		915	N/A	1,275		671	N/A		941	
	Speed (mph)	56.5	61.8	63.7	61.5	61.5	64.5	63.6	63.0	65.9	62.0	63.6	62.9	71.7		63.8	69.0
	LOS	E	D	D	D	D	D	D	C	D	C	D	D	C		C	C
	Density (pc/mi/ln)	40.4	34.2	30.4	29.8	33.4	30.8	30.5	27.3	27.3	27.0	30.5	30.9	21.5		26.2	25.1

Figure 6-14: Build 2035 (PM) I-75 Segment & Merge/Diverge Analysis Summary

Diamond & DDI 2035 PM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,676	1,500	7,530	1,500	2,307	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,010	N/A	580		1,073	N/A	1,500	N/A	268		
	Speed (mph)	54.9	55.5	63.4	65.0	61.2	60.3	65.7	64.4	63.4	62.7	66.9	62.7	71.4	67.9	69.1	
	LOS	E	E	D	D	D	D	D	D	D	C	D	C	C	D	C	
	Density (pc/mi/ln)	42.6	36.5	30.9	31.3	33.8	30.5	27.6	30.5	30.8	27.4	27.8	25.5	22.0	30.7	25.0	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	5,691	933	4,758	249	5,007	622	4,385	346	4,731	235	4,496	697	3,799	419	4,218	
	Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound	Volumes	4,995	868	4,127	282	4,409	736	3,673	292	3,965	1,034	2,931		445	3,376		
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0		
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic		
	Distance (ft)		1,500	3,029	1,500	1,585	1,500	10,173	1,500	1,900	1,500	2,809		1,500			
	Accel/Decel Lanes (ft)		671	N/A	847	3,247	491	N/A	1,057	3,172	671	N/A		941			
	Speed (mph)	61.5	61.8	67.1	62.8	65.5	63.7	68.8	63.6	67.8	62.5	74.5		65.5	73.4		
	LOS	D	D	C	C	D	D	C	C	C	C	B		C	C		
	Density (pc/mi/ln)	33.4	31.8	25.3	27.4	27.8	30.4	22.1	25.0	24.2	27.5	16.3		20.9	18.8		

SPUI 2035 PM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	4,276	1,500	6,274	1,500	2,954	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		660	N/A	881		1,073	N/A	1,500	N/A	268		
	Speed (mph)	54.9	55.5	63.4	65.0	61.2	60.0	65.7	64.4	63.4	62.7	66.9	62.7	71.4	67.9	69.1	
	LOS	E	E	D	D	D	D	D	C	D	C	D	C	C	D	C	
	Density (pc/mi/ln)	42.6	36.5	30.9	31.3	33.8	32.3	27.6	27.8	30.8	27.4	27.8	25.5	22.0	30.7	25.0	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	5,691	933	4,758	249	5,007	622	4,385	346	4,731	235	4,496	697	3,799	419	4,218	
	Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound	Volumes	4,995	868	4,127	282	4,409	736	3,673	292	3,965	1,034	2,931		445	3,376		
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0		
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic		
	Distance (ft)		1,500	3,029	1,500	3,697	1,500	6,717	1,500	3,219	1,500	2,809		1,500			
	Accel/Decel Lanes (ft)		671	N/A	847		654	N/A	956		671	N/A		941			
	Speed (mph)	61.5	61.8	67.1	62.8	65.5	63.7	68.8	63.8	67.8	62.5	74.5		65.5	73.4		
	LOS	D	D	C	C	D	D	C	C	C	C	B		C	C		
	Density (pc/mi/ln)	33.4	31.8	25.3	27.4	27.8	29.0	22.1	24.4	24.2	27.5	16.3		20.9	18.8		

2035 PM

Parclo SE 2035 PM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,810	1,500	7,403	1,500	2,357	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,139	N/A	702		1,073	N/A	1,500	N/A	268		
	Speed (mph)	54.9	55.5	63.4	65.0	61.2	60.5	65.7	64.4	63.4	62.7	66.9	62.7	71.4	67.9	69.1	
	Level of Service	E	E	D	D	D	D	D	D	D	C	D	C	C	D	C	
	Density (pc/mi/ln)	42.6	36.5	30.9	31.3	33.8	29.8	27.6	29.4	30.8	27.4	27.8	25.5	22.0	30.7	25.0	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	5,691	933	4,758	249	5,007	622	4,385	346	4,731	235	4,496	697	3,799	419	4,218	
	Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound	Volumes	4,995	868	4,127	282	4,409	736	3,673	150	3,823	142	3,965	1,034	2,931		445	3,376
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic
	Distance (ft)		1,500	3,029	1,500	3,578	1,500	3,544	1,500		1,500	3,267	1,500	2,809		1,500	
	Accel/Decel Lanes (ft)		671	N/A	847		649	N/A	1,677		1,213		671	N/A		941	
	Speed (mph)	61.5	61.8	67.1	62.8	65.5	63.4	68.8	64.2	68.3	64.5	67.8	62.5	74.5		65.5	73.4
	LOS	D	D	C	C	D	D	C	C	C	C	C	C	B		C	C
	Density (pc/mi/ln)	33.4	31.8	25.3	27.4	27.8	29.0	22.1	21.6	23.1	20.4	24.2	27.5	16.3		20.9	18.8

Parclo NE 2035 PM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,808	1,500	7,400	1,500	2,310	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,141	N/A	702		1,073	N/A	1,500	N/A	268		
	Speed (mph)	54.9	55.5	63.4	65.0	61.2	60.5	65.7	64.4	63.4	62.7	66.9	62.7	71.4	67.9	69.1	
	Level of Service	E	E	D	D	D	D	D	D	D	C	D	C	C	D	C	
	Density (pc/mi/ln)	42.6	36.5	30.9	31.3	33.8	29.8	27.6	29.4	30.8	27.4	27.8	25.5	22.0	30.7	25.0	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10	
	Volumes	5,691	933	4,758	249	5,007	622	4,385	346	4,731	235	4,496	697	3,799	419	4,218	
	Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound	Volumes	4,995	868	4,127	282	4,409	329	4,080	407	3,673	292	3,965	1,034	2,931		445	3,376
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic
	Distance (ft)		1,500	3,029	1,500	3,574	1,500	N/A	1,500	2,781	1,500	3,108	1,500	2,809		1,500	
	Accel/Decel Lanes (ft)		671	N/A	847		667		915	N/A	1,275		671	N/A		941	
	Speed (mph)	61.5	61.8	67.1	62.8	65.5	64.5	67.3	62.9	68.8	63.9	67.8	62.5	74.5		65.5	73.4
	LOS	D	D	C	C	D	D	C	C	C	C	C	C	B		C	C
	Density (pc/mi/ln)	33.4	31.8	25.3	27.4	27.8	28.1	25.1	24.3	22.1	22.6	24.2	27.5	16.3		20.9	18.8

Figure 6-15: Build 2045 (AM) I-75 Segment & Merge/Diverge Analysis Summary

Diamond & DDI 2045 AM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,676	1,500	7,530	1,500	2,307	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,010	N/A	580		1,073	N/A	1,500	N/A	268		
	Speed (mph)	53.4	53.4	63.5	64.8	61.0	59.5	66.9	64.5	64.9	63.2	69.0	63.1	73.7	67.9	72.1	
	LOS	E	F	D	D	D	D	C	D	D	C	C	C	C	C	C	
	Density (pc/mi/ln)	44.9	37.8	30.6	31.6	34.1	31.5	25.7	29.4	28.7	26.4	25.2	24.7	18.2	27.9	20.9	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	5,825	1,092	4,733	306	5,039	883	4,156	351	4,507	307	4,200	959	3,241	442	3,683	
	Interchange		US 27			NW 49 Street					SR 326						
I-75 Northbound	Volumes	6,501	1,043	5,458	335	5,793	746	5,047	415	5,462	1,250	4,212		726	4,938		
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0		
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic		
	Distance (ft)		1,500	3,029	1,500	1,585	1,500	10,173	1,500	1,900	1,500	2,809		1,500			
	Accel/Decel Lanes (ft)		671	N/A	847	3,247	491	N/A	1,057	3,172	671	N/A		941			
	Speed (mph)	44.8	60.5	57.3	56.4	53.5	63.3	60.9	54.7	57.0	62.0	68.9		61.1	63.5		
	LOS	F	F	E	E	E	E	D	E	E	E	C		D	D		
	Density (pc/mi/ln)	59.7	44.0	39.2	35.9	44.8	38.4	34.3	36.0	39.6	35.0	25.3		30.9	31.8		

SPUI 2045 AM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	4,276	1,500	6,274	1,500	2,954	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		660	N/A	881		1,073	N/A	1,500	N/A	268		
	Speed (mph)	53.4	53.4	63.5	64.8	61.0	59.2	66.9	64.5	64.9	63.2	69.0	63.1	73.7	67.9	72.1	
	LOS	E	F	D	D	D	D	C	C	D	C	C	C	C	C	C	
	Density (pc/mi/ln)	44.9	37.8	30.6	31.6	34.1	33.3	25.7	26.7	28.7	26.4	25.2	24.7	18.2	27.9	20.9	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck %	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	5,825	1,092	4,733	306	5,039	883	4,156	351	4,507	307	4,200	959	3,241	442	3,683	
	Interchange		US 27			NW 49 Street					SR 326						
I-75 Northbound	Volumes	6,501	1,043	5,458	335	5,793	746	5,047	415	5,462	1,250	4,212		726	4,938		
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0		
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic		
	Distance (ft)		1,500	3,029	1,500	3,697	1,500	6,717	1,500	3,219	1,500	2,809		1,500			
	Accel/Decel Lanes (ft)		671	N/A	847		654	N/A	956		671	N/A		941			
	Speed (mph)	44.8	60.5	57.3	56.4	53.5	63.3	60.9	57.3	57.0	62.0	68.9		61.1	63.5		
	LOS	F	F	E	E	E	E	D	D	E	E	C		D	D		
	Density (pc/mi/ln)	59.7	44.0	39.2	35.9	44.8	36.9	34.3	34.6	39.6	35.0	25.3		30.9	31.8		

Parclo SE 2045 AM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,810	1,500	7,403	1,500	2,357	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,139	N/A	702		1,073	N/A	1,500	N/A	268		
	Speed (mph)	53.4	53.4	63.5	64.8	61.0	59.6	66.9	64.5	64.9	63.2	69.0	63.1	73.7	67.9	72.1	
	Level of Service	E	F	D	D	D	D	C	D	D	C	C	C	C	C	C	
	Density (pc/mi/ln)	44.9	37.8	30.6	31.6	34.1	30.9	25.7	28.3	28.7	26.4	25.2	24.7	18.2	27.9	20.9	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	5,825	1,092	4,733	306	5,039	883	4,156	351	4,507	307	4,200	959	3,241	442	3,683	
	Interchange		US 27			NW 49 Street							SR 326				
I-75 Northbound	Volumes	6,501	1,043	5,458	335	5,793	746	5,047	222	5,269	193	5,462	1,250	4,212		726	4,938
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic
	Distance (ft)		1,500	3,029	1,500	3,578	1,500	3,544	1,500		1,500	3,267	1,500	2,809		1,500	
	Accel/Decel Lanes (ft)		671	N/A	847		649	N/A	1,677		1,213		671	N/A		941	
	Speed (mph)	44.8	60.5	57.3	56.4	53.5	62.9	60.9	60.5	58.9	58.1	57.0	62.0	68.9		61.1	63.5
	LOS	F	F	E	E	E	E	D	D	E	D	E	E	C		D	D
	Density (pc/mi/ln)	59.7	44.0	39.2	35.9	44.8	37.0	34.3	28.3	36.9	32.6	39.6	35.0	25.3		30.9	31.8

Parclo NE 2045 AM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,808	1,500	7,400	1,500	2,310	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,141	N/A	702		1,073	N/A	1,500	N/A	268		
	Speed (mph)	53.4	53.4	63.5	64.8	61.0	59.6	66.9	64.5	64.9	63.2	69.0	63.1	73.7	67.9	72.1	
	Level of Service	E	F	D	D	D	D	C	D	D	C	C	C	C	C	C	
	Density (pc/mi/ln)	44.9	37.8	30.6	31.6	34.1	30.9	25.7	28.3	28.7	26.4	25.2	24.7	18.2	27.9	20.9	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10	
	Volumes	5,825	1,092	4,733	306	5,039	883	4,156	351	4,507	307	4,200	959	3,241	442	3,683	
	Interchange		US 27			NW 49 Street							SR 326				
I-75 Northbound	Volumes	6,501	1,043	5,458	335	5,793	303	5,490	443	5,047	415	5,462	1,250	4,212		726	4,938
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic
	Distance (ft)		1,500	3,029	1,500	3,574	1,500	N/A	1,500	2,781	1,500	3,108	1,500	2,809		1,500	
	Accel/Decel Lanes (ft)		671	N/A	847		667		915	N/A	1,275		671	N/A		941	
	Speed (mph)	44.8	60.5	57.3	56.4	53.5	64.0	56.7	62.5	60.9	57.1	57.0	62.0	68.9		61.1	63.5
	LOS	F	F	E	E	E	E	E	D	D	D	E	E	C		D	D
	Density (pc/mi/ln)	59.7	44.0	39.2	35.9	44.8	36.8	40.0	31.3	34.3	33.1	39.6	35.0	25.3		30.9	31.8

Figure 6-16: Build 2045 (PM) I-75 Segment & Merge/Diverge Analysis Summary

Diamond & DDI 2045 PM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,676	1,500	7,530	1,500	2,307	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,010	N/A	580		1,073	N/A	1,500	N/A	268		
	Speed (mph)	43.0	42.9	57.4	64.3	53.6	55.4	61.0	64.0	57.2	59.6	60.9	58.7	69.1	67.5	65.6	
	LOS	F	F	E	E	E	E	D	D	E	D	D	D	C	D	D	
	Density (pc/mi/ln)	63.3	42.3	39.1	37.1	44.6	35.4	34.1	33.9	39.4	31.9	35.0	30.4	25.0	33.2	29.3	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	6,626	1,175	5,451	330	5,781	746	5,035	415	5,450	299	5,151	967	4,184	506	4,690	
	Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound	Volumes	5,796	1,110	4,686	346	5,032	883	4,149	351	4,500	1,340	3,160		707	3,867		
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0		
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic		
	Distance (ft)		1,500	3,029	1,500	1,585	1,500	10,173	1,500	1,900	1,500	2,809		1,500			
	Accel/Decel Lanes (ft)		671	N/A	847	3,247	491	N/A	1,057	3,172	671	N/A		941			
	Speed (mph)	53.7	60.9	63.9	60.2	61.0	63.2	66.9	46.2	64.9	62.1	74.0		64.3	71.2		
	LOS	E	E	D	D	D	D	C	E	D	D	B		C	C		
	Density (pc/mi/ln)	44.4	36.5	30.2	32.0	34.1	33.7	25.6	38.8	28.6	31.0	17.7		24.8	22.2		

SPUI 2045 PM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	4,276	1,500	6,274	1,500	2,954	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		660	N/A	881		1,073	N/A	1,500	N/A	268		
	Speed (mph)	43.0	42.9	57.4	64.3	53.6	55.4	61.0	64.0	57.2	59.6	60.9	58.7	69.1	67.5	65.6	
	LOS	F	F	E	E	E	E	D	D	E	D	D	D	C	D	D	
	Density (pc/mi/ln)	63.3	42.3	39.1	37.1	44.6	37.1	34.1	31.2	39.4	31.9	35.0	30.4	25.0	33.2	29.3	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	6,626	1,175	5,451	330	5,781	746	5,035	415	5,450	299	5,151	967	4,184	506	4,690	
	Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound	Volumes	5,796	1,110	4,686	346	5,032	883	4,149	351	4,500	1,340	3,160		707	3,867		
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0		
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic		
	Distance (ft)		1,500	3,029	1,500	3,697	1,500	6,717	1,500	3,219	1,500	2,809		1,500			
	Accel/Decel Lanes (ft)		671	N/A	847		654	N/A	956		671	N/A		941			
	Speed (mph)	53.7	60.9	63.9	60.2	61.0	63.2	66.9	62.0	64.9	62.1	74.0		64.3	71.2		
	LOS	E	E	D	D	D	D	C	D	D	D	B		C	C		
	Density (pc/mi/ln)	44.4	36.5	30.2	32.0	34.1	32.3	25.6	28.7	28.6	31.0	17.7		24.8	22.2		

Parclo SE 2045 PM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,810	1,500	7,403	1,500	2,357	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,139	N/A	702		1,073	N/A	1,500	N/A	268		
	Speed (mph)	43.0	42.9	57.4	64.3	53.6	55.5	61.0	64.0	57.2	59.6	60.9	58.7	69.1	67.5	65.6	
	Level of Service	F	F	E	E	E	D	D	D	E	D	D	D	C	D	D	
	Density (pc/mi/ln)	63.3	42.3	39.1	37.1	44.6	34.8	34.1	32.8	39.4	31.9	35.0	30.4	25.0	33.2	29.3	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0	
	Volumes	6,626	1,175	5,451	330	5,781	746	5,035	415	5,450	299	5,151	967	4,184	506	4,690	
	Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound	Volumes	5,796	1,110	4,686	346	5,032	883	4,149	188	4,337	163	4,500	1,340	3,160		707	3,867
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic
	Distance (ft)		1,500	3,029	1,500	3,578	1,500	3,544	1,500		1,500	3,267	1,500	2,809		1,500	
	Accel/Decel Lanes (ft)		671	N/A	847		649	N/A	1,677		1,213		671	N/A		941	
	Speed (mph)	53.7	60.9	63.9	60.2	61.0	62.9	66.9	62.8	65.9	63.3	64.9	62.1	74.0		64.3	71.2
	LOS	E	E	D	D	D	D	C	C	D	C	D	D	B		C	C
	Density (pc/mi/ln)	44.4	36.5	30.2	32.0	34.1	32.3	25.6	25.8	27.2	23.5	28.6	31.0	17.7		24.8	22.2

Parclo NE 2045 PM

I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,808	1,500	7,400	1,500	2,310	1,500	380	1,500	1,815	1,500		
	Accel/Decel Lanes (ft)		800	N/A	616		1,141	N/A	702		1,073	N/A	1,500	N/A	268		
	Speed (mph)	43.0	42.9	57.4	64.3	53.6	55.5	61.0	64.0	57.2	59.6	60.9	58.7	69.1	67.5	65.6	
	Level of Service	F	F	E	E	E	D	D	D	E	D	D	D	C	D	D	
	Density (pc/mi/ln)	63.3	42.3	39.1	37.1	44.6	34.8	34.1	32.8	39.4	31.9	35.0	30.4	25.0	33.2	29.3	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10	
	Volumes	6,626	1,175	5,451	330	5,781	746	5,035	415	5,450	299	5,151	967	4,184	506	4,690	
	Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound	Volumes	5,796	1,110	4,686	346	5,032	359	4,673	524	4,149	351	4,500	1,340	3,160		707	3,867
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic
	Distance (ft)		1,500	3,029	1,500	3,574	1,500	N/A	1,500	2,781	1,500	3,108	1,500	2,809		1,500	
	Accel/Decel Lanes (ft)		671	N/A	847		667		915	N/A	1,275		671	N/A		941	
	Speed (mph)	53.7	60.9	63.9	60.2	61.0	64.3	63.8	62.5	66.9	62.0	64.9	62.1	74.0		64.3	71.2
	LOS	E	E	D	D	D	D	D	C	C	C	D	D	B		C	C
	Density (pc/mi/ln)	44.4	36.5	30.2	32.0	34.1	31.2	30.3	27.5	25.6	27.1	28.6	31.0	17.7		24.8	22.2

6.2.2 Year of Failure Analysis

As shown in the No Build segment and merge/diverge analysis results, the segments of I-75 between US 27 and SR 326 do not meet the LOS D target in year 2045 and are anticipated to operate at LOS E during either the AM or PM peak hours. The proposed interchange along NW 49th Street is projected to meet the LOS D target; however, similar No Build I-75 segment operations (segments operating at LOS E) are also projected under build conditions. Therefore, a year of failure analysis was performed for the build conditions based on the Diamond/DDI alternative where I-75 segments reach LOS E in 2045. The analysis was conducted by interpolating years 2035 and 2045 volumes and entering each year's volume into HCS until LOS E results were reached. Analysis results are summarized below and HCS worksheets are provided in **Appendix I.**

- **AM Northbound:**
  - I-75 mainline segment south of US 27 - 2035
  - I-75 mainline basic segment between US 27 and NW 49th Street – 2037
  - NW 49th Street off-ramp diverge condition – 2041
  - NW 49th Street on-ramp merge condition – 2044
  - I-75 mainline basic segment between NW 49th Street and SR 326 – 2041
- **PM Southbound:**
  - I-75 south of US 27 - 2035
  - I-75 mainline basic segment between SR 326 and NW 49th Street – 2041
  - NW 49th Street on-ramp merge condition – 2045
  - I-75 mainline basic segment between NW 49th Street and US 27 – 2037

Based on the year of failure analysis, additional I-75 mainline improvements may be required in order for I-75 to meet the LOS D target through design year. The District is looking into potential improvements to the I-75 mainline via separate projects or other methods such as the I-75 PD&E Study (FM Number 443623-1-22-01 & 443624-1-22-01) to improve overall operations on the I-75 mainline. The results and recommendations of this IJR will be shared with the I-75 PD&E Study team and District Traffic Operations group.

6.2.3 Intersection Analysis

As part of the intersection analyses, signal timing and phasing optimization was performed to improve intersection operations. Signal timing and phasing inputs are presented in **Appendix I**.

It is worth noting that total splits less than minimum splits would be allowed by maintaining agencies due to very low pedestrian activity and presence of pushbuttons for pedestrian interval actuation.

Table 6-5 presents the peak hour Delay and LOS for the intersections on NW 49th Street under each build alternative. The overall intersection LOS meets the LOS D target during AM and PM peak hours in years 2025, 2035 and 2045, under all five build alternatives. The approach intersection LOS for all movements also meet the LOS D target, under all five build alternatives except for two instances under 2045 conditions. The SPUI alternative, under 2045 conditions, exhibits deficient approach LOS on the eastbound approach of the NW 49th Street at I-75 ramps intersection during the AM and PM peak hours. During the AM peak hour, the eastbound approach operates at LOS F with a delay of 89.3 sec/veh. During the PM peak hour, the eastbound approach operates at LOS E with a delay of 75.8 sec/veh. A comparison of the Build alternatives show that the DDI alternative ramp terminals operate best with LOS B overall intersection operations in 2045. Although in 2045 the northbound I-75 ramps intersection operates at LOS A under the ParClo NE alternative, the southbound I-75 ramps intersection operates at LOS C.

The volumes remain constant across all Build alternatives at the intersections on US 27 and SR 326. With consistent operations, the interchanges reflect similar results regarding Delay and LOS under all five build scenarios. Therefore, **Table 6-6** presents the peak hour Delay and LOS under the Build Diamond alternative, for the signalized intersections falling within the AOI of the NW 49th Street interchange. In year 2025 during the AM peak hour, the overall intersection LOS D target is met at all locations; during the PM peak hour the US 27 at NW 35th Avenue Road intersection operates at LOS E. In year 2035 during both AM and PM peak hours, the US 27 at NW 35th Avenue Road and SR 326 northbound ramp terminus intersections fail. In 2045 during both AM and PM peak hours, the only signalized intersections operating at the LOS D Target or above are the US 27 northbound ramps and the SR 326 northbound ramp intersection. The Synchro outputs are provided in **Appendix I**.

Table 6-5: Build Intersection Delay and LOS

Year	#	Intersection	DIR	AM PEAK[1]												PM PEAK[1]											
				Diamond		SPUI		Parclo-SE		Parclo-NE		DDI[2]				Diamond		SPUI		Parclo-SE		Parclo-NE		DDI[2]			
				App.	Int.	App.	Int.	App.	Int.	App.	Int.		App.	Int.		App.	Int.	App.	Int.	App.	Int.	App.	Int.		App.	Int.	
				Delay LOS	Delay LOS	Delay LOS	Delay LOS	Delay LOS	Delay LOS	Delay LOS	Delay LOS	MVMT	Delay LOS	Delay LOS		Delay LOS	Delay LOS	Delay LOS	Delay LOS	Delay LOS	Delay LOS	Delay LOS	Delay LOS	MVMT	Delay LOS	Delay LOS	
2025	7	NW 44 Ave at NW 49 ST	EB	42.7 D	26.4 C	43.1 D	26.4 C	43.1 D	26.5 C	43.1 D	26.5 C	EB	42.7 D	26.5 C		43.5 D	25.6 C	43.5 D	25.6 C	43.5 D	25.6 C	43.5 D	25.6 C	EB	42.7 D	23.8 C	
			WB	35.1 D		35.1 D		35.1 D		35.1 D		WB	35.4 D			36.3 D		36.2 D		36.3 D		36.3 D		WB	36.0 D		
			NB	17.9 B		17.9 B		17.9 B		17.9 B		NB	17.8 B			17.3 B		17.3 B		17.3 B		17.3 B		NB	13.1 B		
			SB	23.6 C		23.5 C		23.5 C		23.5 C		SB	23.5 C			23.1 C		23.1 C		23.1 C		23.1 C		SB	22.0 C		
	8	I75 SB at NW 49 ST	EB	14.5 B	17.3 B	17.3 B	26.8 C	16.3 B	18.3 B	16.4 B	18.3 B	SBR	17.3 B	17.0 B		25.5 C	28.3 C	13.7 B	26.7 C	15.7 B	18.7 B	14.7 B	21.5 C	SBR	16.3 B	17.2 B	
			WB	13.8 B		25.6 C		13.8 B		13.8 B		SBL	33.1 C			26.2 C		26.1 C		13.1 B		16.3 B		SBL	30.4 C		
			NB	0.0 0		35.8 D		0.0 0		0.0 0		EBT	19.0 B			0.0 0		36.4 D		0.0 0		0.0 0		EBT	6.3 A		
			SB	32.4 C		35.3 D		35.7 D		35.7 D		WBT	11.6 B			37.0 D		35.2 D		37.0 D		43.5 D		WBT	21.3 C		
	9	I75 NB at NW 49 ST	EB	17.1 B	22.1 C			0.2 A	17.1 B	0.4 A	1.2 A	NBL	33.9 C	19.3 B		17.9 B	26.2 C			0.2 A	16.9 B	0.3 A	0.9 A	NBL	32.2 C	18.3 B	
			WB	13.8 B				8.4 A		2.2 A		NBR	15.3 B			17.0 B				9.6 A		1.9 A		NBR	16.1 B		
			NB	34.8 C				38.0 D		0.0 0		EBT	13.6 B			39.4 D				33.5 C		0.0 0		EBT	10.0 B		
			SB	0.0 0				0.0 0		0.0 0		WBT	16.8 B			0.0 0				0.0 0		0.0 0		WBT	16.3 B		
2035	7	NW 44 Ave at NW 49 ST	EB	42.7 D	27.8 C	43.2 D	27.8 C	43.2 D	27.8 C	43.2 D	27.8 C	EB	42.7 D	28.0 C		43.6 D	27.3 C	43.6 D	27.2 C	43.6 D	27.3 C	43.6 D	27.3 C	EB	42.6 D	25.4 C	
			WB	34.1 C		34.3 C		34.5 C		34.5 C		WB	35.3 D			35.7 D		35.6 D		35.7 D		35.7 D		WB	35.3 D		
			NB	21.1 C		21.1 C		21.1 C		21.1 C		NB	20.9 C			20.0 C		20.0 C		20.0 C		20.0 C		NB	15.5 B		
			SB	25.3 C		25.1 C		25.1 C		25.1 C		SB	25.0 C			25.0 C		25.0 C		25.0 C		25.0 C		SB	23.7 C		
	8	I75 SB at NW 49 ST	EB	15.6 B	19.2 B	24.3 C	29.0 C	17.5 B	18.4 B	17.6 B	18.5 B	SBR	18.4 B	15.6 B		27.1 C	29.5 C	15.3 B	27.0 C	16.8 B	19.3 B	16.1 B	22.1 C	SBR	18.5 B	16.9 B	
			WB	16.3 B		26.4 C		13.1 B		13.1 B		SBL	36.5 C			26.7 C		27.0 C		12.6 B		15.6 B		SBL	28.9 C		
			NB	0.0 0		35.6 D		0.0 0		0.0 0		EBT	7.9 A			0.0 0		36.0 D		0.0 0		0.0 0		EBT	7.6 A		
			SB	33.4 C		34.2 C		37.2 D		37.2 D		WBT	14.7 B			39.8 D		34.0 C		39.8 D		46.5 D		WBT	19.6 B		
	9	I75 NB at NW 49 ST	EB	21.1 C	24.4 C			0.2 A	17.9 B	0.5 A	1.3 A	NBL	33.3 C	20.0 B		22.8 C	28.8 C			0.3 A	17.3 B	0.4 A	0.9 A	NBL	30.9 C	18.7 B	
			WB	16.3 B				10.0 A		2.4 A		NBR	15.2 B			19.7 B				11.3 B		2.0 A		NBR	17.7 B		
			NB	35.2 D				37.9 D		0.0 0		EBT	16.0 B			39.8 D				32.9 C		0.0 0		EBT	8.5 A		
			SB	0.0 0				0.0 0		0.0 0		WBT	16.8 B			0.0 0				0.0 0		0.0 0		WBT	18.2 B		
2045	7	NW 44 Ave at NW 49 ST	EB	43.0 D	29.7 C	43.4 D	29.5 C	43.4 D	29.6 C	43.4 D	29.6 C	EB	43.0 D	30.1 C		43.9 D	29.3 C	43.9 D	29.3 C	43.9 D	29.3 C	43.9 D	29.3 C	EB	42.6 D	28.4 C	
			WB	34.0 C		34.2 C		34.5 C		34.5 C		WB	36.1 D			35.0 C		34.8 C		35.0 C		35.0 D		WB	33.2 C		
			NB	25.2 C		25.3 C		25.3 C		25.3 C		NB	25.0 C			23.7 C		23.7 C		23.7 C		23.7 C		NB	21.8 C		
			SB	27.7 C		27.2 C		27.2 C		27.2 C		SB	27.2 C			27.7 C		27.7 C		27.7 C		27.7 C		SB	27.2 C		
	8	I75 SB at NW 49 ST	EB	16.4 B	16.1 B	89.3 F	51.2 D	18.8 B	19.3 B	18.9 B	19.3 B	SBR	21.4 C	18.2 B		6.1 A	25.5 C	75.8 E	47.0 D	19.5 B	20.3 C	19.4 B	21.7 C	SBR	20.8 C	17.3 B	
			WB	9.9 A		28.4 C		12.4 B		12.4 B		SBL	34.8 C			28.1 C		28.7 C		11.8 B		12.9 B		SBL	28.3 C		
			NB	0.0 0		36.2 D		0.0 0		0.0 0		EBT	18.2 B			0.0 0		37.0 D		0.0 0		0.0 0		EBT	9.9 A		
			SB	36.1 D		33.3 C		42.7 D		42.8 D		WBT	13.8 B			43.5 D		32.5 C		43.4 D		47.7 D		WBT	18.4 B		
	9	I75 NB at NW 49 ST	EB	18.3 B	24.9 C			0.3 A	18.8 B	0.6 A	1.5 A	NBL	32.4 C	20.5 B		28.9 C	32.3 C			0.5 A	17.9 B	0.5 A	1.0 A	NBL	30.1 C	19.3 B	
			WB	19.0 B				11.6 B		2.8 A		NBR	16.3 B			22.8 C				13.3 B		2.2 A		NBR	19.3 B		
			NB	36.0 D				37.7 D		0.0 0		EBT	13.6 B			41.1 D				32.1 C		0.0 0		EBT	7.3 A		
			SB	0.0 0				0.0 0		0.0 0		WBT	18.6 B			0.0 0				0.0 0		0.0 0		WBT	20.2 C		

[1] Delay in veh/sec; [2] LOS results based on HCM 2000 methodology for I-75 NB & SB intersections

Table 6-6: Build AOI Intersection Delay and LOS

#	Intersection	DIR	AM PEAK										PM PEAK									
			2025				2035				2045				2025				2035				2045			
			Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
1	NW 44 Ave at US 27	EB	18.7	B	20.7	C	36.0	D	31.7	C	111.1	F	70.5	E	15.3	B	24.0	C	21.9	C	45.4	D	39.0	D	111.1	F
		WB	18.6	B			21.8	C			33.0	C			24.2	C			59.9	E			171.5	F		
		NB	34.9	C			48.2	D			49.7	D			56.2	E			57.7	E			60.4	E		
		SB	28.9	C			41.6	D			45.9	D			41.9	D			47.0	D			48.3	D		
2	I-75 SB at US 27	EB	16.3	B	13.2	B	48.8	D	33.5	C	90.5	F	57.6	E	19.7	B	13.7	B	38.9	D	26.8	C	62.2	E	58.5	E
		WB	6.3	A			13.9	B			21.4	C			7.5	A			17.0	B			53.7	D		
		NB	0.0	0			0.0	0			0.0	0			0.0	0			0.0	0			0.0	0		
		SB	39.9	D			42.1	D			50.7	D			54.1	D			60.9	E			97.9	F		
3	I-75 NB at US 27	EB	1.0	A	11.5	B	0.8	A	12.9	B	2.2	A	15.5	B	1.1	A	15.1	B	1.4	A	18.2	B	1.5	A	39.6	D
		WB	12.3	B			16.2	B			19.4	B			14.2	B			18.4	B			45.4	D		
		NB	32.1	C			32.0	C			33.7	C			39.6	D			43.7	D			77.3	E		
		SB	0.0	0			0.0	0			0.0	0			0.0	0			0.0	0			0.0	0		
4	NW 35 Ave Rd at US 27	EB	21.9	C	36.2	D	34.9	C	67.4	E	49.0	D	112.7	F	38.9	D	63.5	E	71.8	E	129.7	F	99.6	F	218.1	F
		WB	23.5	C			48.0	D			60.6	E			69.4	E			128.5	F			193.5	F		
		NB	53.4	D			54.0	D			55.0	E			52.8	D			53.6	D			55.0	D		
		SB	124.0	F			232.0	F			397.8	F			122.4	F			289.0	F			517.8	F		
6	NW 44 Ave/-I75 SB Off at SR 326	EB	12.7	B	13.9	B	14.6	B	17.2	B	15.8	B	19.4	B	15.2	B	17.5	B	18.8	B	20.4	C	19.8	B	24.9	C
		WB	12.7	B			14.7	B			15.9	B			15.1	B			17.3	B			20.5	C		
		NB	21.1	C			23.8	C			28.3	C			26.0	C			27.3	C			32.7	C		
		SB	15.0	B			19.9	B			24.2	C			19.2	B			21.8	C			31.5	C		
7	I-75 SB On-Ramp (Loop) at SR 326	EB	0.0	A	2.3	A	0.0	A	2.9	A	0.0	A	4.4	A	0.0	A	1.0	A	0.0	A	1.2	A	0.0	A	1.2	A
		WB	3.1	A			4.2	A			6.5	A			1.2	A			1.6	A			1.5	A		
		NB	11.2	B			12.6	B			13.6	B			10.9	B			12.3	B			12.6	B		
8	I-75 NB Off/I-75 NB On at SR 326[1]	EB	8.2	A	35.1	D	9.7	A	164.1	F	13.9	B	365.7	F	22.9	C	52.8	D	28.7	C	153.6	F	57.8	E	367.2	F
		WB	23.9	C			75.3	E			251.1	F			59.7	E			149.4	F			431.3	F		
		NB	74.7	E			416.8	F			774.4	F			64.0	E			244.7	F			431.2	F		
		SB	0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		

[1]LOS results based on HCM 2000 methodology; [2]Delay in sec/veh

Based on the intersection analysis for the AOI of the five Build alternatives, minor improvements at intersections on the surface streets were identified. In general, improvements to the surface streets are geometrically limited. Identified minor improvements include:

- US-27 and NW 44th Avenue:
  - Modify lane assignment on southbound approach to reflect two southbound left turn lanes and one shared thru/right turn lane.
  - Signal timing optimization and eliminate southbound/northbound split phasing.
- US-27 at I-75 Southbound:
  - Signal timing/phasing modifications to operate westbound left turn phase as a lagging phase.
- US-27 and NW 35th Avenue Road:
  - Signal timing/phasing modifications to include southbound right-turn overlap to extend both southbound right turn and eastbound left turn phases to address high traffic demand.
- SR 326 at I-75 Northbound:
  - Signalize channelized northbound right turn movement and provide overlap phase for concurrent operations with westbound thru movement to meet high westbound right and northbound right turn traffic demand.

6.2.4 Vissim Analysis

A network analysis was performed based on the model calibrated under existing conditions to evaluate the study area as a system. The analysis was conducted for No Build and the five Build scenarios under AM and PM peak hours. Results for 2045 AM and PM are summarized in this section with detailed volume inputs and link summaries provided in **Appendix I**. The following list of MOEs were used:

- Intersections
  - Volume (vehicles)
  - Delay (seconds/vehicle)
  - Queues (feet)
- Roadway Links
  - Average Speed (mph)
  - Travel Time
- Freeway Facility
  - Average Speed (mph)
  - Density (veh/mi/ln)

  - Volume (vph)
- Network
  - Total Delay (hrs)
  - Total Stops (# of stops)
  - Average Speed (mph)
  - Vehicles Arrived (vehicles)
  - VMT
  - Latent Delay (hours)
  - Latent Demand (vehicles)

6.2.4.1 Network Coding

The No Build and Build alternatives geometry was coded by using the calibrated file and modifying the network based on the identified improvements from the Synchro Analysis. The same steps performed for the calibrated model were followed in the coding of roadway elements. I-75 mainline was initially coded with split links in order to facilitate the coding of the NW 49th Street interchange alternatives.

Based on simulation observations, driver behavior settings were adjusted for the I-75 merge/diverge segments to improve merging characteristics between mainline and merging/diverging vehicles. It was necessary to modify the parameters for the subject segment types in order to replicate realistic merging/diverging characteristics. As identified in the merge/diverge HCS analysis, several merge/diverge segments operate at LOS E or LOS F during design year and sometimes consist of a short merge/diverge lane. The combination of a short merge lane and high vehicular density on the mainline results in queueing of vehicles on the on-ramp as they are unable to find a gap in I-75 mainline traffic to merge. Under preliminary simulations, the southbound merge queue was observed spilling back onto US 27 further exacerbating arterial conditions. Driver behavior parameters for the subject segment types were adjusted incrementally while observing arterial, ramp, and mainline operations in accordance with suggested ranges outlined in the *2014 FDOT Traffic Analysis Handbook*. The following adjustments were made in order to strike a balance and realistic simulation in operations between the involved facilities (arterials, merge/diverge segments, and mainline):

- Safety distance lane change factor 0.2 (Suggested Range: 0.1 to 0.9)
- Maximum Cooperative Deceleration -18.0 ft/s^2 (Suggested Range: -32.2 to -3 ft/s^2)

6.2.4.2 Vissim Analysis Results-Intersections

Tables 6-7 and **6-8** summarize the volume, LOS, delay, and queues for each intersection in year 2045 during AM and PM peak hours. It should be noted that delay results for intersection approaches are based on the Vissim defined node areas while queue length results are not bound by the node area; therefore, providing a measure of congestion caused by delays.

In general, US 27 on both sides of the interchange operate under oversaturated conditions with substantial delays and queue lengths. During the AM peak hour, the US 27 at I-75 southbound ramps intersection operates at an overall LOS C for all scenarios, although the southbound left-turn movement fails for all Build alternatives; during the PM peak hour, this intersection operates at an overall LOS B for all Build alternatives. The US 27 at I-75 northbound ramps intersection is projected to operate at an overall LOS D during the AM and PM peak hours for No Build and LOS C for all Build alternatives. The US 27 at NW 35th Avenue Road intersection displays deficient LOS on the majority of movements during both peak hours. During the AM peak hour, the No Build scenario displays an overall LOS D while the Build alternatives display LOS C except for the SPUI alternative at LOS D; The PM peak hour displays LOS E for all scenarios. The US 27 at NW 44th Avenue intersection displays an overall LOS D under all scenarios during the AM peak hour but is projected to fail under No Build during the PM peak hour with a projected LOS E. Several movements are projected to fail at the intersection of US 27 at NW 38th Avenue, during both peak hours, however, the overall intersection LOS meets the LOS D Target or better. Queue length results for US 27 intersections show that delays experienced contribute to significant queue lengths and oversaturated operating conditions.

In addition, the No Build scenario displays notable LOS, delay, and queue impacts at the SR 326 intersections when compared to the Build alternatives which are projected to operate at the LOS D Target or better. For the No Build scenario during the AM peak hour, the northbound right-turn and westbound left-turn movements of the SR 326 at NW 44th Avenue intersection exhibit LOS E with an overall intersection LOS D. During the PM peak hour, the same intersection performs at an overall LOS E with the northbound turning movements displaying LOS F. The SR 326 intersection at the I-75 southbound slip and loop ramps is projected to operate at an overall LOS A for all scenarios during both peak hours. The SR 326 at I-75 northbound ramps intersection is projected to generate significant queues on the westbound approach with average queue lengths over 4,000 feet under No Build and 3,000 feet under the Build alternatives.

Table 6-7: 2045 Vissim Intersection Delay & LOS Summary (AM Peak)

Intersection	Control	MVMT	2045 AM Peak[1]																												
			No Build					Diamond					SPUI					Parclo SE					Parclo NE					DDI				
			Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ
NW 49 St at NW 44 Ave	S	NBL	7	26.2	C	1	28	9	23.9	C	1	23	8	26.4	C	2	25	9	26.1	C	1	25	8	25.0	C	1	26	9	24.6	C	1	23
		NBT	223	32.3	C	59	283	145	34.6	C	21	104	144	34.2	C	20	101	144	34.3	C	20	102	145	34.4	C	20	105	144	33.5	C	20	106
		NBR	275	21.5	C	1	26	319	8.3	A	0	5	319	8.7	A	0	6	317	8.3	A	0	3	318	8.5	A	0	4	318	8.6	A	0	7
		SBL	427	17.6	B	43	314	630	36.1	D	105	490	633	39.3	D	120	508	635	40.4	D	125	522	631	39.2	D	117	506	634	37.9	D	112	499
		SBT	405	11.7	B	15	126	338	12.7	B	13	131	338	14.2	B	13	119	338	14.4	B	14	136	338	13.9	B	14	144	338	12.8	B	12	128
		SBR	7	7.5	A	32	178	5	15.3	B	13	131	6	17.0	B	13	119	5	15.0	B	14	136	5	15.9	B	14	144	5	15.4	B	12	128
		EBL	6	36.1	D	4	42	7	43.7	D	5	52	6	47.4	D	6	51	7	43.7	D	5	52	7	43.7	D	5	52	7	46.3	D	5	52
		EBT	9	45.5	D	4	42	15	44.0	D	5	52	14	51.3	D	6	51	15	44.0	D	5	52	15	44.1	D	5	52	15	43.9	D	5	52
		EBR	4	8.1	A	6	62	4	16.2	B	3	87	4	11.6	B	3	86	4	16.2	B	3	87	4	16.1	B	3	87	4	14.5	B	2	87
		WBL	294	31.2	C	70	300	467	40.5	D	73	269	466	33.0	C	59	261	467	37.6	D	70	336	471	36.6	D	72	321	466	41.5	D	74	337
		WBT	13	38.7	D	70	300	12	43.6	D	70	259	13	35.4	D	55	237	12	40.0	D	60	275	13	35.5	D	60	218	13	44.7	D	71	303
		WBR	257	22.8	C	89	326	445	40.3	D	70	259	443	32.2	C	55	237	443	36.0	D	60	275	447	34.4	C	60	218	445	41.2	D	71	303
		Overall		21.7	C				30.7	C				28.9	C				30.7	C				29.8	C				31.5	C		
SR 326 at NW 44 Ave	S	NBL	52	41.3	D	116	332	22	27.8	C	11	128	22	28.8	C	11	125	22	27.6	C	12	132	22	25.5	C	12	135	21	25.7	C	11	126
		NBR	254	63.2	E	124	329	110	29.2	C	21	124	109	27.9	C	20	123	109	29.2	C	21	130	109	30.0	C	22	131	109	28.8	C	20	124
		SBL	308	46.2	D	148	548	286	25.7	C	54	309	287	25.3	C	53	303	287	25.7	C	55	309	288	26.0	C	55	313	286	25.2	C	53	296
		SBT	81	49.8	D	148	548	27	28.1	C	54	309	27	27.9	C	53	303	28	28.9	C	55	309	27	26.7	C	55	313	27	29.2	C	53	296
		SBR	141	5.4	A	0	36	130	1.8	A	0	38	129	1.8	A	0	43	129	1.8	A	0	26	129	1.8	A	0	31	129	1.7	A	0	27
		EBT	496	22.1	C	49	259	516	19.8	B	41	228	516	19.5	B	40	233	516	19.1	B	39	225	517	19.3	B	40	227	517	18.8	B	38	226
		EBR	74	16.9	B	1	63	28	15.4	B	0	29	28	15.1	B	1	37	29	16.4	B	0	29	28	16.0	B	0	27	28	14.2	B	0	29
		WBL	206	60.6	E	85	301	95	29.7	C	13	119	95	28.4	C	12	113	95	26.1	C	10	111	96	26.3	C	10	112	95	28.1	C	11	120
		WBT	286	21.1	C	28	165	275	19.0	B	23	148	275	18.5	B	23	145	276	19.1	B	23	145	277	19.6	B	25	150	275	18.7	B	22	138
		Overall		36.3	D				20.7	C				20.3	C				20.3	C				20.6	C				20.1	C		
SR 326 at I-75 NB	S	NBL	190	35.0	C	42	227	147	34.8	C	31	179	146	34.1	C	30	185	147	34.9	C	31	177	148	35.1	D	32	183	147	34.5	C	31	175
		NBR	1023	12.2	B	152	978	1083	11.3	B	72	801	1076	10.8	B	63	728	1084	11.3	B	85	870	1080	11.6	B	104	937	1079	10.9	B	76	748
		EBL	269	33.9	C	61	303	207	27.1	C	31	218	209	28.1	C	32	233	207	28.0	C	33	221	208	27.9	C	32	218	208	27.9	C	33	219
		EBT	639	6.3	A	11	142	572	6.1	A	9	135	572	6.0	A	9	132	572	6.2	A	9	133	573	6.3	A	10	134	573	6.0	A	9	119
		WBT	1239	50.4	D	4078	4853	1312	41.0	D	2557	3603	1313	40.4	D	2612	3702	1308	41.4	D	2705	3741	1318	41.0	D	2437	3537	1307	41.5	D	2557	3645
		WBR	420	44.7	D	3784	4616	482	35.3	D	2198	3289	483	35.3	D	2174	3239	480	35.4	D	2535	3689	487	34.8	C	1875	2926	482	35.9	D	2149	3264
		Overall		30.0	C				25.5	C				25.2	C				25.7	C				25.8	C				25.7	C		
US 27 at I-75 SB	S	SBL	149	44.9	D	40	186	212	58.8	E	91	323	211	59.4	E	93	306	213	57.6	E	90	325	213	57.4	E	90	319	213	56.9	E	88	308
		SBR	59	2.5	A	0	0	91	11.8	B	1	9	91	12.0	B	1	8	90	11.6	B	1	8	91	11.8	B	1	10	92	10.7	B	1	7
		EBT	1494	35.0	C	362	819	1511	37.4	D	422	825	1517	37.5	D	416	832	1511	38.0	D	420	832	1512	37.0	D	413	827	1523	36.2	D	404	826
		EBR	620	25.0	C	145	812	548	23.3	C	96	648	551	22.5	C	94	594	546	22.5	C	93	656	547	23.0	C	97	607	552	22.6	C	101	688
		WBL	534	21.6	C	123	407	467	22.2	C	99	399	465	22.4	C	98	394	466	22.5	C	100	392	465	21.7	C	95	398	467	22.2	C	96	397
		WBT	1457	5.7	A	31	334	1535	5.2	A	27	293	1524	5.2	A	26	292	1539	5.3	A	28	283	1535	5.2	A	27	286	1536	5.2	A	26	270
		Overall		21.9	C				23.2	C				23.2	C				23.3	C				22.9	C				22.6	C		
US 27 at I-75 NB	S	NBL	487	46.4	D	71	269	412	38.0	D	58	228	407	43.9	D	61	243	412	38.8	D	58	228	410	41.6	D	60	227	410	37.5	D	57	223
		NBR	692	78.7	E	878	2524	623	64.0	E	195	773	615	75.2	E	480	1442	623	67.0	E	240	892	617	74.4	E	338	1116	619	61.8	E	261	826
		EBL	73	12.7	B	1	44	110	15.0	B	4	84	112	17.5	B	6	93	109	14.9	B	4	78	111	15.7	B	4	86	112	17.7	B	5	93
		EBT	1567	22.8	C	36	273	1611	22.8	C	39	286	1610	24.7	C	41	273	1606	22.9	C	41	274	1607	24.2	C	38	265	1622	21.8	C	35	266
		WBT	971	27.6	C	43	314	1123	17.6	B	45	392	1118	17.5	B	45	388	1126	18.3	B	47	381	1126	17.5	B	45	371	1125	17.0	B	44	350
		WBT>L	536	89.4	F	538	1143	469	46.2	D	163	660	466	44.0	D	146	609	468	49.5	D	186	759	468	44.9	D	155	611	469	42.5	D	134	571
		WBR	142	17.3	B	0	20	202	11.2	B	0	38	200	11.0	B	0	31	201	10.7	B	0	31	203	10.9	B	0	34	202	10.2	B	0	37
		Overall		42.5	D				30.4	C				32.8	C				31.4	C				32.4	C				29.0	C		

[1]Volume in vph; delay in sec/veh; LOS is Estimated LOS using HCM2010 thresholds; Queue Lengths in feet

(*continued next page)*

Intersection	Control	MVMT	2045 AM Peak[1]																												
			No Build					Diamond					SPUI					Parclo SE					Parclo NE					DDI				
			Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ
US 27 at NW 35 Ave Rd	S	NBL	22	89.9	F	21	125	24	71.8	E	21	124	24	71.9	E	21	124	24	71.7	E	21	124	24	71.2	E	21	124	24	70.6	E	21	124
		NBT	22	67.2	E	21	125	20	70.5	E	21	124	20	70.4	E	21	124	20	70.5	E	21	124	20	70.4	E	21	124	20	70.5	E	21	124
		NBR	10	34.6	C	28	140	11	32.2	C	27	139	11	31.1	C	27	139	11	31.1	C	27	139	11	32.4	C	27	139	11	31.1	C	27	139
		SBL	214	101.9	F	183	498	201	84.4	F	123	388	202	90.4	F	137	411	201	84.5	F	126	424	201	84.5	F	126	415	201	84.0	F	125	395
		SBT	6	76.9	E	2	26	8	67.4	E	3	29	8	70.1	E	3	29	8	62.8	E	3	29	8	63.4	E	3	29	8	64.1	E	3	29
		SBR	563	98.9	F	606	1127	607	40.0	D	193	703	607	43.4	D	208	699	607	38.9	D	182	689	608	39.1	D	185	675	607	33.7	C	150	648
		EBL	510	50.7	D	433	1181	493	53.3	D	443	1157	495	54.6	D	457	1161	495	53.1	D	432	1147	491	55.4	E	464	1190	496	52.6	D	428	1152
		EBT	1699	16.0	B	145	1067	1692	15.3	B	137	990	1691	15.8	B	141	972	1692	15.6	B	139	990	1688	16.0	B	126	1001	1699	15.5	B	145	980
		EBR	40	12.3	B	0	44	40	10.2	B	0	47	40	10.3	B	0	46	40	10.9	B	0	48	40	11.8	B	0	46	39	11.1	B	0	43
		WBL	32	55.1	E	3	45	35	39.1	D	3	46	35	40.7	D	3	47	35	42.7	D	4	49	35	43.0	D	3	46	36	39.8	D	3	46
		WBT	1075	83.8	F	1013	1787	1163	44.9	D	306	1034	1159	45.4	D	353	1092	1168	45.2	D	301	1037	1166	44.0	D	304	1042	1167	41.3	D	251	976
		WBR	297	32.6	C	768	1453	281	17.4	B	141	700	282	18.0	B	183	758	284	17.6	B	132	704	284	16.8	B	139	709	285	15.4	B	95	645
		Overall		52.4	D				34.4	C				35.5	D				34.4	C				34.5	C				32.4	C		
US 27 at NW 44 Ave	S	NBL	51	56.8	E	18	89	33	50.3	D	10	70	33	52.1	D	10	65	34	53.4	D	11	68	33	53.6	D	11	71	34	50.4	D	10	69
		NBT	12	49.9	D	3	27	6	51.7	D	1	19	6	53.2	D	2	17	6	50.7	D	2	19	6	50.1	D	1	19	6	48.0	D	2	21
		NBR	126	25.6	C	17	123	76	38.4	D	15	95	76	36.6	D	14	97	75	38.3	D	15	105	76	39.9	D	16	112	76	31.9	C	11	96
		SBL	547	51.7	D	97	320	430	56.0	E	76	252	431	56.3	E	76	250	432	55.3	E	75	250	429	56.1	E	75	243	433	55.5	E	74	254
		SBT	17	41.2	D	97	320	8	43.7	D	76	252	8	37.2	D	76	250	8	43.4	D	75	250	8	44.5	D	75	243	8	37.6	D	74	254
		SBR	190	15.8	B	108	335	162	14.6	B	87	267	163	13.7	B	87	265	163	14.0	B	86	265	163	13.8	B	87	258	163	13.8	B	85	269
		EBL	124	92.6	F	2920	3686	108	78.9	E	1979	2914	106	78.7	E	1845	2825	107	80.1	F	1949	2911	107	81.3	F	1911	2829	107	81.0	F	2020	2945
		EBT	1473	80.7	F	3008	3716	1612	75.0	E	2102	3013	1609	72.9	E	2114	3022	1599	75.2	E	2128	3088	1600	75.0	E	2086	2994	1611	73.9	E	2170	3073
		EBR	47	71.4	E	238	330	30	59.0	E	523	774	30	58.5	E	538	760	30	59.5	E	569	968	31	57.7	E	730	983	30	60.6	E	258	482
		WBL	77	41.2	D	14	104	56	34.1	C	7	67	56	33.2	C	6	75	56	33.6	C	7	70	56	34.4	C	7	77	57	36.1	D	7	80
		WBT	1115	30.4	C	138	693	1292	26.5	C	139	696	1288	27.3	C	146	711	1296	27.8	C	155	762	1293	25.7	C	128	680	1293	26.2	C	135	674
		WBR	298	13.2	B	19	188	246	12.3	B	13	168	245	12.2	B	12	159	246	13.0	B	12	164	246	11.8	B	12	167	246	11.8	B	13	164
		Overall		52.2	D				49.1	D				48.6	D				49.7	D				48.8	D				48.4	D		
SR 326 at I-75 SB Slip & Loop Ramps	U	NBR	56	11.7	B	6	89	51	10.0	A	5	88	51	10.1	B	5	88	52	9.9	A	5	87	51	10.4	B	5	87	51	10.1	B	5	88
		EBT	757	1.7	A	0	12	631	1.4	A	0	22	631	1.4	A	0	14	629	1.4	A	0	14	631	1.4	A	0	19	631	1.4	A	0	25
		EBR	53	1.1	A	0	12	57	1.2	A	0	22	56	1.2	A	0	14	56	1.2	A	0	14	56	1.3	A	0	19	57	1.3	A	0	25
		WBL	51	14.9	B	10	153	50	8.6	A	6	133	51	9.1	A	6	133	50	9.2	A	6	141	51	9.4	A	6	144	49	9.3	A	7	142
		WBT	492	1.9	A	4	135	372	3.3	A	3	136	369	3.6	A	3	158	371	3.2	A	4	161	371	3.1	A	3	130	370	2.9	A	3	153
		WBR	753	3.7	A	4	135	892	5.5	A	3	136	895	5.6	A	3	158	889	5.5	A	4	161	898	5.2	A	3	130	891	5.3	A	3	153
		WBU	99	16.8	B	14	137	98	10.6	B	8	115	98	11.4	B	9	120	97	10.9	B	9	123	99	11.2	B	10	127	98	10.9	B	9	124
		Overall		3.7	A				4.3	A				4.4	A				4.3	A				4.2	A				4.2	A		
US 27 at NW 38 Ave	U	NBL	1486	0.9	A	0	25	1585	0.9	A	1	34	1574	0.9	A	1	53	1587	1.0	A	1	44	1585	0.9	A	1	37	1585	0.9	A	0	25
		NBR	25	613.0	F	233	336	21	968.6	F	389	503	25	914.4	F	365	482	24	857.3	F	353	463	22	1002.5	F	388	499	23	957.0	F	373	487
		EBT	2095	24.3	C	692	1609	2040	29.3	C	1178	2076	2048	27.8	C	1034	1875	2036	29.0	C	1018	1869	2042	28.8	C	1049	1895	2057	27.5	C	1059	1925
		EBR	11	12.0	B	692	1609	21	22.3	C	1178	2076	22	17.5	B	1034	1875	22	18.8	B	1018	1869	21	17.6	B	1049	1895	22	16.6	B	1059	1925
		WBL	31	34.4	C	7	52	42	34.4	C	8	61	43	39.9	D	10	67	42	36.0	D	9	64	41	36.9	D	9	63	43	34.3	C	8	60
		WBT	10	110.9	F	1	62	11	296.8	F	1	66	13	276.9	F	1	70	13	288.3	F	1	67	12	314.3	F	1	62	12	290.2	F	1	63
		Overall		17.4	B				20.9	C				20.6	C				20.4	C				21.1	C				19.6	B		
NW 49 St at I-75 SB	S	EBT						454	22.4	C	43	208	232	33.1	C	29	144	455	28.2	C	52	269	454	28.3	C	50	250	456	12.6	B	20	218
		EBR						509	3.1	A	4	132	510	3.9	A	1	94	511	3.6	A	4	143	510	3.0	A	3	114	512	2.8	A	8	201
		WBL						747	6.3	A	17	167	343	37.7	D	48	177	745	12.9	B	33	264	752	6.9	A	17	150	344	24.9	C	89	421
		WBT						343	48.9	D	63	182	314	17.6	B	20	127	342	42.7	D	55	168	342	37.7	D	49	190	746	45.0	D	180	557
		SBL						166	34.3	C	36	185	166	33.9	C	26	117	166	34.1	C	35	175	168	35.1	D	37	189	167	24.1	C	27	166
		SBR						180	9.8	A	16	161	180	10.2	B	17	149	180	9.4	A	16	154	181	9.7	A	16	159	179	14.9	B	17	161
		Overall							16.9	B				5.5	A				19.3	B				16.7	B				23.3	C		
NW 49 St at I-75 NB	S	EBL						223	21.7	C	0	2	224	31.2	C	27	151	224	0.6	A	0	13	223	8.3	A	3	126	223	4.2	A	5	90
		EBT						398	7.4	A	10	143	232	33.1	C	29	144	396	4.3	A	7	82	692	0.1	A	0	39	398	31.5	C	54	237
		WBR						182	0.6	A	0	3	182	1.0	A	0	29	182	0.6	A	1	39	182	0.3	A	0	0	182	0.4	A	0	4
		WBT						658	18.2	B	48	258	314	17.6	B	20	127	841	8.3	A	23	197	659	0.4	A	0	20	659	10.5	B	24	192
		NBL						433	32.9	C	56	215	430	37.7	D	61	221	432	31.8	C	55	216	438	34.9	C	147	409	431	36.7	D	64	228
		NBR						304	9.2	A	25	182	302	9.2	A	26	192	303	8.6	A	5	151	296	13.7	B	38	203		8.8	A	15	184
		Overall							16.8	B				5.5	A				12.7	B				8.3	A				17.8	B		

[1]*Volume in vph; delay in sec/veh; LOS is Estimated LOS using HCM2010 thresholds; Queue Lengths in feet*

Table 6-8: 2045 Vissim Intersection Delay & LOS Summary (PM Peak)

Intersection	Control	MVMT	2045 PM Peak[1]																												
			No Build					Diamond					SPUI					Parclo SE					Parclo NE					DDI				
			Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ
NW 49 St at NW 44 Ave	S	NBL	10	26.5	C	2	31	13	28.3	C	2	29	13	28.7	C	2	30	13	28.3	C	2	31	13	28.6	C	2	29	13	26.8	C	2	30
		NBT	328	30.0	C	58	265	283	31.6	C	33	148	284	32.4	C	34	147	282	31.4	C	33	148	283	32.1	C	34	146	279	32.5	C	34	151
		NBR	218	21.4	C	0	11	412	10.3	B	0	20	413	10.3	B	0	18	412	10.1	B	0	19	413	10.5	B	0	21	411	10.6	B	0	23
		SBL	250	16.1	B	21	176	520	40.1	D	92	410	519	39.7	D	90	394	519	39.0	D	88	396	518	40.0	D	91	384	521	39.4	D	88	391
		SBT	295	11.8	B	11	104	300	12.8	B	13	122	300	13.4	B	14	118	300	12.5	B	12	112	300	13.2	B	13	112	301	12.7	B	12	114
		SBR	8	8.0	A	27	156	5	14.4	B	13	122	5	14.5	B	14	118	5	13.7	B	12	112	5	14.5	B	13	112	5	11.5	B	12	114
		EBL	4	32.0	C	3	41	4	45.3	D	5	59	4	45.3	D	5	59	4	45.3	D	5	59	4	45.3	D	5	59	4	59.3	E	6	57
		EBT	9	39.1	D	3	41	12	46.6	D	5	59	12	46.6	D	5	59	12	46.6	D	5	59	12	46.6	D	5	59	12	43.8	D	6	57
		EBR	12	7.1	A	6	61	15	9.2	A	3	90	15	9.3	A	3	90	15	9.4	A	3	90	15	9.3	A	3	90	15	11.8	B	3	88
		WBL	300	29.7	C	104	403	360	39.2	D	56	199	363	25.9	C	37	182	362	45.6	D	61	205	357	31.1	C	45	195	361	37.2	D	51	224
		WBT	20	40.4	D	104	403	18	49.0	D	107	337	18	33.3	C	63	308	18	57.3	E	117	397	19	38.5	D	83	300	18	44.8	D	98	390
		WBR	414	26.7	C	124	429	576	45.5	D	107	337	579	28.6	C	63	308	580	52.3	D	117	397	574	36.9	D	83	300	579	42.3	D	98	390
		Overall		23.5	C				32.0	C				26.2	C				34.2	C				28.8	C				31.0	C		
SR 326 at NW 44 Ave	S	NBL	82	154.7	F	589	777	40	25.5	C	18	150	40	27.6	C	18	152	39	26.5	C	17	147	41	27.2	C	18	150	41	25.5	C	17	150
		NBR	319	196.5	F	587	773	129	30.0	C	26	145	129	29.6	C	25	147	128	30.0	C	25	142	128	30.6	C	26	145	130	29.4	C	25	145
		SBL	326	41.5	D	124	489	307	26.8	C	59	307	306	25.9	C	56	296	305	26.7	C	59	299	305	26.0	C	57	303	307	26.0	C	57	288
		SBT	61	45.4	D	124	489	21	28.9	C	59	307	21	28.1	C	56	296	21	27.9	C	59	299	21	27.7	C	57	303	21	30.0	C	57	288
		SBR	178	4.2	A	1	57	170	2.4	A	1	64	170	2.5	A	1	56	170	2.5	A	1	61	170	2.5	A	1	64	170	2.3	A	1	58
		EBT	462	22.5	C	47	244	424	19.7	B	34	196	421	19.7	B	34	199	425	19.9	B	35	197	423	20.0	B	35	206	422	19.8	B	35	193
		EBR	60	16.9	B	1	48	25	13.3	B	0	12	24	12.9	B	0	13	24	14.8	B	0	8	24	15.6	B	0	15	24	14.1	B	0	8
		WBL	189	47.4	D	54	225	86	25.0	C	10	101	88	25.4	C	10	102	87	24.9	C	9	99	87	24.5	C	9	108	86	24.6	C	9	102
		WBT	357	22.2	C	35	185	413	21.9	C	38	185	416	21.7	C	37	191	415	22.2	C	38	179	420	22.2	C	40	197	411	21.1	C	37	185
		Overall		59.2	E				21.1	C				20.8	C				21.2	C				21.1	C				20.6	C		
SR 326 at I-75 NB	S	NBL	242	37.1	D	56	258	186	33.5	C	40	208	186	33.5	C	39	205	188	33.4	C	40	217	192	33.6	C	41	216	187	33.2	C	39	220
		NBR	1055	14.5	B	167	1107	1114	9.6	A	58	735	1115	10.2	B	66	795	1114	9.6	A	59	808	1113	9.8	A	69	838	1114	9.8	A	62	795
		EBL	206	25.9	C	32	232	162	23.5	C	19	183	162	22.6	C	17	182	162	23.1	C	18	175	161	23.0	C	17	179	162	23.7	C	18	181
		EBT	686	7.2	A	13	150	497	6.6	A	9	133	497	6.3	A	8	123	496	6.7	A	9	126	499	6.1	A	8	124	496	6.4	A	8	124
		WBT	1141	55.4	E	4379	4874	1296	43.6	D	3371	4277	1304	42.3	D	3077	4049	1294	43.0	D	3057	4013	1318	41.8	D	2619	3734	1299	42.8	D	3210	4081
		WBR	446	48.4	D	4312	4805	495	37.0	D	3250	4189	502	36.6	D	2606	3681	498	37.3	D	2933	3923	506	35.2	D	1913	2903	499	36.0	D	2620	3547
		Overall		31.5	C				26.3	C				25.9	C				26.1	C				25.5	C				25.9	C		
US 27 at I-75 SB	S	SBL	130	49.8	D	39	194	190	56.4	E	80	314	191	53.5	D	78	307	190	53.1	D	75	299	191	52.3	D	69	283	189	56.2	E	82	302
		SBR	90	3.1	A	0	0	137	9.5	A	0	6	137	9.7	A	0	3	138	9.3	A	0	0	139	6.8	A	0	0	137	10.6	B	0	4
		EBT	1245	38.2	D	262	736	1256	28.7	C	175	674	1264	29.6	C	187	672	1259	31.0	C	189	658	1252	29.2	C	175	658	1250	28.6	C	175	668
		EBR	553	22.3	C	96	597	503	26.8	C	104	506	504	20.7	C	72	489	505	22.9	C	77	501	498	27.2	C	96	523	497	25.3	C	93	487
		WBL	547	15.3	B	77	402	508	20.5	C	88	401	514	15.7	B	71	396	513	16.9	B	74	397	507	18.5	B	79	397	507	18.2	B	79	393
		WBT	1900	14.6	B	89	382	1879	8.2	A	51	338	1892	5.9	A	41	329	1897	9.6	A	59	339	1892	6.4	A	43	339	1879	8.5	A	53	348
		Overall		23.0	C				19.7	B				17.6	B				19.8	B				18.3	B				19.2	B		
US 27 at I-75 NB	S	NBL	613	45.5	D	166	501	550	32.4	C	67	256	550	31.3	C	65	255	549	34.5	C	72	282	550	31.0	C	64	250	549	32.4	C	67	262
		NBR	626	55.1	E	163	633	556	34.1	C	55	227	558	32.4	C	51	224	555	40.2	D	67	289	556	31.5	C	51	223	556	33.4	C	52	215
		EBL	71	27.3	C	4	58	100	26.6	C	7	86	101	27.1	C	8	90	100	29.0	C	9	97	99	26.1	C	7	95	100	27.5	C	8	90
		EBT	1297	27.8	C	52	320	1339	15.6	B	27	255	1356	15.3	B	25	253	1341	19.2	B	34	276	1337	14.4	B	26	259	1337	14.9	B	26	247
		WBT	1291	31.6	C	137	738	1335	25.7	C	105	661	1346	24.0	C	98	631	1352	25.3	C	108	682	1344	24.6	C	104	667	1338	26.0	C	110	676
		WBT>L	548	59.7	E	300	1030	508	53.3	D	222	848	518	45.5	D	180	760	516	47.7	D	185	785	510	47.5	D	187	773	510	51.1	D	205	772
		WBR	141	17.7	B	0	22	181	15.5	B	0	43	180	14.9	B	0	35	182	14.4	B	0	36	183	14.4	B	0	39	179	15.2	B	0	31
		Overall		38.5	D				27.2	C				25.5	C				28.6	C				25.4	C				26.8	C		

[1]*Volume in vph; delay in sec/veh; LOS is Estimated LOS using HCM2010 thresholds; Queue Lengths in feet*

(*continued next page*)

Intersection	Control	MVMT	2045 PM Peak[1]																												
			No Build					Diamond					SPUI					Parclo SE					Parclo NE					DDI				
			Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ	Vol	Delay	LOS	AvgQ	MaxQ
US 27 at NW 35 Ave Rd	S	NBL	35	78.2	E	23	132	36	79.1	E	23	134	35	77.8	E	25	135	36	78.6	E	23	132	36	78.4	E	24	132	35	78.6	E	24	132
		NBT	11	70.9	E	23	132	9	64.2	E	23	134	9	75.7	E	25	135	9	66.6	E	23	132	9	68.2	E	24	132	9	67.0	E	24	132
		NBR	16	35.0	C	30	147	17	31.6	C	30	149	17	28.9	C	32	150	17	31.4	C	30	148	17	33.2	C	31	148	17	33.0	C	31	148
		SBL	220	121.0	F	236	720	199	121.7	F	259	601	202	113.8	F	207	522	203	116.2	F	220	539	202	109.0	F	120	398	201	110.5	F	295	644
		SBT	10	113.4	F	6	43	8	106.9	F	4	34	8	94.9	F	3	32	8	99.8	F	3	33	8	94.7	F	3	31	8	101.7	F	3	32
		SBR	664	107.0	F	799	1359	691	112.2	F	981	1499	700	102.9	F	883	1416	701	107.2	F	884	1390	698	103.4	F	885	1421	691	98.6	F	819	1362
		EBL	490	59.9	E	473	1109	497	51.9	D	325	1059	503	53.3	D	324	1061	498	57.0	E	390	1114	495	52.5	D	314	1052	501	53.7	D	324	1122
		EBT	1396	15.7	B	55	632	1360	13.3	B	32	451	1373	13.8	B	49	608	1357	14.7	B	46	495	1356	13.9	B	48	607	1360	13.9	B	38	543
		EBR	33	12.1	B	0	41	34	8.9	A	0	34	34	9.9	A	0	37	33	9.6	A	0	33	34	10.0	A	0	43	35	9.4	A	0	39
		WBL	24	55.8	E	1	35	25	52.7	D	2	39	24	49.6	D	2	35	25	53.3	D	2	37	24	47.4	D	1	37	24	52.0	D	1	35
		WBT	1283	88.3	F	2692	2976	1301	87.2	F	2688	2979	1311	85.6	F	2691	2976	1318	84.5	F	2686	2978	1313	86.7	F	2689	2977	1304	86.5	F	2686	2979
		WBR	223	44.4	D	2359	2643	195	44.7	D	2354	2645	194	43.3	D	2357	2642	197	42.8	D	2352	2645	194	43.3	D	2355	2643	195	41.6	D	2353	2645
		Overall		63.3	E				62.4	E				60.5	E				61.8	E				60.8	E				59.7	E		
US 27 at NW 44 Ave	S	NBL	61	55.8	E	20	94	40	52.9	D	13	73	39	51.6	D	13	73	39	50.7	D	12	72	39	54.4	D	13	72	39	53.8	D	13	72
		NBT	7	59.8	E	2	20	4	51.6	D	1	15	4	55.5	E	1	15	4	55.4	E	1	15	4	57.9	E	1	16	4	59.0	E	1	15
		NBR	150	9.9	A	8	115	87	6.8	A	3	59	88	6.6	A	3	60	87	7.1	A	3	64	87	9.3	A	4	71	87	7.2	A	4	68
		SBL	422	48.3	D	79	268	334	45.3	D	62	214	335	45.3	D	61	209	334	45.1	D	60	199	333	45.3	D	61	202	334	45.6	D	61	201
		SBT	13	35.4	D	79	268	5	33.2	C	62	214	6	42.0	D	61	209	6	37.5	D	60	199	6	38.6	D	61	202	6	36.1	D	61	201
		SBR	207	19.8	B	90	282	173	17.9	B	73	229	172	19.0	B	73	224	173	18.6	B	72	214	173	18.8	B	72	216	173	17.8	B	72	216
		EBL	184	136.4	F	1402	2176	159	74.4	E	253	915	158	74.8	E	251	930	161	75.4	E	232	889	159	77.5	E	272	980	159	75.6	E	225	910
		EBT	1241	71.4	E	1380	2157	1354	30.6	C	258	930	1353	30.6	C	249	919	1358	29.6	C	231	878	1346	33.4	C	265	997	1349	30.1	C	226	913
		EBR	49	61.8	E	30	52	33	27.7	C	0	0	33	26.4	C	0	0	34	26.9	C	0	0	34	28.6	C	0	0	34	25.7	C	0	0
		WBL	61	48.0	D	7	89	39	37.6	D	4	55	39	35.2	D	4	55	39	36.2	D	3	55	39	38.4	D	4	57	39	35.2	D	3	51
		WBT	1526	60.1	E	1793	2432	1654	48.3	D	1066	1874	1657	47.1	D	886	1743	1674	49.0	D	1234	2027	1667	51.0	D	1083	1985	1668	48.4	D	1047	1853
		WBR	366	37.3	D	37	244	287	28.2	C	20	185	288	27.1	C	20	181	292	29.1	C	20	180	290	30.1	C	22	187	290	28.7	C	20	180
		Overall		59.5	E				39.6	D				39.1	D				39.7	D				41.9	D				39.6	D		
SR 326 at I-75 SB Slip & Loop Ramps	U	NBR	34	11.1	B	3	75	31	9.6	A	3	73	31	9.6	A	3	72	31	9.1	A	3	73	31	8.8	A	3	74	31	9.2	A	3	71
		EBT	812	1.1	A	0	7	582	0.9	A	0	10	580	0.9	A	0	20	580	0.9	A	0	12	581	0.9	A	0	13	581	0.9	A	0	12
		EBR	28	1.0	A	0	7	38	1.1	A	0	10	38	1.1	A	0	20	38	1.0	A	0	12	38	1.1	A	0	13	38	1.0	A	0	12
		WBL	10	11.5	B	2	85	32	6.7	A	1	75	33	6.2	A	2	77	32	6.8	A	1	73	32	6.3	A	1	81	32	6.9	A	1	72
		WBT	548	2.3	A	5	161	502	3.6	A	4	155	504	3.5	A	4	177	502	3.4	A	3	153	508	3.7	A	3	146	501	3.7	A	3	139
		WBR	756	4.4	A	5	161	874	5.5	A	4	155	880	5.6	A	4	177	874	5.5	A	3	153	890	5.6	A	3	146	877	5.6	A	3	139
		WBU	49	14.0	B	5	74	46	7.5	A	3	65	47	8.2	A	3	69	46	7.5	A	3	63	47	8.0	A	3	82	45	8.0	A	2	64
		Overall		3.0	A				3.7	A				3.8	A				3.7	A				3.8	A				3.8	A		
US 27 at NW 38 Ave	U	NBL	1954	13.7	B	67	315	1974	5.4	A	20	141	1986	2.9	A	5	91	1994	7.6	A	32	218	1987	3.3	A	7	124	1974	5.1	A	22	141
		NBR	25	191.8	F	41	116	36	75.2	E	21	98	37	73.0	E	21	101	37	79.3	E	19	93	37	62.0	E	18	92	37	45.4	D	13	86
		EBT	1777	16.5	B	230	669	1731	9.8	A	77	374	1738	9.9	A	80	366	1731	10.0	A	88	334	1717	11.7	B	118	424	1714	9.3	A	51	318
		EBR	24	9.3	A	230	669	34	6.0	A	77	374	33	6.8	A	80	366	33	5.6	A	88	334	33	7.2	A	118	424	33	6.1	A	51	318
		WBL	24	59.4	E	18	86	37	40.0	D	13	81	38	17.9	B	4	57	37	44.4	D	20	130	38	18.8	B	5	57	38	33.7	C	16	104
		WBT	23	190.4	F	37	118	21	60.7	E	8	87	22	20.5	C	3	85	22	99.6	F	11	93	23	22.1	C	3	85	22	82.5	F	7	89
		Overall		17.3	B				8.7	A				7.1	A				10.1	B				7.8	A				8.1	A		
NW 49 St at I-75 SB	S	EBT						508	18.2	B	35	251	320	33.0	C	40	189	507	29.9	C	61	256	507	20.1	C	39	219	509	12.3	B	21	202
		EBR						435	2.0	A	1	77	435	3.0	A	1	56	436	2.4	A	2	93	434	2.2	A	2	89	434	2.3	A	10	265
		WBL						744	2.9	A	8	96	285	37.6	D	40	146	740	20.9	C	58	323	726	6.9	A	16	147	285	27.3	C	84	357
		WBT						283	30.9	C	34	149	226	16.9	B	14	96	285	35.0	C	39	139	287	42.7	D	46	162	739	46.9	D	176	493
		SBL						196	34.5	C	42	215	195	32.9	C	29	124	195	35.0	C	43	212	195	39.2	D	49	248	196	26.4	C	34	207
		SBR						217	10.0	A	20	177	217	10.9	B	22	170	217	9.5	A	20	165	219	10.3	B	21	180	219	14.8	B	20	171
		Overall							12.6	B				5.7	A				21.2	C				16.1	B				24.4	C		
NW 49 St at I-75 NB	S	EBL						190	29.5	C	0	8	189	31.2	C	25	132	187	0.4	A	0	7	194	4.2	A	1	56	189	9.1	A	15	177
		EBT						517	5.8	A	8	152	320	33.0	C	40	189	515	12.1	B	23	155	861	0.1	A	0	25	516	36.3	D	84	328
		WBR						157	0.5	A	0	3	158	0.7	A	0	16	157	0.6	A	1	44	158	0.2	A	0	0	157	0.2	A	0	0
		WBT						512	18.6	B	38	222	226	16.9	B	14	96	671	9.0	A	19	173	512	1.5	A	2	76	511	9.7	A	18	161
		NBL						517	31.1	C	62	230	516	37.8	D	72	251	518	30.3	C	61	238	501	101.6	F	606	942	516	37.9	D	78	256
		NBR						350	9.9	A	30	215	350	10.2	B	33	203	350	9.3	A	10	182	349	19.3	B	65	254		10.1	B	20	209
		Overall							16.8	B				5.7	A				15.2	B				23.9	C				21.8	C		

[1]Volume in vph; delay in sec/veh; LOS is Estimated LOS using HCM2010 thresholds; Queue Lengths in feet

NW 49th Street displays acceptable overall intersection LOS at NW 44th Avenue and both I-75 northbound and southbound ramp intersections. Under all scenarios, the overall LOS meets the LOS D target or performs better. However, it is worth noting that the northbound left-turn movement under the Parclo-NE alternative is projected to fail during the PM peak hour.

In general, most intersection results are similar to those obtained from the Synchro analysis. Lower delays are observed in the Vissim analysis for the intersections of SR 326 at I-75 northbound ramps, US 27 at northbound ramps, and US 27 at southbound ramps. Although lower delays are recorded for the subject intersections, arterial through movement queue lengths are extensive and indicative of the oversaturated conditions and high delays obtained in from the Synchro analysis.

6.2.4.3 Vissim Analysis Results – Roadway Links

Tables 6-9 and **6-10** summarize the average speeds and average travel times during the AM and PM peak hours.

The Build alternatives generally maintain good operating conditions. The lowest average speeds on the I-75 mainline basic segments occur south of US 27 and range between 42 and 59 mph. Speeds steadily increase to the north; both northbound and southbound. NW 49th Street between NW 44th Avenue and I-75 has average speeds between 18 and 22 mph westbound and between 25 and 29 mph eastbound. US 27 operates at a lowest average speed of approximately 25 mph in the eastbound direction west of I-75 during the AM peak hour, and approximately 24 mph in the eastbound direction east of I-75 during the AM peak hour. SR 326 average speeds on both sides of I-75 are greater than 32 mph in both direction except the westbound segment east of I-75 exhibiting speeds under 25 mph during both peak hours.

Compared to No Build conditions, the Build alternatives show very similar changes amongst each other in terms of average speed. Across all build alternatives average speeds improve during both the AM and PM peak hours on the following segments:

- I-75 northbound, south of US 27
- I-75 southbound Off-Ramp to SR 326
- I-75 northbound On-Ramp from SR 326
- I-75 northbound Off-Ramp to US 27
- SR 326 eastbound, west of I-75
- SR 326 westbound, east of I-75

- NW 44th Avenue northbound, south of NW 49th Street
- NW 44th Avenue northbound, south of SR 326
- US 27 eastbound, east of I-75

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Table 6-9: 2045 Vissim Average Speed Summary (mph)

Location		2045 AM Peak						2045 PM Peak					
		No Build	Diamond	SPUI	Parclo SE	Parclo NE	DDI	No Build	Diamond	SPUI	Parclo SE	Parclo NE	DDI
I-75 Ramps	I-75 SB Off-Ramp to SR 326	38.6	42.6	42.6	42.5	42.5	42.6	40.2	42.6	42.6	42.6	42.6	42.6
	I-75 NB Off-Ramp to SR 326	32.6	32.5	32.9	32.7	32.3	33.0	31.3	33.1	32.8	33.2	32.8	33.2
	I-75 SB On-Ramp from SR 326	35.3	35.2	35.3	35.2	35.3	35.3	35.2	35.1	35.1	35.1	35.0	35.1
	I-75 SB On-Ramp from SR 326 (Loop)	41.6	41.1	41.0	41.2	41.1	41.0	41.5	41.0	41.1	41.2	41.1	41.1
	I-75 NB On-Ramp from SR 326	15.4	31.1	31.1	31.0	31.0	31.1	15.5	31.2	31.2	31.2	31.2	31.2
	I-75 SB Off-Ramp to US 27	36.5	34.5	34.5	34.4	34.3	34.5	36.6	34.8	34.6	34.6	34.8	34.5
	I-75 NB Off-Ramp to US 27	55.8	60.8	59.0	60.5	59.3	61.6	58.8	64.3	64.7	63.7	64.6	64.4
	I-75 SB On-Ramp from US 27	35.5	35.6	35.6	35.6	35.6	35.6	35.4	32.3	34.3	33.8	32.7	33.8
	I-75 NB On-Ramp from US 27	33.6	33.6	33.6	33.6	33.5	33.6	33.7	33.6	33.6	33.6	33.6	33.6
	I-75 SB Off-Ramp to NW 49 St		35.6	35.6	35.6	35.6	40.6		35.5	35.6	35.5	35.5	40.6
	I-75 NB Off-Ramp to NW 49 St		35.3	35.1	35.4	35.7	30.4		35.2	34.9	35.3	35.7	30.3
	I-75 SB On-Ramp from NW 49 St		34.6	34.8	34.0	33.9	29.5		32.2	35.0	34.7	34.3	29.9
	I-75 NB On-Ramp from NW 49 St		34.2	34.3	35.8	35.4	30.7		33.1	34.8	35.8	34.6	30.8
	I-75 NB Loop (Parclo SE On/Parclo NE Off)				35.6	39.8					35.7	29.3	
I-75 Mainline	I-75 NB S of US 27	55.3	63.6	61.1	63.0	62.8	62.6	61.9	64.7	64.7	64.7	64.7	64.7
	I-75 SB S of US 27	62.3	62.0	62.5	62.0	62.5	62.6	58.9	46.3	48.0	47.9	42.5	48.7
	I-75 NB N of US 27	66.9	66.2	66.3	66.3	66.4	66.3	67.4	66.6	66.8	66.7	66.8	67.0
	I-75 SB N of US 27	67.4	66.9	66.9	66.9	66.9	66.9	67.3	66.6	66.6	66.8	66.6	66.7
	I-75 NB S of SR 326	60.9	63.2	63.6	63.5	63.3	63.2	60.6	62.6	62.8	62.9	62.6	62.4
	I-75 SB S of SR 326	65.5	65.2	65.2	65.2	65.2	65.3	64.9	64.4	64.1	64.4	64.2	64.3
	I-75 NB N of SR 326	67.2	67.1	67.2	67.2	67.2	67.2	67.8	67.8	67.8	67.8	67.8	67.8
	I-75 SB N of SR326	68.6	68.6	68.6	68.6	68.6	68.6	68.3	68.1	68.1	68.1	68.1	68.1
US 27	US 27 EB W of I-75	25.1	25.2	25.3	25.2	25.1	25.5	28.9	31.3	31.6	30.8	31.3	31.0
	US 27 WB W of I-75	43.2	43.2	43.2	43.2	43.2	43.2	32.8	37.7	39.0	36.5	37.5	37.7
	US 27 EB E of I-75	24.0	24.5	23.4	24.3	23.7	24.6	25.0	28.6	28.3	27.1	28.7	28.6
	US 27 WB E of I-75	26.8	33.5	33.9	33.3	33.7	33.9	28.6	30.1	30.6	30.8	31.1	30.4
	US 27 EB E of NW 35 Ave Rd	42.7	42.7	42.7	42.7	42.8	42.7	43.0	42.9	42.9	43.0	42.9	42.9
	US 27 WB E of NW 35 Ave Rd	31.0	34.7	34.7	34.6	34.9	35.2	30.6	30.9	30.7	31.4	31.1	31.0
NW 44 Ave	NW 44 Av NB S of NW 49 St	38.1	42.6	42.6	42.7	42.7	42.7	38.2	41.6	41.5	41.6	41.5	41.5
	NW 44 Av SB S of NW 49 St	43.0	41.9	42.0	42.0	42.0	41.8	43.1	42.2	42.3	42.3	42.3	42.1
	NW 44 Av NB N of NW 49 St	40.8	39.2	39.3	39.4	39.3	39.2	40.5	39.5	39.5	39.5	39.5	39.4
	NW 44 Av SB N of NW 49 St	38.9	32.8	32.0	31.7	32.1	32.5	41.7	34.8	34.9	35.0	34.9	35.2
	NW 44 Ave NB S of SR 326	15.4	18.9	19.1	19.0	19.0	19.0	14.1	18.9	18.8	18.8	18.7	18.8
	NW 44 Ave SB S of SR 326	28.9	29.0	28.9	28.9	29.0	28.9	28.8	28.8	28.8	28.7	28.9	28.8
SR 326	SR 326 EB W of I-75	39.9	40.6	40.6	40.7	40.6	40.7	40.3	41.3	41.2	41.2	41.1	41.3
	SR 326 WB W of I-75	34.4	34.9	35.1	35.3	35.5	35.3	32.5	32.9	32.7	32.5	32.7	33.0
	SR 326 EB E of I-75	43.8	43.9	43.9	43.9	43.9	43.9	43.8	43.9	43.9	43.9	43.9	44.0
	SR 326 WB E of I-75	22.5	25.9	26.3	25.4	25.4	25.5	21.3	23.0	24.4	24.3	24.5	24.1
NW 49 St	NW 49 St EB W of I-75		28.3	28.6	25.9	28.4	24.9		27.8	28.7	25.6	29.5	26.1
	NW 49 St WB W of I-75		21.5	20.3	20.5	20.6	18.3		20.2	20.2	21.0	20.7	18.6
	NW 49 St EB E of I-75		32.5	36.0	35.3	35.8	30.4		31.9	35.9	35.2	35.8	30.4
	NW 49 St WB E of I-75		34.5	35.8	34.6	35.9	30.5		34.9	36.0	35.0	36.1	30.7

Table 6-10: 2045 Vissim Average Travel Times (sec)

Segment		2045 AM Peak Hour						2045 PM Peak Hour					
		No Build	Diamond	SPUI	Parclo SE	Parclo NE	DDI	No Build	Diamond	SPUI	Parclo SE	Parclo NE	DDI
US 27	US 27 EB from W of NW 44 Ave to I-75	448	393	384	389	388	387	311	177	178	178	185	172
	US 27 EB from I-75 to NW 35 Ave Rd	41	40	41	41	42	40	42	34	34	37	34	35
	US 27 EB from NW 35 Ave Rd to E of NW 35 Ave Rd	24	24	24	24	24	24	24	24	24	24	24	24
	US 27 WB from E of NW 35 Ave Rd to NW 35 Ave Rd	181	89	94	88	88	82	359	359	359	354	359	356
	US 27 WB from NW 35 Ave Rd to I-75	49	32	32	33	32	31	48	43	41	42	41	42
	US 27 WB from I-75 to W of NW 44 Ave	108	104	105	105	103	104	217	162	150	172	163	162
SR 326	SR 326 EB from W of I-75 to I-75	52	50	49	49	49	49	52	49	49	49	49	49
	SR 326 EB from I-75 to E of I-75	21	21	21	21	21	21	21	21	21	21	21	21
	SR 326 WB from E of I-75 to I-75	173	132	132	133	130	132	197	153	142	144	135	146
	SR 326 WB from I-75 to W of I-75	8	7	7	7	7	7	8	8	8	8	8	8
NW 44 Ave	NW 44 Ave NB from S of NW 49 St to NW 49 St	21	17	17	17	17	17	20	18	18	18	18	18
	NW 44 Ave NB from NW 49 St to N of NW 49 St	12	12	12	12	12	12	12	12	12	12	12	12
	NW 44 Ave SB from N of NW 49 St to NW 49 St	7	9	10	11	10	10	7	8	8	8	8	8
	NW 44 Ave SB from NW 49 St to S of NW 49 St	19	20	20	20	20	20	19	20	20	20	20	20
NW 49 St	NW 49 St EB from NW 44 Ave to E of I-75	12	66	58	65	64	74	12	66	59	67	64	74
	NW 49 St WB from E of I-75 to NW 44 Ave	26	76	66	64	61	93	26	76	70	72	61	93

6.2.4.4 Vissim Analysis Results – Freeway Links

Volume, speed, and density time plots for I-75 are provided in **Figures 6-17** through **6-40**. In general, the majority of segments are able to process demand volumes and speeds are mostly maintained within 5-10 mph of the 70 mph posted speed limit. Similar to the results obtained in HCS, operating speeds decrease, and densities increase within the vicinity of the US 27 interchange. The lowest average speeds occur on the I-75 basic segments south of US 27, 41.4 mph during the AM peak period in the northbound direction and 48.5 mph during the PM peak period in the southbound direction. In addition, the volume time plots reveal that during the AM peak period, northbound I-75 segments north of US 27 result in a difference of more than 400 vph between processed and demand volume for time periods 2, 5, and 8. However, the model does recover processing demand volumes to within the 400 vph threshold in the last four (4) time periods or beyond the 400 vph threshold of additional vehicles processed when compared to demand.

The five (5) build alternatives generally show similar results and trends as the No Build condition with reduced speeds and higher density in proximity to the US 27 interchange. The increase in overall demand volumes on the I-75 mainline results in reduced speeds on the I-75 southbound and US 27 merge segment falling below 30 mph for most of the PM peak period.

Overall, these operational results trends are similarly observed in the HCS analysis.

Figure 6-17: No Build 2045 Speed and Density Time Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)								
12	67.0	66.6	67.2	67.5	66.9	65.0	67.4	65.8	66.7
11	66.3	63.1	66.0	66.9	66.7	63.5	67.0	65.8	66.7
10	65.1	58.1	65.8	67.4	66.9	64.9	67.4	65.7	66.7
9	64.2	54.0	65.1	67.2	66.8	65.1	67.5	65.8	66.8
8	59.2	43.2	62.7	66.7	66.6	61.3	66.8	65.7	66.5
7	58.1	41.4	63.3	66.8	66.4	60.0	66.7	65.3	66.3
6	64.0	54.8	65.1	67.1	66.5	61.1	66.4	65.5	66.3
5	66.1	64.9	65.8	67.3	66.7	64.7	67.4	65.5	66.8
4	66.9	66.2	66.8	67.6	66.9	64.7	67.4	66.0	66.8
3	67.1	66.6	67.2	67.7	67.1	65.4	67.7	66.4	67.3
2	67.4	66.9	67.5	67.9	67.5	66.1	68.2	66.5	67.6
1	68.0	67.1	68.0	68.2	67.9	66.7	68.5	67.1	68.2
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	16,377	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)								
12	26.1	26.4	21.2	22.3	22.8	23.8	17.5	21.3	21.1
11	28.9	30.8	23.6	24.5	24.3	25.6	18.4	21.9	21.6
10	29.6	37.5	22.7	23.2	23.5	24.2	17.7	21.5	21.2
9	30.2	43.7	23.3	23.4	23.6	24.3	17.8	21.6	21.4
8	34.7	53.3	25.2	24.8	25.0	28.2	19.3	23.0	22.9
7	38.8	57.5	26.1	25.7	25.9	32.5	19.8	23.8	23.4
6	33.5	44.0	25.4	25.9	26.2	29.3	20.1	23.8	23.5
5	31.3	31.4	25.1	25.4	25.3	25.6	18.6	22.5	22.1
4	27.1	26.9	21.7	22.5	22.4	23.2	17.0	20.5	20.2
3	25.7	25.4	20.4	21.2	21.3	21.7	15.9	19.1	18.8
2	23.0	22.4	17.9	18.7	18.3	18.2	13.4	16.4	16.0
1	18.1	17.9	14.3	14.9	14.6	14.7	10.7	13.0	12.7
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	16,377	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)										
12	68.8	68.7	68.5	66.1	67.1	66.3	67.5	68.0	67.4	62.5	65.2
11	68.6	68.7	68.3	66.1	67.1	66.1	67.5	68.0	67.2	61.4	64.4
10	68.7	68.6	68.3	66.0	66.9	66.0	67.5	68.0	67.3	62.1	64.8
9	68.7	68.6	68.3	66.0	66.9	66.3	67.5	68.0	67.3	62.3	65.0
8	68.6	68.8	68.4	66.0	66.9	66.2	67.4	68.0	67.2	60.9	64.1
7	68.3	68.2	67.8	66.0	66.2	65.5	67.2	67.9	66.9	60.1	62.7
6	68.3	68.1	67.9	66.2	66.7	65.8	67.2	67.9	67.0	59.9	63.8
5	68.4	68.5	68.1	66.2	66.8	66.0	67.2	67.9	67.1	61.8	64.5
4	68.7	68.6	68.4	66.1	67.1	66.3	67.5	68.1	67.3	62.5	65.2
3	68.8	68.8	68.5	66.3	67.4	66.3	67.6	68.1	67.4	63.8	65.8
2	69.0	69.0	68.7	66.4	67.5	66.7	67.8	68.3	67.6	64.4	66.5
1	69.4	69.3	69.1	66.6	67.9	67.3	68.2	68.5	68.2	65.7	67.6
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	16,086	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)										
12	14.9	14.7	12.9	17.5	17.3	18.8	18.5	18.5	17.7	25.5	24.5
11	16.6	16.3	14.3	18.7	18.4	20.4	20.0	19.8	19.1	27.3	26.0
10	16.1	15.8	13.9	18.4	18.1	19.9	19.4	19.1	18.4	26.3	25.1
9	16.1	15.8	13.8	18.1	17.9	19.5	19.0	18.7	17.9	25.7	24.6
8	15.9	15.6	13.8	18.2	18.0	19.6	19.5	19.7	19.1	27.8	26.3
7	18.8	18.5	16.3	20.6	20.6	22.5	21.8	21.4	20.8	29.5	28.3
6	18.8	18.6	16.2	20.2	20.0	21.9	21.4	21.1	20.4	29.5	27.6
5	18.4	17.9	15.6	19.7	19.5	21.3	20.7	20.2	19.4	27.3	26.1
4	15.7	15.4	13.5	17.8	17.6	19.2	18.7	18.5	17.9	25.2	24.1
3	15.0	14.7	12.9	17.0	16.6	18.3	17.7	17.3	16.7	23.1	22.3
2	13.8	13.4	11.6	15.2	14.8	16.3	15.6	15.3	14.6	19.9	19.3
1	10.8	10.6	9.4	12.3	12.1	13.1	12.7	12.4	11.7	15.9	15.4
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	US 27 Interchange			I-75
Length (ft)	3,001	1,503	2,225	1,499	272	1,500	16,086	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Figure 6-18: No Build 2045 Volume Time Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)									
12	Processed	5249	5256	4278	4518	4569	4620	3534	4208	4226
	Demand	5162	5162	4159	4362	4362	4362	3331	3974	3974
	Diff.	87	94	119	156	207	258	203	234	252
11	Processed	5740	5718	4672	4914	4863	4840	3695	4331	4330
	Demand	5744	5744	4629	4855	4855	4855	3707	4422	4422
	Diff.	-4	-26	43	59	8	-15	-12	-91	-92
10	Processed	5583	5535	4473	4693	4713	4705	3580	4245	4246
	Demand	5578	5578	4495	4714	4714	4714	3600	4294	4294
	Diff.	5	-43	-22	-21	-1	-9	-20	-49	-48
9	Processed	5616	5595	4513	4713	4721	4721	3596	4265	4278
	Demand	5587	5587	4502	4722	4722	4722	3605	4301	4301
	Diff.	29	8	11	-9	-1	-1	-9	-36	-23
8	Processed	5636	5809	4711	4961	5002	5063	3871	4540	4569
	Demand	5458	5458	4398	4613	4613	4613	3522	4202	4202
	Diff.	178	351	313	348	389	**450**	349	338	367
7	Processed	6309	6088	4940	5151	5151	5168	3957	4665	4651
	Demand	6468	6468	5212	5467	5467	5467	4174	4980	4980
	Diff.	-159	-380	-272	-316	-316	-299	-217	-315	-329
6	Processed	6357	6147	4952	5199	5224	5246	3992	4673	4684
	Demand	6506	6506	5243	5499	5499	5499	4199	5009	5009
	Diff.	-149	-359	-291	-300	-275	-253	-207	-336	-325
5	Processed	6201	6055	4930	5131	5050	4960	3760	4426	4425
	Demand	6367	6367	5131	5381	5381	5381	4109	4902	4902
	Diff.	-166	-312	-201	-250	-331	**-421**	-349	**-476**	**-477**
4	Processed	5430	5335	4345	4557	4504	4492	3437	4066	4058
	Demand	5494	5494	4427	4643	4643	4643	3545	4230	4230
	Diff.	-64	-159	-82	-86	-139	-151	-108	-164	-172
3	Processed	5165	5075	4112	4301	4282	4251	3226	3803	3792
	Demand	5248	5248	4229	4435	4435	4435	3387	4040	4040
	Diff.	-83	-173	-117	-134	-153	-184	-161	-237	-248
2	Processed	4661	4507	3631	3803	3715	3599	2733	3270	3254
	Demand	4821	4821	3885	4074	4074	4074	3111	3711	3711
	Diff.	-160	-314	-254	-271	-359	**-475**	-378	**-441**	**-457**
1	Processed	3691	3589	2910	3049	2978	2933	2208	2621	2605
	Demand	3796	3796	3059	3208	3208	3208	2450	2922	2922
	Diff.	-105	-207	-149	-159	-230	-275	-242	-301	-317
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**US 27 Interchange**			**I-75**	**SR 326 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)											
12	Processed	3086	3025	2658	3466	3476	3740	3746	3773	3585	4761	4785
	Demand	3091	3091	2651	3401	3401	3676	3676	3676	3496	4575	4575
	Diff.	-5	-66	7	65	75	64	70	97	89	186	210
11	Processed	3406	3352	2933	3709	3701	4047	4041	4035	3859	5025	5017
	Demand	3440	3440	2950	3785	3785	4091	4091	4091	3890	5092	5092
	Diff.	-34	-88	-17	-76	-84	-44	-50	-56	-31	-67	-75
10	Processed	3323	3260	2852	3640	3640	3935	3917	3911	3724	4888	4879
	Demand	3341	3341	2865	3675	3675	3972	3972	3972	3778	4945	4945
	Diff.	-18	-81	-13	-35	-35	-37	-55	-61	-54	-57	-66
9	Processed	3315	3255	2820	3591	3594	3881	3847	3817	3621	4785	4796
	Demand	3346	3346	2869	3681	3681	3978	3978	3978	3784	4952	4952
	Diff.	-31	-91	-49	-90	-87	-97	-131	-161	-163	-167	-156
8	Processed	3270	3213	2822	3600	3601	3884	3950	4026	3850	5047	5052
	Demand	3269	3269	2803	3596	3596	3887	3887	3887	3697	4838	4838
	Diff.	1	-56	19	4	5	-3	63	139	153	209	214
7	Processed	3856	3786	3318	4082	4082	4429	4399	4368	4177	5285	5303
	Demand	3874	3874	3322	4262	4262	4606	4606	4606	4381	5734	5734
	Diff.	-18	-88	-4	-180	-180	-177	-207	-238	-204	**-449**	**-431**
6	Processed	3856	3794	3296	4012	4002	4324	4305	4306	4098	5268	5265
	Demand	3896	3896	3341	4287	4287	4633	4633	4633	4406	5767	5767
	Diff.	-40	-102	-45	-275	-285	-309	-328	-327	-308	**-499**	**-502**
5	Processed	3778	3686	3190	3910	3904	4210	4173	4111	3902	5042	5043
	Demand	3813	3813	3270	4195	4195	4534	4534	4534	4312	5644	5644
	Diff.	-35	-127	-80	-285	-291	-324	-361	**-423**	**-410**	**-602**	**-601**
4	Processed	3240	3174	2774	3535	3537	3815	3789	3775	3611	4710	4698
	Demand	3290	3290	2821	3620	3620	3912	3912	3912	3721	4870	4870
	Diff.	-50	-116	-47	-85	-83	-97	-123	-137	-110	-160	-172
3	Processed	3095	3038	2651	3367	3363	3638	3580	3543	3381	4406	4393
	Demand	3143	3143	2695	3458	3458	3737	3737	3737	3554	4652	4652
	Diff.	-48	-105	-44	-91	-95	-99	-157	-194	-173	-246	-259
2	Processed	2847	2769	2392	3017	3007	3255	3181	3127	2972	3847	3843
	Demand	2887	2887	2476	3176	3176	3433	3433	3433	3265	4273	4273
	Diff.	-40	-118	-84	-159	-169	-178	-252	-306	-293	**-426**	**-430**
1	Processed	2256	2212	1942	2465	2460	2645	2591	2534	2400	3128	3117
	Demand	2273	2273	1949	2501	2501	2703	2703	2703	2571	3365	3365
	Diff.	-17	-61	-7	-36	-41	-58	-112	-169	-171	-237	-248
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**SR 326 Interchange**					**I-75**	**US 27 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 6-19: No Build 2045 Speed and Density Time Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)								
12	67.7	66.4	67.6	67.9	67.6	64.5	68.3	66.2	67.7
11	66.8	57.9	66.8	67.6	67.4	65.0	68.3	66.1	67.6
10	64.2	54.7	66.1	67.5	67.1	59.4	67.6	66.2	67.4
9	63.9	54.5	66.2	67.4	66.9	58.9	67.6	66.1	67.3
8	66.5	57.1	66.2	67.5	67.0	61.5	67.7	66.1	67.2
7	66.8	64.5	66.9	67.7	67.0	63.5	67.9	66.1	67.3
6	67.0	64.4	67.1	67.6	67.2	58.8	67.7	66.1	67.3
5	66.9	62.5	67.1	67.7	67.1	61.8	67.8	66.1	67.3
4	67.0	66.4	67.4	67.6	67.0	62.8	67.9	65.9	67.3
3	67.0	65.9	67.4	67.7	67.2	63.9	68.0	66.2	67.5
2	67.3	65.3	67.4	67.7	67.3	64.6	68.1	66.2	67.5
1	67.2	66.3	67.5	67.5	67.2	64.4	68.1	66.0	67.6
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	16,377	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)								
12	20.6	20.9	15.9	17.1	17.1	18.3	12.1	15.7	15.4
11	22.8	31.0	17.5	18.4	18.6	19.4	12.9	16.8	16.4
10	27.0	38.7	19.1	19.6	20.0	24.8	14.1	17.8	17.5
9	30.2	39.9	20.4	21.2	21.4	26.2	14.7	18.4	18.1
8	27.5	35.7	20.9	21.6	21.9	24.7	15.2	18.9	18.6
7	27.4	28.4	20.9	21.7	21.6	22.9	14.7	18.3	17.9
6	25.7	26.8	19.3	20.3	20.6	25.5	14.3	18.1	17.8
5	26.4	29.3	20.1	21.0	21.1	23.7	14.5	18.1	17.8
4	26.0	26.0	20.0	20.9	21.2	23.1	14.5	18.4	18.0
3	26.0	25.9	19.4	20.4	20.4	21.5	14.0	17.5	17.1
2	23.3	24.3	18.0	19.1	19.1	20.1	13.3	16.8	16.6
1	24.1	24.1	18.1	19.3	19.4	20.2	13.2	16.7	16.4
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	16,377	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)										
12	68.5	68.2	68.0	65.8	66.6	66.0	67.3	68.0	67.0	60.8	63.2
11	68.4	68.6	68.0	65.9	66.6	65.8	67.1	68.0	66.8	59.1	61.7
10	68.3	68.1	67.6	65.9	66.2	65.5	67.0	67.9	66.5	52.7	59.6
9	67.9	67.6	67.5	65.9	65.6	65.1	66.8	67.8	66.4	49.0	55.8
8	67.6	67.8	67.4	66.1	66.0	65.4	66.7	67.9	66.2	48.1	55.4
7	67.7	67.6	67.3	65.9	65.4	65.0	66.8	67.8	66.1	48.5	57.0
6	68.0	68.3	67.7	66.0	66.0	65.1	66.8	67.7	66.3	51.7	57.8
5	67.9	68.2	67.5	66.0	66.0	65.4	66.8	67.9	66.5	54.8	59.9
4	67.9	67.9	67.4	66.0	65.3	64.9	66.8	67.9	66.4	51.3	57.7
3	67.9	68.4	67.7	66.0	66.0	65.1	66.8	67.7	66.3	56.3	61.3
2	68.3	68.3	67.8	66.0	66.2	65.5	67.1	67.9	66.6	58.7	61.2
1	68.2	68.1	67.7	66.2	66.4	65.9	67.1	68.0	66.8	59.2	62.2
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	16,086	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)										
12	16.9	16.8	15.1	19.8	19.6	21.0	20.7	20.6	20.2	28.2	27.1
11	18.4	18.0	16.3	21.1	20.9	22.7	22.2	22.0	21.6	30.9	29.5
10	19.4	19.3	17.3	21.9	21.8	23.6	23.2	23.3	22.6	36.7	32.2
9	22.3	22.0	19.7	24.1	24.2	26.1	25.3	25.0	24.5	42.2	36.6
8	22.9	22.4	20.1	24.2	24.2	26.0	25.4	24.9	24.6	44.2	37.2
7	23.2	22.9	20.5	24.6	24.7	26.5	25.6	24.9	24.5	42.5	35.2
6	21.5	21.0	18.8	23.2	23.2	25.2	24.6	24.4	23.9	39.8	34.7
5	22.2	21.8	19.7	24.0	23.9	25.6	24.9	24.4	24.0	37.0	33.0
4	21.8	21.5	19.1	23.4	23.7	25.4	24.7	24.3	24.0	40.0	35.0
3	21.9	21.2	19.0	23.5	23.5	25.3	24.3	23.7	23.2	34.3	30.7
2	19.4	19.2	17.3	21.7	21.6	23.3	22.7	22.4	22.1	31.6	30.3
1	20.3	19.9	17.7	21.9	21.9	23.5	22.9	22.6	22.1	31.1	29.5
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	US 27 Interchange			I-75
Length (ft)	3,001	1,503	2,225	1,499	272	1,500	16,086	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Figure 6-20: No Build 2045 Volume Time Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)									
12	Processed	4180	4154	3231	3474	3475	3514	2471	3108	3118
	Demand	4125	4125	3161	3363	3363	3363	2352	2924	2924
	Diff.	55	29	70	111	112	151	119	184	194
11	Processed	4520	4552	3498	3736	3761	3769	2647	3323	3326
	Demand	4486	4486	3437	3657	3657	3657	2558	3180	3180
	Diff.	34	66	61	79	104	112	89	143	146
10	Processed	4813	4886	3769	3975	4030	4091	2853	3534	3544
	Demand	4727	4727	3622	3854	3854	3854	2696	3351	3351
	Diff.	86	159	147	121	176	237	157	183	193
9	Processed	5403	5276	4055	4280	4291	4289	2977	3657	3666
	Demand	5401	5401	4139	4403	4403	4403	3080	3828	3828
	Diff.	2	-125	-84	-123	-112	-114	-103	-171	-162
8	Processed	5479	5376	4143	4378	4407	4414	3088	3742	3749
	Demand	5485	5485	4203	4472	4472	4472	3128	3888	3888
	Diff.	-6	-109	-60	-94	-65	-58	-40	-146	-139
7	Processed	5494	5392	4196	4402	4336	4308	3001	3621	3624
	Demand	5573	5573	4271	4544	4544	4544	3178	3950	3950
	Diff.	-79	-181	-75	-142	-208	-236	-177	-329	-326
6	Processed	5162	5130	3889	4120	4150	4174	2898	3580	3589
	Demand	5219	5219	3999	4254	4254	4254	2976	3699	3699
	Diff.	-57	-89	-110	-134	-104	-80	-78	-119	-110
5	Processed	5303	5208	4052	4271	4249	4262	2960	3584	3592
	Demand	5375	5375	4119	4382	4382	4382	3065	3810	3810
	Diff.	-72	-167	-67	-111	-133	-120	-105	-226	-218
4	Processed	5230	5181	4033	4249	4254	4247	2961	3634	3639
	Demand	5273	5273	4041	4299	4299	4299	3007	3738	3738
	Diff.	-43	-92	-8	-50	-45	-52	-46	-104	-99
3	Processed	5227	5118	3915	4129	4104	4081	2864	3480	3461
	Demand	5326	5326	4081	4342	4342	4342	3037	3775	3775
	Diff.	-99	-208	-166	-213	-238	-261	-173	-295	-314
2	Processed	4712	4680	3640	3875	3859	3874	2711	3342	3354
	Demand	4749	4749	3639	3872	3872	3872	2708	3366	3366
	Diff.	-37	-69	1	3	-13	2	3	-24	-12
1	Processed	4862	4788	3668	3906	3905	3890	2707	3313	3323
	Demand	4920	4920	3770	4011	4011	4011	2806	3488	3488
	Diff.	-58	-132	-102	-105	-106	-121	-99	-175	-165
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**US 27 Interchange**			**I-75**	**SR 326 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)											
12	Processed	3478	3439	3076	3907	3905	4158	4173	4218	4055	5116	5124
	Demand	3486	3486	3054	3744	3744	3988	3988	3988	3821	4793	4793
	Diff.	-8	-47	22	163	161	170	185	230	234	323	331
11	Processed	3777	3714	3324	4168	4168	4472	4474	4484	4337	5449	5443
	Demand	3791	3791	3321	4072	4072	4337	4337	4337	4155	5212	5212
	Diff.	-14	-77	3	96	96	135	137	147	182	237	231
10	Processed	3979	3938	3517	4324	4321	4634	4673	4725	4511	5619	5680
	Demand	3995	3995	3500	4291	4291	4570	4570	4570	4378	5493	5493
	Diff.	-16	-57	17	33	30	64	103	155	133	126	187
9	Processed	4541	4461	3986	4757	4759	5079	5073	5088	4877	5975	5973
	Demand	4565	4565	3999	4903	4903	5222	5222	5222	5003	6276	6276
	Diff.	-24	-104	-13	-146	-144	-143	-149	-134	-126	-301	-303
8	Processed	4635	4557	4054	4786	4792	5092	5080	5070	4886	5983	6004
	Demand	4636	4636	4062	4980	4980	5304	5304	5304	5081	6374	6374
	Diff.	-1	-79	-8	-194	-188	-212	-224	-234	-195	-391	-370
7	Processed	4708	4636	4126	4862	4849	5154	5121	5065	4853	5956	5916
	Demand	4710	4710	4127	5059	5059	5389	5389	5389	5162	6476	6476
	Diff.	-2	-74	-1	-197	-210	-235	-268	-324	-309	**-520**	**-560**
6	Processed	4376	4301	3815	4589	4600	4928	4930	4957	4740	5829	5849
	Demand	4411	4411	3864	4738	4738	5046	5046	5046	4834	6064	6064
	Diff.	-35	-110	-49	-149	-138	-118	-116	-89	-94	-235	-215
5	Processed	4514	4453	3982	4739	4728	5023	4991	4974	4786	5874	5866
	Demand	4543	4543	3980	4880	4880	5197	5197	5197	4979	6246	6246
	Diff.	-29	-90	2	-141	-152	-174	-206	-223	-193	-372	-380
4	Processed	4448	4368	3860	4630	4636	4937	4937	4945	4781	5902	5923
	Demand	4457	4457	3904	4787	4787	5099	5099	5099	4884	6127	6127
	Diff.	-9	-89	-44	-157	-151	-162	-162	-154	-103	-225	-204
3	Processed	4456	4356	3858	4651	4646	4937	4870	4815	4605	5633	5611
	Demand	4501	4501	3943	4835	4835	5149	5149	5149	4933	6188	6188
	Diff.	-45	-145	-85	-184	-189	-212	-279	-334	-328	**-555**	**-577**
2	Processed	3981	3941	3517	4291	4281	4571	4573	4574	4414	5500	5514
	Demand	4014	4014	3516	4311	4311	4592	4592	4592	4399	5519	5519
	Diff.	-33	-73	1	-20	-30	-21	-19	-18	15	-19	-5
1	Processed	4156	4068	3602	4349	4353	4629	4614	4609	4431	5472	5473
	Demand	4158	4158	3643	4466	4466	4757	4757	4757	4557	5717	5717
	Diff.	-2	-90	-41	-117	-113	-128	-143	-148	-126	-245	-244
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**SR 326 Interchange**					**I-75**	**US 27 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 6-21: Diamond 2045 Speed and Density Time Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)												
12	66.8	66.9	66.9	66.5	65.8	64.4	67.0	65.9	64.4	65.1	67.5	66.0	66.7
11	66.5	66.6	66.4	66.0	64.9	63.8	66.6	65.7	64.1	64.9	67.5	65.9	66.7
10	66.6	65.5	66.1	66.1	65.1	64.1	66.8	65.5	63.4	65.0	67.6	65.5	66.6
9	66.6	66.8	66.8	66.5	65.4	64.2	66.9	66.0	64.8	65.3	67.6	65.7	66.7
8	64.4	63.4	65.7	65.2	63.7	64.1	66.7	64.7	62.4	64.3	67.2	65.5	66.4
7	62.8	61.4	65.5	65.9	64.6	62.8	66.5	64.7	62.3	63.9	67.1	65.3	66.3
6	63.7	65.4	66.4	66.1	64.4	63.4	66.6	65.0	62.2	63.8	67.1	65.3	66.2
5	65.5	66.7	66.5	64.9	63.7	63.3	66.5	65.8	63.6	65.0	67.4	65.6	66.5
4	66.8	67.0	66.9	66.9	65.8	64.8	67.0	66.4	64.8	65.3	67.6	66.2	67.0
3	66.9	66.9	66.9	66.9	66.2	64.9	67.2	66.7	65.6	65.7	67.8	66.4	67.2
2	67.3	67.1	67.2	67.2	66.6	65.0	67.6	67.0	66.4	66.3	68.1	66.7	67.5
1	67.9	67.2	67.7	67.6	67.3	66.0	68.1	67.6	67.3	66.7	68.5	67.2	68.1
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	1,443	1,497	8,860	1,500	1,606	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)												
12	27.5	27.4	23.3	25.1	25.4	26.0	22.0	24.3	25.1	24.9	18.4	22.0	21.9
11	30.2	29.8	25.3	27.2	27.5	28.2	23.3	25.3	26.0	25.7	19.0	22.8	22.5
10	29.4	29.7	24.9	26.4	26.8	27.4	22.7	25.1	26.0	25.4	18.8	22.9	22.4
9	29.4	29.0	24.3	25.9	26.3	27.0	22.4	24.5	25.0	24.9	18.6	22.6	22.3
8	31.5	33.6	26.2	28.2	28.9	28.8	24.2	27.1	28.1	27.3	20.1	24.1	23.8
7	35.5	35.9	28.0	29.4	30.0	31.1	25.5	28.3	29.5	28.9	21.2	25.3	24.9
6	34.9	33.3	27.4	29.3	30.0	30.6	25.1	28.1	29.4	28.6	20.8	25.0	24.8
5	33.0	31.7	26.9	29.2	29.7	29.8	24.4	26.2	27.1	26.5	19.6	23.5	23.1
4	28.4	27.9	23.7	25.2	25.6	26.2	21.9	23.8	24.3	24.2	18.1	21.4	21.1
3	26.9	26.5	22.2	23.5	23.8	24.2	20.2	22.0	22.4	22.4	16.6	19.7	19.4
2	24.3	23.6	19.7	20.8	20.9	21.5	17.6	18.8	18.9	18.9	14.1	17.0	16.7
1	19.0	18.7	15.6	16.6	16.6	16.9	14.0	15.1	15.1	15.2	11.3	13.5	13.2
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	1,443	1,497	8,860	1,500	1,606	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)														
12	68.9	68.8	68.4	65.7	66.7	66.0	66.7	68.1	67.7	66.0	66.5	67.8	67.2	61.6	64.3
11	68.6	68.7	68.3	65.5	66.1	65.2	66.1	67.9	67.6	65.9	66.2	67.7	67.0	59.7	63.5
10	68.7	68.6	68.3	65.7	66.8	65.8	66.6	68.1	67.6	66.2	66.6	67.8	67.1	61.1	63.5
9	68.7	68.7	68.3	65.5	66.5	66.0	66.5	68.0	67.6	66.2	66.7	67.8	67.2	62.0	63.6
8	68.7	68.6	68.3	65.6	66.6	65.7	66.4	68.0	67.6	66.1	66.3	67.6	66.9	60.3	62.9
7	68.4	68.0	67.7	65.6	66.2	65.1	65.7	67.9	67.3	65.5	65.8	67.5	66.6	55.2	59.3
6	68.4	68.5	68.0	66.0	66.5	65.5	66.0	68.0	67.5	65.6	66.0	67.7	66.8	56.7	61.3
5	68.4	68.7	68.1	65.7	66.2	65.5	66.2	67.9	67.5	65.9	66.4	67.8	66.9	60.3	63.5
4	68.8	68.7	68.3	66.1	67.0	66.1	66.7	68.2	67.7	66.1	66.8	67.8	67.2	63.4	65.0
3	68.8	68.7	68.4	66.0	67.1	66.1	66.9	68.2	67.8	66.4	66.9	67.9	67.3	63.2	65.4
2	69.0	69.0	68.6	66.2	67.2	66.5	67.3	68.3	68.0	66.6	67.3	68.0	67.6	64.9	66.4
1	69.4	69.3	69.0	66.6	67.9	67.2	67.9	68.5	68.4	67.0	67.9	68.3	68.1	66.0	67.4
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)														
12	14.8	14.6	13.2	18.3	17.9	19.5	19.3	19.0	17.6	21.9	21.9	21.5	20.4	27.7	26.6
11	16.4	16.2	14.5	19.8	19.7	21.6	21.2	20.6	19.0	23.5	23.3	22.7	21.5	29.9	27.9
10	16.0	15.8	14.2	19.2	18.9	20.5	20.3	19.9	18.4	22.8	22.7	22.1	21.2	29.0	27.9
9	16.0	15.7	14.1	19.4	19.1	20.7	20.5	20.0	18.4	22.6	22.4	22.0	20.9	28.2	27.4
8	15.7	15.5	14.1	19.5	19.1	20.8	20.7	20.3	18.8	23.3	23.4	23.0	21.9	30.0	28.7
7	18.6	18.5	16.6	21.7	21.5	23.6	23.3	22.5	20.9	26.0	25.9	25.1	23.9	36.0	33.2
6	18.7	18.4	16.4	21.1	20.9	22.9	22.8	22.1	20.4	25.6	25.5	24.8	23.6	34.1	31.3
5	18.2	17.7	15.8	20.8	20.6	22.3	22.1	21.4	19.7	24.3	24.0	23.3	22.3	30.4	28.6
4	15.6	15.3	13.8	18.4	18.1	19.7	19.4	19.0	17.6	21.9	21.7	21.2	20.1	26.3	25.6
3	14.8	14.6	13.1	17.6	17.3	18.9	18.6	18.2	16.7	20.6	20.4	20.0	19.1	24.9	24.0
2	13.6	13.3	11.9	15.7	15.4	16.6	16.4	16.1	14.8	18.3	18.0	17.6	16.6	21.2	20.5
1	10.8	10.6	9.6	12.7	12.4	13.4	13.3	13.0	12.0	14.7	14.5	14.2	13.3	16.7	16.3
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Figure 6-22: Diamond 2045 Volume Time Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)													
12	Processed	5503	5506	4670	4996	5005	5000	4414	4810	4833	4844	3726	4346	4377
	Demand	5412	5412	4544	4823	4823	4823	4202	4547	4547	4547	3507	4111	4111
	Diff.	91	94	126	173	182	177	212	263	286	297	219	235	266
11	Processed	6025	5945	5034	5373	5362	5361	4660	4996	4996	4990	3839	4496	4509
	Demand	6023	6023	5057	5367	5367	5367	4676	5061	5061	5061	3903	4575	4575
	Diff.	2	-78	-23	6	-5	-6	-16	-65	-65	-71	-64	-79	-66
10	Processed	5869	5808	4925	5234	5241	5233	4552	4941	4940	4941	3816	4488	4482
	Demand	5849	5849	4911	5212	5212	5212	4541	4914	4914	4914	3790	4443	4443
	Diff.	20	-41	14	22	29	21	11	27	26	27	26	45	39
9	Processed	5874	5802	4862	5161	5168	5166	4497	4863	4866	4867	3771	4461	4468
	Demand	5858	5858	4918	5220	5220	5220	4548	4922	4922	4922	3795	4449	4449
	Diff.	16	-56	-56	-59	-52	-54	-51	-59	-56	-55	-24	12	19
8	Processed	6017	6061	5145	5487	5500	5511	4846	5242	5250	5252	4059	4738	4744
	Demand	5723	5723	4805	5100	5100	5100	4443	4809	4809	4809	3708	4347	4347
	Diff.	294	338	340	387	400	**411**	**403**	**433**	**441**	**443**	351	391	397
7	Processed	6574	6480	5499	5814	5814	5810	5069	5498	5515	5518	4258	4947	4955
	Demand	6782	6782	5694	6044	6044	6044	5265	5698	5698	5698	4394	5152	5152
	Diff.	-208	-302	-195	-230	-230	-234	-196	-200	-183	-180	-136	-205	-197
6	Processed	6612	6528	5456	5798	5790	5775	5025	5470	5459	5452	4192	4902	4918
	Demand	6822	6822	5728	6079	6079	6079	5296	5732	5732	5732	4420	5182	5182
	Diff.	-210	-294	-272	-281	-289	-304	-271	-262	-273	-280	-228	-280	-264
5	Processed	6488	6323	5362	5651	5640	5626	4854	5168	5161	5155	3955	4621	4613
	Demand	6676	6676	5605	5949	5949	5949	5183	5609	5609	5609	4326	5071	5071
	Diff.	-188	-353	-243	-298	-309	-323	-329	**-441**	**-448**	**-454**	-371	**-450**	**-458**
4	Processed	5694	5603	4755	5061	5063	5057	4393	4747	4735	4730	3668	4247	4238
	Demand	5761	5761	4837	5133	5133	5133	4472	4840	4840	4840	3732	4376	4376
	Diff.	-67	-158	-82	-72	-70	-76	-79	-93	-105	-110	-64	-129	-138
3	Processed	5404	5303	4455	4722	4717	4700	4080	4408	4411	4404	3370	3923	3917
	Demand	5503	5503	4620	4903	4903	4903	4272	4623	4623	4623	3565	4180	4180
	Diff.	-99	-200	-165	-181	-186	-203	-192	-215	-212	-219	-195	-257	-263
2	Processed	4908	4738	3981	4195	4181	4170	3575	3788	3764	3750	2887	3400	3383
	Demand	5055	5055	4244	4504	4504	4504	3924	4247	4247	4247	3275	3839	3839
	Diff.	-147	-317	-263	-309	-323	-334	-349	**-459**	**-483**	**-497**	-388	**-439**	**-456**
1	Processed	3870	3769	3176	3367	3357	3341	2869	3070	3056	3036	2323	2719	2703
	Demand	3980	3980	3342	3547	3547	3547	3090	3344	3344	3344	2579	3023	3023
	Diff.	-110	-211	-166	-180	-190	-206	-221	-274	-288	-308	-256	-304	-320
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**US 27 Interchange**			**I-75**	**NW 49 ST Interchange**			**I-75**	**SR 326 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)													
12	Processed	3060	3013	2716	3592	3589	3847	3857	3875	3581	4340	4378	4372	4120	5105	5128
	Demand	3066	3066	2698	3497	3497	3752	3752	3752	3460	4195	4195	4195	3940	4849	4849
	Diff.	-6	-53	18	95	92	95	105	123	121	145	183	177	180	256	279
11	Processed	3383	3338	2972	3891	3901	4216	4209	4198	3850	4636	4624	4619	4321	5316	5317
	Demand	3412	3412	3003	3891	3891	4176	4176	4176	3851	4669	4669	4669	4385	5397	5397
	Diff.	-29	-74	-31	0	10	40	33	22	-1	-33	-45	-50	-64	-81	-80
10	Processed	3298	3244	2900	3785	3779	4044	4045	4060	3726	4527	4533	4504	4258	5289	5299
	Demand	3314	3314	2916	3779	3779	4055	4055	4055	3739	4534	4534	4534	4258	5241	5241
	Diff.	-16	-70	-16	6	0	-11	-10	5	-13	-7	-1	-30	0	48	58
9	Processed	3290	3232	2881	3811	3813	4093	4085	4086	3724	4485	4490	4470	4219	5232	5226
	Demand	3319	3319	2920	3784	3784	4061	4061	4061	3745	4540	4540	4540	4265	5249	5249
	Diff.	-29	-87	-39	27	29	32	24	25	-21	-55	-50	-70	-46	-17	-23
8	Processed	3238	3200	2886	3827	3824	4104	4120	4137	3806	4621	4649	4666	4386	5392	5413
	Demand	3242	3242	2853	3698	3698	3968	3968	3968	3659	4436	4436	4436	4167	5128	5128
	Diff.	-4	-42	33	129	126	136	152	169	147	185	213	230	219	264	285
7	Processed	3824	3761	3373	4280	4280	4606	4594	4589	4213	5110	5105	5084	4778	5831	5841
	Demand	3842	3842	3381	4382	4382	4702	4702	4702	4336	5257	5257	5257	4938	6077	6077
	Diff.	-18	-81	-8	-102	-102	-96	-108	-113	-123	-147	-152	-173	-160	-246	-236
6	Processed	3831	3779	3352	4182	4178	4496	4504	4510	4133	5044	5051	5030	4729	5729	5738
	Demand	3865	3865	3401	4407	4407	4730	4730	4730	4361	5288	5288	5288	4967	6113	6113
	Diff.	-34	-86	-49	-225	-229	-234	-226	-220	-228	-244	-237	-258	-238	-384	-375
5	Processed	3739	3650	3236	4098	4097	4385	4379	4362	3985	4805	4779	4745	4484	5463	5445
	Demand	3782	3782	3328	4313	4313	4629	4629	4629	4268	5175	5175	5175	4861	5982	5982
	Diff.	-43	-132	-92	-215	-216	-244	-250	-267	-283	-370	-396	**-430**	-377	**-519**	**-537**
4	Processed	3214	3162	2827	3647	3645	3904	3888	3894	3568	4345	4344	4320	4052	4988	4992
	Demand	3264	3264	2872	3722	3722	3994	3994	3994	3683	4465	4465	4465	4194	5162	5162
	Diff.	-50	-102	-45	-75	-77	-90	-106	-100	-115	-120	-121	-145	-142	-174	-170
3	Processed	3066	3015	2694	3489	3483	3747	3731	3725	3404	4091	4093	4077	3858	4709	4699
	Demand	3117	3117	2743	3555	3555	3815	3815	3815	3518	4265	4265	4265	4006	4930	4930
	Diff.	-51	-102	-49	-66	-72	-68	-84	-90	-114	-174	-172	-188	-148	-221	-231
2	Processed	2818	2750	2441	3108	3099	3319	3305	3301	3012	3648	3626	3584	3374	4122	4093
	Demand	2864	2864	2520	3266	3266	3504	3504	3504	3231	3918	3918	3918	3680	4529	4529
	Diff.	-46	-114	-79	-158	-167	-185	-199	-203	-219	-270	-292	-334	-306	**-407**	**-436**
1	Processed	2242	2205	1979	2535	2533	2712	2702	2680	2460	2949	2942	2915	2716	3310	3300
	Demand	2255	2255	1984	2571	2571	2759	2759	2759	2545	3085	3085	3085	2898	3566	3566
	Diff.	-13	-50	-5	-36	-38	-47	-57	-79	-85	-136	-143	-170	-182	-256	-266
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**SR 326 Interchange**					**I-75**	**NW 49 ST Interchange**			**I-75**	**US 27 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 6-23: Diamond 2045 Speed and Density Time Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)												
12	67.5	66.8	67.4	67.1	66.7	64.5	67.9	66.9	66.2	65.5	68.5	66.1	67.7
11	67.3	66.8	67.3	66.9	66.5	64.6	67.7	66.3	65.5	65.0	68.3	66.1	67.6
10	67.0	66.6	67.1	66.5	65.9	64.4	67.5	66.3	65.3	64.9	68.1	65.9	67.3
9	66.4	64.6	66.4	66.4	65.4	63.2	67.3	65.2	64.3	61.2	68.0	66.2	67.4
8	66.4	66.4	66.9	66.5	65.5	63.7	67.3	65.8	64.5	63.0	68.1	66.2	67.3
7	66.4	66.3	66.9	66.7	65.7	63.9	67.4	66.1	64.7	64.4	68.0	66.2	67.3
6	66.7	66.4	67.2	66.5	65.9	64.3	67.4	65.9	64.7	64.2	68.1	66.1	67.4
5	66.7	66.6	67.0	66.6	65.7	64.1	67.5	66.1	64.8	64.3	68.1	66.2	67.3
4	66.7	66.4	66.8	66.5	65.8	64.2	67.3	66.1	65.0	64.4	68.1	66.2	67.3
3	66.7	66.4	67.0	66.7	66.0	64.2	67.4	66.4	65.2	64.9	68.1	66.1	67.4
2	67.2	66.7	67.2	66.8	66.3	64.3	67.6	66.3	65.2	64.8	68.3	66.5	67.7
1	67.1	66.8	67.3	66.8	66.2	64.3	67.7	66.5	65.6	65.1	68.3	66.4	67.7
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	1,443	1,497	8,860	1,500	1,606	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)												
12	22.1	22.2	17.9	19.5	19.7	20.6	16.1	17.8	18.0	18.3	12.3	16.0	15.7
11	23.9	24.0	19.4	20.9	21.0	21.7	17.1	19.0	19.3	19.5	13.1	16.8	16.4
10	25.5	25.9	21.0	22.6	22.9	23.7	18.8	20.9	21.1	21.3	14.3	18.2	17.9
9	29.2	30.4	23.5	24.8	25.3	26.3	20.0	22.5	22.8	24.7	15.0	18.7	18.4
8	29.6	29.2	23.6	25.3	25.7	26.6	20.7	22.8	23.2	24.1	15.5	19.2	18.9
7	29.5	29.0	23.4	24.8	25.2	26.1	20.1	22.3	22.7	22.8	15.2	19.0	18.6
6	27.6	27.5	22.0	23.9	24.0	24.8	19.3	21.4	21.9	22.2	14.5	18.3	17.9
5	28.4	28.0	22.7	24.2	24.6	25.4	19.6	21.9	22.4	22.6	14.8	18.5	18.2
4	28.0	27.9	22.8	24.3	24.6	25.4	20.0	22.1	22.5	22.7	15.0	18.6	18.3
3	27.9	27.5	22.1	23.7	23.9	24.6	19.1	20.8	21.2	21.3	14.3	17.8	17.4
2	25.2	25.1	20.4	22.0	22.2	23.1	17.9	19.9	20.3	20.5	13.6	16.8	16.7
1	25.9	25.7	20.5	22.2	22.4	23.1	17.9	19.7	20.0	20.1	13.5	16.9	16.5
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	1,443	1,497	8,860	1,500	1,606	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)														
12	68.6	68.6	68.1	65.6	66.2	65.5	66.0	67.8	67.4	66.4	66.4	67.8	67.0	60.6	62.2
11	68.4	68.5	67.9	65.5	66.1	65.2	65.4	67.8	67.3	66.3	66.3	67.7	66.2	50.7	57.2
10	68.3	68.3	67.6	65.5	65.1	65.0	65.6	67.9	67.3	65.9	65.6	67.6	59.9	35.0	52.4
9	67.8	68.1	67.4	65.4	64.8	63.5	63.9	67.5	67.0	65.9	65.4	67.3	56.8	28.5	50.7
8	67.7	67.8	67.1	65.3	64.4	63.3	63.8	67.2	66.8	65.5	64.9	66.6	59.9	29.4	51.1
7	67.7	68.3	67.4	65.6	65.3	63.6	63.7	67.4	66.9	65.6	65.1	67.5	63.4	36.0	52.1
6	68.0	67.5	67.2	65.7	65.5	64.4	64.5	67.6	67.1	65.7	65.2	67.5	63.2	36.7	51.9
5	67.8	67.5	67.2	65.5	65.2	63.8	63.8	67.5	67.0	65.5	64.8	67.5	63.4	37.3	51.8
4	67.8	67.7	67.2	65.5	65.2	64.8	65.0	67.8	67.2	65.0	65.2	67.6	65.0	40.2	53.9
3	67.8	68.2	67.4	65.3	64.2	64.0	64.3	67.6	67.1	65.8	65.6	67.6	66.4	51.9	58.5
2	68.2	68.1	67.7	65.9	66.1	64.8	65.7	67.8	67.3	65.9	66.0	67.6	66.7	57.0	60.4
1	68.1	68.3	67.6	65.9	66.0	64.8	65.4	67.8	67.2	66.0	65.9	67.7	66.8	59.8	61.9
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)														
12	17.3	17.1	15.7	20.9	20.7	22.2	22.0	21.5	20.0	23.3	23.3	22.8	21.9	29.6	29.0
11	18.8	18.6	17.0	22.6	22.4	24.1	24.1	23.2	21.5	24.9	25.0	24.3	23.7	40.6	35.0
10	19.9	19.7	18.1	23.3	23.4	24.7	24.5	23.8	22.3	26.4	26.7	25.9	29.5	67.6	41.6
9	22.9	22.5	20.5	25.5	25.9	28.0	27.8	26.2	24.4	28.6	28.8	27.9	35.0	79.8	43.9
8	23.4	23.0	21.1	26.2	26.5	28.6	28.5	27.2	25.1	29.3	29.6	28.9	33.1	78.7	43.4
7	23.7	23.2	21.3	26.2	26.4	28.6	28.4	26.8	24.7	28.9	29.0	27.8	28.9	64.0	42.0
6	22.1	21.9	19.8	24.7	24.7	26.7	26.7	25.4	23.4	27.9	28.1	27.1	28.3	64.5	42.3
5	22.7	22.5	20.6	25.6	25.7	27.7	27.8	26.3	24.3	28.5	28.8	27.4	28.5	61.2	41.9
4	22.4	22.1	20.0	24.8	25.0	26.6	26.5	25.4	23.6	28.1	28.0	27.0	26.9	55.8	39.6
3	22.5	22.0	20.0	25.1	25.5	27.1	26.9	25.6	23.6	27.5	27.5	26.6	25.6	40.2	34.4
2	19.9	19.7	17.9	22.7	22.6	24.4	24.0	23.3	21.6	25.5	25.6	24.9	24.0	34.4	32.4
1	20.9	20.5	18.7	23.2	23.2	25.1	24.9	23.9	22.2	26.0	26.1	25.3	24.2	32.4	31.3
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Figure 6-24: Diamond 2045 Volume Time Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)													
12	Processed	4480	4444	3628	3922	3942	3958	3279	3559	3571	3579	2523	3182	3186
	Demand	4417	4417	3571	3834	3834	3834	3162	3429	3429	3429	2408	2947	2947
	Diff.	63	27	57	88	108	124	117	130	142	150	115	235	239
11	Processed	4831	4797	3912	4204	4194	4182	3480	3776	3791	3798	2676	3320	3335
	Demand	4803	4803	3883	4170	4170	4170	3438	3729	3729	3729	2619	3204	3204
	Diff.	28	-6	29	34	24	12	42	47	62	69	57	116	131
10	Processed	5136	5167	4236	4514	4524	4548	3795	4147	4135	4141	2927	3591	3606
	Demand	5061	5061	4092	4394	4394	4394	3623	3929	3929	3929	2759	3377	3377
	Diff.	75	106	144	120	130	154	172	218	206	212	168	214	229
9	Processed	5825	5769	4664	4946	4951	4937	4031	4390	4404	4406	3060	3705	3715
	Demand	5783	5783	4675	5020	5020	5020	4140	4490	4490	4490	3153	3858	3858
	Diff.	42	-14	-11	-74	-69	-83	-109	-100	-86	-84	-93	-153	-143
8	Processed	5884	5821	4738	5044	5051	5043	4170	4497	4495	4489	3155	3804	3819
	Demand	5873	5873	4749	5099	5099	5099	4204	4560	4560	4560	3202	3919	3919
	Diff.	11	-52	-11	-55	-48	-56	-34	-63	-65	-71	-47	-115	-100
7	Processed	5874	5774	4700	4964	4961	4964	4059	4406	4397	4382	3102	3775	3758
	Demand	5967	5967	4825	5181	5181	5181	4272	4633	4633	4633	3253	3981	3981
	Diff.	-93	-193	-125	-217	-220	-217	-213	-227	-236	-251	-151	-206	-223
6	Processed	5533	5484	4435	4755	4752	4744	3913	4229	4239	4255	2965	3620	3628
	Demand	5588	5588	4518	4851	4851	4851	4000	4338	4338	4338	3047	3728	3728
	Diff.	-55	-104	-83	-96	-99	-107	-87	-109	-99	-83	-82	-108	-100
5	Processed	5677	5590	4556	4837	4847	4846	3976	4339	4339	4336	3029	3667	3680
	Demand	5755	5755	4653	4997	4997	4997	4120	4468	4468	4468	3138	3840	3840
	Diff.	-78	-165	-97	-160	-150	-151	-144	-129	-129	-132	-109	-173	-160
4	Processed	5609	5547	4556	4847	4850	4849	4041	4385	4383	4375	3064	3700	3704
	Demand	5646	5646	4565	4902	4902	4902	4042	4384	4384	4384	3078	3767	3767
	Diff.	-37	-99	-9	-55	-52	-53	-1	1	-1	-9	-14	-67	-63
3	Processed	5595	5483	4447	4734	4719	4694	3857	4135	4134	4138	2919	3539	3522
	Demand	5702	5702	4610	4951	4951	4951	4082	4427	4427	4427	3109	3805	3805
	Diff.	-107	-219	-163	-217	-232	-257	-225	-292	-293	-289	-190	-266	-283
2	Processed	5069	5021	4117	4414	4412	4427	3628	3955	3960	3960	2793	3358	3394
	Demand	5085	5085	4111	4415	4415	4415	3640	3948	3948	3948	2772	3393	3393
	Diff.	-16	-64	6	-1	-3	12	-12	7	12	12	21	-35	1
1	Processed	5206	5140	4143	4449	4451	4430	3638	3934	3932	3927	2759	3357	3346
	Demand	5268	5268	4259	4574	4574	4574	3771	4090	4090	4090	2872	3515	3515
	Diff.	-62	-128	-116	-125	-123	-144	-133	-156	-158	-163	-113	-158	-169
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**US 27 Interchange**			**I-75**	**NW 49 ST Interchange**			**I-75**	**SR 326 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)													
12	Processed	3563	3519	3204	4119	4121	4366	4360	4378	4047	4635	4647	4644	4396	5360	5394
	Demand	3574	3574	3188	3925	3925	4153	4153	4153	3837	4405	4405	4405	4154	5049	5049
	Diff.	-11	-55	16	194	196	213	207	225	210	230	242	239	242	311	345
11	Processed	3867	3819	3457	4440	4445	4709	4724	4718	4344	4948	4972	4942	4694	5762	5832
	Demand	3886	3886	3467	4269	4269	4516	4516	4516	4172	4791	4791	4791	4517	5491	5491
	Diff.	-19	-67	-10	171	176	193	208	202	172	157	181	151	177	271	341
10	Processed	4077	4030	3674	4568	4558	4816	4826	4853	4495	5211	5238	5244	4986	6139	6187
	Demand	4095	4095	3654	4498	4498	4759	4759	4759	4397	5048	5048	5048	4760	5786	5786
	Diff.	-18	-65	20	70	60	57	67	94	98	163	190	196	226	353	**401**
9	Processed	4655	4592	4145	5013	5026	5319	5311	5308	4905	5642	5643	5629	5296	6257	6272
	Demand	4679	4679	4174	5139	5139	5438	5438	5438	5023	5768	5768	5768	5439	6611	6611
	Diff.	-24	-87	-29	-126	-113	-119	-127	-130	-118	-126	-125	-139	-143	-354	-339
8	Processed	4745	4681	4239	5118	5114	5426	5447	5466	5026	5755	5770	5757	5445	6302	6292
	Demand	4753	4753	4240	5220	5220	5523	5523	5523	5102	5858	5858	5858	5524	6714	6714
	Diff.	-8	-72	-1	-102	-106	-97	-76	-57	-76	-103	-88	-101	-79	**-412**	**-422**
7	Processed	4814	4743	4300	5165	5161	5448	5419	5415	4968	5680	5663	5628	5308	6281	6264
	Demand	4829	4829	4308	5303	5303	5611	5611	5611	5184	5952	5952	5952	5612	6822	6822
	Diff.	-15	-86	-8	-138	-142	-163	-192	-196	-216	-272	-289	-324	-304	**-541**	**-558**
6	Processed	4502	4432	3997	4860	4857	5155	5166	5154	4717	5486	5496	5492	5173	6223	6246
	Demand	4522	4522	4034	4966	4966	5254	5254	5254	4854	5573	5573	5573	5255	6388	6388
	Diff.	-20	-90	-37	-106	-109	-99	-88	-100	-137	-87	-77	-81	-82	-165	-142
5	Processed	4617	4552	4160	5028	5022	5307	5302	5315	4873	5585	5592	5550	5236	6191	6169
	Demand	4657	4657	4155	5115	5115	5412	5412	5412	5000	5740	5740	5740	5413	6580	6580
	Diff.	-40	-105	5	-87	-93	-105	-110	-97	-127	-155	-148	-190	-177	-389	**-411**
4	Processed	4552	4487	4030	4885	4895	5165	5160	5159	4759	5474	5471	5465	5189	6195	6173
	Demand	4569	4569	4076	5018	5018	5309	5309	5309	4905	5631	5631	5631	5310	6454	6454
	Diff.	-17	-82	-46	-133	-123	-144	-149	-150	-146	-157	-160	-166	-121	-259	-281
3	Processed	4579	4505	4054	4914	4898	5202	5197	5202	4757	5423	5414	5386	5086	5995	5944
	Demand	4614	4614	4116	5068	5068	5362	5362	5362	4954	5688	5688	5688	5363	6519	6519
	Diff.	-35	-109	-62	-154	-170	-160	-165	-160	-197	-265	-274	-302	-277	**-524**	**-575**
2	Processed	4073	4017	3640	4484	4483	4740	4724	4739	4363	5050	5067	5050	4796	5789	5811
	Demand	4115	4115	3671	4519	4519	4782	4782	4782	4417	5072	5072	5072	4782	5813	5813
	Diff.	-42	-98	-31	-35	-36	-42	-58	-43	-54	-22	-5	-22	14	-24	-2
1	Processed	4274	4206	3790	4589	4594	4880	4889	4866	4475	5155	5150	5132	4851	5793	5797
	Demand	4263	4263	3803	4682	4682	4954	4954	4954	4576	5254	5254	5254	4955	6022	6022
	Diff.	11	-57	-13	-93	-88	-74	-65	-88	-101	-99	-104	-122	-104	-229	-225
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**SR 326 Interchange**					**I-75**	**NW 49 ST Interchange**			**I-75**	**US 27 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 6-25: SPUI 2045 Speed and Density Time Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)												
12	66.8	66.9	66.9	66.7	66.4	68.4	67.2	66.1	64.9	65.8	67.6	66.0	66.6
11	66.5	66.6	66.4	66.4	65.9	68.3	67.1	66.3	65.1	65.7	67.5	65.8	66.6
10	65.9	65.0	65.8	66.2	65.9	68.3	67.0	65.7	65.0	65.3	67.4	65.7	66.6
9	63.5	61.8	66.0	66.4	66.0	68.4	67.2	65.8	64.7	65.1	67.2	65.8	66.6
8	60.9	58.8	64.8	66.1	65.6	68.2	67.0	65.4	64.1	64.5	67.4	65.5	66.4
7	60.3	53.7	63.5	63.9	64.2	68.1	67.0	65.4	63.9	65.3	67.2	65.3	66.2
6	63.3	58.9	65.3	66.1	65.6	68.4	67.1	64.6	63.2	64.7	67.4	65.5	66.3
5	65.5	66.7	66.5	66.4	65.6	68.3	67.0	64.9	64.3	65.3	67.5	65.9	66.6
4	66.8	67.0	66.9	66.9	66.5	68.5	67.1	66.5	65.8	65.9	67.6	66.1	66.9
3	66.9	66.9	66.9	67.0	66.6	68.5	67.4	66.7	66.1	66.0	67.7	66.5	67.2
2	67.3	67.1	67.2	67.3	67.1	68.6	67.7	67.0	66.8	66.7	68.1	66.6	67.6
1	67.9	67.2	67.7	67.7	67.6	68.8	68.1	67.6	67.6	67.0	68.5	67.1	68.1
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	3,702	1,502	6,475	1,502	3,033	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)												
12	27.5	27.5	23.3	24.9	25.1	24.1	21.8	24.2	24.8	24.6	18.4	21.9	21.9
11	30.2	29.8	25.3	27.0	27.1	25.8	23.1	25.2	25.6	25.4	19.0	22.7	22.5
10	29.9	30.2	25.2	26.7	26.9	25.6	23.0	25.4	25.7	25.7	19.2	23.1	22.8
9	32.3	35.3	24.9	26.3	26.4	25.1	22.5	24.9	25.3	25.1	18.8	22.6	22.4
8	35.4	38.6	26.4	27.4	27.8	26.6	23.9	26.5	27.1	27.1	20.0	24.0	23.8
7	37.8	44.4	29.0	30.7	30.3	28.0	25.1	27.8	28.6	28.0	20.9	25.0	24.6
6	35.1	38.1	27.6	28.9	29.0	27.5	24.6	28.1	28.8	28.1	20.7	24.9	24.6
5	33.0	31.7	26.9	28.4	28.6	27.2	24.2	26.8	26.8	26.3	19.6	23.4	23.2
4	28.4	27.9	23.7	25.3	25.4	24.2	21.8	23.9	24.0	24.0	18.1	21.5	21.1
3	26.9	26.5	22.2	23.5	23.6	22.6	20.2	22.0	22.2	22.3	16.6	19.6	19.4
2	24.3	23.5	19.7	20.8	20.7	20.0	17.5	19.0	18.9	18.8	14.2	17.0	16.7
1	19.0	18.7	15.6	16.6	16.5	15.9	14.0	15.1	15.1	15.1	11.3	13.5	13.2
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	3,702	1,502	6,475	1,502	3,033	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)												
12	68.9	68.8	68.4	65.7	66.9	66.0	66.9	68.5	67.7	66.3	66.8	67.8	67.2	62.2	64.5
11	68.6	68.7	68.3	65.5	66.5	65.4	66.6	68.4	67.6	66.1	66.5	67.7	67.2	61.7	64.5
10	68.7	68.6	68.3	65.7	66.7	65.9	66.8	68.4	67.6	66.1	66.6	67.8	67.1	62.4	63.8
9	68.7	68.7	68.3	65.5	66.5	65.8	66.7	68.4	67.6	66.3	66.6	67.8	67.1	62.1	64.5
8	68.7	68.6	68.3	65.6	66.6	65.7	66.7	68.4	67.6	66.1	66.2	67.6	67.0	60.1	62.1
7	68.4	68.0	67.7	65.7	66.2	64.8	66.0	68.3	67.4	65.4	65.9	67.6	66.7	56.0	60.5
6	68.4	68.5	68.0	65.8	66.3	65.1	66.1	68.4	67.4	65.6	65.8	67.7	66.8	57.2	60.2
5	68.4	68.7	68.1	65.8	66.4	65.4	66.4	68.4	67.5	66.0	66.4	67.8	67.0	60.8	63.6
4	68.8	68.7	68.3	66.0	67.0	66.0	66.9	68.5	67.7	66.3	66.7	67.8	67.2	62.9	64.5
3	68.8	68.7	68.4	66.0	67.0	66.1	67.0	68.4	67.8	66.5	67.0	67.9	67.3	63.9	65.4
2	69.0	69.0	68.6	66.2	67.4	66.5	67.4	68.6	68.0	66.7	67.3	68.0	67.7	64.9	66.4
1	69.4	69.3	69.0	66.5	67.8	67.2	68.0	68.8	68.4	67.0	67.9	68.3	68.2	66.3	67.6
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,666	1,499	6,918	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)												
12	14.8	14.6	13.2	18.3	17.9	19.5	19.2	18.8	17.7	21.7	21.8	21.4	20.4	27.4	26.4
11	16.4	16.2	14.5	19.7	19.4	21.4	20.8	20.3	19.0	23.2	23.2	22.8	21.5	28.8	27.4
10	16.0	15.8	14.2	19.4	19.1	20.6	20.2	19.8	18.6	22.8	22.8	22.3	21.3	28.4	27.8
9	16.0	15.7	14.1	19.3	19.0	20.7	20.2	19.8	18.4	22.4	22.4	21.8	20.9	28.1	27.0
8	15.7	15.5	14.1	19.5	19.1	20.8	20.5	20.0	18.8	23.0	23.4	23.0	21.7	30.1	29.2
7	18.6	18.5	16.6	21.7	21.5	23.7	23.0	22.3	20.9	25.9	25.9	25.1	23.9	35.1	32.2
6	18.7	18.4	16.4	21.3	21.1	23.1	22.7	22.0	20.6	25.5	25.6	24.9	23.7	34.4	32.3
5	18.2	17.7	15.8	20.7	20.4	22.3	21.8	21.2	19.7	24.1	24.0	23.3	22.3	30.0	28.5
4	15.6	15.3	13.8	18.6	18.2	19.8	19.4	19.0	17.7	21.7	21.7	21.2	20.1	26.5	25.8
3	14.8	14.6	13.1	17.6	17.3	18.8	18.4	18.0	16.8	20.4	20.4	20.0	19.1	24.6	24.0
2	13.6	13.3	11.9	15.7	15.4	16.7	16.2	15.9	14.8	18.1	18.0	17.6	16.7	21.2	20.6
1	10.8	10.6	9.6	12.7	12.4	13.4	13.1	12.9	12.0	14.6	14.4	14.2	13.3	16.7	16.3
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,666	1,499	6,918	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Figure 6-26: SPUI 2045 Volume Time Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)													
12	Processed	5503	5506	4670	4995	5001	4952	4401	4788	4819	4852	3729	4339	4381
	Demand	5412	5412	4544	4823	4823	4823	4202	4547	4547	4547	3507	4111	4111
	Diff.	91	94	126	172	178	129	199	241	272	305	222	228	270
11	Processed	6025	5945	5034	5366	5358	5295	4654	5006	4991	4991	3836	4493	4495
	Demand	6023	6023	5057	5367	5367	5367	4676	5061	5061	5061	3903	4575	4575
	Diff.	2	-78	-23	-1	-9	-72	-22	-55	-70	-70	-67	-82	-80
10	Processed	5889	5873	4982	5302	5309	5248	4620	5005	5013	5015	3875	4551	4553
	Demand	5849	5849	4911	5212	5212	5212	4541	4914	4914	4914	3790	4443	4443
	Diff.	40	24	71	90	97	36	79	91	99	101	85	108	110
9	Processed	5907	5867	4921	5227	5223	5157	4539	4892	4886	4889	3780	4467	4468
	Demand	5858	5858	4918	5220	5220	5220	4548	4922	4922	4922	3795	4449	4449
	Diff.	49	9	3	7	3	-63	-9	-30	-36	-33	-15	18	19
8	Processed	6000	6041	5115	5433	5469	5437	4808	5197	5198	5223	4049	4730	4749
	Demand	5723	5723	4805	5100	5100	5100	4443	4809	4809	4809	3708	4347	4347
	Diff.	277	318	310	333	369	337	365	388	389	**414**	341	383	**402**
7	Processed	6546	6438	5479	5805	5798	5725	5034	5447	5461	5464	4206	4893	4879
	Demand	6782	6782	5694	6044	6044	6044	5265	5698	5698	5698	4394	5152	5152
	Diff.	-236	-344	-215	-239	-246	-319	-231	-251	-237	-234	-188	-259	-273
6	Processed	6606	6461	5388	5728	5710	5631	4961	5414	5430	5439	4176	4891	4901
	Demand	6822	6822	5728	6079	6079	6079	5296	5732	5732	5732	4420	5182	5182
	Diff.	-216	-361	-340	-351	-369	**-448**	-335	-318	-302	-293	-244	-291	-281
5	Processed	6488	6323	5362	5652	5632	5566	4854	5215	5169	5157	3968	4629	4633
	Demand	6676	6676	5605	5949	5949	5949	5183	5609	5609	5609	4326	5071	5071
	Diff.	-188	-353	-243	-297	-317	-383	-329	-394	**-440**	**-452**	-358	**-442**	**-438**
4	Processed	5694	5603	4755	5061	5061	4979	4384	4750	4734	4724	3660	4252	4245
	Demand	5761	5761	4837	5133	5133	5133	4472	4840	4840	4840	3732	4376	4376
	Diff.	-67	-158	-82	-72	-72	-154	-88	-90	-106	-116	-72	-124	-131
3	Processed	5404	5303	4455	4721	4704	4634	4075	4408	4403	4402	3374	3924	3916
	Demand	5503	5503	4620	4903	4903	4903	4272	4623	4623	4623	3565	4180	4180
	Diff.	-99	-200	-165	-182	-199	-269	-197	-215	-220	-221	-191	-256	-264
2	Processed	4908	4738	3981	4197	4175	4109	3564	3820	3780	3760	2892	3402	3388
	Demand	5055	5055	4244	4504	4504	4504	3924	4247	4247	4247	3275	3839	3839
	Diff.	-147	-317	-263	-307	-329	-395	-360	**-427**	**-467**	**-487**	-383	**-437**	**-451**
1	Processed	3870	3769	3176	3365	3343	3282	2857	3072	3061	3039	2327	2719	2697
	Demand	3980	3980	3342	3547	3547	3547	3090	3344	3344	3344	2579	3023	3023
	Diff.	-110	-211	-166	-182	-204	-265	-233	-272	-283	-305	-252	-304	-326
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**US 27 Interchange**			**I-75**	**NW 49 ST Interchange**			**I-75**	**SR 326 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)													
12	Processed	3060	3013	2716	3604	3599	3863	3851	3875	3595	4307	4366	4357	4106	5098	5116
	Demand	3066	3066	2698	3497	3497	3752	3752	3752	3460	4195	4195	4195	3940	4849	4849
	Diff.	-6	-53	18	107	102	111	99	123	135	112	171	162	166	249	267
11	Processed	3383	3338	2972	3862	3866	4185	4159	4183	3861	4610	4631	4621	4328	5311	5301
	Demand	3412	3412	3003	3891	3891	4176	4176	4176	3851	4669	4669	4669	4385	5397	5397
	Diff.	-29	-74	-31	-29	-25	9	-17	7	10	-59	-38	-48	-57	-86	-96
10	Processed	3298	3244	2900	3819	3820	4080	4054	4074	3763	4521	4555	4531	4280	5307	5313
	Demand	3314	3314	2916	3779	3779	4055	4055	4055	3739	4534	4534	4534	4258	5241	5241
	Diff.	-16	-70	-16	40	41	25	-1	19	24	-13	21	-3	22	66	72
9	Processed	3290	3232	2881	3794	3795	4077	4044	4064	3728	4447	4470	4448	4205	5213	5218
	Demand	3319	3319	2920	3784	3784	4061	4061	4061	3745	4540	4540	4540	4265	5249	5249
	Diff.	-29	-87	-39	10	11	16	-17	3	-17	-93	-70	-92	-60	-36	-31
8	Processed	3238	3200	2886	3821	3821	4099	4094	4120	3816	4569	4640	4656	4362	5389	5421
	Demand	3242	3242	2853	3698	3698	3968	3968	3968	3659	4436	4436	4436	4167	5128	5128
	Diff.	-4	-42	33	123	123	131	126	152	157	133	204	220	195	261	293
7	Processed	3824	3761	3373	4275	4271	4597	4558	4576	4217	5078	5113	5092	4789	5794	5811
	Demand	3842	3842	3381	4382	4382	4702	4702	4702	4336	5257	5257	5257	4938	6077	6077
	Diff.	-18	-81	-8	-107	-111	-105	-144	-126	-119	-179	-144	-165	-149	-283	-266
6	Processed	3831	3779	3352	4200	4197	4513	4496	4510	4169	5022	5061	5041	4741	5773	5755
	Demand	3865	3865	3401	4407	4407	4730	4730	4730	4361	5288	5288	5288	4967	6113	6113
	Diff.	-34	-86	-49	-207	-210	-217	-234	-220	-192	-266	-227	-247	-226	-340	-358
5	Processed	3739	3650	3236	4078	4074	4369	4335	4351	3990	4768	4772	4737	4482	5459	5438
	Demand	3782	3782	3328	4313	4313	4629	4629	4629	4268	5175	5175	5175	4861	5982	5982
	Diff.	-43	-132	-92	-235	-239	-260	-294	-278	-278	**-407**	**-403**	**-438**	-379	**-523**	**-544**
4	Processed	3214	3162	2827	3668	3666	3924	3887	3897	3592	4311	4337	4314	4047	4980	4993
	Demand	3264	3264	2872	3722	3722	3994	3994	3994	3683	4465	4465	4465	4194	5162	5162
	Diff.	-50	-102	-45	-54	-56	-70	-107	-97	-91	-154	-128	-151	-147	-182	-169
3	Processed	3066	3015	2694	3479	3474	3737	3703	3708	3418	4072	4098	4080	3859	4711	4701
	Demand	3117	3117	2743	3555	3555	3815	3815	3815	3518	4265	4265	4265	4006	4930	4930
	Diff.	-51	-102	-49	-76	-81	-78	-112	-107	-100	-193	-167	-185	-147	-219	-229
2	Processed	2818	2750	2441	3111	3102	3321	3283	3291	3018	3628	3634	3596	3380	4119	4101
	Demand	2864	2864	2520	3266	3266	3504	3504	3504	3231	3918	3918	3918	3680	4529	4529
	Diff.	-46	-114	-79	-155	-164	-183	-221	-213	-213	-290	-284	-322	-300	**-410**	**-428**
1	Processed	2242	2205	1979	2537	2532	2710	2682	2672	2472	2930	2933	2909	2716	3314	3305
	Demand	2255	2255	1984	2571	2571	2759	2759	2759	2545	3085	3085	3085	2898	3566	3566
	Diff.	-13	-50	-5	-34	-39	-49	-77	-87	-73	-155	-152	-176	-182	-252	-261
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**SR 326 Interchange**					**I-75**	**NW 49 ST Interchange**			**I-75**	**US 27 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 6-27: SPUI 2045 Speed and Density Time Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)												
12	67.5	66.8	67.4	67.2	67.2	68.6	67.8	66.9	66.7	66.0	68.4	66.1	67.6
11	67.3	66.8	67.3	67.1	67.0	68.3	67.7	66.5	66.2	65.6	68.3	66.2	67.5
10	67.0	66.6	67.1	66.8	66.6	68.5	67.6	66.5	65.9	65.2	68.0	65.9	67.2
9	66.4	66.4	67.0	66.9	66.3	68.3	67.4	66.1	65.5	63.0	67.9	66.0	67.3
8	66.4	66.4	66.9	66.4	66.1	68.4	67.4	66.2	65.1	63.3	67.9	65.8	67.1
7	66.4	66.3	66.9	67.0	66.3	68.3	67.4	66.1	65.5	65.4	68.1	66.1	67.3
6	66.7	66.4	67.2	66.9	66.6	68.5	67.5	66.2	65.5	64.3	68.1	66.2	67.4
5	66.7	66.6	67.0	67.0	66.5	68.4	67.5	66.2	65.5	64.4	68.0	66.1	67.3
4	66.7	66.3	66.7	66.8	66.5	68.4	67.3	66.2	65.4	64.6	68.0	66.2	67.3
3	66.7	66.4	67.0	66.6	66.6	68.3	67.5	66.7	66.0	65.3	68.1	66.2	67.4
2	67.2	66.7	67.2	67.0	66.8	68.3	67.6	66.6	66.2	65.4	68.2	66.3	67.5
1	67.1	66.8	67.3	66.9	66.8	68.4	67.6	66.7	66.1	65.1	68.2	66.2	67.6
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	3,702	1,502	6,475	1,502	3,033	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)												
12	22.1	22.2	17.9	19.4	19.6	19.2	16.1	17.7	17.8	18.1	12.3	15.8	15.6
11	23.9	24.0	19.4	20.9	20.8	20.2	17.1	19.0	19.1	19.3	13.1	16.7	16.4
10	25.5	25.9	21.0	22.6	22.8	22.0	18.7	20.6	20.9	21.2	14.3	18.1	17.9
9	29.2	29.0	23.2	24.7	24.9	23.9	20.0	22.1	22.4	23.8	15.1	18.9	18.5
8	29.6	29.2	23.6	25.3	25.5	24.3	20.6	22.7	23.1	24.2	15.5	19.2	19.0
7	29.5	29.0	23.4	24.8	25.0	24.0	20.1	22.3	22.4	22.4	15.2	19.0	18.6
6	27.6	27.6	22.0	23.7	23.8	22.8	19.3	21.3	21.6	22.2	14.5	18.3	18.0
5	28.4	28.0	22.7	24.1	24.3	23.3	19.6	21.8	22.0	22.5	14.8	18.6	18.2
4	28.0	27.9	22.8	24.2	24.3	23.5	20.1	22.1	22.3	22.7	15.1	18.6	18.3
3	27.9	27.6	22.1	23.7	23.5	22.6	19.0	20.8	20.9	21.2	14.3	17.8	17.5
2	25.2	25.1	20.4	22.0	22.1	21.4	17.9	19.8	19.9	20.3	13.7	16.9	16.7
1	25.9	25.7	20.5	22.2	22.1	21.4	17.9	19.6	19.8	20.2	13.5	16.9	16.6
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	3,702	1,502	6,475	1,502	3,033	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)														
12	68.6	68.6	68.1	65.8	66.4	65.4	66.3	68.3	67.5	66.9	66.6	67.8	66.9	60.7	63.2
11	68.4	68.5	67.9	65.8	66.3	65.6	66.1	68.3	67.3	66.7	66.3	67.8	66.4	50.3	57.3
10	68.3	68.3	67.6	65.6	65.7	64.8	65.5	68.3	67.2	65.6	65.5	67.6	61.1	29.6	50.7
9	67.8	68.1	67.4	65.4	63.1	63.2	64.5	68.1	67.0	65.4	65.3	66.8	55.9	27.7	50.1
8	67.7	67.8	67.1	65.0	63.6	63.7	64.3	68.0	66.9	65.8	64.8	67.0	56.2	27.1	49.8
7	67.7	68.3	67.4	65.3	63.9	63.4	64.4	68.1	67.0	65.5	64.8	67.5	64.1	33.9	51.4
6	68.0	67.5	67.2	65.5	65.1	64.0	64.6	68.1	67.1	65.9	65.4	67.5	65.2	37.0	51.8
5	67.8	67.5	67.2	65.4	64.8	63.9	64.3	68.0	67.0	65.4	65.0	67.4	65.5	42.9	54.0
4	67.8	67.7	67.2	65.8	65.7	64.4	65.3	68.2	67.1	65.8	65.5	67.6	65.5	44.8	54.1
3	67.8	68.2	67.4	65.8	65.1	64.5	65.1	68.2	67.1	65.6	65.0	67.5	65.9	54.8	60.0
2	68.2	68.1	67.7	65.9	66.2	65.3	66.1	68.3	67.3	66.3	66.1	67.7	66.6	57.7	59.8
1	68.1	68.3	67.6	65.8	65.7	65.0	65.9	68.3	67.2	66.3	66.1	67.7	66.7	59.8	60.4
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,666	1,499	6,918	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)														
12	17.3	17.1	15.7	20.6	20.5	22.0	21.6	21.0	19.8	22.7	23.0	22.6	21.7	29.3	28.3
11	18.8	18.6	17.0	22.3	22.1	23.6	23.4	22.8	21.4	24.3	24.8	24.3	23.5	40.7	34.8
10	19.9	19.7	18.1	23.3	23.3	25.0	24.6	23.7	22.5	26.5	26.7	25.9	28.9	73.7	43.2
9	22.9	22.5	20.5	25.6	26.7	28.2	27.4	26.1	24.6	28.7	28.9	28.2	36.5	82.1	44.6
8	23.4	23.0	21.1	26.3	26.9	28.5	28.0	26.6	25.0	28.9	29.6	28.6	36.9	83.9	44.9
7	23.7	23.2	21.3	26.3	26.9	28.6	27.9	26.4	24.8	28.7	29.2	27.9	28.1	65.5	42.9
6	22.1	21.9	19.8	25.0	25.1	27.1	26.7	25.4	23.8	27.8	28.3	27.3	26.8	60.6	42.1
5	22.7	22.5	20.6	25.6	25.8	27.8	27.5	26.0	24.3	28.4	28.7	27.5	26.9	52.4	40.0
4	22.4	22.1	20.0	24.8	24.9	26.8	26.2	25.2	23.7	27.6	27.8	27.0	26.6	50.2	39.8
3	22.5	22.0	20.0	24.9	25.1	26.9	26.4	25.3	23.7	27.4	27.8	26.5	25.8	37.6	33.4
2	19.9	19.7	17.9	22.6	22.6	24.2	23.7	23.1	21.7	25.2	25.5	24.9	24.0	33.9	32.7
1	20.9	20.5	18.7	23.3	23.3	25.0	24.6	23.7	22.3	25.7	26.0	25.3	24.3	32.7	32.4
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,666	1,499	6,918	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Figure 6-28: SPUI 2045 Volume Time Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOT

Time Period		Average Volume (vph)												
12	Processed	4480	4444	3628	3919	3950	3936	3277	3545	3560	3573	2515	3143	3157
	Demand	4417	4417	3571	3834	3834	3834	3162	3429	3429	3429	2408	2947	2947
	Diff.	63	27	57	85	116	102	115	116	131	144	107	196	210
11	Processed	4831	4797	3912	4198	4182	4134	3480	3777	3783	3798	2681	3309	3316
	Demand	4803	4803	3883	4170	4170	4170	3438	3729	3729	3729	2619	3204	3204
	Diff.	28	-6	29	28	12	-36	42	48	54	69	62	105	112
10	Processed	5136	5167	4236	4519	4549	4516	3788	4120	4130	4140	2910	3580	3602
	Demand	5061	5061	4092	4394	4394	4394	3623	3929	3929	3929	2759	3377	3377
	Diff.	75	106	144	125	155	122	165	191	201	211	151	203	225
9	Processed	5825	5769	4664	4958	4949	4895	4044	4383	4395	4407	3072	3735	3737
	Demand	5783	5783	4675	5020	5020	5020	4140	4490	4490	4490	3153	3858	3858
	Diff.	42	-14	-11	-62	-71	-125	-96	-107	-95	-83	-81	-123	-121
8	Processed	5884	5821	4738	5052	5056	4990	4171	4524	4512	4515	3163	3800	3821
	Demand	5873	5873	4749	5099	5099	5099	4204	4560	4560	4560	3202	3919	3919
	Diff.	11	-52	-11	-47	-43	-109	-33	-36	-48	-45	-39	-119	-98
7	Processed	5874	5774	4700	4966	4966	4910	4049	4411	4392	4376	3107	3773	3757
	Demand	5967	5967	4825	5181	5181	5181	4272	4633	4633	4633	3253	3981	3981
	Diff.	-93	-193	-125	-215	-215	-271	-223	-222	-241	-257	-146	-208	-224
6	Processed	5533	5484	4435	4754	4747	4693	3911	4225	4241	4254	2957	3630	3644
	Demand	5588	5588	4518	4851	4851	4851	4000	4338	4338	4338	3047	3728	3728
	Diff.	-55	-104	-83	-97	-104	-158	-89	-113	-97	-84	-90	-98	-84
5	Processed	5677	5590	4559	4836	4843	4776	3971	4332	4328	4329	3024	3684	3678
	Demand	5755	5755	4653	4997	4997	4997	4120	4468	4468	4468	3138	3840	3840
	Diff.	-78	-165	-94	-161	-154	-221	-149	-136	-140	-139	-114	-156	-162
4	Processed	5609	5547	4554	4845	4855	4807	4045	4376	4372	4376	3069	3693	3698
	Demand	5646	5646	4565	4902	4902	4902	4042	4384	4384	4384	3078	3767	3767
	Diff.	-37	-99	-11	-57	-47	-95	3	-8	-12	-8	-9	-74	-69
3	Processed	5595	5483	4447	4737	4703	4617	3842	4156	4135	4135	2922	3539	3534
	Demand	5702	5702	4610	4951	4951	4951	4082	4427	4427	4427	3109	3805	3805
	Diff.	-107	-219	-163	-214	-248	-334	-240	-271	-292	-292	-187	-266	-271
2	Processed	5069	5021	4117	4413	4426	4385	3623	3948	3956	3970	2799	3366	3383
	Demand	5085	5085	4111	4415	4415	4415	3640	3948	3948	3948	2772	3393	3393
	Diff.	-16	-64	6	-2	11	-30	-17	0	8	22	27	-27	-10
1	Processed	5206	5140	4143	4448	4437	4376	3636	3923	3928	3927	2751	3357	3358
	Demand	5268	5268	4259	4574	4574	4574	3771	4090	4090	4090	2872	3515	3515
	Diff.	-62	-128	-116	-126	-137	-198	-135	-167	-162	-163	-121	-158	-157
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**US 27 Interchange**			**I-75**	**NW 49 ST Interchange**			**I-75**	**SR 326 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOT

Time Period		Average Volume (vph)												
12	Processed	3563	3519	3204	4067	4074	4323	4291	4312	4015	4557	4598	4592	4352	5328	5360
	Demand	3574	3574	3188	3925	3925	4153	4153	4153	3837	4405	4405	4405	4154	5049	5049
	Diff.	-11	-55	16	142	149	170	138	159	178	152	193	187	198	279	311
11	Processed	3867	3819	3457	4400	4397	4650	4632	4668	4318	4875	4939	4930	4673	5753	5838
	Demand	3886	3886	3467	4269	4269	4516	4516	4516	4172	4791	4791	4791	4517	5491	5491
	Diff.	-19	-67	-10	131	128	134	116	152	146	84	148	139	156	262	347
10	Processed	4077	4030	3674	4591	4587	4849	4834	4864	4538	5201	5246	5246	4990	6153	6221
	Demand	4095	4095	3654	4498	4498	4759	4759	4759	4397	5048	5048	5048	4760	5786	5786
	Diff.	-18	-65	20	93	89	90	75	105	141	153	198	198	230	367	**435**
9	Processed	4655	4592	4145	5027	5039	5333	5299	5333	4954	5621	5655	5636	5331	6286	6279
	Demand	4679	4679	4174	5139	5139	5438	5438	5438	5023	5768	5768	5768	5439	6611	6611
	Diff.	-24	-87	-29	-112	-100	-105	-139	-105	-69	-147	-113	-132	-108	-325	-332
8	Processed	4745	4681	4239	5118	5107	5424	5405	5433	5020	5700	5757	5730	5396	6268	6278
	Demand	4753	4753	4240	5220	5220	5523	5523	5523	5102	5858	5858	5858	5524	6714	6714
	Diff.	-8	-72	-1	-102	-113	-99	-118	-90	-82	-158	-101	-128	-128	**-446**	**-436**
7	Processed	4814	4743	4300	5148	5144	5433	5379	5399	4974	5640	5671	5640	5314	6271	6229
	Demand	4829	4829	4308	5303	5303	5611	5611	5611	5184	5952	5952	5952	5612	6822	6822
	Diff.	-15	-86	-8	-155	-159	-178	-232	-212	-210	-312	-281	-312	-298	**-551**	**-593**
6	Processed	4502	4432	3997	4906	4910	5190	5161	5182	4793	5485	5535	5531	5213	6206	6212
	Demand	4522	4522	4034	4966	4966	5254	5254	5254	4854	5573	5573	5573	5255	6388	6388
	Diff.	-20	-90	-37	-60	-56	-64	-93	-72	-61	-88	-38	-42	-42	-182	-176
5	Processed	4617	4552	4160	5020	5009	5310	5292	5313	4890	5550	5591	5564	5256	6246	6226
	Demand	4657	4657	4155	5115	5115	5412	5412	5412	5000	5740	5740	5740	5413	6580	6580
	Diff.	-40	-105	5	-95	-106	-102	-120	-99	-110	-190	-149	-176	-157	-334	-354
4	Processed	4552	4487	4030	4893	4899	5164	5125	5148	4778	5442	5467	5460	5187	6209	6194
	Demand	4569	4569	4076	5018	5018	5309	5309	5309	4905	5631	5631	5631	5310	6454	6454
	Diff.	-17	-82	-46	-125	-119	-145	-184	-161	-127	-189	-164	-171	-123	-245	-260
3	Processed	4579	4505	4054	4908	4897	5197	5158	5176	4770	5382	5410	5371	5069	6011	5975
	Demand	4614	4614	4116	5068	5068	5362	5362	5362	4954	5688	5688	5688	5363	6519	6519
	Diff.	-35	-109	-62	-160	-171	-165	-204	-186	-184	-306	-278	-317	-294	**-508**	**-544**
2	Processed	4073	4017	3640	4480	4483	4744	4704	4738	4384	5015	5060	5052	4792	5766	5790
	Demand	4115	4115	3671	4519	4519	4782	4782	4782	4417	5072	5072	5072	4782	5813	5813
	Diff.	-42	-98	-31	-39	-36	-38	-78	-44	-33	-57	-12	-20	10	-47	-23
1	Processed	4274	4206	3790	4588	4583	4875	4858	4858	4497	5113	5152	5136	4864	5816	5806
	Demand	4263	4263	3803	4682	4682	4954	4954	4954	4576	5254	5254	5254	4955	6022	6022
	Diff.	11	-57	-13	-94	-99	-79	-96	-96	-79	-141	-102	-118	-91	-206	-216
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**SR 326 Interchange**					**I-75**	**NW 49 ST Interchange**			**I-75**	**US 27 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 6-29: ParClo SE 2045 Speed and Density Time Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)														
12	66.8	66.9	66.9	66.6	66.4	67.0	67.1	67.9	66.4	66.8	65.3	65.8	67.6	65.9	66.6
11	66.5	66.6	66.4	66.5	65.9	66.6	66.8	67.7	66.1	66.7	65.3	65.9	67.5	65.7	66.5
10	66.6	65.5	66.1	66.3	65.7	66.8	66.9	67.8	66.2	66.7	65.1	65.7	67.5	65.7	66.6
9	66.6	65.8	66.4	66.1	65.9	66.9	67.1	67.9	66.3	66.9	65.3	65.9	67.5	65.7	66.6
8	63.7	62.6	65.7	66.1	65.4	66.3	66.8	67.7	66.0	65.6	63.5	64.7	67.4	65.7	66.4
7	61.8	59.3	65.4	64.6	64.6	65.9	66.6	67.6	65.9	65.1	62.7	64.4	67.1	65.7	66.3
6	63.4	62.9	66.2	66.1	65.4	66.5	66.8	67.7	65.9	65.9	64.2	64.7	67.2	65.6	66.3
5	65.5	66.7	66.5	65.4	65.1	66.6	66.9	67.7	66.1	66.4	64.6	65.4	67.5	65.9	66.5
4	66.8	67.0	66.9	67.0	66.4	67.1	67.1	67.9	66.4	67.1	65.8	66.1	67.7	66.1	66.9
3	66.9	66.9	66.9	67.1	66.5	67.0	67.3	67.9	66.5	67.3	66.3	66.3	67.8	66.4	67.2
2	67.3	67.1	67.2	67.2	67.0	67.2	67.6	68.2	67.1	67.7	67.0	66.7	68.1	66.5	67.6
1	67.9	67.2	67.7	67.7	67.6	67.6	68.1	68.5	67.7	68.1	67.6	67.1	68.5	67.2	68.1
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange					I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	3,345	1,502	3,535	1,501	1,911	1,501	3,019	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)														
12	27.5	27.5	23.3	25.0	25.1	24.6	21.8	22.6	23.1	23.8	24.6	24.6	18.4	22.0	22.0
11	30.2	29.8	25.3	26.9	27.1	26.5	23.3	23.9	24.4	24.9	25.5	25.3	18.9	22.8	22.6
10	29.4	29.6	24.9	26.3	26.6	25.8	22.7	23.4	24.0	24.6	25.3	25.2	18.9	22.7	22.4
9	29.4	29.7	24.4	26.1	26.1	25.3	22.3	23.0	23.5	24.1	24.9	24.7	18.6	22.7	22.4
8	32.1	34.6	26.3	27.8	28.2	27.6	24.3	25.1	25.7	26.7	27.7	27.2	20.2	24.1	23.9
7	36.3	38.3	28.0	30.4	30.1	29.0	25.2	25.9	26.6	28.0	29.3	28.6	21.0	25.1	24.9
6	35.0	35.0	27.4	29.1	29.3	28.5	25.0	25.8	26.4	27.5	28.3	28.1	20.7	24.8	24.5
5	33.0	31.7	26.9	28.8	28.9	27.8	24.3	24.9	25.4	26.0	26.7	26.5	19.6	23.4	23.2
4	28.4	27.9	23.7	25.2	25.4	24.7	21.8	22.4	22.9	23.5	24.0	23.8	18.0	21.4	21.1
3	26.9	26.5	22.2	23.5	23.6	23.0	20.2	21.0	21.4	21.7	22.1	22.2	16.6	19.7	19.4
2	24.3	23.5	19.7	20.9	20.8	20.4	17.7	18.2	18.3	18.7	18.8	18.8	14.1	17.0	16.7
1	19.0	18.7	15.6	16.6	16.5	16.2	14.1	14.5	14.6	15.0	15.1	15.1	11.3	13.5	13.2
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange					I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	3,345	1,502	3,535	1,501	1,911	1,501	3,019	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)														
12	68.9	68.8	68.4	65.6	66.6	65.7	66.5	68.1	67.7	66.1	66.6	67.8	67.1	62.6	64.5
11	68.6	68.7	68.3	65.6	66.5	65.3	66.2	67.9	67.6	66.0	66.5	67.7	67.1	60.0	62.5
10	68.7	68.6	68.3	65.7	66.7	66.0	66.7	68.1	67.6	66.2	66.7	67.8	67.1	59.9	62.5
9	68.7	68.7	68.3	65.5	66.4	65.6	66.4	68.0	67.7	66.3	66.7	67.8	67.1	61.5	63.5
8	68.7	68.6	68.3	65.6	66.7	65.8	66.5	68.0	67.6	66.2	66.3	67.7	66.9	59.1	61.8
7	68.4	68.0	67.7	65.4	65.9	65.1	65.7	67.9	67.4	65.2	65.7	67.6	66.5	55.3	59.7
6	68.4	68.5	68.0	65.8	66.4	65.3	66.0	67.9	67.4	65.1	65.8	67.6	66.6	57.8	61.2
5	68.4	68.7	68.1	65.7	66.4	65.6	66.3	68.0	67.5	65.9	66.2	67.8	66.8	59.1	62.8
4	68.8	68.7	68.3	66.1	67.0	66.0	66.7	68.2	67.6	66.2	66.7	67.8	67.2	63.6	65.3
3	68.8	68.7	68.4	65.9	67.0	66.0	66.8	68.1	67.7	66.2	66.9	67.9	67.3	64.1	65.5
2	69.0	69.0	68.6	66.2	67.4	66.4	67.3	68.3	68.0	66.7	67.3	68.0	67.6	65.0	66.6
1	69.4	69.3	69.0	66.5	67.9	67.2	67.9	68.6	68.4	67.1	67.9	68.2	68.1	66.1	67.5
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)														
12	14.8	14.6	13.2	18.4	18.1	19.7	19.5	19.1	17.8	22.1	22.0	21.5	20.5	27.4	26.6
11	16.4	16.2	14.5	19.8	19.5	21.5	21.2	20.6	19.0	23.4	23.3	22.8	21.5	29.7	28.5
10	16.0	15.8	14.2	19.3	18.9	20.4	20.2	19.9	18.3	22.9	22.6	22.1	21.1	29.5	28.2
9	16.0	15.7	14.1	19.5	19.2	20.9	20.5	20.0	18.4	22.5	22.4	21.9	20.9	28.5	27.5
8	15.7	15.5	14.1	19.3	19.0	20.7	20.6	20.2	18.7	23.3	23.4	23.1	21.9	30.6	29.3
7	18.6	18.5	16.6	21.9	21.7	23.7	23.4	22.6	20.9	26.2	25.9	25.1	24.0	36.2	33.1
6	18.7	18.4	16.4	21.2	21.0	22.9	22.7	22.0	20.3	25.8	25.6	24.8	23.6	33.5	31.3
5	18.2	17.7	15.8	20.7	20.5	22.3	22.0	21.3	19.6	24.2	24.0	23.3	22.3	31.2	28.9
4	15.6	15.3	13.8	18.4	18.1	19.7	19.4	19.0	17.6	21.8	21.7	21.2	20.0	26.0	25.4
3	14.8	14.6	13.1	17.7	17.3	18.9	18.7	18.2	16.8	20.6	20.4	20.0	19.2	24.6	24.0
2	13.6	13.3	11.9	15.7	15.3	16.7	16.3	16.0	14.7	18.2	18.0	17.6	16.6	21.1	20.4
1	10.8	10.6	9.6	12.7	12.4	13.4	13.3	13.0	12.0	14.7	14.4	14.2	13.3	16.7	16.3
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Figure 6-30: ParClo SE 2045 Volume Time Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period		Average Volume (vph)															
12	Processed	5503	5506	4670	4995	4998	4940	4392	4608	4602	4769	4818	4844	3729	4358	4396
	Demand	5412	5412	4544	4823	4823	4823	4202	4387	4387	4547	4547	4547	3507	4111	4111
	Diff.	91	94	126	172	175	117	190	221	215	222	271	297	222	247	285
11	Processed	6025	5945	5034	5370	5360	5284	4669	4857	4842	4991	4990	4992	3832	4499	4508
	Demand	6023	6023	5057	5367	5367	5367	4676	4882	4882	5061	5061	5061	3903	4575	4575
	Diff.	2	-78	-23	3	-7	-83	-7	-25	-40	-70	-71	-69	-71	-76	-67
10	Processed	5869	5808	4925	5233	5241	5178	4558	4759	4761	4923	4940	4947	3823	4485	4476
	Demand	5849	5849	4911	5212	5212	5212	4541	4741	4741	4914	4914	4914	3790	4443	4443
	Diff.	20	-41	14	21	29	-34	17	18	20	9	26	33	33	42	33
9	Processed	5874	5802	4862	5161	5160	5081	4487	4679	4680	4838	4872	4875	3774	4463	4476
	Demand	5858	5858	4918	5220	5220	5220	4548	4748	4748	4922	4922	4922	3795	4449	4449
	Diff.	16	-56	-56	-59	-60	-139	-61	-69	-68	-84	-50	-47	-21	14	27
8	Processed	6023	6101	5169	5502	5529	5489	4864	5091	5083	5239	5263	5276	4078	4753	4760
	Demand	5723	5723	4805	5100	5100	5100	4443	4639	4639	4809	4809	4809	3708	4347	4347
	Diff.	300	378	364	**402**	**429**	389	**421**	**452**	**444**	**430**	**454**	**467**	370	**406**	**413**
7	Processed	6573	6470	5493	5823	5815	5730	5044	5260	5259	5445	5472	5485	4235	4946	4952
	Demand	6782	6782	5694	6044	6044	6044	5265	5497	5497	5698	5698	5698	4394	5152	5152
	Diff.	-209	-312	-201	-221	-229	-314	-221	-237	-238	-253	-226	-213	-159	-206	-200
6	Processed	6608	6499	5437	5774	5752	5664	5002	5232	5225	5421	5430	5434	4169	4873	4877
	Demand	6822	6822	5728	6079	6079	6079	5296	5529	5529	5732	5732	5732	4420	5182	5182
	Diff.	-214	-323	-291	-305	-327	**-415**	-294	-297	-304	-311	-302	-298	-251	-309	-305
5	Processed	6488	6323	5362	5654	5634	5556	4870	5057	5031	5179	5169	5172	3974	4628	4628
	Demand	6676	6676	5605	5949	5949	5949	5183	5411	5411	5609	5609	5609	4326	5071	5071
	Diff.	-188	-353	-243	-295	-315	-393	-313	-354	-380	**-430**	**-440**	**-437**	-352	**-443**	**-443**
4	Processed	5694	5603	4755	5060	5061	4973	4390	4563	4562	4737	4732	4720	3662	4247	4238
	Demand	5761	5761	4837	5133	5133	5133	4472	4669	4669	4840	4840	4840	3732	4376	4376
	Diff.	-67	-158	-82	-73	-72	-160	-82	-106	-107	-103	-108	-120	-70	-129	-138
3	Processed	5404	5303	4455	4721	4705	4629	4075	4269	4261	4383	4399	4405	3373	3926	3918
	Demand	5503	5503	4620	4903	4903	4903	4272	4460	4460	4623	4623	4623	3565	4180	4180
	Diff.	-99	-200	-165	-182	-198	-274	-197	-191	-199	-240	-224	-218	-192	-254	-262
2	Processed	4908	4738	3981	4197	4173	4104	3579	3714	3688	3804	3776	3753	2888	3400	3378
	Demand	5055	5055	4244	4504	4504	4504	3924	4097	4097	4247	4247	4247	3275	3839	3839
	Diff.	-147	-317	-263	-307	-331	-400	-345	-383	**-409**	**-443**	**-471**	**-494**	-387	**-439**	**-461**
1	Processed	3870	3769	3176	3366	3346	3276	2878	2971	2959	3062	3056	3033	2327	2722	2702
	Demand	3980	3980	3342	3547	3547	3547	3090	3226	3226	3344	3344	3344	2579	3023	3023
	Diff.	-110	-211	-166	-181	-201	-271	-212	-255	-267	-282	-288	-311	-252	-301	-321
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**US 27 Interchange**			**I-75**	**NW 49 ST Interchange**					**I-75**	**SR 326 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period		Average Volume (vph)															
12	Processed	3060	3013	2716	3622	3617	3883	3886	3904	3606	4371	4386	4374	4127	5126	5145
	Demand	3066	3066	2698	3497	3497	3752	3752	3752	3460	4195	4195	4195	3940	4849	4849
	Diff.	-6	-53	18	125	120	131	134	152	146	176	191	179	187	277	296
11	Processed	3383	3338	2972	3886	3898	4216	4210	4204	3853	4632	4644	4630	4327	5319	5325
	Demand	3412	3412	3003	3891	3891	4176	4176	4176	3851	4669	4669	4669	4385	5397	5397
	Diff.	-29	-74	-31	-5	7	40	34	28	2	-37	-25	-39	-58	-78	-72
10	Processed	3298	3244	2900	3789	3778	4034	4041	4058	3721	4538	4528	4503	4253	5268	5261
	Demand	3314	3314	2916	3779	3779	4055	4055	4055	3739	4534	4534	4534	4258	5241	5241
	Diff.	-16	-70	-16	10	-1	-21	-14	3	-18	4	-6	-31	-5	27	20
9	Processed	3290	3232	2881	3820	3820	4104	4088	4085	3731	4474	4480	4460	4216	5245	5238
	Demand	3319	3319	2920	3784	3784	4061	4061	4061	3745	4540	4540	4540	4265	5249	5249
	Diff.	-29	-87	-39	36	36	43	27	24	-14	-66	-60	-80	-49	-4	-11
8	Processed	3238	3200	2886	3802	3808	4088	4111	4128	3796	4632	4664	4692	4400	5394	5422
	Demand	3242	3242	2853	3698	3698	3968	3968	3968	3659	4436	4436	4436	4167	5128	5128
	Diff.	-4	-42	33	104	110	120	143	160	137	196	228	256	233	266	294
7	Processed	3824	3761	3373	4298	4294	4623	4616	4612	4230	5112	5107	5081	4786	5833	5851
	Demand	3842	3842	3381	4382	4382	4702	4702	4702	4336	5257	5257	5257	4938	6077	6077
	Diff.	-18	-81	-8	-84	-88	-79	-86	-90	-106	-145	-150	-176	-152	-244	-226
6	Processed	3831	3779	3352	4181	4177	4489	4486	4488	4113	5038	5045	5024	4718	5731	5722
	Demand	3865	3865	3401	4407	4407	4730	4730	4730	4361	5288	5288	5288	4967	6113	6113
	Diff.	-34	-86	-49	-226	-230	-241	-244	-242	-248	-250	-243	-264	-249	-382	-391
5	Processed	3739	3650	3236	4081	4080	4372	4367	4349	3977	4795	4771	4733	4477	5453	5435
	Demand	3782	3782	3328	4313	4313	4629	4629	4629	4268	5175	5175	5175	4861	5982	5982
	Diff.	-43	-132	-92	-232	-233	-257	-262	-280	-291	-380	**-404**	**-442**	-384	**-529**	**-547**
4	Processed	3214	3162	2827	3645	3642	3898	3886	3896	3569	4329	4333	4311	4035	4963	4977
	Demand	3264	3264	2872	3722	3722	3994	3994	3994	3683	4465	4465	4465	4194	5162	5162
	Diff.	-50	-102	-45	-77	-80	-96	-108	-98	-114	-136	-132	-154	-159	-199	-185
3	Processed	3066	3015	2694	3488	3481	3746	3739	3732	3406	4101	4095	4087	3872	4733	4714
	Demand	3117	3117	2743	3555	3555	3815	3815	3815	3518	4265	4265	4265	4006	4930	4930
	Diff.	-51	-102	-49	-67	-74	-69	-76	-83	-112	-164	-170	-178	-134	-197	-216
2	Processed	2818	2750	2441	3108	3098	3320	3300	3295	3003	3639	3627	3586	3370	4105	4080
	Demand	2864	2864	2520	3266	3266	3504	3504	3504	3231	3918	3918	3918	3680	4529	4529
	Diff.	-46	-114	-79	-158	-168	-184	-204	-209	-228	-279	-291	-332	-310	**-424**	**-449**
1	Processed	2242	2205	1979	2540	2535	2711	2701	2683	2465	2954	2936	2907	2717	3313	3306
	Demand	2255	2255	1984	2571	2571	2759	2759	2759	2545	3085	3085	3085	2898	3566	3566
	Diff.	-13	-50	-5	-31	-36	-48	-58	-76	-80	-131	-149	-178	-181	-253	-260
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**SR 326 Interchange**					**I-75**	**NW 49 ST Interchange**			**I-75**	**US 27 Interchange**				**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 6-31: ParClo SE 2045 Speed and Density Time Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)														
12	67.5	66.8	67.4	67.2	67.1	66.9	67.8	67.3	67.7	67.5	66.8	65.9	68.4	66.2	67.6
11	67.3	66.8	67.3	67.1	66.9	66.8	67.6	67.2	67.6	67.4	66.4	65.5	68.2	65.9	67.4
10	67.0	66.6	67.1	66.7	66.5	66.7	67.5	67.1	67.5	66.9	65.8	64.4	67.9	66.2	67.3
9	66.4	65.2	66.8	66.7	66.3	66.6	67.4	66.8	67.3	66.8	65.4	60.0	67.9	66.0	67.3
8	66.4	66.3	66.7	66.7	66.3	66.5	67.3	66.8	67.3	66.6	65.0	63.6	67.9	66.0	67.2
7	66.4	66.2	66.9	66.8	66.3	66.5	67.5	66.7	67.3	67.0	65.6	65.1	68.1	66.2	67.2
6	66.7	66.4	67.2	66.9	66.5	66.7	67.5	66.9	67.4	67.3	65.8	64.4	68.0	66.1	67.4
5	66.7	66.6	67.0	66.6	66.4	66.7	67.4	66.8	67.3	67.1	65.7	64.7	68.0	65.9	67.3
4	66.7	66.3	66.8	66.7	66.3	66.7	67.4	66.8	67.3	67.0	65.6	65.1	68.1	66.2	67.3
3	66.7	66.4	67.0	66.9	66.6	66.8	67.5	67.0	67.5	67.3	66.1	65.4	68.1	66.2	67.4
2	67.2	66.7	67.2	67.0	66.7	66.7	67.6	67.1	67.6	67.3	66.2	65.6	68.2	66.5	67.6
1	67.1	66.8	67.3	66.8	66.7	66.7	67.6	67.1	67.6	67.4	66.2	65.6	68.3	66.4	67.6
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange					I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	3,345	1,502	3,535	1,501	1,911	1,502	3,019	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)														
12	22.1	22.2	17.9	19.5	19.7	19.6	16.2	17.1	16.9	17.5	17.8	18.1	12.3	15.9	15.7
11	23.9	24.0	19.4	20.9	20.8	20.6	17.1	18.1	18.0	18.6	19.0	19.4	13.1	16.8	16.5
10	25.5	25.9	21.0	22.6	22.8	22.6	18.7	19.7	19.6	20.4	20.9	21.6	14.4	18.0	17.8
9	29.2	29.7	23.3	24.8	24.9	24.4	19.9	21.1	21.0	21.8	22.4	25.6	15.0	18.8	18.5
8	29.6	29.3	23.7	25.3	25.4	25.0	20.7	21.7	21.5	22.5	23.1	24.0	15.5	19.2	19.0
7	29.5	29.1	23.4	24.8	24.9	24.6	20.0	21.1	21.0	21.9	22.3	22.5	15.2	18.9	18.5
6	27.6	27.6	22.0	23.7	23.8	23.4	19.3	20.4	20.2	20.9	21.5	22.2	14.5	18.3	18.0
5	28.4	28.0	22.7	24.3	24.4	23.9	19.7	20.7	20.6	21.4	22.0	22.5	14.9	18.6	18.2
4	28.0	27.9	22.8	24.2	24.4	24.0	20.0	21.1	20.9	21.7	22.3	22.6	15.0	18.6	18.3
3	27.9	27.6	22.1	23.7	23.6	23.0	19.0	20.0	19.8	20.5	20.9	21.1	14.3	17.8	17.4
2	25.2	25.1	20.4	22.0	22.1	21.9	17.9	18.8	18.7	19.4	19.9	20.2	13.7	16.8	16.7
1	25.9	25.7	20.5	22.2	22.2	21.9	17.9	18.9	18.7	19.4	19.8	20.0	13.4	16.9	16.6
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange					I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	3,345	1,502	3,535	1,501	1,911	1,502	3,019	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)														
12	68.6	68.6	68.1	65.8	66.2	65.4	66.2	68.3	67.5	66.6	66.5	67.7	66.9	60.3	62.8
11	68.4	68.5	67.9	65.5	66.0	65.0	65.5	68.0	67.3	66.4	66.1	67.7	66.5	53.1	58.5
10	68.3	68.3	67.6	65.5	65.7	65.1	65.5	68.1	67.3	64.8	65.1	67.6	62.5	33.8	51.0
9	67.8	68.1	67.4	65.8	65.8	64.3	64.2	67.8	67.0	64.9	64.7	67.4	57.5	32.2	51.4
8	67.7	67.8	67.1	65.5	65.0	63.7	63.6	67.4	66.9	65.7	65.3	67.4	58.3	31.3	50.8
7	67.7	68.3	67.4	65.6	65.0	64.0	63.8	67.7	67.0	66.0	65.1	67.5	64.3	36.9	52.4
6	68.0	67.5	67.2	65.7	65.3	64.5	64.7	68.0	67.1	65.6	65.6	67.6	65.1	36.2	52.4
5	67.8	67.5	67.2	65.4	64.7	64.5	64.4	67.7	67.0	65.8	65.0	67.5	65.0	40.1	54.1
4	67.8	67.7	67.2	65.5	65.4	64.2	64.3	67.8	67.1	65.8	65.1	67.6	65.4	38.9	52.3
3	67.8	68.2	67.4	65.2	64.8	64.4	64.8	67.9	67.1	65.9	65.6	67.6	66.2	50.7	57.9
2	68.2	68.1	67.7	66.0	66.4	65.4	65.8	68.1	67.3	66.2	65.9	67.6	66.6	56.9	61.3
1	68.1	68.3	67.6	65.9	65.8	65.0	65.7	68.1	67.2	65.9	65.6	67.7	66.6	56.8	61.1
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)														
12	17.3	17.1	15.7	20.8	20.6	22.2	21.8	21.2	19.9	23.1	23.3	22.8	21.9	30.0	28.6
11	18.8	18.6	17.0	22.6	22.4	24.0	24.0	23.1	21.4	24.7	25.0	24.3	23.5	37.8	33.5
10	19.9	19.7	18.1	23.2	23.2	24.8	24.6	23.7	22.3	27.1	26.9	25.9	27.8	67.5	43.0
9	22.9	22.5	20.5	25.4	25.5	27.6	27.6	26.2	24.5	29.2	29.2	27.9	34.8	73.3	43.1
8	23.4	23.0	21.1	26.1	26.2	28.4	28.5	26.9	24.9	29.1	29.3	28.4	35.1	73.7	43.6
7	23.7	23.2	21.3	26.1	26.3	28.2	28.2	26.6	24.6	28.6	29.0	27.8	27.9	63.5	42.1
6	22.1	21.9	19.8	24.9	25.0	26.8	26.7	25.5	23.7	28.0	28.1	27.2	26.7	62.5	41.7
5	22.7	22.5	20.6	25.6	25.9	27.5	27.5	26.2	24.3	28.3	28.7	27.6	27.4	57.4	39.8
4	22.4	22.1	20.0	25.0	25.0	26.9	26.8	25.3	23.6	27.7	28.0	26.9	26.6	58.4	41.7
3	22.5	22.0	20.0	25.1	25.2	26.9	26.7	25.5	23.6	27.4	27.5	26.5	25.6	41.5	34.9
2	19.9	19.7	17.9	22.5	22.4	24.1	23.9	23.1	21.6	25.5	25.7	24.9	24.0	34.7	31.7
1	20.9	20.5	18.7	23.2	23.3	25.1	24.8	23.8	22.2	26.0	26.2	25.4	24.3	34.5	31.8
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Figure 6-32: ParClo SE 2045 Volume Time Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period		Average Volume (vph)														
12	Processed	4480	4444	3628	3928	3959	3940	3292	3443	3426	3541	3567	3573	2519	3162	3179
	Demand	4417	4417	3571	3834	3834	3834	3162	3305	3305	3429	3429	3429	2408	2947	2947
	Diff.	63	27	57	94	125	106	130	138	121	112	138	144	111	215	232
11	Processed	4831	4797	3912	4197	4176	4117	3465	3652	3653	3763	3783	3800	2678	3326	3333
	Demand	4803	4803	3883	4170	4170	4170	3438	3594	3594	3729	3729	3729	2619	3204	3204
	Diff.	28	-6	29	27	6	-53	27	58	59	34	54	71	59	122	129
10	Processed	5136	5167	4236	4520	4546	4514	3793	3962	3969	4103	4130	4146	2923	3583	3601
	Demand	5061	5061	4092	4394	4394	4394	3623	3787	3787	3929	3929	3929	2759	3377	3377
	Diff.	75	106	144	126	152	120	170	175	182	174	201	217	164	206	224
9	Processed	5825	5769	4664	4949	4941	4871	4027	4229	4230	4367	4390	4398	3063	3724	3730
	Demand	5783	5783	4675	5020	5020	5020	4140	4327	4327	4490	4490	4490	3153	3858	3858
	Diff.	42	-14	-11	-71	-79	-149	-113	-98	-97	-123	-100	-92	-90	-134	-128
8	Processed	5884	5821	4738	5049	5054	4985	4173	4356	4342	4496	4509	4517	3164	3803	3821
	Demand	5873	5873	4749	5099	5099	5099	4204	4395	4395	4560	4560	4560	3202	3919	3919
	Diff.	11	-52	-11	-50	-45	-114	-31	-39	-53	-64	-51	-43	-38	-116	-98
7	Processed	5874	5774	4700	4967	4964	4903	4055	4231	4234	4391	4387	4374	3101	3756	3737
	Demand	5967	5967	4825	5181	5181	5181	4272	4465	4465	4633	4633	4633	3253	3981	3981
	Diff.	-93	-193	-125	-214	-217	-278	-217	-234	-231	-242	-246	-259	-152	-225	-244
6	Processed	5533	5484	4435	4751	4745	4673	3910	4095	4086	4214	4241	4256	2962	3630	3646
	Demand	5588	5588	4518	4851	4851	4851	4000	4181	4181	4338	4338	4338	3047	3728	3728
	Diff.	-55	-104	-83	-100	-106	-178	-90	-86	-95	-124	-97	-82	-85	-98	-82
5	Processed	5677	5590	4557	4842	4851	4786	3978	4153	4150	4311	4327	4336	3033	3689	3683
	Demand	5755	5755	4653	4997	4997	4997	4120	4307	4307	4468	4468	4468	3138	3840	3840
	Diff.	-78	-165	-96	-155	-146	-211	-142	-154	-157	-157	-141	-132	-105	-151	-157
4	Processed	5609	5547	4556	4847	4849	4794	4039	4221	4216	4360	4381	4387	3067	3694	3704
	Demand	5646	5646	4565	4902	4902	4902	4042	4225	4225	4384	4384	4384	3078	3767	3767
	Diff.	-37	-99	-9	-55	-53	-108	-3	-4	-9	-24	-3	3	-11	-73	-63
3	Processed	5595	5483	4447	4740	4706	4614	3851	4018	4013	4136	4131	4129	2919	3541	3529
	Demand	5702	5702	4610	4951	4951	4951	4082	4267	4267	4427	4427	4427	3109	3805	3805
	Diff.	-107	-219	-163	-211	-245	-337	-231	-249	-254	-291	-296	-298	-190	-264	-276
2	Processed	5069	5021	4117	4412	4422	4372	3628	3793	3788	3932	3951	3965	2797	3358	3376
	Demand	5085	5085	4111	4415	4415	4415	3640	3805	3805	3948	3948	3948	2772	3393	3393
	Diff.	-16	-64	6	-3	7	-43	-12	-12	-17	-16	3	17	25	-35	-17
1	Processed	5206	5140	4143	4452	4439	4373	3636	3802	3797	3912	3928	3927	2751	3358	3361
	Demand	5268	5268	4259	4574	4574	4574	3771	3942	3942	4090	4090	4090	2872	3515	3515
	Diff.	-62	-128	-116	-122	-135	-201	-135	-140	-145	-178	-162	-163	-121	-157	-154
Type		Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Interchange		I-75	US 27 Interchange			I-75	NW 49 ST Interchange					I-75	SR 326 Interchange			I-75
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period		Average Volume (vph)														
12	Processed	3563	3519	3204	4103	4100	4349	4339	4350	4033	4628	4643	4631	4399	5364	5383
	Demand	3574	3574	3188	3925	3925	4153	4153	4153	3837	4405	4405	4405	4154	5049	5049
	Diff.	-11	-55	16	178	175	196	186	197	196	223	238	226	245	315	334
11	Processed	3867	3819	3457	4444	4436	4693	4712	4725	4333	4930	4946	4941	4680	5719	5795
	Demand	3886	3886	3467	4269	4269	4516	4516	4516	4172	4791	4791	4791	4517	5491	5491
	Diff.	-19	-67	-10	175	167	177	196	209	161	139	155	150	163	228	304
10	Processed	4077	4030	3674	4569	4572	4832	4836	4852	4497	5215	5248	5239	4986	6119	6171
	Demand	4095	4095	3654	4498	4498	4759	4759	4759	4397	5048	5048	5048	4760	5786	5786
	Diff.	-18	-65	20	71	74	73	77	93	100	167	200	191	226	333	385
9	Processed	4655	4592	4145	5020	5029	5324	5320	5332	4926	5664	5654	5635	5305	6285	6292
	Demand	4679	4679	4174	5139	5139	5438	5438	5438	5023	5768	5768	5768	5439	6611	6611
	Diff.	-24	-87	-29	-119	-110	-114	-118	-106	-97	-104	-114	-133	-134	-326	-319
8	Processed	4745	4681	4239	5114	5110	5419	5431	5438	4997	5735	5739	5736	5423	6306	6283
	Demand	4753	4753	4240	5220	5220	5523	5523	5523	5102	5858	5858	5858	5524	6714	6714
	Diff.	-8	-72	-1	-106	-110	-104	-92	-85	-105	-123	-119	-122	-101	**-408**	**-431**
7	Processed	4814	4743	4300	5138	5128	5417	5403	5396	4943	5667	5665	5618	5308	6288	6290
	Demand	4829	4829	4308	5303	5303	5611	5611	5611	5184	5952	5952	5952	5612	6822	6822
	Diff.	-15	-86	-8	-165	-175	-194	-208	-215	-241	-285	-287	-334	-304	**-534**	**-532**
6	Processed	4502	4432	3997	4894	4895	5181	5183	5191	4764	5517	5521	5510	5173	6224	6230
	Demand	4522	4522	4034	4966	4966	5254	5254	5254	4854	5573	5573	5573	5255	6388	6388
	Diff.	-20	-90	-37	-72	-71	-73	-71	-63	-90	-56	-52	-63	-82	-164	-158
5	Processed	4617	4552	4160	5018	5015	5312	5321	5324	4883	5589	5600	5573	5270	6227	6218
	Demand	4657	4657	4155	5115	5115	5412	5412	5412	5000	5740	5740	5740	5413	6580	6580
	Diff.	-40	-105	5	-97	-100	-100	-91	-88	-117	-151	-140	-167	-143	-353	-362
4	Processed	4552	4487	4030	4904	4908	5172	5157	5155	4743	5469	5466	5451	5183	6213	6204
	Demand	4569	4569	4076	5018	5018	5309	5309	5309	4905	5631	5631	5631	5310	6454	6454
	Diff.	-17	-82	-46	-114	-110	-137	-152	-154	-162	-162	-165	-180	-127	-241	-250
3	Processed	4579	4505	4054	4912	4901	5201	5195	5197	4751	5411	5406	5376	5074	5994	5939
	Demand	4614	4614	4116	5068	5068	5362	5362	5362	4954	5688	5688	5688	5363	6519	6519
	Diff.	-35	-109	-62	-156	-167	-161	-167	-165	-203	-277	-282	-312	-289	**-525**	**-580**
2	Processed	4073	4017	3640	4463	4461	4721	4712	4726	4362	5064	5073	5055	4800	5792	5802
	Demand	4115	4115	3671	4519	4519	4782	4782	4782	4417	5072	5072	5072	4782	5813	5813
	Diff.	-42	-98	-31	-56	-58	-61	-70	-56	-55	-8	1	-17	18	-21	-11
1	Processed	4274	4206	3790	4594	4595	4885	4892	4871	4483	5143	5148	5141	4855	5809	5793
	Demand	4263	4263	3803	4682	4682	4954	4954	4954	4576	5254	5254	5254	4955	6022	6022
	Diff.	11	-57	-13	-88	-87	-69	-62	-83	-93	-111	-106	-113	-100	-213	-229
Type		Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Interchange		I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 6-33: ParClo NE 2045 Speed and Density Time Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)														
12	66.8	66.9	66.9	66.7	66.4	67.7	66.7	68.6	66.9	66.5	65.3	65.9	67.7	66.1	66.7
11	66.5	66.6	66.4	66.6	66.0	67.6	66.5	68.5	66.9	66.3	65.2	65.7	67.5	66.0	66.7
10	65.5	64.9	65.7	66.5	65.9	67.6	66.5	68.5	66.7	66.2	64.9	65.7	67.5	65.9	66.6
9	64.1	63.3	65.9	66.5	66.1	67.5	66.6	68.6	66.9	65.5	64.7	65.8	67.6	65.6	66.7
8	62.2	58.3	65.1	66.3	65.5	67.3	66.3	68.5	66.8	66.1	64.5	65.3	67.5	65.6	66.5
7	62.4	59.2	65.6	65.6	65.2	67.0	65.7	68.4	66.7	64.8	62.7	62.8	67.2	65.5	66.3
6	63.7	65.9	66.6	66.4	65.4	67.0	65.6	68.4	66.7	64.5	63.1	63.6	67.3	65.3	66.3
5	65.5	66.5	66.5	66.5	65.5	67.5	66.3	68.5	66.8	65.0	64.0	65.5	67.5	65.8	66.6
4	66.8	67.0	66.9	67.1	66.4	67.7	66.6	68.6	66.9	66.7	65.7	66.0	67.7	66.1	66.8
3	66.9	66.9	66.9	67.1	66.7	67.8	66.9	68.6	67.1	66.9	66.1	66.2	67.7	66.5	67.2
2	67.3	67.1	67.2	67.4	67.1	67.9	67.2	68.7	67.5	67.2	66.8	66.6	68.0	66.6	67.6
1	67.9	67.2	67.7	67.8	67.6	68.2	67.8	69.0	68.0	67.8	67.6	67.0	68.5	67.2	68.1
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange					I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	3,345	1,502	2,750	1,501	2,690	1,502	3,019	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)														
12	27.5	27.5	23.3	25.0	25.1	24.3	23.8	23.2	22.0	23.9	24.6	24.6	18.3	21.9	21.9
11	30.2	29.8	25.3	26.9	27.1	26.0	25.4	24.5	23.1	25.1	25.6	25.5	19.0	22.7	22.5
10	30.2	30.4	25.3	26.6	26.8	25.7	25.1	24.4	23.1	25.1	25.6	25.3	19.0	22.8	22.6
9	31.7	32.9	24.8	26.0	26.2	25.3	24.8	23.9	22.5	24.7	25.1	24.7	18.6	22.6	22.3
8	33.7	37.9	26.1	27.3	27.6	26.6	26.0	25.1	23.9	26.0	26.9	26.6	19.9	23.9	23.7
7	35.7	39.0	27.8	29.4	29.6	28.5	27.9	26.8	25.3	28.1	29.3	30.6	21.1	25.1	24.9
6	34.9	33.1	27.4	29.2	29.6	28.5	27.9	26.6	25.1	28.2	28.9	28.9	20.7	25.1	24.7
5	33.0	31.7	26.9	28.4	28.6	27.4	26.7	25.6	24.1	26.7	27.0	26.4	19.7	23.4	23.1
4	28.4	27.9	23.7	25.2	25.4	24.5	23.8	23.0	21.8	23.6	24.0	23.9	18.0	21.4	21.2
3	26.9	26.5	22.2	23.5	23.5	22.8	22.1	21.6	20.3	21.8	22.2	22.2	16.6	19.6	19.4
2	24.3	23.5	19.7	20.8	20.7	20.2	19.4	18.8	17.5	18.8	18.8	18.8	14.2	17.0	16.7
1	19.0	18.7	15.6	16.5	16.5	16.0	15.4	14.9	13.9	15.0	15.1	15.1	11.3	13.5	13.2
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange					I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	3,345	1,502	2,750	1,501	2,690	1,502	3,019	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)														
12	68.6	68.7	68.3	65.7	66.6	65.6	66.3	68.0	67.7	66.1	66.7	67.8	67.2	62.1	64.4
11	68.7	68.6	68.3	65.8	66.7	65.8	66.6	68.1	67.6	66.2	66.5	67.7	67.1	62.0	64.1
10	68.7	68.7	68.3	65.4	66.4	65.6	66.4	68.2	67.7	66.0	66.5	67.8	67.0	60.2	62.9
9	68.7	68.6	68.3	65.6	66.6	65.6	66.4	68.0	67.7	66.2	66.7	67.8	67.1	61.3	64.1
8	68.4	68.0	67.7	65.7	66.2	65.3	66.3	67.9	67.6	65.9	66.3	67.6	66.8	59.2	61.5
7	68.4	68.5	68.0	65.7	66.3	65.1	65.9	67.8	67.4	64.9	65.3	67.5	66.7	54.4	58.4
6	68.4	68.7	68.1	65.9	66.3	65.3	65.9	67.9	67.4	65.5	66.1	67.7	66.8	58.0	60.8
5	68.8	68.7	68.3	65.9	66.3	65.3	66.1	68.0	67.5	65.7	66.4	67.8	67.0	60.0	62.7
4	68.8	68.7	68.4	66.0	67.0	66.2	66.9	68.2	67.7	66.1	66.7	67.8	67.2	63.7	65.4
3	69.0	69.0	68.4	65.9	67.1	66.1	66.8	68.1	67.8	66.4	67.0	67.9	67.3	64.5	65.8
2	69.4	69.0	68.6	66.2	67.4	66.4	67.3	68.4	68.0	66.7	67.4	68.0	67.6	64.7	66.4
1	69.4	69.3	69.0	66.5	67.8	67.2	68.0	68.6	68.4	67.1	67.8	68.2	68.1	66.2	67.4
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)														
12	16.4	16.2	14.5	19.5	19.3	21.2	20.9	20.4	17.7	22.0	21.9	21.6	20.4	27.5	26.5
11	16.0	15.8	14.2	19.1	18.8	20.4	20.2	20.0	18.8	23.2	23.0	22.6	21.3	28.5	27.5
10	16.0	15.7	14.1	19.4	19.2	20.8	20.5	19.7	18.2	22.8	22.7	22.2	21.2	29.4	28.1
9	15.7	15.5	14.1	19.5	19.2	20.8	20.5	20.0	18.4	22.6	22.4	21.9	21.0	28.7	27.3
8	18.6	18.5	16.6	21.8	21.6	22.1	20.7	20.3	18.7	23.3	23.3	23.0	21.8	30.5	29.7
7	18.7	18.4	16.4	21.4	21.2	23.6	23.3	22.6	20.9	26.4	26.2	25.2	24.0	36.5	33.7
6	18.2	17.7	15.8	20.6	21.2	23.2	23.0	22.3	20.6	25.8	25.6	25.0	23.7	33.4	31.9
5	15.6	15.3	13.8	19.0	20.5	22.3	22.0	21.3	19.6	24.3	24.0	23.3	22.3	30.6	28.9
4	14.8	14.6	13.1	18.5	18.2	19.7	19.4	19.1	17.6	21.9	21.7	21.2	20.1	26.1	25.4
3	13.6	13.3	13.1	17.7	17.3	18.8	18.6	18.2	16.7	20.6	20.4	20.0	19.1	24.4	23.9
2	10.8	13.3	11.9	15.7	15.3	16.7	16.4	16.0	14.7	18.2	17.9	17.6	16.6	21.3	20.6
1	10.8	10.6	9.6	12.7	12.5	13.4	13.2	13.0	12.0	14.7	14.5	14.2	13.3	16.7	16.3
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Figure 6-34: ParClo NE 2045 Volume Time Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Volume (vph)															
12	Processed	5503	5506	4670	4994	5000	4939	4758	4768	4419	4769	4813	4848	3724	4338	4376
	Demand	5412	5412	4544	4823	4823	4823	4570	4570	4202	4547	4547	4547	3507	4111	4111
	Diff.	91	94	126	171	177	116	188	198	217	222	266	301	217	227	265
11	Processed	6025	5945	5034	5369	5359	5284	5067	5040	4641	4982	5003	5000	3845	4498	4496
	Demand	6023	6023	5057	5367	5367	5367	5087	5087	4676	5061	5061	5061	3903	4575	4575
	Diff.	2	-78	-23	2	-8	-83	-20	-47	-35	-79	-58	-61	-58	-77	-79
10	Processed	5892	5876	4990	5301	5301	5220	5010	5005	4616	4975	4979	4989	3851	4505	4512
	Demand	5849	5849	4911	5212	5212	5212	4939	4939	4541	4914	4914	4914	3790	4443	4443
	Diff.	43	27	79	89	89	8	71	66	75	61	65	75	61	62	69
9	Processed	5882	5845	4886	5184	5197	5134	4946	4922	4521	4842	4860	4861	3768	4450	4451
	Demand	5858	5858	4918	5220	5220	5220	4947	4947	4548	4922	4922	4922	3795	4449	4449
	Diff.	24	-13	-32	-36	-23	-86	-1	-25	-27	-80	-62	-61	-27	1	2
8	Processed	5991	6003	5089	5425	5426	5374	5161	5155	4785	5159	5194	5204	4022	4714	4726
	Demand	5723	5723	4805	5100	5100	5100	4833	4833	4443	4809	4809	4809	3708	4347	4347
	Diff.	268	280	284	325	326	274	328	322	342	350	385	395	314	367	379
7	Processed	6571	6422	5457	5777	5784	5717	5490	5490	5062	5450	5484	5501	4245	4938	4948
	Demand	6782	6782	5694	6044	6044	6044	5728	5728	5265	5698	5698	5698	4394	5152	5152
	Diff.	-211	-360	-237	-267	-260	-327	-238	-238	-203	-248	-214	-197	-149	-214	-204
6	Processed	6612	6534	5464	5809	5796	5703	5484	5462	5029	5429	5444	5450	4180	4912	4916
	Demand	6822	6822	5728	6079	6079	6079	5761	5761	5296	5732	5732	5732	4420	5182	5182
	Diff.	-210	-288	-264	-270	-283	-376	-277	-299	-267	-303	-288	-282	-240	-270	-266
5	Processed	6488	6322	5362	5650	5627	5548	5300	5265	4826	5187	5178	5171	3978	4630	4627
	Demand	6676	6676	5605	5949	5949	5949	5638	5638	5183	5609	5609	5609	4326	5071	5071
	Diff.	-188	-354	-243	-299	-322	**-401**	-338	-373	-357	**-422**	**-431**	**-438**	-348	**-441**	**-444**
4	Processed	5694	5603	4755	5061	5061	4973	4758	4731	4381	4733	4731	4721	3661	4252	4240
	Demand	5761	5761	4837	5133	5133	5133	4865	4865	4472	4840	4840	4840	3732	4376	4376
	Diff.	-67	-158	-82	-72	-72	-160	-107	-134	-91	-107	-109	-119	-71	-124	-136
3	Processed	5404	5303	4455	4721	4706	4629	4438	4427	4083	4384	4399	4403	3372	3921	3918
	Demand	5503	5503	4620	4903	4903	4903	4647	4647	4272	4623	4623	4623	3565	4180	4180
	Diff.	-99	-200	-165	-182	-197	-274	-209	-220	-189	-239	-224	-220	-193	-259	-262
2	Processed	4908	4738	3981	4197	4173	4102	3907	3882	3548	3803	3777	3755	2889	3403	3381
	Demand	5055	5055	4244	4504	4504	4504	4269	4269	3924	4247	4247	4247	3275	3839	3839
	Diff.	-147	-317	-263	-307	-331	**-402**	-362	-387	-376	**-444**	**-470**	**-492**	-386	**-436**	**-458**
1	Processed	3870	3769	3176	3366	3346	3278	3130	3088	2840	3058	3060	3038	2327	2722	2701
	Demand	3980	3980	3342	3547	3547	3547	3361	3361	3090	3344	3344	3344	2579	3023	3023
	Diff.	-110	-211	-166	-181	-201	-269	-231	-273	-250	-286	-284	-306	-252	-301	-322
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**US 27 Interchange**			**I-75**	**NW 49 ST Interchange**					**I-75**	**SR 326 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Volume (vph)															
12	Processed	3383	3338	2972	3845	3849	4166	4158	4161	3598	4365	4383	4374	4118	5108	5114
	Demand	3066	3066	2698	3497	3497	3752	3752	3752	3460	4195	4195	4195	3940	4849	4849
	Diff.	317	272	274	348	352	**414**	**406**	**409**	138	170	188	179	178	259	265
11	Processed	3298	3244	2900	3765	3762	4026	4027	4081	3813	4594	4593	4583	4290	5283	5277
	Demand	3412	3412	3003	3891	3891	4176	4176	4176	3851	4669	4669	4669	4385	5397	5397
	Diff.	-114	-168	-103	-126	-129	-150	-149	-95	-38	-75	-76	-86	-95	-114	-120
10	Processed	3290	3232	2881	3812	3816	4091	4084	4030	3703	4513	4523	4512	4260	5273	5295
	Demand	3314	3314	2916	3779	3779	4055	4055	4055	3739	4534	4534	4534	4258	5241	5241
	Diff.	-24	-82	-35	33	37	36	29	-25	-36	-21	-11	-22	2	32	54
9	Processed	3238	3200	2886	3832	3825	4104	4084	4085	3734	4495	4492	4462	4219	5254	5247
	Demand	3319	3319	2920	3784	3784	4061	4061	4061	3745	4540	4540	4540	4265	5249	5249
	Diff.	-81	-119	-34	48	41	43	23	24	-11	-45	-48	-78	-46	5	-2
8	Processed	3824	3761	3373	4284	4281	4329	4122	4136	3793	4602	4628	4657	4367	5371	5437
	Demand	3242	3242	2853	3698	3698	3968	3968	3968	3659	4436	4436	4436	4167	5128	5128
	Diff.	**582**	**519**	**520**	**586**	**583**	361	154	168	134	166	192	221	200	243	309
7	Processed	3831	3779	3352	4215	4216	4611	4597	4599	4228	5140	5130	5088	4803	5834	5791
	Demand	3842	3842	3381	4382	4382	4702	4702	4702	4336	5257	5257	5257	4938	6077	6077
	Diff.	-11	-63	-29	-167	-166	-91	-105	-103	-108	-117	-127	-169	-135	-243	-286
6	Processed	3739	3650	3236	4073	4216	4530	4541	4542	4167	5069	5081	5065	4744	5758	5781
	Demand	3865	3865	3401	4407	4407	4730	4730	4730	4361	5288	5288	5288	4967	6113	6113
	Diff.	-126	-215	-165	-334	-191	-200	-189	-188	-194	-219	-207	-223	-223	-355	-332
5	Processed	3214	3162	2827	3765	4072	4372	4359	4345	3964	4791	4771	4739	4482	5454	5423
	Demand	3782	3782	3328	4313	4313	4629	4629	4629	4268	5175	5175	5175	4861	5982	5982
	Diff.	**-568**	**-620**	**-501**	**-548**	-241	-257	-270	-284	-304	-384	**-404**	**-436**	-379	**-528**	**-559**
4	Processed	3066	3015	2694	3664	3660	3917	3903	3905	3576	4340	4332	4314	4050	4980	4986
	Demand	3264	3264	2872	3722	3722	3994	3994	3994	3683	4465	4465	4465	4194	5162	5162
	Diff.	-198	-249	-178	-58	-62	-77	-91	-89	-107	-125	-133	-151	-144	-182	-176
3	Processed	2818	2750	2694	3484	3473	3733	3732	3733	3402	4098	4104	4082	3861	4707	4708
	Demand	3117	3117	2743	3555	3555	3815	3815	3815	3518	4265	4265	4265	4006	4930	4930
	Diff.	-299	-367	-49	-71	-82	-82	-83	-82	-116	-167	-161	-183	-145	-223	-222
2	Processed	2242	2750	2441	3108	3102	3326	3304	3294	3009	3644	3620	3593	3371	4121	4100
	Demand	2864	2864	2520	3266	3266	3504	3504	3504	3231	3918	3918	3918	3680	4529	4529
	Diff.	**-622**	-114	-79	-158	-164	-178	-200	-210	-222	-274	-298	-325	-309	**-408**	**-429**
1	Processed	2242	2205	1979	2539	2536	2710	2701	2681	2464	2953	2942	2910	2722	3319	3305
	Demand	2255	2255	1984	2571	2571	2759	2759	2759	2545	3085	3085	3085	2898	3566	3566
	Diff.	-13	-50	-5	-32	-35	-49	-58	-78	-81	-132	-143	-175	-176	-247	-261
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**SR 326 Interchange**					**I-75**	**NW 49 ST Interchange**			**I-75**	**US 27 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 6-35: ParClo NE 2045 Speed and Density Time Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)														
12	67.5	66.8	67.4	67.3	67.1	67.7	67.3	68.7	67.7	67.2	66.7	65.7	68.3	66.1	67.7
11	67.3	66.8	67.3	67.2	67.0	67.7	67.2	68.6	67.5	67.1	66.4	65.4	68.2	66.1	67.5
10	67.0	66.6	67.1	67.0	66.5	67.5	66.9	66.9	66.8	66.3	65.8	65.1	68.1	66.0	67.2
9	66.4	66.3	67.0	66.6	66.2	67.5	66.7	66.6	66.9	65.9	65.2	61.5	67.9	66.2	67.3
8	66.4	66.4	66.9	66.8	66.3	67.4	66.7	68.4	67.2	65.8	64.9	62.6	67.8	66.0	67.2
7	66.4	66.3	66.9	66.9	66.4	67.5	66.9	68.5	67.2	66.2	65.1	64.8	68.1	66.1	67.3
6	66.7	66.4	67.2	67.0	66.6	67.5	66.8	68.6	67.3	66.5	65.7	64.2	68.1	66.2	67.4
5	66.7	66.6	67.0	66.9	66.5	67.5	66.9	68.6	67.2	66.4	65.5	64.6	68.0	66.0	67.4
4	66.7	66.4	66.7	66.7	66.3	67.5	66.9	68.6	67.2	66.3	65.8	64.9	68.0	66.1	67.3
3	66.7	66.4	67.0	66.8	66.6	67.6	67.0	68.6	67.3	66.7	66.2	65.5	68.1	66.2	67.4
2	67.2	66.7	67.2	67.2	66.8	67.5	66.9	68.6	67.4	66.9	66.3	65.5	68.2	66.4	67.7
1	67.1	66.8	67.3	67.0	66.8	67.6	67.1	68.6	67.4	67.0	66.3	65.6	68.2	66.4	67.6
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange					I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	3,345	1,502	2,750	1,501	2,690	1,502	3,019	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)														
12	22.1	22.2	17.9	19.4	19.6	19.4	18.4	17.9	16.1	17.5	17.8	18.2	12.3	15.9	15.6
11	23.9	24.0	19.4	20.9	20.9	20.3	19.4	19.1	17.3	18.8	19.0	19.5	13.1	16.8	16.5
10	25.5	25.9	21.0	22.5	22.7	22.2	21.2	22.4	19.0	20.6	20.9	21.3	14.3	18.2	17.9
9	29.2	29.0	23.2	24.8	24.9	24.1	22.8	23.9	20.1	22.1	22.5	24.5	15.0	18.7	18.4
8	29.6	29.2	23.6	25.2	25.4	24.6	23.5	22.8	20.7	23.0	23.3	24.6	15.5	19.2	19.0
7	29.5	29.0	23.4	24.8	25.0	24.2	22.9	22.1	20.0	22.2	22.5	22.6	15.2	19.0	18.7
6	27.6	27.6	22.0	23.7	23.7	23.1	22.0	21.4	19.3	21.1	21.5	22.2	14.5	18.3	18.0
5	28.4	28.0	22.7	24.1	24.3	23.6	22.4	21.8	19.8	21.7	22.0	22.4	14.9	18.6	18.2
4	28.0	27.9	22.8	24.2	24.4	23.6	22.5	21.9	20.0	21.9	22.2	22.6	15.0	18.7	18.4
3	27.9	27.6	22.1	23.7	23.6	22.8	21.5	20.9	19.0	20.7	20.8	21.1	14.3	17.9	17.4
2	25.2	25.1	20.4	21.9	22.1	21.6	20.4	19.8	17.9	19.6	19.9	20.2	13.7	16.9	16.7
1	25.9	25.7	20.5	22.2	22.1	21.5	20.4	19.9	18.0	19.5	19.8	20.0	13.4	16.9	16.6
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange					I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	3,345	1,502	2,750	1,501	2,690	1,502	3,019	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)														
12	68.4	68.5	67.9	65.5	66.0	65.0	65.7	67.9	67.5	66.7	66.5	67.6	66.7	59.4	62.8
11	68.3	68.3	67.6	65.5	65.3	64.8	65.5	67.8	67.4	66.2	66.1	67.6	66.2	49.1	57.3
10	67.8	68.1	67.4	65.7	65.1	63.5	63.8	67.7	67.2	65.7	65.7	67.7	61.4	33.8	51.4
9	67.7	67.8	67.1	65.5	65.0	63.6	63.8	67.4	67.0	64.1	63.9	67.0	55.9	29.4	50.9
8	67.7	68.3	67.4	65.4	64.2	63.7	64.1	67.4	66.9	65.3	64.7	67.5	55.7	28.1	50.2
7	68.0	67.5	67.2	65.5	65.4	63.7	64.0	67.5	67.0	65.9	65.4	66.9	61.5	31.2	50.9
6	67.8	67.5	67.2	65.6	65.4	64.4	64.7	67.6	67.0	65.4	65.0	67.5	63.7	32.3	51.1
5	67.8	67.7	67.2	65.4	64.6	64.1	64.4	67.6	67.1	65.8	65.3	67.5	64.2	36.2	52.8
4	67.8	68.2	67.4	65.3	65.1	64.2	64.7	67.7	67.2	65.7	65.0	67.6	65.5	41.9	53.6
3	68.2	68.1	67.4	65.5	64.3	64.0	64.6	67.7	67.1	66.0	65.4	67.6	65.9	53.2	59.4
2	68.1	68.1	67.7	65.9	66.1	65.3	65.6	67.7	67.3	65.9	65.9	67.6	66.6	56.3	60.3
1	68.1	68.3	67.6	66.0	66.1	65.0	65.5	67.5	67.2	66.3	66.0	67.7	66.8	59.4	61.8
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)														
12	18.8	18.6	17.0	22.6	22.4	24.0	23.8	23.1	19.8	23.0	23.1	22.7	21.8	30.2	28.4
11	19.9	19.7	18.1	23.4	23.5	25.0	24.8	23.7	21.4	24.8	25.0	24.4	23.6	41.7	35.2
10	22.9	22.5	20.5	25.5	25.8	28.1	28.0	24.1	22.4	26.6	26.6	25.8	28.5	67.9	42.4
9	23.4	23.0	21.1	26.1	26.2	28.6	28.0	26.5	24.5	29.6	29.7	28.2	36.4	79.8	43.6
8	23.7	23.2	21.3	26.4	26.9	28.6	28.3	26.9	25.0	29.5	29.7	28.4	37.5	82.6	44.3
7	22.1	21.9	19.8	25.0	25.0	28.6	28.4	26.8	24.8	28.9	29.1	28.3	29.9	71.7	43.6
6	22.7	22.5	20.6	25.5	25.0	26.9	26.8	25.7	23.8	28.2	28.4	27.2	27.6	69.9	43.1
5	22.4	22.1	20.0	25.2	25.9	27.7	27.5	26.1	24.2	28.3	28.6	27.5	27.8	63.9	40.8
4	22.5	22.0	20.0	25.1	25.2	27.0	26.8	25.5	23.6	27.9	28.2	27.0	26.5	54.1	40.2
3	19.9	19.7	20.0	25.0	25.4	27.1	26.7	25.5	23.6	27.4	27.6	26.6	25.7	39.4	33.9
2	20.9	19.7	17.9	22.7	22.7	24.4	24.1	23.4	21.7	25.6	25.7	25.0	24.1	35.3	32.6
1	20.9	20.5	18.7	23.2	23.2	25.0	24.9	24.1	22.2	25.9	26.0	25.2	24.2	32.7	31.3
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Figure 6-36: ParClo NE 2045 Volume Time Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period		Average Volume (vph)														
12	Processed	4480	4444	3628	3925	3955	3934	3711	3687	3274	3533	3560	3571	2520	3152	3165
	Demand	4417	4417	3571	3834	3834	3834	3561	3561	3162	3429	3429	3429	2408	2947	2947
	Diff.	63	27	57	91	121	100	150	126	112	104	131	142	112	205	218
11	Processed	4831	4797	3912	4208	4190	4132	3909	3919	3503	3773	3789	3806	2680	3327	3341
	Demand	4803	4803	3883	4170	4170	4170	3872	3872	3438	3729	3729	3729	2619	3204	3204
	Diff.	28	-6	29	38	20	-38	37	47	65	44	60	77	61	123	137
10	Processed	5136	5167	4236	4510	4537	4501	4246	4239	3797	4093	4125	4140	2922	3595	3607
	Demand	5061	5061	4092	4394	4394	4394	4081	4081	3623	3929	3929	3929	2759	3377	3377
	Diff.	75	106	144	116	143	107	165	158	174	164	196	211	163	218	230
9	Processed	5825	5769	4664	4947	4938	4869	4571	4564	4043	4369	4401	4411	3060	3713	3722
	Demand	5783	5783	4675	5020	5020	5020	4662	4662	4140	4490	4490	4490	3153	3858	3858
	Diff.	42	-14	-11	-73	-82	-151	-91	-98	-97	-121	-89	-79	-93	-145	-136
8	Processed	5884	5821	4738	5046	5050	4984	4691	4678	4180	4523	4524	4527	3162	3811	3827
	Demand	5873	5873	4749	5099	5099	5099	4735	4735	4204	4560	4560	4560	3202	3919	3919
	Diff.	11	-52	-11	-53	-49	-115	-44	-57	-24	-37	-36	-33	-40	-108	-92
7	Processed	5874	5774	4700	4969	4967	4903	4591	4551	4043	4389	4385	4374	3102	3782	3764
	Demand	5967	5967	4825	5181	5181	5181	4811	4811	4272	4633	4633	4633	3253	3981	3981
	Diff.	-93	-193	-125	-212	-214	-278	-220	-260	-229	-244	-248	-259	-151	-199	-217
6	Processed	5533	5484	4435	4753	4740	4670	4402	4404	3906	4203	4235	4251	2961	3635	3649
	Demand	5588	5588	4518	4851	4851	4851	4505	4505	4000	4338	4338	4338	3047	3728	3728
	Diff.	-55	-104	-83	-98	-111	-181	-103	-101	-94	-135	-103	-87	-86	-93	-79
5	Processed	5677	5590	4556	4832	4849	4784	4498	4484	3986	4316	4326	4332	3028	3675	3684
	Demand	5755	5755	4653	4997	4997	4997	4640	4640	4120	4468	4468	4468	3138	3840	3840
	Diff.	-78	-165	-97	-165	-148	-213	-142	-156	-134	-152	-142	-136	-110	-165	-156
4	Processed	5609	5547	4556	4846	4847	4791	4515	4505	4041	4358	4380	4382	3066	3707	3715
	Demand	5646	5646	4565	4902	4902	4902	4552	4552	4042	4384	4384	4384	3078	3767	3767
	Diff.	-37	-99	-9	-56	-55	-111	-37	-47	-1	-26	-4	-2	-12	-60	-52
3	Processed	5595	5483	4447	4740	4705	4612	4327	4297	3845	4137	4128	4132	2923	3544	3523
	Demand	5702	5702	4610	4951	4951	4951	4598	4598	4082	4427	4427	4427	3109	3805	3805
	Diff.	-107	-219	-163	-211	-246	-339	-271	-301	-237	-290	-299	-295	-186	-261	-282
2	Processed	5069	5021	4117	4415	4428	4377	4087	4071	3626	3936	3956	3962	2795	3366	3389
	Demand	5085	5085	4111	4415	4415	4415	4100	4100	3640	3948	3948	3948	2772	3393	3393
	Diff.	-16	-64	6	0	13	-38	-13	-29	-14	-12	8	14	23	-27	-4
1	Processed	5206	5140	4143	4453	4439	4371	4107	4095	3642	3908	3933	3932	2753	3361	3358
	Demand	5268	5268	4259	4574	4574	4574	4247	4247	3771	4090	4090	4090	2872	3515	3515
	Diff.	-62	-128	-116	-121	-135	-203	-140	-152	-129	-182	-157	-158	-119	-154	-157
Type		Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Interchange		I-75	US 27 Interchange			I-75	NW 49 ST Interchange					I-75	SR 326 Interchange			I-75
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period		Average Volume (vph)														
12	Processed	3867	3819	3457	4431	4432	4687	4691	4701	4018	4599	4610	4599	4364	5340	5332
	Demand	3574	3574	3188	3925	3925	4153	4153	4153	3837	4405	4405	4405	4154	5049	5049
	Diff.	293	245	269	**506**	**507**	**534**	**538**	**548**	181	194	205	194	210	291	283
11	Processed	4077	4030	3674	4604	4596	4859	4876	4817	4322	4931	4962	4945	4687	5751	5861
	Demand	3886	3886	3467	4269	4269	4516	4516	4516	4172	4791	4791	4791	4517	5491	5491
	Diff.	191	144	207	335	327	343	360	301	150	140	171	154	170	260	370
10	Processed	4655	4592	4145	5012	5031	5342	5347	4888	4521	5245	5253	5242	4997	6162	6194
	Demand	4095	4095	3654	4498	4498	4759	4759	4759	4397	5048	5048	5048	4760	5786	5786
	Diff.	**560**	**497**	**491**	**514**	**533**	**583**	**588**	129	124	197	205	194	237	376	**408**
9	Processed	4745	4681	4239	5126	5115	5435	5347	5356	4917	5633	5654	5649	5318	6279	6301
	Demand	4679	4679	4174	5139	5139	5438	5438	5438	5023	5768	5768	5768	5439	6611	6611
	Diff.	66	2	65	-13	-24	-3	-91	-82	-106	-135	-114	-119	-121	-332	-310
8	Processed	4814	4743	4300	5170	5165	5445	5435	5441	5009	5761	5752	5735	5428	6304	6300
	Demand	4753	4753	4240	5220	5220	5523	5523	5523	5102	5858	5858	5858	5524	6714	6714
	Diff.	61	-10	60	-50	-55	-78	-88	-82	-93	-97	-106	-123	-96	**-410**	**-414**
7	Processed	4502	4432	3997	4912	4909	5457	5442	5436	4980	5708	5707	5673	5329	6275	6273
	Demand	4829	4829	4308	5303	5303	5611	5611	5611	5184	5952	5952	5952	5612	6822	6822
	Diff.	-327	-397	-311	-391	-394	-154	-169	-175	-204	-244	-245	-279	-283	**-547**	**-549**
6	Processed	4617	4552	4160	5020	4909	5193	5201	5219	4783	5518	5526	5515	5207	6260	6258
	Demand	4522	4522	4034	4966	4966	5254	5254	5254	4854	5573	5573	5573	5255	6388	6388
	Diff.	95	30	126	54	-57	-61	-53	-35	-71	-55	-47	-58	-48	-128	-130
5	Processed	4552	4487	4030	4937	5017	5312	5306	5309	4869	5590	5590	5575	5254	6202	6178
	Demand	4657	4657	4155	5115	5115	5412	5412	5412	5000	5740	5740	5740	5413	6580	6580
	Diff.	-105	-170	-125	-178	-98	-100	-106	-103	-131	-150	-150	-165	-159	-378	**-402**
4	Processed	4579	4505	4054	4910	4920	5191	5193	5176	4762	5482	5487	5467	5191	6171	6152
	Demand	4569	4569	4076	5018	5018	5309	5309	5309	4905	5631	5631	5631	5310	6454	6454
	Diff.	10	-64	-22	-108	-98	-118	-116	-133	-143	-149	-144	-164	-119	-283	-302
3	Processed	4073	4017	4054	4912	4895	5188	5179	5186	4752	5421	5412	5374	5078	6018	5973
	Demand	4614	4614	4116	5068	5068	5362	5362	5362	4954	5688	5688	5688	5363	6519	6519
	Diff.	**-541**	**-597**	-62	-156	-173	-174	-183	-176	-202	-267	-276	-314	-285	**-501**	**-546**
2	Processed	4274	4017	3640	4487	4490	4765	4751	4760	4380	5064	5080	5073	4814	5815	5843
	Demand	4115	4115	3671	4519	4519	4782	4782	4782	4417	5072	5072	5072	4782	5813	5813
	Diff.	159	-98	-31	-32	-29	-17	-31	-22	-37	-8	8	1	32	2	30
1	Processed	4274	4206	3790	4591	4592	4875	4880	4866	4474	5148	5142	5121	4849	5796	5772
	Demand	4263	4263	3803	4682	4682	4954	4954	4954	4576	5254	5254	5254	4955	6022	6022
	Diff.	11	-57	-13	-91	-90	-79	-74	-88	-102	-106	-112	-133	-106	-226	-250
Type		Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Interchange		I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 6-37: DDI 2045 Speed and Density Time Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)												
12	66.8	66.9	66.9	66.4	65.4	64.8	67.1	65.5	64.4	65.0	67.5	65.9	66.6
11	66.4	66.6	66.4	65.9	64.1	64.0	66.6	64.0	62.6	64.5	67.4	65.8	66.5
10	64.9	63.9	65.7	65.5	64.2	63.7	66.8	64.0	63.4	64.9	67.5	65.6	66.6
9	64.0	62.1	65.8	66.0	64.7	63.9	67.0	65.3	64.1	65.3	67.6	65.7	66.7
8	61.5	58.4	65.4	65.9	64.9	64.3	66.7	62.6	61.0	64.0	67.2	65.6	66.5
7	61.7	58.8	65.2	65.7	63.3	63.5	66.6	64.6	63.0	64.2	67.4	65.8	66.3
6	63.7	64.8	66.5	66.3	64.4	63.3	66.6	63.8	61.0	63.6	67.3	65.3	66.3
5	65.5	66.7	66.5	65.6	64.1	63.5	66.5	64.3	63.0	64.8	67.5	65.9	66.7
4	66.8	67.0	66.9	66.8	65.5	64.7	67.0	65.7	65.1	65.5	67.6	66.1	66.9
3	66.9	66.9	66.9	66.8	66.1	64.9	67.2	65.8	65.3	65.6	67.8	66.6	67.2
2	67.3	67.1	67.2	67.3	66.7	65.0	67.6	66.3	66.4	66.4	68.2	66.5	67.6
1	67.9	67.2	67.7	67.6	67.3	66.0	68.1	66.8	67.2	66.9	68.5	67.2	68.0
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	1,443	1,497	8,860	1,500	1,606	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)												
12	27.5	27.5	23.3	25.1	25.5	25.8	21.9	24.5	25.1	25.0	18.5	22.0	22.0
11	30.2	29.9	25.3	27.2	28.0	28.3	23.4	26.3	26.9	26.1	19.1	22.9	22.6
10	30.9	31.0	25.4	27.2	27.7	27.9	23.0	26.2	26.3	25.6	19.0	23.1	22.7
9	32.2	34.2	24.7	26.1	26.7	27.2	22.4	24.8	25.3	24.9	18.6	22.5	22.2
8	34.2	40.5	26.1	27.5	27.9	28.5	23.9	27.8	28.6	27.2	19.9	23.8	23.5
7	36.3	39.6	28.0	29.4	30.6	30.5	25.2	28.2	29.0	28.5	20.9	25.0	24.9
6	34.9	33.7	27.3	29.1	30.0	30.7	25.2	28.7	30.1	28.8	20.8	25.1	24.7
5	33.0	31.7	26.9	28.7	29.4	29.7	24.4	27.0	27.4	26.6	19.6	23.4	23.1
4	28.4	27.9	23.7	25.3	25.8	26.2	21.9	24.0	24.2	24.0	18.1	21.4	21.1
3	26.9	26.5	22.2	23.6	23.8	24.3	20.2	22.3	22.5	22.4	16.6	19.6	19.4
2	24.3	23.5	19.7	20.8	20.9	21.5	17.6	19.1	18.9	18.9	14.1	17.0	16.7
1	19.0	18.7	15.6	16.6	16.6	16.9	14.0	15.3	15.1	15.1	11.3	13.5	13.2
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	1,443	1,497	8,860	1,500	1,606	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)												
12	68.9	68.8	68.4	65.7	66.9	66.0	66.7	68.1	67.7	64.6	66.5	67.8	67.1	61.7	64.2
11	68.6	68.7	68.3	65.6	66.5	65.3	66.2	68.0	67.6	64.7	66.3	67.7	67.1	61.0	63.6
10	68.7	68.6	68.3	65.7	66.8	65.9	66.8	68.1	67.7	64.8	66.6	67.8	67.1	61.4	63.5
9	68.7	68.7	68.3	65.6	66.7	65.7	66.5	68.0	67.7	65.0	66.7	67.8	67.2	61.4	64.0
8	68.7	68.6	68.3	65.7	66.7	65.8	66.4	68.0	67.6	64.8	66.3	67.6	67.0	60.1	62.4
7	68.4	68.0	67.7	65.6	66.2	65.0	65.8	67.9	67.4	63.7	65.4	67.5	66.7	56.5	60.4
6	68.4	68.5	68.0	65.8	66.3	65.3	65.9	67.9	67.4	64.2	65.7	67.2	66.7	57.1	59.8
5	68.4	68.7	68.1	65.9	66.5	65.4	66.2	68.0	67.5	64.4	66.3	67.8	66.9	61.2	63.5
4	68.8	68.7	68.3	66.0	67.1	66.2	66.9	68.2	67.7	65.1	66.8	67.8	67.2	63.2	65.0
3	68.8	68.7	68.4	66.0	67.0	66.1	66.9	68.1	67.8	65.1	66.8	67.9	67.3	63.5	65.4
2	69.0	69.0	68.6	66.2	67.3	66.6	67.3	68.4	68.0	65.4	67.2	68.1	67.6	64.9	66.4
1	69.4	69.3	69.0	66.5	67.9	67.2	67.9	68.6	68.4	66.0	67.9	68.3	68.1	66.2	67.5
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)												
12	14.8	14.6	13.2	18.3	17.9	19.5	19.3	19.0	17.6	22.3	21.9	21.5	20.4	27.7	26.6
11	16.4	16.2	14.5	19.6	19.4	21.3	21.1	20.5	19.0	23.8	23.3	22.8	21.5	29.2	27.9
10	16.0	15.8	14.2	19.4	19.1	20.6	20.3	19.9	18.4	23.1	22.6	22.2	21.1	28.8	27.8
9	16.0	15.7	14.1	19.2	18.9	20.6	20.3	19.9	18.3	22.9	22.5	21.8	20.9	28.5	27.2
8	15.7	15.5	14.1	19.4	19.0	20.6	20.6	20.2	18.7	23.5	23.3	23.0	21.8	30.1	29.1
7	18.6	18.5	16.6	21.7	21.6	23.7	23.3	22.5	20.8	26.6	26.1	25.1	23.9	34.9	32.3
6	18.7	18.4	16.4	21.3	21.2	23.2	23.0	22.3	20.6	26.2	25.8	25.1	23.8	34.2	32.7
5	18.2	17.7	15.8	20.6	20.4	22.2	21.9	21.2	19.6	24.7	24.0	23.2	22.2	29.7	28.5
4	15.6	15.3	13.8	18.5	18.2	19.7	19.4	19.0	17.6	22.1	21.6	21.3	20.2	26.4	25.6
3	14.8	14.6	13.1	17.6	17.3	18.9	18.6	18.2	16.7	20.9	20.4	20.0	19.1	24.7	24.0
2	13.6	13.3	11.9	15.7	15.3	16.7	16.4	16.1	14.7	18.5	18.0	17.6	16.6	21.2	20.5
1	10.8	10.6	9.6	12.7	12.4	13.4	13.3	13.0	12.0	14.8	14.4	14.2	13.3	16.7	16.4
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Figure 6-38: DDI 2045 Volume Time Plots (AM Peak)

NORTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)													
12	Processed	5503	5506	4670	4996	5003	4998	4407	4803	4839	4865	3738	4346	4391
	Demand	5412	5412	4544	4823	4823	4823	4202	4547	4547	4547	3507	4111	4111
	Diff.	91	94	126	173	180	175	205	256	292	318	231	235	280
11	Processed	6026	5951	5042	5377	5381	5386	4684	5041	5034	5021	3866	4520	4514
	Demand	6023	6023	5057	5367	5367	5367	4676	5061	5061	5061	3903	4575	4575
	Diff.	3	-72	-15	10	14	19	8	-20	-27	-40	-37	-55	-61
10	Processed	5902	5888	4995	5307	5305	5291	4612	4999	4993	4981	3846	4537	4530
	Demand	5849	5849	4911	5212	5212	5212	4541	4914	4914	4914	3790	4443	4443
	Diff.	53	39	84	95	93	79	71	85	79	67	56	94	87
9	Processed	5860	5806	4869	5172	5177	5176	4507	4859	4862	4874	3773	4435	4449
	Demand	5858	5858	4918	5220	5220	5220	4548	4922	4922	4922	3795	4449	4449
	Diff.	2	-52	-49	-48	-43	-44	-41	-63	-60	-48	-22	-14	0
8	Processed	6008	6044	5103	5425	5438	5446	4789	5194	5201	5202	4014	4680	4693
	Demand	5723	5723	4805	5100	5100	5100	4443	4809	4809	4809	3708	4347	4347
	Diff.	285	321	298	325	338	346	346	385	392	393	306	333	346
7	Processed	6565	6422	5465	5790	5786	5783	5031	5448	5463	5467	4232	4941	4948
	Demand	6782	6782	5694	6044	6044	6044	5265	5698	5698	5698	4394	5152	5152
	Diff.	-217	-360	-229	-254	-258	-261	-234	-250	-235	-231	-162	-211	-204
6	Processed	6612	6514	5446	5792	5795	5779	5036	5470	5472	5465	4190	4911	4915
	Demand	6822	6822	5728	6079	6079	6079	5296	5732	5732	5732	4420	5182	5182
	Diff.	-210	-308	-282	-287	-284	-300	-260	-262	-260	-267	-230	-271	-267
5	Processed	6488	6323	5362	5655	5635	5621	4852	5189	5168	5167	3964	4621	4614
	Demand	6676	6676	5605	5949	5949	5949	5183	5609	5609	5609	4326	5071	5071
	Diff.	-188	-353	-243	-294	-314	-328	-331	**-420**	**-441**	**-442**	-362	**-450**	**-457**
4	Processed	5694	5603	4755	5060	5064	5061	4391	4737	4728	4718	3664	4251	4246
	Demand	5761	5761	4837	5133	5133	5133	4472	4840	4840	4840	3732	4376	4376
	Diff.	-67	-158	-82	-73	-69	-72	-81	-103	-112	-122	-68	-125	-130
3	Processed	5404	5303	4455	4721	4716	4696	4079	4401	4405	4400	3367	3923	3913
	Demand	5503	5503	4620	4903	4903	4903	4272	4623	4623	4623	3565	4180	4180
	Diff.	-99	-200	-165	-182	-187	-207	-193	-222	-218	-223	-198	-257	-267
2	Processed	4908	4738	3981	4196	4182	4170	3575	3800	3775	3754	2888	3402	3382
	Demand	5055	5055	4244	4504	4504	4504	3924	4247	4247	4247	3275	3839	3839
	Diff.	-147	-317	-263	-308	-322	-334	-349	**-447**	**-472**	**-493**	-387	**-437**	**-457**
1	Processed	3870	3769	3176	3366	3356	3340	2869	3071	3054	3036	2324	2720	2701
	Demand	3980	3980	3342	3547	3547	3547	3090	3344	3344	3344	2579	3023	3023
	Diff.	-110	-211	-166	-181	-191	-207	-221	-273	-290	-308	-255	-303	-322
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**US 27 Interchange**			**I-75**	**NW 49 ST Interchange**			**I-75**	**SR 326 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOT

Time Period	Average Volume (vph)													
12	Processed	3060	3013	2716	3603	3602	3857	3868	3883	3581	4317	4365	4364	4108	5101	5117
	Demand	3066	3066	2698	3497	3497	3752	3752	3752	3460	4195	4195	4195	3940	4849	4849
	Diff.	-6	-53	18	106	105	105	116	131	121	122	170	169	168	252	268
11	Processed	3383	3338	2972	3861	3859	4183	4188	4191	3849	4614	4640	4618	4329	5327	5317
	Demand	3412	3412	3003	3891	3891	4176	4176	4176	3851	4669	4669	4669	4385	5397	5397
	Diff.	-29	-74	-31	-30	-32	7	12	15	-2	-55	-29	-51	-56	-70	-80
10	Processed	3298	3244	2900	3820	3817	4074	4067	4075	3731	4478	4514	4508	4253	5280	5301
	Demand	3314	3314	2916	3779	3779	4055	4055	4055	3739	4534	4534	4534	4258	5241	5241
	Diff.	-16	-70	-16	41	38	19	12	20	-8	-56	-20	-26	-5	39	60
9	Processed	3290	3232	2881	3777	3781	4068	4058	4059	3711	4461	4491	4449	4203	5220	5218
	Demand	3319	3319	2920	3784	3784	4061	4061	4061	3745	4540	4540	4540	4265	5249	5249
	Diff.	-29	-87	-39	-7	-3	7	-3	-2	-34	-79	-49	-91	-62	-29	-31
8	Processed	3238	3200	2886	3816	3807	4077	4096	4118	3786	4572	4630	4655	4380	5381	5415
	Demand	3242	3242	2853	3698	3698	3968	3968	3968	3659	4436	4436	4436	4167	5128	5128
	Diff.	-4	-42	33	118	109	109	128	150	127	136	194	219	213	253	287
7	Processed	3824	3761	3373	4277	4278	4606	4595	4586	4211	5080	5113	5084	4780	5817	5802
	Demand	3842	3842	3381	4382	4382	4702	4702	4702	4336	5257	5257	5257	4938	6077	6077
	Diff.	-18	-81	-8	-105	-104	-96	-107	-116	-125	-177	-144	-173	-158	-260	-275
6	Processed	3831	3779	3352	4214	4217	4541	4551	4551	4170	5044	5081	5064	4765	5796	5808
	Demand	3865	3865	3401	4407	4407	4730	4730	4730	4361	5288	5288	5288	4967	6113	6113
	Diff.	-34	-86	-49	-193	-190	-189	-179	-179	-191	-244	-207	-224	-202	-317	-305
5	Processed	3739	3650	3236	4075	4073	4361	4349	4340	3965	4753	4762	4728	4455	5431	5417
	Demand	3782	3782	3328	4313	4313	4629	4629	4629	4268	5175	5175	5175	4861	5982	5982
	Diff.	-43	-132	-92	-238	-240	-268	-280	-289	-303	**-422**	**-413**	**-447**	**-406**	**-551**	**-565**
4	Processed	3214	3162	2827	3662	3655	3913	3901	3900	3573	4301	4337	4328	4062	5000	4994
	Demand	3264	3264	2872	3722	3722	3994	3994	3994	3683	4465	4465	4465	4194	5162	5162
	Diff.	-50	-102	-45	-60	-67	-81	-93	-94	-110	-164	-128	-137	-132	-162	-168
3	Processed	3066	3015	2694	3483	3477	3739	3725	3723	3401	4076	4096	4072	3853	4695	4700
	Demand	3117	3117	2743	3555	3555	3815	3815	3815	3518	4265	4265	4265	4006	4930	4930
	Diff.	-51	-102	-49	-72	-78	-76	-90	-92	-117	-189	-169	-193	-153	-235	-230
2	Processed	2818	2750	2441	3106	3099	3324	3308	3303	3010	3622	3623	3582	3373	4118	4085
	Demand	2864	2864	2520	3266	3266	3504	3504	3504	3231	3918	3918	3918	3680	4529	4529
	Diff.	-46	-114	-79	-160	-167	-180	-196	-201	-221	-296	-295	-336	-307	**-411**	**-444**
1	Processed	2242	2205	1979	2539	2535	2709	2703	2683	2462	2934	2941	2914	2720	3315	3310
	Demand	2255	2255	1984	2571	2571	2759	2759	2759	2545	3085	3085	3085	2898	3566	3566
	Diff.	-13	-50	-5	-32	-36	-50	-56	-76	-83	-151	-144	-171	-178	-251	-256
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**SR 326 Interchange**					**I-75**	**NW 49 ST Interchange**			**I-75**	**US 27 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

Figure 6-39: DDI 2045 Speed and Density Time Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)												
12	67.5	66.9	67.5	67.6	66.8	66.8	67.8	66.5	66.2	65.8	68.3	66.3	67.6
11	67.3	67.0	67.3	67.4	66.4	66.7	67.7	66.1	65.4	65.3	68.3	66.3	67.5
10	67.0	66.9	67.1	67.2	66.0	66.3	67.5	65.7	64.8	64.9	68.2	66.2	67.2
9	66.5	66.5	67.0	67.3	65.8	66.2	67.4	63.9	63.7	63.1	68.0	66.4	67.3
8	66.4	66.7	66.9	67.1	65.4	65.8	67.2	65.0	63.7	63.4	67.9	66.4	67.2
7	66.4	66.5	66.9	67.3	65.8	66.1	67.4	65.0	64.1	64.7	68.1	66.5	67.3
6	66.7	66.6	67.2	67.2	66.0	66.3	67.4	65.6	65.0	64.8	68.2	66.3	67.4
5	66.7	66.8	67.0	67.3	65.9	66.2	67.4	65.4	64.4	64.7	68.1	66.2	67.3
4	66.8	66.6	66.8	67.3	66.0	66.4	67.4	65.5	64.4	64.6	68.0	66.5	67.4
3	66.8	66.6	67.0	67.3	66.0	66.2	67.4	65.6	65.2	65.3	68.2	66.6	67.5
2	67.2	66.9	67.2	67.4	66.3	66.4	67.6	66.1	65.3	65.1	68.1	66.7	67.5
1	67.1	66.9	67.3	67.4	66.2	66.4	67.6	66.2	65.5	65.4	68.2	66.5	67.6
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	1,443	1,497	8,860	1,500	1,606	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)												
12	22.1	22.2	17.9	19.3	19.7	19.8	16.1	17.9	18.0	18.3	12.3	16.0	15.6
11	23.9	24.0	19.4	20.9	21.1	21.0	17.1	19.2	19.4	19.7	13.0	16.8	16.6
10	25.5	25.9	21.0	22.5	22.9	23.0	18.7	21.1	21.3	21.6	14.3	18.2	17.9
9	29.2	29.0	23.2	24.6	25.1	25.0	20.0	23.2	23.1	24.4	15.0	18.7	18.4
8	29.6	29.2	23.6	25.1	25.8	25.7	20.7	23.4	23.7	24.6	15.5	19.3	19.0
7	29.5	29.0	23.4	24.6	25.1	25.1	20.0	22.7	22.9	22.9	15.2	18.9	18.5
6	27.6	27.6	22.0	23.7	24.0	24.0	19.4	21.7	21.8	22.2	14.5	18.2	17.9
5	28.4	28.0	22.7	24.0	24.6	24.5	19.7	22.2	22.5	22.6	14.8	18.6	18.3
4	28.0	27.9	22.8	24.1	24.5	24.5	20.0	22.4	22.8	23.0	15.0	18.6	18.3
3	27.9	27.6	22.1	23.5	23.9	23.8	19.1	21.1	21.1	21.3	14.3	17.7	17.4
2	25.2	25.1	20.4	21.9	22.2	22.4	17.9	20.1	20.3	20.6	13.7	16.9	16.7
1	25.9	25.7	20.5	22.1	22.4	22.3	18.0	19.9	20.0	20.2	13.5	16.9	16.5
Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	US 27 Interchange			I-75	NW 49 ST Interchange			I-75	SR 326 Interchange			I-75
Length (ft)	15,034	1,479	3,075	1,501	1,443	1,497	8,860	1,500	1,606	1,500	3,094	1,495	3,759
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOTS

Time Period	Average Speed (mph)														
12	68.6	68.6	68.1	65.9	66.2	66.0	66.2	68.0	67.2	64.3	66.3	67.8	66.9	61.2	62.6
11	68.4	68.5	67.9	65.8	66.2	65.8	66.0	68.1	67.0	64.3	66.1	67.8	66.5	53.2	57.7
10	68.3	68.3	67.6	65.8	65.7	65.5	65.4	67.8	66.8	62.6	65.3	67.6	61.8	36.6	51.8
9	67.8	68.1	67.4	65.5	63.3	64.3	64.1	67.7	66.7	62.1	63.9	67.3	58.1	30.5	50.2
8	67.7	67.8	67.1	65.5	63.9	64.3	64.0	67.0	66.3	60.9	62.9	67.3	59.0	35.4	51.6
7	67.7	68.3	67.4	65.5	63.6	64.3	64.2	67.6	66.6	63.2	64.9	67.5	64.0	40.9	53.3
6	68.0	67.5	67.2	65.9	65.4	65.1	65.0	67.8	66.8	63.4	65.2	67.6	64.4	35.8	51.3
5	67.8	67.5	67.2	65.7	65.1	64.9	64.8	67.7	66.6	62.4	64.1	67.4	65.2	43.4	54.1
4	67.8	67.7	67.2	65.9	65.0	64.8	65.0	67.7	66.8	63.4	65.5	67.5	65.2	40.1	52.5
3	67.8	68.2	67.4	65.8	64.4	64.9	64.8	67.9	66.8	63.6	65.3	67.6	66.1	50.5	56.6
2	68.2	68.1	67.7	65.9	65.7	65.6	65.8	68.0	67.0	63.9	65.7	67.6	66.7	57.5	60.0
1	68.1	68.3	67.6	66.1	65.9	65.5	65.5	67.9	66.8	63.9	65.8	67.7	66.7	58.5	60.7
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

Time Period	Average Density (veh/mi/ln)														
12	17.3	17.1	15.7	20.8	20.7	22.1	21.9	21.4	20.0	23.0	23.3	22.9	21.9	29.7	28.7
11	18.8	18.6	17.0	22.8	22.5	24.0	24.0	23.2	21.5	24.7	25.0	24.4	23.5	39.7	34.5
10	19.9	19.7	18.1	23.4	23.3	24.7	24.7	23.9	22.4	27.1	26.9	26.0	28.5	65.4	41.9
9	22.9	22.5	20.5	25.6	26.5	27.7	27.7	26.2	24.4	29.2	29.6	28.0	33.7	78.9	44.4
8	23.4	23.0	21.1	26.4	26.9	28.5	28.6	27.3	25.1	30.4	30.8	28.5	34.3	70.4	42.7
7	23.7	23.2	21.3	26.2	27.0	28.2	28.0	26.5	24.6	28.8	29.0	27.7	28.3	57.1	40.5
6	22.1	21.9	19.8	24.7	24.7	26.4	26.4	25.3	23.5	27.7	28.2	27.1	27.2	64.9	42.9
5	22.7	22.5	20.6	25.6	25.8	27.4	27.4	26.1	24.3	29.0	29.3	27.5	27.2	55.6	39.8
4	22.4	22.1	20.0	25.0	25.2	26.8	26.5	25.4	23.6	27.6	27.8	27.0	26.7	57.3	41.2
3	22.5	22.0	20.0	24.9	25.2	26.7	26.6	25.3	23.5	27.1	27.6	26.5	25.7	42.5	35.7
2	19.9	19.7	17.9	22.8	22.8	24.2	24.1	23.3	21.8	25.5	25.8	25.0	24.0	35.3	32.9
1	20.9	20.5	18.7	23.3	23.3	24.9	24.9	23.9	22.2	25.8	26.1	25.3	24.3	34.3	32.1
Type	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
Int.	I-75	SR 326 Interchange					I-75	NW 49 ST Interchange			I-75	US 27 Interchange			I-75
Length (ft)	3001	1,503	2,225	1,499	272	1,500	2,017	1,500	7,580	1,496	3,494	1,500	3,388	1,500	2,489
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>

AVERAGE SPEED DIFFERENCE (mph)

Diff.:	5mph	10mph	15mph	20mph	25mph	30mph
Upper:	70	<65	<60	<55	<50	<45
Lower:	65	60	55	50	45	0

(Posted Speed - Avg. Speed)

LOS THRESHOLDS (Density in veh/mi/ln)

LOS:	LOS A	LOS B	LOS C	LOS D	LOS E	LOS F
Lower:	0.0	>10.0	>18.0	>26.0	>35.0	>45.0
Upper:	10.0	18.0	26.0	35.0	45.0	>

Using HCM 2010 thresholds for informational purposes

Figure 6-40: DDI 2045 Volume Time Plots (PM Peak)

NORTHBOUND I-75 - TIME PLOT

Time Period		Average Volume (vph)												
12	Processed	4480	4444	3628	3918	3940	3955	3286	3561	3576	3575	2526	3168	3172
	Demand	4417	4417	3571	3834	3834	3834	3162	3429	3429	3429	2408	2947	2947
	Diff.	63	27	57	84	106	121	124	132	147	146	118	221	225
11	Processed	4831	4797	3912	4210	4199	4182	3481	3786	3799	3808	2674	3333	3358
	Demand	4803	4803	3883	4170	4170	4170	3438	3729	3729	3729	2619	3204	3204
	Diff.	28	-6	29	40	29	12	43	57	70	79	55	129	154
10	Processed	5136	5167	4236	4517	4529	4558	3792	4137	4136	4147	2926	3592	3610
	Demand	5061	5061	4092	4394	4394	4394	3623	3929	3929	3929	2759	3377	3377
	Diff.	75	106	144	123	135	164	169	208	207	218	167	215	233
9	Processed	5825	5769	4664	4950	4951	4934	4038	4389	4390	4394	3058	3716	3716
	Demand	5783	5783	4675	5020	5020	5020	4140	4490	4490	4490	3153	3858	3858
	Diff.	42	-14	-11	-70	-69	-86	-102	-101	-100	-96	-95	-142	-142
8	Processed	5884	5821	4738	5043	5051	5044	4171	4514	4518	4507	3162	3824	3838
	Demand	5873	5873	4749	5099	5099	5099	4204	4560	4560	4560	3202	3919	3919
	Diff.	11	-52	-11	-56	-48	-55	-33	-46	-42	-53	-40	-95	-81
7	Processed	5874	5774	4700	4964	4959	4964	4054	4394	4380	4374	3100	3745	3731
	Demand	5967	5967	4825	5181	5181	5181	4272	4633	4633	4633	3253	3981	3981
	Diff.	-93	-193	-125	-217	-222	-217	-218	-239	-253	-259	-153	-236	-250
6	Processed	5533	5484	4435	4754	4752	4741	3914	4246	4254	4260	2962	3614	3622
	Demand	5588	5588	4518	4851	4851	4851	4000	4338	4338	4338	3047	3728	3728
	Diff.	-55	-104	-83	-97	-99	-110	-86	-92	-84	-78	-85	-114	-106
5	Processed	5677	5590	4556	4838	4851	4852	3978	4332	4327	4327	3028	3684	3694
	Demand	5755	5755	4653	4997	4997	4997	4120	4468	4468	4468	3138	3840	3840
	Diff.	-78	-165	-97	-159	-146	-145	-142	-136	-141	-141	-110	-156	-146
4	Processed	5609	5547	4556	4847	4848	4848	4041	4384	4392	4393	3070	3701	3705
	Demand	5646	5646	4565	4902	4902	4902	4042	4384	4384	4384	3078	3767	3767
	Diff.	-37	-99	-9	-55	-54	-54	-1	0	8	9	-8	-66	-62
3	Processed	5595	5483	4447	4740	4727	4698	3863	4138	4131	4125	2919	3525	3513
	Demand	5702	5702	4610	4951	4951	4951	4082	4427	4427	4427	3109	3805	3805
	Diff.	-107	-219	-163	-211	-224	-253	-219	-289	-296	-302	-190	-280	-292
2	Processed	5069	5021	4117	4414	4413	4432	3628	3953	3961	3966	2796	3367	3391
	Demand	5085	5085	4111	4415	4415	4415	3640	3948	3948	3948	2772	3393	3393
	Diff.	-16	-64	6	-1	-2	17	-12	5	13	18	24	-26	-2
1	Processed	5206	5140	4143	4452	4451	4429	3640	3929	3928	3931	2757	3357	3353
	Demand	5268	5268	4259	4574	4574	4574	3771	4090	4090	4090	2872	3515	3515
	Diff.	-62	-128	-116	-122	-123	-145	-131	-161	-162	-159	-115	-158	-162
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**US 27 Interchange**			**I-75**	**NW 49 ST Interchange**			**I-75**	**SR 326 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>

SOUTHBOUND I-75 - TIME PLOT

Time Period		Average Volume (vph)												
12	Processed	3563	3519	3204	4105	4107	4353	4344	4364	4041	4504	4638	4637	4399	5341	5370
	Demand	3574	3574	3188	3925	3925	4153	4153	4153	3837	4405	4405	4405	4154	5049	5049
	Diff.	-11	-55	16	180	182	200	191	211	204	99	233	232	245	292	321
11	Processed	3867	3819	3457	4465	4468	4730	4741	4743	4349	4827	4967	4944	4692	5777	5839
	Demand	3886	3886	3467	4269	4269	4516	4516	4516	4172	4791	4791	4791	4517	5491	5491
	Diff.	-19	-67	-10	196	199	214	225	227	177	36	176	153	175	286	348
10	Processed	4077	4030	3674	4598	4588	4841	4843	4866	4519	5108	5262	5259	5003	6150	6199
	Demand	4095	4095	3654	4498	4498	4759	4759	4759	4397	5048	5048	5048	4760	5786	5786
	Diff.	-18	-65	20	100	90	82	84	107	122	60	214	211	243	364	**413**
9	Processed	4655	4592	4145	4993	5008	5305	5312	5313	4913	5501	5650	5640	5314	6263	6275
	Demand	4679	4679	4174	5139	5139	5438	5438	5438	5023	5768	5768	5768	5439	6611	6611
	Diff.	-24	-87	-29	-146	-131	-133	-126	-125	-110	-267	-118	-128	-125	-348	-336
8	Processed	4745	4681	4239	5158	5154	5467	5479	5489	5023	5605	5766	5739	5422	6322	6302
	Demand	4753	4753	4240	5220	5220	5523	5523	5523	5102	5858	5858	5858	5524	6714	6714
	Diff.	-8	-72	-1	-62	-66	-56	-44	-34	-79	-253	-92	-119	-102	-392	**-412**
7	Processed	4814	4743	4300	5132	5125	5420	5390	5380	4941	5519	5643	5614	5292	6232	6220
	Demand	4829	4829	4308	5303	5303	5611	5611	5611	5184	5952	5952	5952	5612	6822	6822
	Diff.	-15	-86	-8	-171	-178	-191	-221	-231	-243	**-433**	-309	-338	-320	**-590**	**-602**
6	Processed	4502	4432	3997	4854	4848	5127	5141	5154	4737	5336	5498	5497	5167	6206	6249
	Demand	4522	4522	4034	4966	4966	5254	5254	5254	4854	5573	5573	5573	5255	6388	6388
	Diff.	-20	-90	-37	-112	-118	-127	-113	-100	-117	-237	-75	-76	-88	-182	-139
5	Processed	4617	4552	4160	5023	5025	5321	5317	5311	4869	5458	5594	5561	5258	6251	6217
	Demand	4657	4657	4155	5115	5115	5412	5412	5412	5000	5740	5740	5740	5413	6580	6580
	Diff.	-40	-105	5	-92	-90	-91	-95	-101	-131	-282	-146	-179	-155	-329	-363
4	Processed	4552	4487	4030	4903	4913	5181	5172	5171	4747	5330	5465	5460	5181	6199	6208
	Demand	4569	4569	4076	5018	5018	5309	5309	5309	4905	5631	5631	5631	5310	6454	6454
	Diff.	-17	-82	-46	-115	-105	-128	-137	-138	-158	-301	-166	-171	-129	-255	-246
3	Processed	4579	4505	4054	4885	4864	5163	5160	5160	4735	5248	5401	5358	5076	6006	5920
	Demand	4614	4614	4116	5068	5068	5362	5362	5362	4954	5688	5688	5688	5363	6519	6519
	Diff.	-35	-109	-62	-183	-204	-199	-202	-202	-219	**-440**	-287	-330	-287	**-513**	**-599**
2	Processed	4073	4017	3640	4490	4494	4757	4754	4766	4399	4952	5087	5066	4801	5802	5833
	Demand	4115	4115	3671	4519	4519	4782	4782	4782	4417	5072	5072	5072	4782	5813	5813
	Diff.	-42	-98	-31	-29	-25	-25	-28	-16	-18	-120	15	-6	19	-11	20
1	Processed	4274	4206	3790	4599	4596	4882	4888	4875	4467	5007	5146	5141	4866	5796	5776
	Demand	4263	4263	3803	4682	4682	4954	4954	4954	4576	5254	5254	5254	4955	6022	6022
	Diff.	11	-57	-13	-83	-86	-72	-66	-79	-109	-247	-108	-113	-89	-226	-246
Type		**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**	**Diverge**	**Basic**	**Merge**	**Basic**
Interchange		**I-75**	**SR 326 Interchange**					**I-75**	**NW 49 ST Interchange**			**I-75**	**US 27 Interchange**			**I-75**
Direction of Travel		>	>	>	>	>	>	>	>	>	>	>	>	>	>	>

Volume (vph): XXXX Difference greater than 400vph *(Based on FDOT Traffic Analysis Handbook Calibration Volume> 2,700 vph)*

6.2.4.5 Vissim Analysis Results –Network Performance

Tables 6-11 and **6-12** summarize the network performance. During the AM Peak, all network performance measures are improved under the Build alternatives when compared to the No Build. During the PM Peak, all network performance measures are also improved under the Build alternatives when compared to the No Build except for latent delay and latent demand under the Diamond alternative. It should be noted that all other measures for the Diamond alternative outperform No Build including an increase in Vehicles arrived and VMT. Overall, the Build alternatives demonstrate improved operations with substantial reductions in total delay and total stops during both the AM and PM peak hours while processing more vehicles.

Overall, the benefits of the build alternatives are visibly higher during the AM peak period. During the PM peak period, the benefits are not as significant due to the higher demand volumes. This results in higher congestion on I-75 southbound at the US 27 interchange as previously presented in **Figure 6-39** (DDI speed /density for PM peak) compared to **Figure 6-19** (No-Build speed /density for PM peak).

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Table 6-11 2045 Vissim Network Performance Summary – AM Peak

15-min Period	No Build							Diamond						
	Total Delay (Hours)	Total Stops	Average Speed (mph)	Vehicles Arrived (Vehicles)	Vehicle-Miles Traveled	Latent Delay (Hours)	Latent Demand (Vehicles)	Total Delay (Hours)	Total Stops	Average Speed (mph)	Vehicles Arrived (Vehicles)	Vehicle-Miles Traveled	Latent Delay (Hours)	Latent Demand (Vehicles)
1	21	1,980	58	2,854	13,513	0	0	23	2,097	57	2,875	14,269	0	0
2	33	3,034	56	3,558	16,829	0	0	35	3,104	55	3,570	17,812	0	0
3	43	3,981	55	4,048	18,965	0	1	45	3,941	55	4,080	20,020	0	1
4	53	5,095	54	4,283	20,027	0	1	52	4,621	54	4,354	21,245	0	1
5	**93**	**9,964**	**50**	**4,667**	**22,275**	**0**	**3**	**81**	**7,584**	**51**	**4,760**	**23,709**	**1**	**5**
6	**165**	**18,817**	**44**	**4,878**	**22,897**	**9**	**97**	**129**	**13,349**	**47**	**5,056**	**24,556**	**3**	**20**
7	**215**	**24,529**	**40**	**4,832**	**22,799**	**47**	**293**	**167**	**17,912**	**44**	**5,051**	**24,588**	**15**	**115**
8	**211**	**23,218**	**39**	**4,694**	**21,326**	**75**	**326**	**155**	**16,927**	**44**	**4,807**	**22,821**	**24**	**88**
9	187	20,770	40	4,496	20,691	84	347	123	13,453	46	4,624	22,084	22	88
10	182	20,154	41	4,507	20,757	91	382	111	11,769	48	4,618	22,152	20	74
11	178	19,332	42	4,574	21,335	100	403	108	10,972	48	4,668	22,631	18	70
12	176	20,012	41	4,393	19,981	97	357	91	8,952	49	4,514	21,201	15	53
Total[1]	**1,557**	**170,886**	**46**	**51,784**	**241,395**	**503**	**2,210**	**1,120**	**114,681**	**49**	**52,977**	**257,088**	**118**	**515**
	SPUI							**ParClo SE**						
1	23	2090	57	2875	14264	0	0	23	2125	57	2875	14328	0	0
2	34	3009	56	3577	17820	0	0	35	3096	56	3566	17880	0	0
3	44	3874	55	4082	20014	0	1	44	3874	55	4083	20114	0	1
4	50	4375	55	4357	21246	0	1	52	4658	54	4353	21321	0	1
5	**78**	**7312**	**52**	**4769**	**23710**	**1**	**5**	**81**	**7714**	**51**	**4752**	**23805**	**1**	**5**
6	**128**	**13727**	**47**	**5029**	**24487**	**3**	**21**	**132**	**14051**	**47**	**5039**	**24579**	**3**	**23**
7	**175**	**19060**	**43**	**5017**	**24465**	**15**	**114**	**169**	**18212**	**44**	**5051**	**24692**	**19**	**140**
8	**165**	**18556**	**43**	**4809**	**22753**	**24**	**90**	**154**	**17284**	**44**	**4827**	**22958**	**28**	**99**
9	134	14537	46	4631	22123	21	94	123	13474	46	4624	22178	23	82
10	113	12118	48	4646	22307	21	78	115	12508	47	4598	22233	20	76
11	106	10799	48	4670	22612	21	87	111	11598	48	4670	22731	19	83
12	89	9148	50	4498	21178	19	69	89	8780	50	4523	21322	19	73
Total[1]	**1,139**	**118,605**	**49**	**52,960**	**256,979**	**125**	**560**	**1,128**	**117,374**	**49**	**52,961**	**258,141**	**132**	**583**
	ParClo NE							**DDI**						
1	23	2128	57	2878	14362	0	0	24	2,152	56	2,874	14,262	0	0
2	34	3092	56	3572	17922	0	0	36	3,142	55	3,565	17,796	0	0
3	43	3876	55	4085	20147	0	1	46	4,026	54	4,081	19,997	0	1
4	49	4399	55	4351	21375	0	1	53	4,666	54	4,359	21,230	0	1
5	**80**	**7908**	**52**	**4742**	**23842**	**1**	**5**	**83**	**7,802**	**51**	**4,746**	**23,652**	**1**	**5**
6	**127**	**13403**	**47**	**5065**	**24763**	**3**	**22**	**127**	**13,118**	**47**	**5,087**	**24,632**	**3**	**19**
7	**166**	**18412**	**44**	**5035**	**24708**	**17**	**126**	**166**	**17,774**	**44**	**5,032**	**24,507**	**14**	**109**
8	**157**	**17602**	**44**	**4813**	**22849**	**27**	**99**	**160**	**17,568**	**43**	**4,797**	**22,682**	**22**	**89**
9	125	13910	46	4620	22255	24	88	133	14,654	45	4,602	22,012	21	79
10	112	11879	48	4628	22364	20	69	116	12,211	47	4,630	22,262	19	74
11	110	11361	48	4657	22704	18	79	106	10,502	48	4,692	22,650	19	76
12	91	9359	49	4514	21334	18	68	89	8,646	49	4,507	21,177	17	60
Total[1]	**1,117**	**117,329**	**50**	**52,960**	**258,625**	**128**	**558**	**1,139**	**116,261**	**49**	**52,972**	**256,859**	**116**	**513**

[1]Average Speed results based on the weighted average with Arrived Vehicles

Table 6-12 2045 Vissim Network Performance Summary – PM Peak

15-min Period	No Build							Diamond						
	Total Delay (Hours)	Total Stops	Average Speed (mph)	Vehicles Arrived (Vehicles)	Vehicle-Miles Traveled	Latent Delay (Hours)	Latent Demand (Vehicles)	Total Delay (Hours)	Total Stops	Average Speed (mph)	Vehicles Arrived (Vehicles)	Vehicle-Miles Traveled	Latent Delay (Hours)	Latent Demand (Vehicles)
1	78	6,781	51	4,465	20,171	0	2	82	6,530	50	4,551	21,439	1	10
2	88	7,486	49	4,428	19,854	4	20	89	6,757	49	4,544	21,083	8	39
3	113	9,992	47	4,572	21,238	12	73	105	8,117	48	4,670	22,647	25	143
4	137	12,609	45	4,739	21,598	37	183	121	10,180	47	4,877	23,030	54	258
5	**158**	**16,407**	**43**	**4,748**	**21,700**	**67**	**330**	**135**	**11,765**	**46**	**4,866**	**23,204**	**85**	**396**
6	**175**	**17,801**	**42**	**4,724**	**21,355**	**105**	**474**	**150**	**14,701**	**44**	**4,889**	**22,816**	**117**	**507**
7	**198**	**20,597**	**41**	**4,759**	**22,182**	**151**	**717**	**165**	**16,415**	**43**	**4,931**	**23,729**	**154**	**698**
8	**221**	**24,377**	**39**	**4,839**	**22,198**	**217**	**971**	**192**	**20,928**	**42**	**4,973**	**23,908**	**205**	**905**
9	236	26,684	38	4,797	21,984	275	1,199	210	23,349	40	4,943	23,465	259	1,144
10	222	25,246	38	4,620	20,428	316	1,282	191	21,469	40	4,745	21,660	304	1,247
11	176	19,134	40	4,429	19,423	327	1,310	145	14,996	43	4,480	20,533	316	1,259
12	134	13,881	43	4,152	18,122	326	1,255	112	10,827	46	4,208	19,186	319	1,252
Total[1]	**1,936**	**200,995**	**43**	**55,272**	**250,253**	**1,837**	**7,816**	**1,697**	**166,034**	**45**	**56,677**	**266,700**	**1,847**	**7,858**
	SPUI							**ParClo SE**						
1	80	6363	51	4550	21447	1	9	84	6471	50	4535	21540	1	7
2	85	6354	50	4536	21070	8	38	90	6940	49	4545	21164	7	35
3	102	7967	49	4688	22644	24	136	109	8666	48	4671	22738	23	131
4	118	9661	47	4883	23027	52	251	125	10183	47	4890	23133	50	245
5	**126**	**11043**	**47**	**4883**	**23212**	**84**	**394**	**135**	**11887**	**46**	**4878**	**23340**	**81**	**377**
6	**139**	**12811**	**45**	**4885**	**22880**	**116**	**504**	**145**	**13330**	**45**	**4893**	**22963**	**113**	**492**
7	**156**	**14962**	**44**	**4927**	**23713**	**153**	**699**	**162**	**15662**	**44**	**4933**	**23809**	**151**	**687**
8	**182**	**18744**	**42**	**4977**	**23906**	**204**	**896**	**188**	**19686**	**42**	**4992**	**24011**	**200**	**876**
9	200	23347	41	4963	23548	251	1096	203	22833	41	4960	23613	250	1102
10	184	21624	41	4768	21689	291	1177	185	21061	41	4764	21767	292	1186
11	139	14410	44	4467	20437	303	1213	139	14054	44	4463	20587	306	1215
12	103	9905	47	4193	19083	309	1218	105	10108	47	4198	19249	307	1211
Total[1]	**1,614**	**157,191**	**46**	**56,720**	**266,656**	**1,796**	**7,631**	**1,670**	**160,881**	**45**	**56,722**	**267,914**	**1,781**	**7,564**
	ParClo NE							**DDI**						
1	81	6789	50	4546	21597	1	8	85	6,904	50	4,545	21,429	1	9
2	87	7077	50	4553	21271	5	26	89	6,701	49	4,553	21,113	7	29
3	104	8561	49	4686	22800	20	130	108	8,479	48	4,672	22,600	21	127
4	118	10310	47	4878	23208	49	240	123	9,860	47	4,892	23,030	50	239
5	**133**	**12710**	**46**	**4853**	**23375**	**80**	**368**	**135**	**11,555**	**46**	**4,870**	**23,210**	**79**	**374**
6	**146**	**14281**	**45**	**4912**	**23050**	**112**	**496**	**146**	**13,453**	**44**	**4,901**	**22,797**	**112**	**499**
7	**157**	**15501**	**44**	**4937**	**23943**	**150**	**676**	**160**	**15,527**	**44**	**4,911**	**23,637**	**153**	**702**
8	**189**	**21688**	**42**	**4961**	**24092**	**196**	**858**	**184**	**19,593**	**42**	**4,985**	**23,932**	**206**	**902**
9	214	25921	40	4951	23671	242	1075	211	23,172	40	4,912	23,441	255	1,110
10	195	23974	40	4763	21840	285	1162	191	21,240	40	4,794	21,733	293	1,190
11	145	16518	43	4508	20685	299	1188	144	14,620	43	4,504	20,576	302	1,201
12	105	10299	47	4201	19252	305	1205	106	9,755	46	4,199	19,142	307	1,217
Total[1]	**1,674**	**173,629**	**45**	**56,749**	**268,784**	**1,744**	**7,432**	**1,682**	**160,859**	**45**	**56,738**	**266,640**	**1,786**	**7,599**

[1]Average Speed results based on the weighted average with Arrived Vehicles

6.3 Queue Analysis

Suggested turn lane lengths were developed for the proposed interchange ramp terminal intersections using the Synchro 10 queue output and Vissim Max Queue results from the 2045 Design Year analysis. Queue lengths measured from Vissim are based on actual queue lengths generated by the simulation. Synchro 10 queue length measurements are based on the Synchro Percentile Delay Method which is defined as:

$$Q = \frac{v}{3600} * (R - 6) * \left[1 + \frac{1}{\frac{s}{v} - 1}\right] * \frac{L}{n * fLU} = Queue\ Length\ (feet)$$

Where:

R = Red time (sec)

s = Saturation Flow Rate (vph)

v = Arrival Rate (vph)

L = Length of vehicles including space between (ft)

n = Number of Lanes

fLU = Lane Utilization Factor

Based on the Diamond, SPUI, Parclo-SE, Parclo-NE, and DDI build alternatives geometry previously provided, the recommended turn lane storage lengths are provided in **Table 6-13**. It should be noted that recommended storage lengths do not include deceleration and taper lengths. Additional storage is also suggested to accommodate the heavy truck traffic that is anticipated at the proposed interchange to support the industrial/commercial Ocala 489 commerce park. A notable difference in queue lengths are reported between Synchro and Vissim for the southbound right turn movement at the northbound I-75 ramp intersection under the ParClo NE alternative. The southbound right turn movement is the northeast quadrant loop ramp terminus with NW 49th Street which is modeled as a stop condition. The Vissim analysis suggests that this movement under the ParClo NE alternative would likely require signalization in order to provide adequate gaps in NW 49th Street traffic flow and reduce the observed queue length.

Table 6-13: 2045 Recommended Turn Lane Storage Lengths

Interchange	Ramps	Movement	Turn Bay Length[1] (ft)	95th Percentile Queue Length[2] (ft)		Vissim Max Queue Lengths (ft)		Recommended Storage Length[3] (ft)
				AM	PM	AM	PM	
Diamond		EBL	300	0	96	2	8	100
	I-75 NB	NBL/R	300	62	126	215	230	250
		WBR	400	0	0	3	3	25
		WBL	300	118	102	167	96	175
	I-75 SB	SBL/R	-	51	90	185	215	225
		EBR	450	27	m8	132	77	150
SPUI		EBL	275	m98	m119	151	132	175
	I-75 NB	NBL/R	300	75	#189	221	251	275
		WBR	700	40	26	29	16	50
		WBL	390	153	129	177	146	200
	I-75 SB	SBL/R	450	69	76	149	170	175
		EBR	640	m144	m133	94	56	100
Parclo-SE		EBR (FF)	560	0	0	13	7	25
	I-75 NB	WBR (FF)	300	0	0	39	44	50
		NBL/R	83	62	169	216	238	250
		WBL	300	120	117	264	323	325
	I-75 SB	SBL/R	550	65	90	175	212	225
		EBR	375	m32	m7	143	93	150
Parclo-NE		EBL	600	14	5	126	56	150
	I-75 NB	NBR	-	40	56	203	254	275
		SBR	-	122	165	409	942	950
		WBL	300	142	138	150	147	150
	I-75 SB	SBL/R	550	65	99	189	248	250
		EBR	375	m32	0	114	89	125
DDI	I-75 NB	WBR	250	40	37	4	0	50
		NBL	-	0	0	228	256	275
	I-75 SB	EBR	300	24	13	201	265	275
		SBL	-	0	0	166	207	225

[1] Turn Bay Length used in traffic analysis; Turn Bay Length = Storage + Deceleration + Taper Lengths

[2] Queue length from Synchro Analysis

[3] Recommended Storage Length does not include Deceleration+ Taper Lengths. Min. of 25 feet recommended

[4] m-Volume for 95th percentile queue is metered by upstream signal

[5] #-95th percentile volume exceeds capacity, queue may be longer

7 Future Conditions Safety

In accordance with the approved MLOU, a safety analysis was conducted for future conditions utilizing the predictive methods set forth in the HSM Parts C and D. HSM Part C provides an outline for applying Safety Performance Functions (SPFs) to predict crash frequency and severity according to roadway geometry, intersection geometry, and traffic conditions. HSM Part D provides an outline for applying Crash Modification Factors (CMFs) to the forecasted crash frequencies and severities to account for deviations from the base conditions of the Part C predictions.

Consistent with the existing conditions safety analysis, the AOI includes the I-75 mainline between US 27 and SR 326 (broken into two segments to account for the new interchange at NW 49th Street), the I-75 interchanges at US 27 and at SR 326, as well as the following adjacent segments and intersections:

- Intersection of US 27 and NW 44th Avenue
- Intersection of US 27 and NW 35th Avenue Road
- Segment of US 27 from NW 44th Avenue to I-75 southbound ramps
- Segment of US 27 from I-75 northbound ramps to NW 35th Avenue Road
- Segment of SR 326 one-half mile west of I-75 southbound off-ramp
- Segment of SR 326 one-half mile east of I-75 northbound ramps
- Segment of NW 44th Avenue from US 27 to SR 326
- Intersection of NW 49th Street and NW 44th Avenue

For the five Build alternatives (Diamond, SPUI, Parclo-SE, Parclo-NE and DDI), the Build scenario analyses include the following segments and intersections due to the addition of the NW 49th Street Interchange:

- I-75 interchange with NW 49th Street (varies by Build scenario)
- Intersection of NW 49th Street and NW 44th Avenue
- Segment of NW 49th Street from NW 44th Avenue to I-75 southbound ramps
- Segment of NW 49th Street one-half mile east of I-75 northbound ramps

The following sections illustrate some of the factors that contributed to forecasted crash rates and severities in different portions of the future roadway network and the resulting predictions. The HSM Worksheets used to calculate the anticipated future crash rates are provided in **Appendix K**.

7.1 Predicted Crashes

7.1.1 I-75 Mainline

The I-75 mainline within this project's AOI remains the same in the future conditions analysis as the existing conditions analysis, aside from the addition of on- and off-ramps at the proposed NW 49th Street interchange for the Build scenarios. The traffic volumes summarized in **Table 7-1** were utilized for the crash predictions for the I-75 mainline.

Table 7-1: I-75 Mainline 2045 AADT

From	To	2045 AADT	
		No Build	Build
N of SR 326 Interchange	SR 326 Interchange	94,200	93,800
SR 326 Interchange	Proposed Interchange	107,100	109,300
Proposed Interchange	US 27 Interchange	107,100	118,900
US 27 Interchange	S of US 27 Interchange	131,300	137,300

The HSM worksheets were utilized to predict the number of annual crashes expected in year 2045. The HSM prediction method is based on the projected 2045 AADT volumes and geometric properties of the I-75 mainline (horizontal curves, lane widths, shoulder widths, presence of median barriers, and presence of rumble strips). **Figure 7-1** provides the segmentation for the HSM analysis.

The predicted number of annual crashes ranges from approximately 132 crashes per year for the Parclo-SE scenario to approximately 143 crashes per year for the No Build scenario. **Table 7-2** summarizes the predicted number of annual crashes on the I-75 mainline for the No Build and Build scenarios.

Table 7-2: Predicted 2045 Annual Crashes I-75 Mainline (S of US 27 to N of SR 326)

Alternative	Fatal/Injury	PDO*	Total
No Build	40.3	102.8	**143.1**
Build Diamond	38.7	99.4	**138.1**
Build SPUI	39.1	100.9	**140.0**
Build Parclo SE	36.9	95.2	**132.1**
Build Parclo NE	37.9	97.8	**135.7**
Build DDI	38.7	99.4	**138.1**

**Property Damage Only*

Figure 7-1: I-75 HSM Segmentation

No Build

I-75 Southbound	Length (mi)		0.15	0.60	0.12	3.39			0.20		0.28	0.34	0.05	
	Length (ft)	4,429	800	3,168	616	17,881			1,073	380	1,500	1,815	268	
	Segment Type	Basic	Merge	Basic	Diverge	Basic			Merge	Basic	Merge	Basic	Diverge	Basic
						19,570	3.71					Loop		
Interchange		US 27							SR 326					
I-75 Northbound														
						19,650	3.72							
	Segment Type	Basic	Diverge	Basic	Merge	Basic			Diverge	Basic		Merge	Basic	
	Length (mi)		0.13	0.57	0.16	3.43			0.13	0.53		0.18		
	Length (ft)	4,300	671	3,029	847	18,132			671	2,809		941		

Components of proposed NW 49 Street Interchange Location

Diamond & DDI

I-75 Southbound	Length (mi)		0.15	0.60	0.12	0.96	0.19	1.43	0.11	0.69	0.20	0.07	0.28	0.34	0.05	
	Length (ft)	4,429	800	3,168	616	5,050	1,010	7,530	580	3,654	1,073	380	1,500	1,815	268	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
									19,513	3.70				Loop		
Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound																
									19,658	3.72						
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic		
	Length (mi)		0.13	0.57	0.16	0.61	0.09	1.93	0.20	0.60	0.13	0.53	0.18			
	Length (ft)	4,300	671	3,029	847	3,247	491	10,173	1,057	3,172	671	2,809	941			

Components of proposed NW 49 Street Interchange Location; Variation in cumulative length due to Concept Plan estimations

SPUI

I-75 Southbound	Length (mi)		0.15	0.60	0.12	1.14	0.13	1.19	0.17	0.76	0.20	0.07	0.28	0.34	0.05	
	Length (ft)	4,429	800	3,168	616	6,000	660	6,274	881	4,000	1,073	380	1,500	1,815	268	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
								19,504	3.69					Loop		
Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound																
								19,694	3.73							
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic		
	Length (mi)		0.13	0.57	0.16	0.98	0.14	1.27	0.18	0.87	0.13	0.53	0.18			
	Length (ft)	4,300	671	3,029	847	5,196	715	6,717	956	4,592	671	2,809	941			

Components of proposed NW 49 Street Interchange Location; Variation in cumulative length due to Concept Plan estimations

Parclo SE

I-75 Southbound	Length (mi)		0.15	0.60	0.12	0.96	0.19	1.40	0.13	0.67	0.20	0.07	0.28	0.34	0.05	
	Length (ft)	4,429	800	3,168	616	5,050	1,010	7,403	702	3,534	1,073	380	1,500	1,815	268	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
									19,388	3.67				Loop		
Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound																
									Loop							
									19,676	3.73						
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
	Length (mi)		0.13	0.57	0.16	0.96	0.12	0.67	0.32	0.30	0.23	0.83	0.13	0.53	0.18	
	Length (ft)	4,300	671	3,029	847	5,082	649	3,544	1,677	1,610	1,213	4,383	671	2,809	941	

Components of proposed NW 49 Street Interchange Location; Variation in cumulative length due to Concept Plan estimations

Parclo NE

I-75 Southbound	Length (mi)		0.15	0.60	0.12	0.96	0.19	1.40	0.13	0.67	0.20	0.07	0.28	0.34	0.05	
	Length (ft)	4,429	800	3,168	616	5,050	1,010	7,400	702	3,535	1,073	380	1,500	1,815	268	
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
								19,386	3.67					Loop		
Interchange		US 27				NW 49 Street					SR 326					
I-75 Northbound																
								Loop								
								19,638	3.72							
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic
	Length (mi)		0.13	0.57	0.16	0.96	0.13	0.62	0.17	0.53	0.24	0.79	0.13	0.53	0.18	
	Length (ft)	4,300	671	3,029	847	5,060	667	3,260	915	2,781	1,275	4,162	671	2,809	941	

Components of proposed NW 49 Street Interchange Location; Variation in cumulative length due to Concept Plan estimations

7.1.2 Interchanges

I-75 and US 27 Interchange and I-75 and SR 326 Interchange

No improvements are planned to the two interchanges adjacent to the proposed NW 49th Street interchange in conjunction with the proposed interchange construction. The introduction of the NW 49th Street interchange will alter travel patterns at the adjacent interchanges in the Build scenario. As a result, the number of annual crashes expected at the US 27 and SR 326 interchanges vary between the No Build scenario and the Build scenarios. The future traffic volumes at the adjacent interchanges are consistent between the five Build scenarios. Therefore, the projected number of crashes does not differ between the Build scenarios and a single value is reported.

The number of predicted crashes calculated for the interchanges includes the merge areas, diverge areas, ramp segments, and ramp terminals. A summary of the predicted number of annual crashes at the adjacent interchanges is provided in **Table 7-3** for the No Build and Build scenarios.

Table 7-3: Predicted 2045 Annual Crashes I-75 Interchanges (US 27 and SR 326)

I-75 and US 27 Interchange			
Alternative	**Fatal/Injury**	**PDO**	**Total**
No Build	28.2	39.9	**68.1**
Build Diamond/SPUI/Parclos/DDI	27.1	38.4	**65.5**
I-75 and SR 326 Interchange			
Alternative	**Fatal/Injury**	**PDO**	**Total**
No Build	41.2	76.6	**117.8**
Build Diamond/SPUI/Parclos/DDI	40.2	77.4	**117.6**

I-75 and NW 49th Street Interchange

The primary difference in predicted number of annual crashes between the No Build and Build scenarios is the differing geometry for the five NW 49th Street interchange Build alternatives. There is no difference in projected traffic volume for the five Build scenarios and the difference in predicted number of crashes is directly related to the geometric characteristics. The number of predicted crashes reported for the interchange includes the merge areas, diverge areas, ramp segments, and ramp terminal intersections. The HSM does not provide CMFs for a DDI. However, there are sources that provide CMFs for the conversion of a Diamond Interchange to DDI; reference information provided in **Appendix K**. The average of two applicable “diamond to

DDI conversion" CMFs (average of CMF ID 8278 and CMF ID 8258) was used to determine the DDI ramp terminals predicted crashes. In addition, there are also methodology limitations for the analysis of the SPUI. CMF results for a Diamond Conversion to SPUI were not consistent; decreases and increases in crashes were both concluded. Therefore, a conversion factor was not applied and the SPUI ramp terminal intersection was evaluated as a four-leg intersection. Diamond Conversion to SPUI reference information is provided in **Appendix K**.

A summary of the predicted number of annual crashes at the proposed interchange is provided in **Table 7-4** for the five Build alternatives. The No Build scenario does not include an interchange at I-75 at NW 49th Street, so it is excluded from the table.

Table 7-4: Predicted 2045 Annual Crashes I-75 at NW 49th Street Interchange

Alternative	Fatal/Injury	PDO	Total
Build Diamond	11.9	25.3	**37.2**
Build SPUI	8.0	22.2	**30.2**
Build Parclo-SE	12.9	26.6	**39.5**
Build Parclo-NE	10.2	19.2	**29.4**
Build DDI	8.0	17.5	**25.5**

Based on the proposed geometry and traffic controls of the respective alternatives, the DDI interchange configuration results in the fewest predicted annual crashes, followed by the ParClo-NE, SPUI, Parclo-SE, and Diamond build alternatives.

Treatment and volume of left turn movements are a defining factor between interchange types. The Diamond, ParClo-SE, and ParClo-NE alternatives treat the southbound ramp movements similarly through the provision of a signalized intersections. The SPUI combines movements with the northbound ramps and the DDI crossover intersections allow for the treatment of left turn movements similarly to a typical right turn movement, therefore reducing conflict points. In addition, the Diamond alternative provides for left turns at two separate intersections; introducing a second intersection increases the potential of additional crashes. Both Parclo alternatives also have a second signalized intersection. The loop ramps reduce the left turn volumes at the second intersection, with the Parclo-NE loop serving the highest of all four left-turn movements; reducing the potential of left turn crashes at the ramp terminus.

7.1.3 Arterial Segments

No improvements are planned for the US 27 and SR 326 arterials with the proposed NW 49th Street interchange construction. Therefore, the geometric CMF's are consistent between the No Build and Build scenarios. For the HSM Analysis for the arterial segments and intersections, the

segmentation of US 27, NW 49th Street (No Build) and SR 326 are provided on **Figure 7-2**; and provided on **Figure 7-3** for NW 49th Street under Build scenarios. There is a minor variation in projected AADT volumes between the No Build and Build scenarios that results in different projected numbers of annual crashes. For example, traffic growth on NW 44th Avenue is projected to be greater in the No Build scenario than in the Build scenarios, leading to a higher predicted number of crashes in the No Build scenario.

In the No Build scenario, NW 49th Street would be constructed across I-75 via an overpass without an interchange with I-75. The traffic volume on NW 49th Street east and west of the proposed interchange is projected to be less in the No Build scenario than in the Build scenarios, resulting in fewer predicted crashes. A summary of the predicted number of annual crashes on the arterial segments is provided in **Table 7-5** for the No Build and Build scenarios.

Table 7-5: Predicted 2045 Annual Crashes Arterial Segments

Roadway From	To	Scenario	Fatal/ Injury	PDO	Total
US 27		No Build	6.6	17.0	**23.6**
NW 44th Avenue	NW 35th Avenue Road	Build	6.4	16.3	**22.7**
SR 326		No Build	4.7	12.0	**16.7**
½-mile west of NW 44th Avenue	½-mile E of I-75 NB ramps	Build	4.6	11.8	**16.4**
NW 44th Avenue		No Build	3.0	8.0	**11.0**
US 27	SR 326	Build	2.0	5.4	**7.4**
NW 49th Street		No Build	0.2	0.7	**0.9**
NW 44th Avenue	½-mile E of I-75 NB ramps	Build	0.3	0.7	**1.0**

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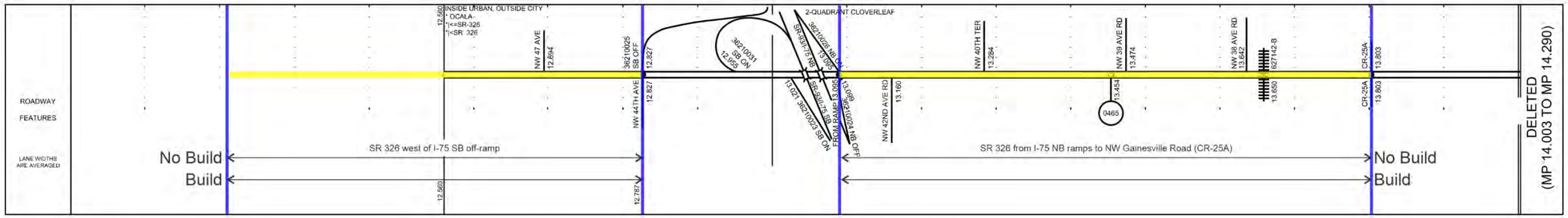
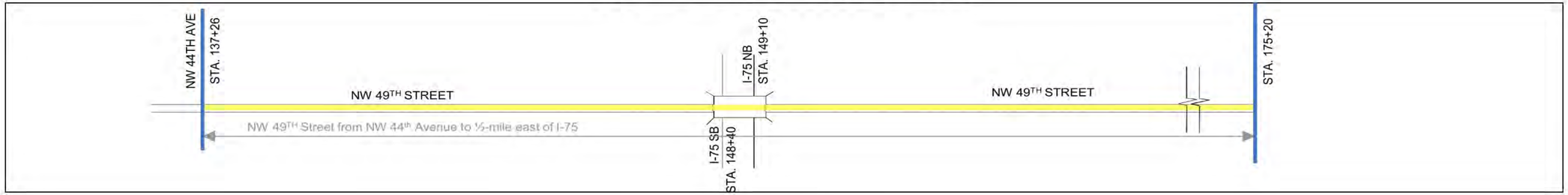
SR 326

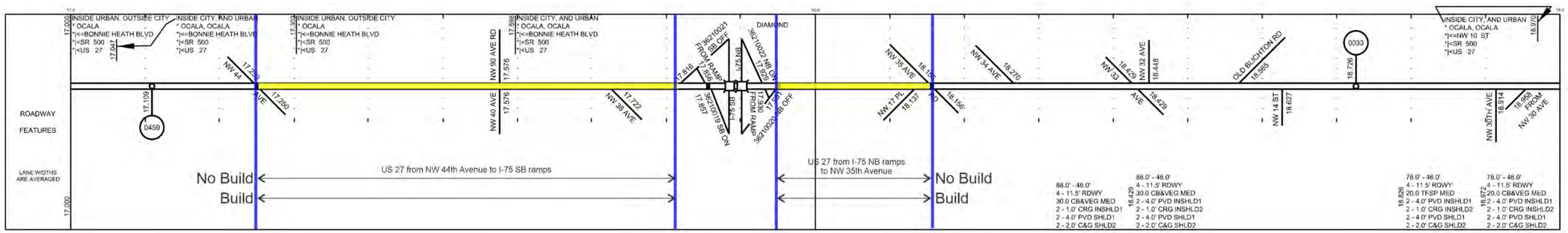


Source: FDOT SLD, 2014

NW 49 Street No Build



US 27



Source: FDOT SLD, 2016

Figure 7-2: US 27, NW 49th Street (No Build) and SR 326 HSM Segmentation

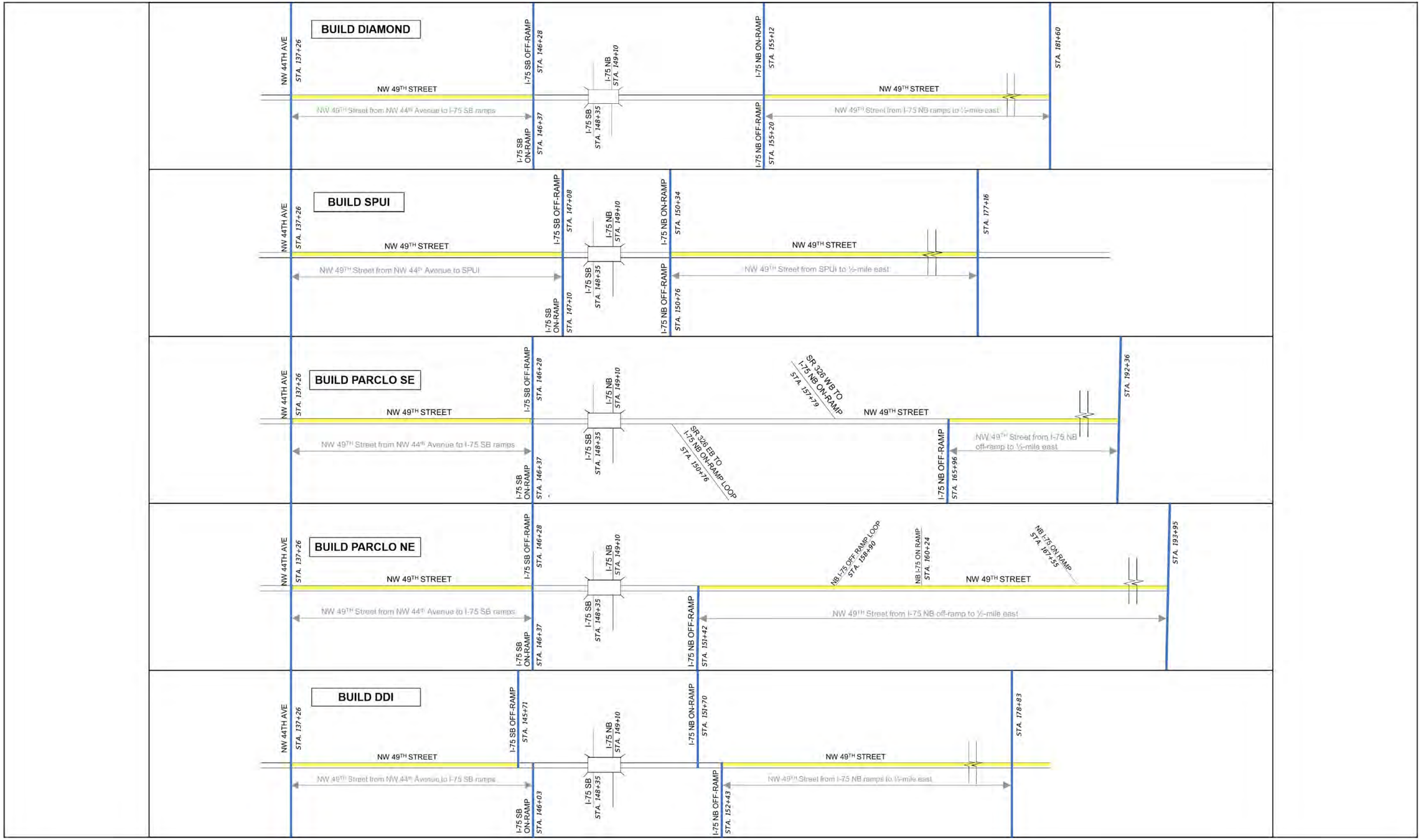


Figure 7-3: NW 49th Street Build Conditions HSM Segmentation

7.1.4 Intersections

In addition to the ramp terminal intersections evaluated as part of the interchanges, three other intersections within the AOI were evaluated to predict year 2045 annual crashes: US 27 at NW 44th Avenue, US 27 at NW 35th Avenue Road, and NW 44th Avenue at NW 49th Street. A summary of the predicted number of annual crashes at the adjacent intersections is provided in **Table 7-6** for the No Build and Build scenarios.

Table 7-6: Predicted 2045 Annual Crashes Intersections

Intersection	Scenario	Fatal/ Injury	PDO	Total
US 27 at NW 44th Avenue	No Build	3.0	5.1	**8.1**
	Build Diamond/SPUI/Parclos/DDI	2.8	4.6	**7.4**
US 27 at NW 35th Avenue Road	No Build	3.8	6.3	**10.1**
	Build Diamond/SPUI/Parclo/DDI	3.6	6.0	**9.6**
NW 49th Street at NW 44th Avenue	No Build	0.8	1.6	**2.4**
	Build Diamond/SPUI/Parclos/DDI	0.7	1.3	**2.0**

7.2 Future Predicted Safety Evaluation Summary

The cumulative results of the HSM predictive crash analyses for year 2045 are summarized in **Tables 7-7** and **7-8**.

Table 7-7: AOI Cumulative Predicted 2045 Annual Crash Summary

Location	FI	PDO	NO BUILD	FI	PDO	BUILD
I-75 (S of US 27-N Ramps & S Ramps-N of SR 326)	18.5	48.1	**66.6**	19.4	51.0	**70.3**
I-75 & US 27 Interchange[1]	28.2	39.9	**68.0**	27.1	38.4	**65.5**
I-75 & SR 326 Interchange[1]	41.2	76.6	**117.7**	40.2	77.4	**117.7**
US 27 (Arterial & Intersections)	13.5	28.4	**41.8**	12.8	27.0	**39.8**
SR 326 (Arterial & Intersections)	4.7	12.0	**16.7**	4.6	11.8	**16.4**
NW 44th Avenue AOI (N & S of NW 49th St)	3.0	8.0	**11.0**	2.0	5.4	**7.4**
TOTALS	**109.0**	**212.9**	**321.9**	**106.1**	**211.0**	**317.2**

[1]Merge/Diverge/Ramps/Ramp Termini

Table 7-8: Project Site Predicted 2045 Annual Crashes

Location	DIAMOND			SPUI			ParClo SE			ParClo NE			DDI		
	FI	PDO	Total	FI	PDO	Total	FI	PDO	Total	FI	PDO	Total	FI	PDO	Total
I-75 (N of US 27 to NW 49th Street to S of SR 326)	19.4	48.5	**67.8**	19.8	49.9	**69.7**	17.6	44.3	**61.8**	18.5	46.8	**65.3**	19.4	48.5	**67.8**
I-75 & NW 49th Street Interchange[1]	11.9	25.3	**37.2**	8.0	22.2	**30.1**	12.9	26.6	**39.5**	10.2	19.2	**29.4**	8.0	17.5	**25.5**
NW 49th Street, NW 44th Avenue to I-75	0.1	0.2	**0.3**	0.1	0.3	**0.4**	0.1	0.2	**0.3**	0.1	0.2	**0.3**	0.1	0.2	**0.3**
NW 49th Street, East of I-75	0.2	0.5	**0.7**	0.2	0.5	**0.7**	0.2	0.5	**0.7**	0.2	0.5	**0.7**	0.2	0.5	**0.7**
NW 44th Avenue at NW 49th Street	0.7	1.3	**2.0**	0.7	1.3	**2.0**	0.7	1.3	**2.0**	0.6	1.3	**1.9**	0.7	1.3	**2.0**
TOTALS	**32.2**	**75.8**	**108.0**	**28.7**	**74.2**	**102.9**	**31.4**	**72.9**	**104.3**	**29.6**	**68.1**	**97.7**	28.3	68.0	**96.3**

[1]*Merge/Diverge/Ramps/Ramp Termini*

Based on the predicted number of crashes, the project AOI shows a reduction in total crashes from 321.9 crashes under No Build to 317.2 crashes under Build conditions. A comparison of the number of predicted crashes under the five Build alternatives for the project site shows that the DDI alternative results in the lowest number of predicted crashes (96.3 crashes). The ParClo-NE alternative is the second-best performing alternative with a total of 97.7 predicted crashes. The Diamond alternative results in the highest number of predicted crashes (108.0 crashes).

The Build condition is expected to decrease the number of predicted crashes. However, there are several locations with existing safety concerns; they are reflected on the district high crash locations list and/or have average crash rates higher than the statewide average. These safety deficiencies may still be present and require additional improvements. One such location is US 27 at NW 44th Avenue; under Build conditions, crashes are predicted to decrease. However, the predicted reduction in crashes may not be sufficient to offset existing safety conditions. The actual crash rate is higher than the statewide average crash rate; and it is a districtwide high crash location. Future operational analysis show significant delays eastbound during AM and westbound in PM. Since both volumes and delays decrease to/from NW 44th Avenue, it reflects a capacity issue with US 27. Based on the operational analysis, congested conditions contribute to these safety issues. Capacity improvements, reduction of conflict points and other major improvements are likely required.

8 Environmental Impacts

This section describes existing environmental conditions and assesses the potential for environmental "fatal flaws" or issues that might influence or impact the acceptance of a recommended alternative. At this time there are no known environmental fatal flaws or resources of significant concern within the proposed project footprint. A PD&E study is ongoing and will document the baseline conditions and potential impacts to the social, natural, and physical environments.

This environmental analysis used Geographic Information System (GIS) data as well as data from the Florida Department of Environmental Protection (FDEP), St. John's River Water Management District (SJRWMD), Southwest Florida Water Management District (SWFWMD), U.S. Fish and Wildlife Service (USFWS) and other sources described in each resource section below. The summary report from the FDOT Efficient Transportation Decision Making (ETDM) process was also consulted in evaluating potential impacts to each resource. The majority of the project area was also inspected in the field by an environmental scientist.

8.1 Project Area Description

The project is located along I-75, northwest of the City of Ocala in Marion County. The project area is bisected by I-75. On the west side of I-75, NW 44th Avenue parallels I-75 and provides a north-south route between the nearest adjacent interstate exit/entrance ramps. To the west of NW 44th Avenue and immediately south of NW 49th Street is a small residential area. Several businesses and complexes of warehouses, some currently unused, are located between NW 44th Avenue and I-75. These include Barracuda Boat and RV Storage, Hickory Springs Manufacturing Company, Quality Bedding, Scorpion Performance Anodize Inc., Just in Time Machining, and All-In Removal waste disposal.

To the east of I-75, most the project area is under agricultural use and owned by the Baldwin Angus Ranch. Southeast of the project is the Magnum Materials limestone mine. The project will require right-of-way from both the Baldwin Angus Ranch and a small area in the northeast corner of the mine. South of the mine, and east of I-75, is a recently developed regional shipping hub. This area currently includes major distribution centers for Federal Express, Chewy, and Auto Zone. Land use cover descriptions provided for both uplands and wetlands are classified utilizing the Florida Land Use Cover and Forms Classifications System (FLUCCS) designation. Existing land use in the project area was initially determined utilizing U.S. Geological Survey (USGS)

maps, historical images, aerial photographs, and land use mapping from the SJRWMD (2012). Land use categories reported by SJRWMD were verified in the field. The predominant land use types in the project area west of I-75 are Other Light Industrial (FLUCCS 1550), Rural Land in Transition (FLUCCS 7410), Field Crops (FLUCCS 2150), and Improved Pastures (FLUCCS 2110). East of I-75, the predominant land types are Improved Pastures (FLUCCS 2110) with a smaller area of Field Crops (FLUCCS 2150), both of which are part of the Baldwin Angus Ranch. The Magnum Materials mine in the southeastern part of the project area is mapped as Reclaimed Lands (FLUCCS 1650) and Limerock or Dolomite (FLUCCS 1632) Elevations in the project area range from approximately 65 to approximately 120 feet above sea level.

8.2 Historic or Archaeological Sites

No historic or archaeological resources were identified that might act as fatal flaws or strongly impact acceptance of the recommended alternative. The summary degree of effect in the ETDM for Historic and Archaeological Sites was rated None by the SWFWMD, Minimal by the FHWA, and Moderate by the Florida Department of State. A review of the Florida Master Site File revealed one historic structure (8MR01660) and six archaeological sites that were determined ineligible for listing on the National Register of Historic Places (NRHP). The review also yielded one historic linear resource, the Seaboard Coast Line Railroad (8MR03621), which is considered eligible for listing on the NRHP and is located within one mile of the project. The historic Mt. Tabor Cemetery is located nearby and has not yet been evaluated by the State Historic Preservation Officer (SHPO). A Cultural Resources Assessment Survey is being developed as part of the PD&E study and will involve additional research and field investigations to determine potential impacts to historic or archaeological resources.

8.3 Wetlands

There are no wetlands in the project area, so there are no anticipated short-term or long-term adverse impacts to wetlands. OSWs in the project area are limited to small roadside ditches and swales that are part of the manmade drainage system. Several stormwater ponds and detention ponds occur on the mine property but are outside the project area. A Natural Resources Evaluation Report is being prepared as part of the PD&E study and will contain additional detail.

8.4 Threatened and Endangered Species and Habitats

Potential habitat for federally and state listed species was identified in the project area. No federally listed species were observed in the project area during field investigations. The

southeastern American kestrel (*Falco sparverius paulus)* was the only state listed species observed in the project area. The project is outside the core foraging areas of all known wood stork (*Mycteria Americana*) colonies. Suitable elevations and soils for sand skinks (*Neoseps reynoldsi*) occur in the project area; however, coordination with U.S. Fish and Wildlife Service concluded that habitat was highly isolated and relatively poor quality, so no cover-board surveys for sand skinks were necessary. A Natural Resources Evaluation Report is being prepared as part of the PD&E study and will contain additional detail.

8.5 Public Lands and Recreational Section 4(F) Resources

There are no significant public lands or recreational Section 4(f) resources in the project area, so no impacts are anticipated.

8.6 Contamination

Information on contamination was obtained through interviews, observations during on-site visits and database information from the Florida Department of Environmental Protection (FDEP) and the United States Environmental Protection Agency. A total of ten sites were identified and reviewed for potential contamination risk. One site was assigned a risk rating of High, four sites were assigned a risk rating of Medium, and five sites were assigned a risk rating of Low. Level II Contamination Assessment investigations are recommended for any areas that have proposed dewatering or subsurface work activities occurring at or adjacent to any High- or Medium-Risk sites. A Contamination Screening Evaluation Report is being prepared as part of the PD&E study and will have additional information.

8.7 Noise Sensitive Sites

Relatively few sensitive noise receptors are located in or around the project area. Multiple residences occur in a neighborhood immediately south of NW 49th Street. These houses are at least 1,200 feet from I-75. Some rural residences are located east of I-75 and the Baldwin Ranch occasionally hosts weddings on their property east of I-75. The FHWA assigned a summary degree of effect of Minimal regarding noise during the ETDM screening. No significant noise impacts are anticipated, and no fatal flaws have been identified.

8.8 Air Quality

Marion County is currently in attainment for all National Ambient Air Quality Standards and an such, no screening analysis or technical memorandum was conducted. No significant impacts are anticipated.

8.9 Farmland Soils

Approximately one quarter of the proposed project footprint occurs on Farmland Soils of Local Importance that are under active agricultural use. During the PD&E study FDOT will coordinate with the Natural Resources Conservation Service to complete the USDA Farmland Conversion Impact Rating form (Form AD-1006) so that impacts can be scored, and alternatives developed as needed. No fatal flaws or significant impacts to farmland soils are anticipated.

8.10 Neighborhoods

Relatively few residences occur within the project area and one subdivision is located immediately south of NW 49th Street. The proposed project will have no direct impacts on neighborhoods or subdivisions. No significant impacts or fatal flaws related to disruption of neighborhoods are anticipated.

8.11 Floodplains

Each build alternative would impact the 100-Year and 500-Year floodplains, with the Parclo-NE alternative resulting in the greatest area of impacts followed by the Diamond Interchange. The SPUI, Parclo-SE and DDI alternatives are similar in the magnitude of floodplain impacts, and those impacts are considered minimal.

8.12 Conservation Lands

No conservation lands occur on or adjacent to the project area. No impacts to conservation lands are anticipated under any alternative.

8.13 Construction Impacts

Impacts from construction will be addressed by implementing Best Management Practices (BMPs) from FDOT *Standard Specifications for Road and Bridge Construction*. To minimize impacts to the eastern indigo snake, it is anticipated that the USFWS *Standard Protection Measures for the Eastern Indigo Snake* will also be implemented.

8.14 Environmental Impacts Conclusion

A review of the existing and historic conditions of the project area did not reveal any significant environmental impacts, fatal flaws or issues that are anticipated to significantly affect the acceptance of the proposed alternative.

9 Funding Plan & Cost Estimates

9.1 Funding Plan

The proposed project is listed as the number one (1) priority project by the Ocala/Marion TPO. Funding has been allocated for future phases of the I-75 at NW 49th Street interchange project, including the PD&E study, right of way, design and construction of both the new interchange and the NW 49th Street extension. Following is the funding source information; **Tables 9-1** thru **9-3** are for *I-75 (SR 93) at NW 49th Street from end of NW 49th Street to end of NW 35th Street* and **Table 9-4** is for *NW 49th Street Extension from NW 44th Avenue to NW 35th Street.*

Table 9-1: FDOT Five Year Work Program Funding for New Interchange

Phase	2021	2022	2023	2024	2025	Total
Highways/PD & E (On-Going)	$15,990					**$15,990**
Highways/Preliminary Engineering (On-Going)	$373,968					**$373,968**
Highways/Right of Way		$10,200,000				**$10,200,000**
Highways/Construction					$47,774,814	**$47,774,814**
Item Total:	***$389,958***	***$10,200,000***			***$47,774,814***	***$58,364,772***

Source: FDOT FY 21-25 ADOPTED WORK PROGRAM as of 08/01/2020

Table 9-2: FDOT STIP Funding for New Interchange

PHASE		*< 2020*	*2020*	*2021*	*2022*	*2023*	*> 2023*	*Total*
PD&E	DDR	$2,636,410	$0	$0	$0	$0	$0	**$2,636,410**
	DIH	$76,526	$3,599	$0	$0	$0	$0	**$80,125**
PE	DDR	$0	$0	$0	$442,990	$0	$0	**$442,990**
	SL	$0	$0	$0	$1,661,141	$0	$0	**$1,661,141**
	TOTAL:	***$2,712,936***	***$3,599***	***$0***	***$2,104,131***	***$0***	***$0***	***$4,820,666***

Source: FDOT Office of Work Program STIP Report July/01/2019
DDR-District Dedicated Revenue; DIH-District In-House; SL-Surface Transportation Program, Population <=200K

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Table 9-3: Ocala Marion TPO Funding for New Interchange

Phase	Funding Category	Source	< 2020/21	2020/21	2021/22	2022/23	2023/24	2024/25	Total
ROW	LF	Local	-	-	$10,200,000	-	-	-	**$10,200,000**
CST	SL	Federal	-	-	-	-	-	$9,440,914	**$9,440,914**
CST	LF	Local	-	-	-	-	-	$8,419,861	**$8,419,861**
CST	CIGP	State	-	-	-	-	-	$8,522,752	**$8,522,752**
CST	DDR	State	-	-	-	-	-	$14,415,217	**$14,415,217**
CST	DIH	State	-	-	-	-	-	$114,400	**$114,400**
CST	TRIP	State	-	-	-	-	-	$4,696,516	**$4,696,516**
CST	TRWR	State	-	-	-	-	-	$3,407,729	**$3,407,729**
	Prior Costs		$3,921,477						**$3,921,477**
Total			***$3,921,477***	***-***	***$10,200,000***	***-***	***-***	***$49,017,389***	***$63,138,866***

Source: 2020/21 - 2024/25 Transportation Improvement Program, Ocala Marion TPO
ROW-Right of Way; CST-Construction; LF-Local Funds; SL-Surface Transportation Program, Population <=200K; LF-Local Funds; CIGP-County Incentive Grant Program; DDR-District Dedicated Revenue; DIH-District In-House; TRIP-Transportation Regional Incentive Program; TRWR-Wheels on the Road, TRIP

Table 9-4: Marion County TIP Funding for NW 49th Street /NW 35th Street Extension

#	NW 49th Street Extension Segment	Description	Phase Code	Fund Code	2020/21	2021/22	2022/23	2023/24	2024/25	Total
C4	Ph 2c NW 44th Ave to North End of Limerock Pit (TIP073802) (S128802) (STC073802)	New 4LD w/ Interchange 0.9 mi	PE							
			DES	ST						
			ROW-A	ST	$5,700,000					**$5,700,000**
			CST	IFW					$2,209,931	**$2,209,931**
			CST	IFE					$3,609,931	**$3,609,931**
			CST	GT2					$2,600,000	**$2,600,000**
C5	Ph 3A 1.1 mi W of NW 44th Ave to NW 44th Ave (TIP60800F)	New 2 Lane 1.1 miles	DES	GT2						
			ROW-A	IFW						
			CST	IFW	$2,000,000					**$2,000,000**
Total					***$7,700,000***				***$8,419,862***	***$16,119,862***

Source: 2020/2021 -2024/2025 Marion County Transportation Improvement Program
ROW-Right of Way; CST-Construction; DES-Design; GT2-2nd Local Option Fuel Tax; IFW-Impact Fee-West; ST-Sales Tax

Ocala/Marion TPO LRTP

The I-75 and NW 49th Street interchange is listed in the Adopted Ocala/Marion TPO 2040 LRTP Update Final Report. The new interchange is allocated funds of $20 million by Year 2040.

Current FDOT STIP

The current PD&E Study and Preliminary Engineering for this project are included in the current FDOT STIP (2021 - 2025) and Five-Year Work Programs in Years prior to 2020, 2020 and 2023.

Roadway Investments

As previously mentioned, the City of Ocala and Marion County have already constructed roadways that will facilitate development of Ocala 489. Under the original Master Development Agreement approved by the City, County, and the Ocala 489 development entity in August 2011, the County, agreed to spend an estimated $13.6 million to four-lane NW 35th Street from US 441 (North Pine Avenue) to NW 35th Avenue Road. Under that Master Agreement, the City agreed to spend an estimated $14.3 million to build NW 35th Avenue Road north from US 27 (NW Blitchton Road) into the site and to provide water and sewer service. Both road construction projects, the City of Ocala's NW 35th Avenue Road and Marion County's NW 35th Street projects are now open to the public. The Ocala 489 development entity agreed to contribute $7 million of right-of-way towards the NW 35th Street and NW 35th Avenue Road, road improvements and to build a $2.4 million rail spur to tie into CSX Transportation's "S" line. In addition, Marion County has been actively pursuing all funding options, in the amount of over $25 million to complete the engineering and design, right-of-way acquisition, and construction of the proposed I-75 and NW 49th Street interchange and a new four-lane extension of NW 49th Street.

9.2 Cost Estimates

Cost estimates were developed for all five Build alternatives. **Table 9-5** summarizes the cost estimates for each Build alternative. The costs range from $35.7 million for the DDI to $54.0 million for the SPUI. Cost estimate details provided in **Appendix L.**

Table 9-5: Cost Estimates for I-75 at NW 49th Street Interchange Alternatives

Component	DIAMOND	SPUI	PARCLO SE	PARCLO NE	DDI
Earthwork	$10,331,566	$9,771,170	$10,373,704	$10,070,665	$10,389,789
Roadway	$3,957,747	$3,572,395	$3,833,036	$3,753,752	$3,884,577
Shoulder	$1,439,665	$1,360,330	$1,362,560	$1,362,730	$1,501,680
Median	$371,895	$371,895	$311,650	$371,895	$405,765
Drainage	$2,209,963	$2,221,153	$2,328,294	$2,342,374	$2,326,928
Signing	$172,338	$140,867	$198,219	$189,896	$227,195
Signalization	$592,137	$592,112	$592,112	$592,121	$905,006
Lighting	$749,542	$730,621	$787,397	$692,739	$730,695
Bridges	$6,313,660	$19,961,675	$6,320,831	$6,254,844	$5,211,935
SUBTOTAL	**$26,138,513**	**$38,722,217**	**$26,107,802**	**$25,631,016**	**$25,583,570**
MOT (10%)	$2,613,851	$3,872,222	$2,610,780	$2,563,102	$2,558,357
Mobilization (10%)	$2,875,236	$4,259,444	$2,871,858	$2,819,412	$2,814,193
SUBTOTAL	**$31,627,600**	**$46,853,883**	**$31,590,441**	**$31,013,529**	**$30,956,119**
Project Unknowns (15%)	$4,744,140	$7,028,082	$4,738,566	$4,652,029	$4,643,418
Initial Contingency Amount	$150,000	$150,000	$150,000	$150,000	$150,000
TOTAL	**$36,521,740**	**$54,031,966**	**$36,479,007**	**$35,815,558**	**$35,749,537**

10 Conclusions & Recommendations

The operational analysis provided a performance evaluation for each individual element within the system (for example freeway segments, freeway ramp junctions, crossroad ramp terminals and other crossroad intersections). The analysis indicated that the proposed DDI is the recommended alternative and is not projected to have a significant adverse impact on operations along the I-75 mainline system or the existing adjacent interchanges within the study limits.

As indicated in this IJR, the recommended DDI alternative meets FHWA's Two Policy Requirements. The Interchange is justified as follows:

1. *An operational and safety analysis has concluded that the proposed change in access does not have a significant adverse impact on the safety and operation of the interstate facility (which includes mainline lanes, existing, new or modified ramps, ramp intersections with crossroads) or on the local street network based on both the current and the planned future traffic projections. The analysis shall, particularly in urbanized areas, include at least the first adjacent existing or proposed interchange on either side of the proposed change in access (23 CFR 625.2(a), 655.603(d) and 771.111(f)). The crossroads and the local street network, to at least the first major intersection on either side of the proposed change in access, shall be included in this analysis to the extent necessary to fully evaluate the safety and operational impacts that the proposed change in access and other transportation improvements may have on the local street network (23 CFR 625.2(a) and 655.603(d)). Requests for a proposed change in access must include a description and assessment of the impacts and ability of the proposed changes to safely and efficiently collect, distribute and accommodate traffic on the interstate facility, ramps, intersection of ramps with crossroad and local street network (23 CFR 625.2(a) and 655.603(d)). Each request also must include a conceptual plan of the type and location of the signs proposed to support each design alternative (23 U.S.C. 109(d) and 23 CFR 655.603(d)).*

A traffic operational analysis was conducted as part of this study. The analysis was performed for the AM and PM peak hours using the methodologies documented in the *HCM 2010* as applied using the HCS 6.8, Synchro 10 and Vissim 2020.00-07.

Figures 10-1 and **10-2** present the segmented breakdown of the I-75 mainline and interchange ramps under the No Build and DDI alternatives; along with the summarized results for the 2045

AM segment and merge/diverge analysis. The differences between the No Build and DDI alternatives are as follow:

- **2045 AM Northbound:**
  - *No Build conditions*
    - I-75 south of US 27 including the off-ramp diverge operates at Level of Services (LOS) F and the basic segment between US 27 and SR 326, operates at LOS E.
  - *Build conditions*
    - Similar to No Build, I-75 south of US 27 operates at LOS F.
    - Shifts in travel patterns reflect the use of I-75 as a by-pass between US 27 and NW 49th Street. Under No Build, for segment densities that are close to the LOS D maximum threshold of 35 pc/mi/ln; the shift in traffic from improved connectivity corresponds to a minimal density increase, resulting in LOS E segments under Build.
    - North of US 27 interchange through the NW 49th Street interchange, LOS are the same or better than under No Build.
    - SR 326 diverge segment, the minimal increase in density is at the 35 pc/mi/ln LOS D target threshold.
- **2045 AM Southbound:**
  - *No Build conditions*
    - I-75 south of US 27 including the on-ramp merge operates at LOS E.
  - *Build conditions*
    - I-75 at the US 27 on-ramp merge condition; the traffic pattern shift from improved connectivity creates a slight increase in density where the LOS E threshold is exceeded.
    - All remaining locations meet the LOS D target.

Figures 10-3 and **10-4** present the 2045 PM segment and merge/diverge analysis results for the No Build and DDI alternatives, respectively. Along with the directional peak change, the shifts in travel patterns, reflecting increases and decreases in traffic are similar to those observed for the AM.

Figure 10-1: No Build 2045 AM I-75 Segment & Merge/Diverge Analysis Summary

2045 AM No Build																
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570		1,500	380	1500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616	17,881		1,073	380	1500	N/A	268	
	Speed (mph)	57.4	55.4	69.1	65.9	67.5		64.2	69.8	64.3	73.9	68.4	72.0
	Level of Service	E	E	C	D	D		C	C	C	B	D	C
	Density (pc/mi/ln)	39.4	36.6	25.0	28.4	27.1		25.9	24.2	23.8	17.8	28.2	21.1
	Segment Type	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11	14	11	6	12		23	12	23	12	23	10
											Loop		
	Volumes	5,496	1,297	4,199	216	4,415		330	4,085	901	3,184	529	3,713
Interchange				US 27							SR 326		
I-75 Northbound	Volumes	6,200	1,204	4,996	244	5,240		1,239	4,001		772	4,773	
	Truck%	11	14	11	6	12		23	12		23	10	
	Segment Type	Basic	Diverge	Basic	Merge	Basic		Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	16,650		1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	18,132		671	N/A		941		
	Speed (mph)	48.4	60.8	62.7	61.1	60.0		62.6	70.3		62.2	64.9	
	Level of Service	F	F	D	D	E		D	C		D	D	
	Density (pc/mi/ln)	52.7	40.8	32.8	31.2	36.1		34.1	23.5		30.3	30.1	

Figure 10-2: DDI Alternative 2045 AM I-75 Segment & Merge/Diverge Analysis Summary

DDI 2045 AM																
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,676	1,500	7,530	1,500	2,307	1,500	380	1,500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616		1,010	N/A	580		1,073	N/A	1,500	N/A	268	
	Speed (mph)	53.4	53.4	63.5	64.8	61.0	59.5	66.9	64.5	64.9	63.2	69.0	63.1	73.7	67.9	72.1
	LOS	E	F	D	D	D	D	C	D	D	C	C	C	C	C	C
	Density (pc/mi/ln)	44.9	37.8	30.6	31.6	34.1	31.5	25.7	29.4	28.7	26.4	25.2	24.7	18.2	27.9	20.9
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0
														Loop		
	Volumes	5,825	1,092	4,733	306	5,039	883	4,156	351	4,507	307	4,200	959	3,241	442	3,683
Interchange				US 27				NW 49 Street						SR 326		
I-75 Northbound	Volumes	6,501	1,043	5,458	335	5,793	746	5,047	415	5,462	1,250	4,212		726	4,938	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	1,585	1,500	10,173	1,500	1,900	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	3,247	491	N/A	1,057	3,172	671	N/A		941		
	Speed (mph)	44.8	60.5	57.3	56.4	53.5	63.3	60.9	54.7	57.0	62.0	68.9		61.1	63.5	
	LOS	F	F	E	E	E	E	D	E	E	E	C		D	D	
	Density (pc/mi/ln)	59.7	44.0	39.2	35.9	44.8	38.4	34.3	36.0	39.6	35.0	25.3		30.9	31.8	

Figure 10-3: No Build 2045 PM I-75 Segment & Merge/Diverge Analysis Summary

2045 PM No Build														
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	16,570	1,500	380	1500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616	17,881	1,073	380	1500	N/A	268	
	Speed (mph)	47.1	46.2	62.5	65.6	60.0	61.3	63.2	60.9	70.2	68.2	66.6
	Level of Service	F	F	D	D	E	D	D	D	C	D	D
	Density (pc/mi/ln)	54.9	41.1	33.0	32.3	36.0	30.7	32.1	28.8	23.6	32.8	28.1
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11.0	14.0	11.0	6.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0
										Loop		
	Volumes	6,290	1,276	5,014	220	5,234	320	4,914	906	4,008	567	4,575
Interchange			US 27							SR 326		
I-75 Northbound	Volumes	5,413	1,265	4,148	265	4,413	1,326	3,087		750	3,837	
	Truck%	11.0	14.0	11.0	6.0	12.0	23.0	12.0		23.0	10.0	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	16,650	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	18,132	671	N/A		941		
	Speed (mph)	58.4	61.1	69.5	63.7	67.5	62.1	74.2		65.1	71.4	
	Level of Service	E	D	C	C	D	D	B		C	C	
	Density (pc/mi/ln)	38.1	34.6	24.6	26.5	27.0	30.6	17.2		24.8	22.0	

Figure 10-4: DDI Alternative 2045 PM I-75 Segment & Merge/Diverge Analysis Summary

DDI 2045 PM															
I-75 Southbound	Distance (ft)		1,500	3,168	1,500	3,676	1,500	7,530	1,500	2,307	1,500	380	1,500	1,815	1,500	
	Accel/Decel Lanes (ft)		800	N/A	616		1,010	N/A	580		1,073	N/A	1,500	N/A	268	
	Speed (mph)	43.0	42.9	57.4	64.3	53.6	55.4	61.0	64.0	57.2	59.6	60.9	58.7	69.1	67.5	65.6
	LOS	F	F	E	E	E	E	D	D	E	D	D	D	C	D	D
	Density (pc/mi/ln)	63.3	42.3	39.1	37.1	44.6	35.4	34.1	33.9	39.4	31.9	35.0	30.4	25.0	33.2	29.3
	Segment Type	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Merge	Basic	Diverge	Basic
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0	23.0	12.0	23.0	10.0
														Loop		
	Volumes	6,626	1,175	5,451	330	5,781	746	5,035	415	5,450	299	5,151	967	4,184	506	4,690
Interchange			US 27					NW 49 Street						SR 326		
I-75 Northbound	Volumes	5,796	1,110	4,686	346	5,032	883	4,149	351	4,500	1,340	3,160		707	3,867	
	Truck%	11.0	14.0	11.0	6.0	12.0	12.0	12.0	12.0	12.0	23.0	12.0		23.0	10.0	
	Segment Type	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic	Merge	Basic	Diverge	Basic		Merge	Basic	
	Distance (ft)		1,500	3,029	1,500	1,585	1,500	10,173	1,500	1,900	1,500	2,809		1,500		
	Accel/Decel Lanes (ft)		671	N/A	847	3,247	491	N/A	1,057	3,172	671	N/A		941		
	Speed (mph)	53.7	60.9	63.9	60.2	61.0	63.2	66.9	46.2	64.9	62.1	74.0		64.3	71.2	
	LOS	E	E	D	D	D	D	C	E	D	D	B		C	C	
	Density (pc/mi/ln)	44.4	36.5	30.2	32.0	34.1	33.7	25.6	38.8	28.6	31.0	17.7		24.8	22.2	

The differences between the No Build and DDI alternatives under 2045 PM are as follow:

- **2045 PM Northbound:**
  - *No Build conditions*
    - I-75 mainline segment south of US 27 operates at LOS E.
    - All remaining locations meet the LOS D target.
  - *Build conditions*
    - For the US 27 off-ramp diverge; shift in travel pattern from improved connectivity corresponds to a minimal increase in density where the LOS D target threshold is exceeded at LOS E.
    - The NW 49th Street on-ramp merge operates at LOS E; both adjacent mainline segments meet the LOS D target.
    - Remaining northbound segments meet the LOS D target.
- **2045 PM Southbound:**
  - *No Build conditions*
    - I-75 on-ramp merge from US 27 and adjacent mainline segment operate at LOS F.
    - I-75 segment between US 27 and SR 326 operates at LOS E.
  - *Build conditions*
    - I-75 off-ramp diverge to US 27 and adjacent mainline segment, the ramp volume increase from improved connectivity creates a minor increase in density resulting in LOS E.
    - Remaining southbound segments operate similar to No Build conditions.

As shown in the No Build segment and merge/diverge analysis results, the segments of I-75 between US 27 and SR 326 do not meet the LOS D target in year 2045 and are anticipated to operate at LOS E during either the AM or PM peak hours. The proposed interchange along NW 49th Street is projected to meet the LOS D target; however, similar No Build I-75 segment operations (segments operating at LOS E) are also projected under build conditions. Therefore, a year of failure analysis was performed for the DDI alternative where I-75 segments reach LOS E in 2045. The analysis was conducted by interpolating volumes between years 2035 and 2045; then entering the volume for each year into HCS, until LOS E results were reached. Analysis results are summarized as follow:

- **AM Northbound:**
  - I-75 mainline segment south of US 27 - 2035

- I-75 mainline segment between US 27 and NW 49th Street – 2037
- NW 49th Street off-ramp diverge condition – 2041
- NW 49th Street on-ramp merge condition – 2044
- I-75 mainline segment between NW 49th Street and SR 326 – 2041

o **PM Southbound:**

- I-75 south of US 27 - 2035
- I-75 mainline segment between SR 326 and NW 49th Street – 2041
- NW 49th Street on-ramp merge condition – 2045
- I-75 mainline segment between NW 49th Street and US 27 – 2037

Based on the year of failure analysis, additional I-75 mainline improvements may be required in order for I-75 to meet the LOS D target through design year. The analysis also shows that the proposed DDI at the NW 49th Street interchange will not have a significant adverse impact on operations along the I-75 mainline system or the existing adjacent interchanges within the study limits, when compared to No Build conditions; therefore, meeting this FHWA policy requirement. To address identified mainline deficiencies, the District is looking into potential improvements via separate projects or other methods such as the I-75 PD&E Study (FM Number 443623-1-22-01 & 443624-1-22-01) to improve overall operations on the I-75 mainline. The results and recommendations of this IJR will be shared with the I-75 PD&E Study team and District Traffic Operations group.

Table 10-1 presents the 2045 No Build and DDI alternative intersection delay and LOS during the AM and PM peak hours. Under No Build conditions, none of the signalized intersections meet the LOS D target except for the intersection of I-75 northbound ramps at US 27; however, the northbound off-ramp approach fails.

For Build conditions, the only signalized intersections within the AOI operating at the LOS D Target or better are the US 27 northbound ramps and the SR 326 northbound ramps intersections. The shift in traffic patterns from improved connectivity is expected to reduce total ramp volumes at both existing interchanges (US 27 and SR 326) by approximately 1,000 vehicles per day under the build condition. Although not meeting the LOS D Target for some intersections, during the AM peak hour, all intersection delays are reduced when compared to No Build conditions. During the PM peak hour, delays are decreased at all but three intersections. The difference in overall intersection delay, compared to No Build is not significant at the three intersections.

Table 10-1: 2045 No Build & DDI Alternative Intersection Delay and LOS

#	Intersection	DIR	No Build								Build DDI							
			AM				PM				AM				PM			
			App.		Int.		App.		Int.		App.		Int.		App.		Int.	
			Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS	Delay[2]	LOS
1	NW 44 Ave at US 27	EB	151.8	F	89.5	F	54.3	D	105.1	F	111.1	F	70.5	E	39.0	D	111.1	F
		WB	34.4	C			153.7	F			33.0	C			171.5	F		
		NB	64.2	E			66.2	E			49.7	D			60.4	E		
		SB	51.5	D			50.5	D			45.9	D			48.3	D		
2	I-75 SB at US 27	EB	142.4	F	108.3	F	77.5	E	68.8	E	90.5	F	57.6	E	62.2	E	58.5	E
		WB	73.3	E			63.7	E			21.4	C			53.7	D		
		SB	59.6	E			59.2	E			50.7	D			97.9	F		
3	I-75 NB at US 27	EB	6.7	A	25.4	C	1.2	A	46.2	D	2.2	A	15.5	B	1.5	A	39.6	D
		WB	21.8	C			36.3	D			19.4	B			45.4	D		
		NB	60.8	E			119.6	F			33.7	C			77.3	E		
4	NW 35 Ave Rd at US 27	EB	66.5	E	125.6	F	101.1	F	199.2	F	49.0	D	112.7	F	99.6	F	218.1	F
		WB	69.0	E			178.3	F			60.6	E			193.5	F		
		NB	57.4	E			54.8	D			55.0	E			55.0	D		
		SB	415.1	F			463.0	F			397.8	F			517.8	F		
5	NW 44 Ave at NW 49 ST	EB	61.6	E	96.8	F	64.7	E	88.4	F	43.0	D	30.1	C	42.6	D	28.4	C
		WB	81.6	F			159.6	F			36.1	D			33.2	C		
		NB	208.6	F			64.9	E			25.0	C			21.8	C		
		SB	37.7	D			25.3	C			27.2	C			27.2	C		
6	NW 44 Ave/ I-75 SB Off at SR 326	EB	22.7	C	68.6	E	25.6	C	74.2	E	15.8	B	19.4	B	19.8	B	24.9	C
		WB	47.6	D			43.2	D			15.9	B			20.5	C		
		NB	111.5	F			145.5	F			28.3	C			32.7	C		
		SB	116.3	F			96.8	F			24.2	C			31.5	C		
7	I-75 SB On-Ramp (Loop) at SR 326 *Unsignalized*	EB	0.0	A	10.4	B	0.0	A	1.5	A	0.0	A	4.4	A	0.0	A	1.2	A
		WB	17.1	C			2.2	A			6.5	A			1.5	A		
		NB	15	C			14.7	B			13.6	B			12.6	B		
8	I-75 NB Off/ I75 NB On at SR 326[1]	EB	45.7	D	418.3	F	95.7	F	332.0	F	13.9	B	365.7	F	57.8	E	367.2	F
		WB	329.8	F			395.6	F			251.1	F			431.3	F		
		NB	851.8	F			409.4	F			774.4	F			431.2	F		
9	I75 SB at NW 49 ST[1]	SBR									21.4	C	18.2	B	20.8	C	17.3	B
		SBL									34.8	C			28.3	C		
		EBT									18.2	B			9.9	A		
		WBT									13.8	B			18.4	B		
10	I75 NB at NW 49 ST[1]	NBL									32.4	C	20.5	B	30.1	C	19.3	B
		NBR									16.3	B			19.3	B		
		EBT									13.6	B			7.3	A		
		WBT									18.6	B			20.2	C		

[1]LOS results based on HCM 2000 methodology; [2]Delay in sec/veh

Table 10-2 summarizes the network performance from the Vissim analysis. The benefits of the build alternative are visibly higher during the AM peak period. During the PM peak period, the benefits are not as significant due to the higher demand volumes, which results in higher congestion on I-75 southbound at the US 27 interchange. Overall, all performance measures show improvement under the DDI alternative compared to No Build. Network statistic improvements are as follow:

- **AM Peak**
  - Total Delay: Reduced by 37%
  - Total Stops: Reduced by 47%
  - Average Speed: Increased by 3 mph
  - Vehicles Arrived: Increased by 1,188 vehicles
  - VMT: Increase by 15,464 miles
  - Latent Delay: Reduced by 387 hours
  - Latent Demand: Reduced by 1,697 hours
- **PM Peak**
  - Total Delay: Reduced by 15%
  - Total Stops: Reduced by 25%
  - Average Speed: Increased by 2 mph
  - Vehicles Arrived: Increased by 1,466 vehicles
  - VMT: Increase by 16,387 miles
  - Latent Delay: Reduced by 51 hours
  - Latent Demand: Reduced by 217 hours

Table 10-2 2045 Vissim Network Performance Summary

Peak Hour	15-min Period	No Build							DDI						
		Total Delay (Hours)	Total Stops	Average Speed (mph)	Vehicles Arrived (Vehicles)	Vehicle-Miles Traveled	Latent Delay (Hours)	Latent Demand (Vehicles)	Total Delay (Hours)	Total Stops	Average Speed (mph)	Vehicles Arrived (Vehicles)	Vehicle-Miles Traveled	Latent Delay (Hours)	Latent Demand (Vehicles)
AM	1	21	1,980	58	2,854	13,513	0	0	24	2,152	56	2,874	14,262	0	0
	2	33	3,034	56	3,558	16,829	0	0	36	3,142	55	3,565	17,796	0	0
	3	43	3,981	55	4,048	18,965	0	1	46	4,026	54	4,081	19,997	0	1
	4	53	5,095	54	4,283	20,027	0	1	53	4,666	54	4,359	21,230	0	1
	5	**93**	**9,964**	**50**	**4,667**	**22,275**	**0**	**3**	**83**	**7,802**	**51**	**4,746**	**23,652**	**1**	**5**
	6	**165**	**18,817**	**44**	**4,878**	**22,897**	**9**	**97**	**127**	**13,118**	**47**	**5,087**	**24,632**	**3**	**19**
	7	**215**	**24,529**	**40**	**4,832**	**22,799**	**47**	**293**	**166**	**17,774**	**44**	**5,032**	**24,507**	**14**	**109**
	8	**211**	**23,218**	**39**	**4,694**	**21,326**	**75**	**326**	**160**	**17,568**	**43**	**4,797**	**22,682**	**22**	**89**
	9	187	20,770	40	4,496	20,691	84	347	133	14,654	45	4,602	22,012	21	79
	10	182	20,154	41	4,507	20,757	91	382	116	12,211	47	4,630	22,262	19	74
	11	178	19,332	42	4,574	21,335	100	403	106	10,502	48	4,692	22,650	19	76
	12	176	20,012	41	4,393	19,981	97	357	89	8,646	49	4,507	21,177	17	60
	Total[1]	**1,557**	**170,886**	**46**	**51,784**	**241,395**	**503**	**2,210**	**1,139**	**116,261**	**49**	**52,972**	**256,859**	**116**	**513**
PM	1	78	6,781	51	4,465	20,171	0	2	85	6,904	50	4,545	21,429	1	9
	2	88	7,486	49	4,428	19,854	4	20	89	6,701	49	4,553	21,113	7	29
	3	113	9,992	47	4,572	21,238	12	73	108	8,479	48	4,672	22,600	21	127
	4	137	12,609	45	4,739	21,598	37	183	123	9,860	47	4,892	23,030	50	239
	5	158	16,407	43	4,748	21,700	67	330	135	11,555	46	4,870	23,210	79	374
	6	175	17,801	42	4,724	21,355	105	474	146	13,453	44	4,901	22,797	112	499
	7	198	20,597	41	4,759	22,182	151	717	160	15,527	44	4,911	23,637	153	702
	8	221	24,377	39	4,839	22,198	217	971	184	19,593	42	4,985	23,932	206	902
	9	236	26,684	38	4,797	21,984	275	1,199	211	23,172	40	4,912	23,441	255	1,110
	10	222	25,246	38	4,620	20,428	316	1,282	191	21,240	40	4,794	21,733	293	1,190
	11	176	19,134	40	4,429	19,423	327	1,310	144	14,620	43	4,504	20,576	302	1,201
	12	134	13,881	43	4,152	18,122	326	1,255	106	9,755	46	4,199	19,142	307	1,217
	Total[1]	**1,936**	**200,995**	**43**	**55,272**	**250,253**	**1,837**	**7,816**	**1,682**	**160,859**	**45**	**56,738**	**266,640**	**1,786**	**7,599**

[1]Average Speed results based on the weighted average with Arrived Vehicles

A predictive crash analysis was conducted to compare predicted crashes of the No Build and the five Build alternatives. The analysis was conducted for future conditions utilizing the predictive methods set forth in the HSM Parts C and D. A summary of the predicted number of annual crashes for the project site (interchange alternatives) is provided in **Table 10-3** and for the AOI in **Table 10-4**. The predicted number of annual crashes for the interchange alternatives range from 96.3 crashes per year for the DDI alternative, the best in regard to safety; to 108.0 crashes per year for the Diamond alternative, ranking the worst. In addition, the project AOI shows a net reduction in total crashes from 321.9 crashes under No Build to 317.2 crashes under Build conditions. It should be noted that compared to No Build, Build AADT values are higher; which inherently increases predicted crashes, even when the same scenario is maintained.

Table 10-3: Project Site Predicted 2045 Annual Crashes

	DIAMOND			SPUI			ParClo SE			ParClo NE			DDI		
Location	**FI**	**PDO**	**Total**	**FI**	**PDO**	**Total**	**FI**	**PDO**	**Total**	**FI**	**PDO**	**Total**	**FI**	**PDO**	**Total**
I-75 (N of US 27 to NW 49th Street to S of SR 326)	19.4	48.5	**67.8**	19.8	49.9	**69.7**	17.6	44.3	**61.8**	18.5	46.8	**65.3**	19.4	48.5	**67.8**
I-75 & NW 49th Street Interchange[1]	11.9	25.3	**37.2**	8.0	22.2	**30.1**	12.9	26.6	**39.5**	10.2	19.2	**29.4**	8.0	17.5	**25.5**
NW 49th Street, NW 44th Avenue to I-75	0.1	0.2	**0.3**	0.1	0.3	**0.4**	0.1	0.2	**0.3**	0.1	0.2	**0.3**	0.1	0.2	**0.3**
NW 49th Street, East of I-75	0.2	0.5	**0.7**	0.2	0.5	**0.7**	0.2	0.5	**0.7**	0.2	0.5	**0.7**	0.2	0.5	**0.7**
NW 44th Avenue at NW 49th Street	0.7	1.3	**2.0**	0.7	1.3	**2.0**	0.7	1.3	**2.0**	0.6	1.3	**1.9**	0.7	1.3	**2.0**
TOTALS	**32.2**	**75.8**	**108.0**	**28.7**	**74.2**	**102.9**	**31.4**	**72.9**	**104.3**	**29.6**	**68.1**	**97.7**	28.3	68.0	**96.3**

[1]*Merge/Diverge/Ramps/Ramp Termini*

Table 10-4: AOI Cumulative Predicted 2045 Annual Crash Summary

Location	**FI**	**PDO**	**NO BUILD**	**FI**	**PDO**	**BUILD**
I-75 (S of US 27-N Ramps & S Ramps-N of SR 326)	18.5	48.1	**66.6**	19.4	51.0	**70.3**
I-75 & US 27 Interchange[1]	28.2	39.9	**68.0**	27.1	38.4	**65.5**
I-75 & SR 326 Interchange[1]	41.2	76.6	**117.7**	40.2	77.4	**117.7**
US 27 (Arterial & Intersections)	13.5	28.4	**41.8**	12.8	27.0	**39.8**
SR 326 (Arterial & Intersections)	4.7	12.0	**16.7**	4.6	11.8	**16.4**
NW 44th Avenue AOI (N & S of NW 49th St)	3.0	8.0	**11.0**	2.0	5.4	**7.4**
TOTALS	**109.0**	**212.9**	**321.9**	**106.1**	**211.0**	**317.2**

[1]*Merge/Diverge/Ramps/Ramp Termini*

The proposed interchange ramp gores would be located at a minimum of 0.87 miles away from the US 27 ramp gores and a minimum of 0.90 miles away from the SR 326 ramp gores; and do not create weaving segments.

2. *The proposed access connects to a public road only and will provide for all traffic movements. Less than "full interchanges" may be considered on a case-by-case basis for*

applications requiring special access for managed lanes (e.g., transit, HOVs, HOT lanes) or park and ride lots. The proposed access will be designed to meet or exceed current standards (23 CFR 625.2(a), 625.4(a)(2), and 655.603(d)).

The new interchange will be designed to meet or exceed current FDOT Design Standards and will serve all traffic movements. The interchange will connect to the extension of NW 49th Street. This roadway project is currently under design, with funding for construction in 2024/25; it will conform to FDOT Design Standards and will be a public roadway.

Marion County and the City of Ocala have already constructed public roadways that will facilitate access to the proposed interchange. Specifically, the four-laning of NW 35th Street from US 441 (North Pine Avenue) to NW 35th Avenue Road and the four-lane construction of NW 35th Avenue Road north from US 27 (NW Blitchton Road) to intersect with the NW 35th Street project.

In summary, the I-75 and NW 49th Street interchange is currently listed as the number one (1) priority project in the Ocala/Marion TPO adopted FY 2025 Priority Projects. In addition, the PD&E Study and Preliminary Design for this project is included in the current FDOT Five Year (2021-2025) Work Program in Years prior to 2020, 2020 and 2023, respectively.

The DDI alternative provides the highest performing operations and lowest predicted number of crashes when compared to the other Build alternatives. In terms of environmental, socio-economic, cost, and other engineering factors, the DDI alternative ranked first in the alternative evaluation matrix. Based on the aforementioned, the DDI alternative is the recommended interchange configuration for I-75 at NW 49th Street. Recommended storage lengths are provided in **Table 10-5**. It should be noted that recommended storage lengths do not include deceleration and taper lengths. Additional storage is also suggested to accommodate the heavy truck traffic that is anticipated at the proposed interchange to support the industrial/commercial Ocala 489 commerce park. A Conceptual signing plan for the recommended DDI alternative is provided in **Appendix M**.

For maximum operational efficiency, it is recommended to integrate the proposed interchange into the surrounding existing and planned TSM&O network as identified in the Marion County TSM&O Master Plan and the FDOT F.R.A.M.E. project (FM Number 440900-1). In addition to inclusion of the recommended interchange into the TSM&O network, the recommended DDI alternative is also being designed to accommodate future improvements should the need arise. Finally, based on the year of failure analysis, additional I-75 mainline improvements may be

required in order for I-75 to meet the LOS D target through design year. As previously mentioned, the District is looking into potential improvements to the I-75 mainline via separate projects or other methods such as the I-75 PD&E Study (FM Number 443623-1-22-01 & 443624-1-22-01) to improve overall operations on the I-75 mainline. The results and recommendations of this IJR will be shared with the I-75 PD&E Study team and District Traffic Operations group.

Table 10-5: 2045 Recommended Turn Lane Storage Lengths

Interchange	Ramps	Movement	Turn Bay Length[1] (ft)	95th Percentile Queue Length[2] (ft)		Vissim Max Queue Length (ft)		Recommended Storage Length[3] (ft)
				AM	PM	AM	PM	
DDI	I-75 NB	WBR	250	40	37	4	0	50
		NBL	-	0	0	228	256	275
	I-75 SB	EBR	300	24	13	201	265	275
		SBL	-	0	0	166	207	225

[1] Turn Bay Length used in traffic analysis; Turn Bay Length = Storage + Deceleration + Taper Lengths
[2] Queue length from Synchro Analysis
[3] Recommended Storage Length does not include Deceleration+ Taper Lengths.