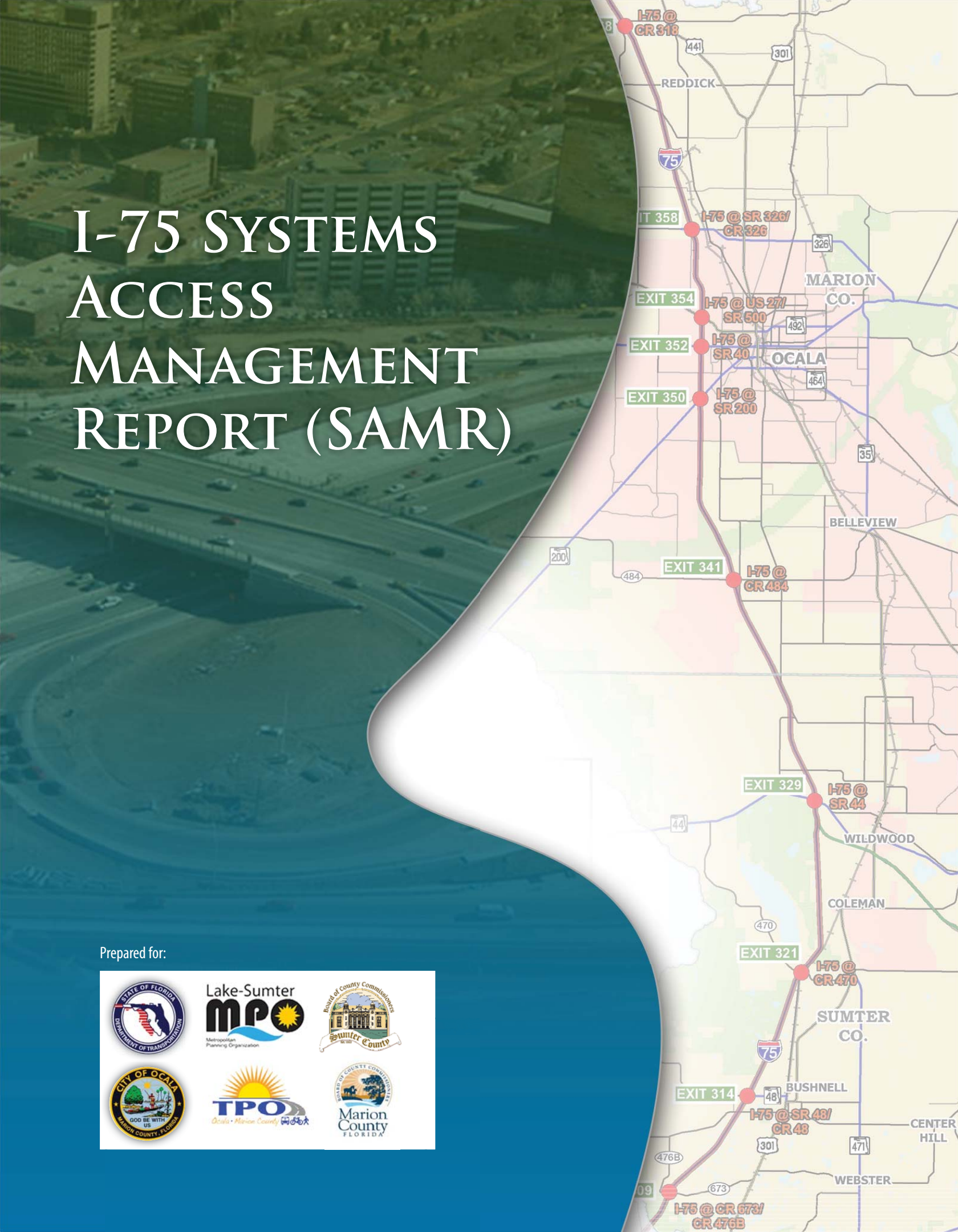
I-75 Systems Access Management Report (SAMR)



Prepared for:

Lake-Sumter MPO
Metropolitan Planning Organization

Board of County Commissioners Sumter County

TPO
Ocala • Marion County

Marion County FLORIDA

I-75 Systems Access Management Report (SAMR)

Prepared for:

October 2013

Executive Summary

Interstate-75 (I-75) is an integral part of the Strategic Intermodal System (SIS) as well as a significant interstate facility connecting major cities and markets from South Florida, through Atlanta, Georgia, and terminating in the Great Lakes region at the border of Ontario, Canada. From south to north, the I-75 corridor spans three (3) megaregions: the Florida, Piedmont Atlantic, and Great Lakes megaregions as shown in **Figure E.1**. As part of this system, I-75 spans six (6) Economic Regions (as defined by Enterprise Florida[1]) within Florida, two (2) of which are located within FDOT District Five: the East Central Region and the North Central Region. Of national significance, the entirety of Florida is considered an Emerging Megaregion. In addition, I-75 is one of the busiest trucking routes in North America with significant (of the total vehicle traffic in 2010, truck traffic comprised greater than 20% over the majority of I-75 located in District Five) truck traffic. More than 250 freight trains pass through, or have destinations within, the I-75 corridor per day. This transportation system, however, is aging with significant safety problems existing along the corridor in FDOT District Five. Due to growth in the area over the last decade, the District Five I-75 interchanges have experienced significant increases in traffic volumes, which have resulted in existing operational deficiencies and the potential for additional congestion in the future. Maintaining mobility and safety on such a regionally and nationally significant corridor benefits that economic linkage. The need for improvements to the I-75 corridor has been identified in state and national media, as well as through multiple technical studies.

Taking all these issues into consideration, FDOT District Five, in coordination with local partners including the Ocala/Marion TPO, Lake~Sumter MPO, Marion County, Sumter County, and the City of Ocala, conducted this I-75 Systems Access Management Report (SAMR) to evaluate existing and future conditions on I-75. The area of influence of this study, shown in **Figure E.2**, extends from CR 476B/CR 673 to CR 318 interchange spanning over approximately a 60-mile stretch of I-75 in Sumter and Marion Counties and one-half mile to the east and west along the I-75 corridor. The purpose of the I-75 SAMR is to conduct the operational analysis on all ten existing interchanges along I-75 within District Five, evaluate the need for additional new interchanges, propose modifications to the existing interchanges, and prepare documentation for FHWA approval. The ultimate objective is to ensure mobility and safe operating conditions along this important interstate facility in the State. The purpose of this submittal to FHWA is to seek approval of the recommendations identified in Table E.1 requiring FHWA approval.

There has been significant coordination with the stakeholders, various departments in the FDOT District Five, FDOT Central Office and FHWA since the inception of this study. Several meetings were conducted with stakeholders to discuss various issues in the study area, to prepare the methodology, to review land use assumptions and No-Build conditions analysis, to discuss various improvement concepts, and to review findings of the study. This study also coordinated with various departments including Traffic Operations, Structures, Design and Right-of-Way within the FDOT District Five to review and discuss various recommendations. In addition, the methodology approach was coordinated with FDOT Central Office and the FHWA and approved by all parties.

[1] Source: http://www.eflorida.com/

FIGURE E.1 | I-75 Corridor Connecting National MegaRegions to Florida Economic Regions

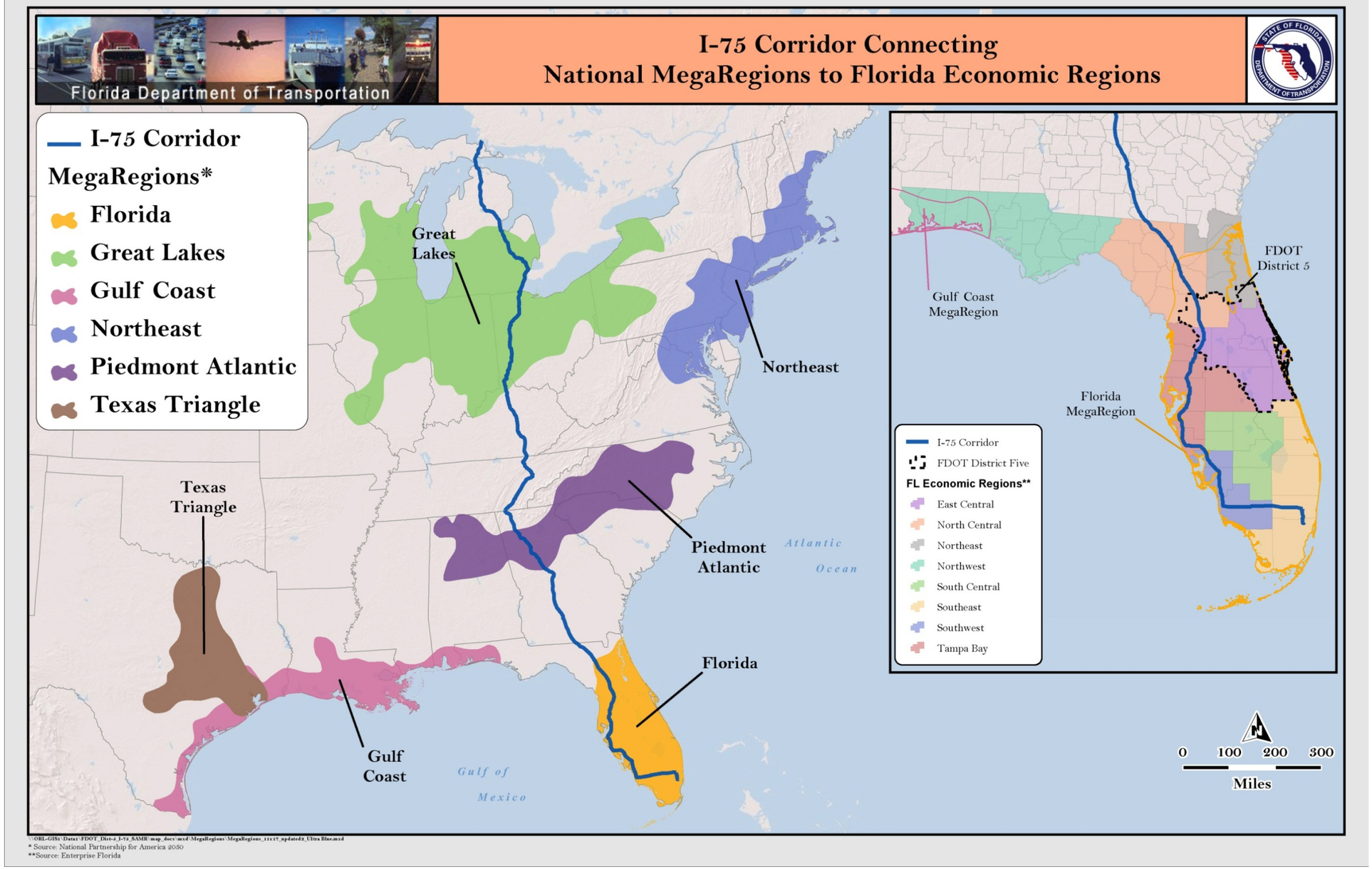
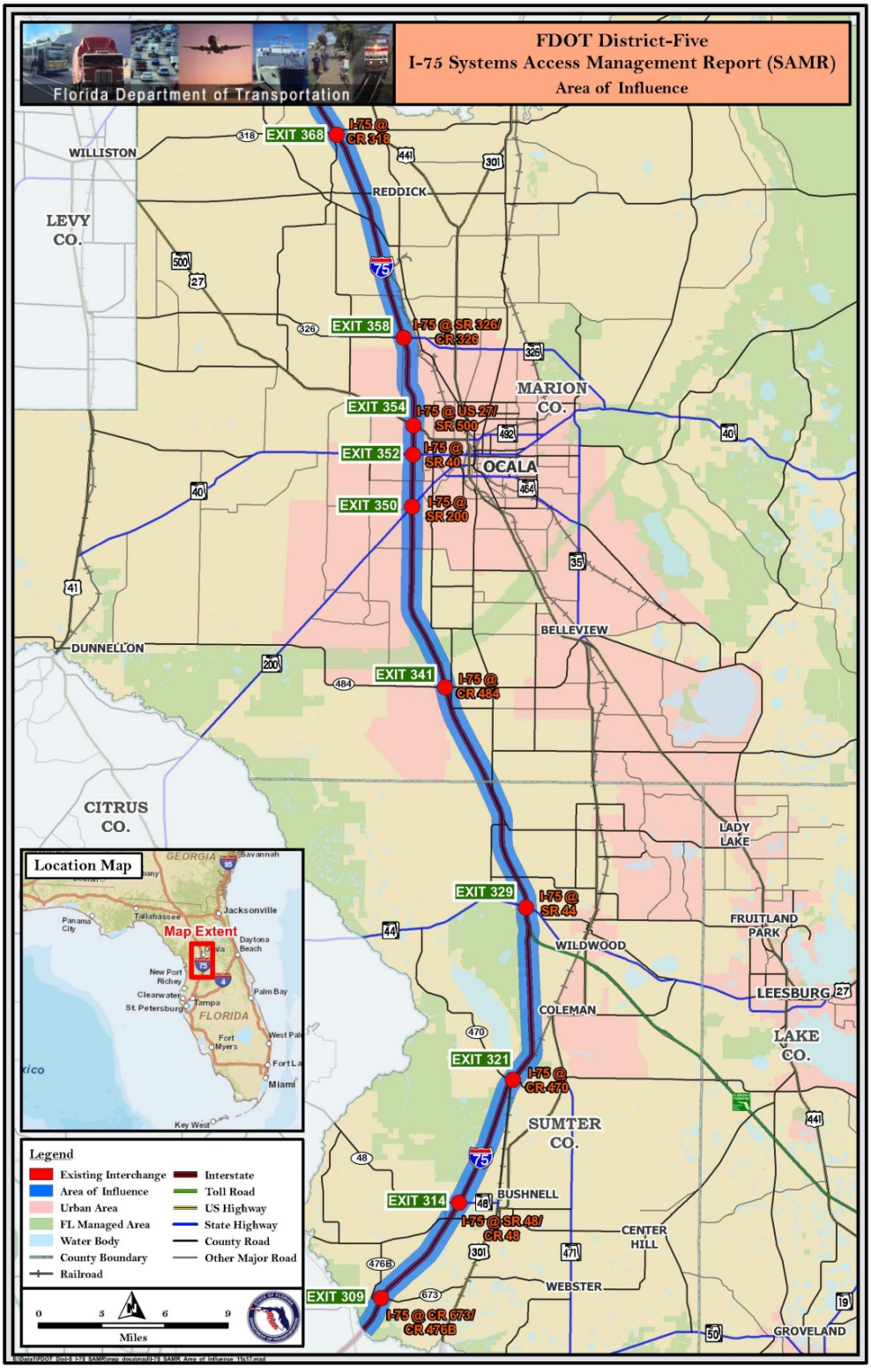


FIGURE E.2 | Project Location and Area of Influence



Within the area of influence, there are two (2) new interchange proposals included in the adopted 2035 Ocala/Marion TPO LRTP: I-75 at SW 95th Street (located south of SR 200) and the I-75 at 49th Street overpass (located north of US 27). Marion County is currently in the process of conducting the Interchange Justification Report (IJR) for the new interchange at SW 95th St at I-75. Also, there is one (1) new interchange proposed at CR 514 in Lake~Sumter MPO located south of Florida Turnpike , which is included in adopted 2035 Lake~Sumter MPO LRTP. Another interchange at I-75 and CR 466 in Sumter County was approved by FHWA; however, the interchange has not been constructed. The SW 49th St, CR 466, and CR 514 interchanges are to be included in the year 2040 Build network, while 95th Street is to be included in the 2020 No-Build and Build conditions as the IJR for the subject interchange is underway. Per the signed Methodology Letter of Understanding (MLOU, included in Appendix A), however, additional documentation will be required along with the identified funding source in order to secure FHWA approval for these interchanges.

The analysis years include: 2011 Existing Conditions; 2020 Opening Year; 2030 Interim Year; and 2040 Design Year. The future conditions analyzed Build and No-Build for the analysis years. The latest version of the Central Florida Regional Planning Model (CFRPM 5.0) was utilized to develop future traffic projections. Base year subarea model refinements were conducted per FDOT and FHWA guidelines. Refinements made to the base year model were carried over to the future years. The refined sub-area CFRPM 5.0 was used to develop 2020, 2030, and 2040 Annual Average Daily Traffic (AADT) forecasts. Future-year peak-hour volumes and intersection turning movements were developed consistent with the methodology prescribed in the MLOU. The freeway segments, ramp merge/diverge areas and intersections were evaluated for level of service (LOS) using latest versions of HCS and SYNCHRO software. Existing conditions and future No-Build conditions analyses indicate several operational deficiencies with continued deterioration through 2040.

This study considered all programmed and planned roadway improvements in the area and recommended a number of Transportation Systems Management (TSM) improvements at the interchanges to potentially address the operational deficiencies. Currently funded widening of I-75 to six lanes south of SR 44 (FM # 242626-2 & 242626-3, included in Appendix I) in the study area is expected to modify the CR 476 B east ramp terminal, SR 48, CR 470 and SR 44 interchanges. These interchange modifications are expected to improve operations of the interchanges through year 2040. In addition, the Florida Turnpike Enterprise (FTE) is in the process of improving interchange at I-75 at FTE to improve existing weaving conditions between FTE and SR 44 along I-75. **Table E.1** provides a summary of the specific improvement recommendations that address the operational deficiencies. Access management considerations such as median closures and modifications recommended in this study should be further evaluated and discussed with FDOT District Five Traffic Operations before implementation.

TABLE E.1 | Recommended Improvements and Cost Estimates

I-75 & CR 476 B, CR 48/SR 48 & CR 470 Interchanges

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
CR 476 B Interchange	I-75 widening to six lanes (FM # 242626-2 & 242626-3) is expected to include all the interchange improvements. No additional improvements are required.					
Total		**$0**	-	**$0**	-	**$0**

I-75 & SR 44 Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
SR 44 Interchange	No Additional Improvements are Required					
Total		**$0**	-	**$0**	-	**$0**

I-75 & CR 484 Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
Marion Oaks Course	-	-	-	-	Planned widening of CR 484 to six lanes	
Marion Oaks Blvd	-	-	Add 2nd WB LT Lane	$705,600		
SW 20th Ave Rd	-	-	-	-		
I-75 SB Ramp	-	-	-	-		
I-75 NB Ramp	-	-	Add 2nd EB LT Lane by cutting back the existing sloped embankment	$2,102,400		
			Add a WB RT Lane	$100,800		
			Add 2nd NB LT Lane	$115,200		
CR 475A	-	-	Add 2nd EB LT Lane and, Add 2nd Receiving Lane & EB RT Lane	$561,600		
			Add 2nd NB LT Lane & SB RT Lane	$604,800		
Total		**$0**	-	**$4,190,400**	-	**$0**

Notes*
1. Costs of right-of-way, right-of-way support, landscaping, lighting, utility relocations and wetland mitigation are not included.
2. The cost of adding 2nd receiving lane or roundabout is not included in the cost esimates.
3. Cost estimates for access management improvements to be developed when projects under this category are more precisely identified for each location.
4. Costs are planning level Preliminary Construction and Design Estimates. Unit Costs per FDOT Statewide averages (09/2010 - 10/2011). More detailed cost estimates should be performed prior to programming projects for design, right-of-way and construction phases.
5. Improvements are included in "Ocala/Marion County Commerce Park - US 27 Improvements Study". City of Ocala is in the process of widening NW 35th St to four lanes.
6.Roundabout is recommended during future access management consideration. Detailed anallysis should be perfomed before implementation.

TABLE E.1 | Recommended Improvements and Cost Estimates (Cont'd...)

I-75 & SR 200 Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
SW 40th Ave	-	-	-	-	-	-
SW 38 th Ct	Add a WB RT Lane	$187,200	Add EB RT Lane	$187,200	-	-
			Add NB RT Lane	$187,200	-	-
			Add 2nd EB LT Lane, Add 2nd Receiving Lane	$187,200	-	-
I-75 SB Ramp	-	-	-	-	-	-
I-75 NB Ramp	Add 2nd NB RT lane	$158,500	-	-	Add 2nd NB LT lane	$158,500
	Add WB RT Lane	$115,200	-	-	-	-
SW 35th Terr	-	-	-	-	-	-
Total		**$460,900**	-	**$561,600**	-	**$158,500**

I-75 & SR 40 Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
SW 60th Ave	-	-	Add 2nd WB LT Lane	$144,000	Planned widening of SR 40 to six lanes	
			Add 2nd NB LT Lane	$532,800		
SW 52nd Ave	-	-	-	-		
I-75 SB Ramp	Add SB RT Lane	$86,400	-	-		
I-75 SB/NB Ramp	Add 2nd EB & WB LT Lanes by cutting back the existing sloped embankment	$3,211,200				
I-75 NB Ramp	Add NB RT Lane	$86,400	-	-		
SW 33rd Ave	-	-	-	-		
SW 27th Ave	Add 2nd EB & WB LT Lanes	$201,600	Add 3rd EB, & WB Thru Lanes	$2,707,200		
	Add EB RT Lane	$100,800				
	Add 2nd NB LT Lane	$288,000				
	Add 2nd SB LT Lane	$14,400				
Other	-	-	-	-	-	-
Total		**$3,988,800**	-	**$3,384,000**	-	**$0**

Notes*

1. Costs of right-of-way, right-of-way support, landscaping, lighting, utility relocations and wetland mitigation are not included.
2. The cost of adding 2nd receiving lane or roundabout is not included in the cost esimates.
3. Cost estimates for access management improvements to be developed when projects under this category are more precisely identified for each location.
4. Costs are planning level Preliminary Construction and Design Estimates. Unit Costs per FDOT Statewide averages (09/2010 - 10/2011). More detailed cost estimates should be performed prior to programming projects for design, right-of-way and construction phases.
5. Improvements are included in "Ocala/Marion County Commerce Park - US 27 Improvements Study". City of Ocala is in the process of widening NW 35th St to four lanes.
6. Roundabout is recommended during future access management consideration. Detailed anallysis should be perfomed before implementation.

TABLE E.1 | Recommended Improvements and Cost Estimates (Cont'd...)

I-75 & SR 500 (US 27) Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
NW 44th Ave	-	-	-	-	Planned widening of US 27 to six lanes	
NW 38th Ave	-	-				
I-75 SB Ramp	Extend WB LT Lane [5]	-				
I-75 NB Ramp	1) Add 2nd NB RT Lane[5] 2) Modify traffic signal as necessary for the I-75 NB improvements[5]	-				
NW 35th Ave.	Add a EB LT Lanes & Signalize[5]	-				
	Add SB LT Lane & SB RT Lane[5]	-				
	Add WB RT Lane[5]	-				
	Align NB and SB lanes at US 27 @ NW 35 intersection[5]	-				
NW 27th Ave	-	-				
Total		**$0**	-	**$0**	-	**$0**

I-75 & SR 326 Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
I-75 SB off ramp	-	-	-	-	-	-
I-75 NB Ramp	Add a NB RT Lane	$207,400				
CR 25A	Add 2nd EB LT Lane	$529,900				
Total		**$737,300**	-	**$0**	-	**$0**

I-75 & CR 318 Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
CR 225	-	-	-	-	-	-
I-75 SB Ramp	Potential Signalization[6]	$234,600	-	-	Add a WB LT Lane	$545,800
I-75 NB Ramp	Potential Signalization[6]	$234,600	-	-	-	-
NW 60	-	-	-	-	-	-
Total		**$469,200**	-	**$0**	-	**$545,800**
Total Cost By Phase	**Phase I - 2020**	**$5,656,200**	**Phase II- 2030**	**$8,136,000**	**Phase III - 2040**	**$704,300**

Notes*

1. Costs of right-of-way, right-of-way support, landscaping, lighting, utility relocations and wetland mitigation are not included.
2. The cost of adding 2nd receiving lane or roundabout is not included in the cost esimates.
3. Cost estimates for access management improvements to be developed when projects under this category are more precisely identified for each location.
4. Costs are planning level **Preliminary Construction and Design Estimates.** Unit Costs per FDOT Statewide averages (09/2010 - 10/2011). More detailed cost estimates should be performed prior to programming projects for design, right-of-way and construction phases.
5. Improvements are included in "Ocala/Marion County Commerce Park - US 27 Improvements Study". City of Ocala is in the process of widening NW 35th St to four lanes.
6. Roundabout is recommended during future access management consideration. Detailed anallysis should be perfomed before implementation.

Potential funding for the recommendations that have been identified by the SAMR is anticipated from local, state and federal sources. As specific funding sources are identified for the needed improvements, FDOT District Five will ensure that the improvement concepts remain responsive to changing conditions over time which includes a required re-evaluation of the traffic operations during the design phase of the I-75 improvements. Conditions during the final design phase of the project may result in minor geometric refinements to the concepts approved in the I-75 SAMR report. To ensure that the refinements are appropriate, traffic operations analyses of the refinements will be conducted during the final design phase. Due to the time required for implementing the improvements, new economic or environmental factors may arise during the final design phase. Consideration of these issues will be included in the traffic operations assessments and documented in technical memorandums which will serve as SAMR addendums. Regional and local trip characteristics may change during the course of the implementation phase and the regional model may also be updated during this time frame. In light of this, the traffic studies during the design phase will evaluate the traffic operational impacts of any geometric changes using the most current traffic projections available at the time of design. The traffic re-evaluations will include a systems analysis of the proposed design project and a comparison with the approved SAMR concept. The Department and FHWA will work together to ensure that the systems analysis draws upon the latest available tools and data that best represents operations of the transportation network and supports informed decision making.

The following summary demonstrates that the I-75 SAMR meets the eight (8) FHWA requirements for approval of new or modified access to the Interstate highway system as published in August 2009:

1. *The need being addressed by the request cannot be adequately satisfied by existing interchanges to the Interstate, and/or local roads and streets in the corridor can neither provide the desired access, nor can they be reasonably improved (such as access control along surface streets, improving traffic control, modifying ramp terminals and intersections, adding turn bays or lengthening storage) to satisfactorily accommodate the design-year traffic demands (23 CFR 625.2(a)).*

   Response:

   Not applicable. This document is seeking federal approval for recommendations to the existing interchanges.

2. *The need being addressed by the request cannot be adequately satisfied by reasonable transportation system management (such as ramp metering, mass transit, and HOV facilities), geometric design, and alternative improvements to the Interstate without the proposed change(s) in access (23 CFR 625.2(a)).*

Response:

Same response as to FHWA Requirement # 1.

3. *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 crossroad) 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 [[Page 43745]] 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 must also 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)).*

   Response:

   The analyses contained in this report demonstrate that the Build alternative will not cause a detrimental or adverse impact to the regional roadway system or interstate. This SAMR includes traffic analyses of the existing conditions and future conditions for an Opening Year (2020), an Interim Year (2030) and a Design Year (2040). Analyses were conducted for these three (3) years for both the Build and No-Build conditions. The analyses were conducted for basic freeway segments, ramp junctions (merges and diverges), and weaving sections for the freeway components (as appropriate), and for the ramp terminal intersections and crossroad intersections within one-half mile of the ramp terminals. The results of the analyses indicate that the system is projected to operate better than the No-build conditions. Build conditions analysis was performed to ensure the ramp terminal do not backup to mainline and degrade the operational and safety of the mainline traffic.

4. *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)).*

Response:

The SAMR does not alter the configurations of the existing interchanges and it maintains the full interchange access at all the locations. Justification for the new interchanges at I-75 @ CR 466, I-75 @ 49th Street overpass, and I-75 @ CR 514, however, will be handled at a later stage as separate studies according to the FDOT and FHWA guidelines.

5. *The proposal considers and is consistent with local and regional land use and transportation plans. Prior to receiving final approval, all requests for new or revised access must be included in an adopted Metropolitan Transportation Plan, in the adopted Statewide or Metropolitan Transportation Improvement Program (STIP or TIP), and the Congestion Management Process within transportation management areas, as appropriate, and as specified in 23 CFR part 450, and the transportation conformity requirements of 40 CFR parts 51 and 93.*

   Response:

   I-75 SAMR is consistent with Lake~Sumter MPO LRTP as well as Ocala/Marion TPO LRTP.

6. *In corridors where the potential exists for future multiple interchange additions, a comprehensive corridor or network study must accompany all requests for new or revised access with recommendations that address all of the proposed and desired access changes within the context of a longer-range system or network plan (23 U.S.C. 109(d), 23 CFR 625.2(a), 655.603(d), and 771.111).*

   Response:

   Within the area of influence, there are two (2) new interchange proposals included in the adopted 2035 Ocala/Marion TPO LRTP: I-75 at SW 95th Street (located south of SR 200) and the I-75 at 49th Street overpass (located north of US 27). Marion County is currently in the process of conducting the Interchange Justification Report (IJR) for the new interchange at SW 95th St at I-75. Also, there is one (1) new interchange proposed at CR 514 in Lake~Sumter MPO located south of Florida Turnpike , which is included in adopted 2035 Lake~Sumter MPO LRTP. Another interchange at I-75 and CR 466 in Sumter County was approved by FHWA; however, the interchange has not been constructed. The SW 49th St, CR 466, and CR 514 interchanges are to be included in the year 2040 Build network, while 95th Street is to be included in the 2020 No-Build and Build conditions as the IJR for the subject interchange is underway. Per the signed MLOU, however, additional documentation will be required along with the identified funding source in order to secure FHWA approval for these interchanges. This study will seek FHWA approval for improvements needed for the existing interchanges only; justification for the new interchanges will be handled as separate studies.

7. *When a new or revised access point is due to a new, expanded, or substantial change in current or planned future development or land use, requests must demonstrate appropriate coordination has occurred between the development and any proposed transportation system improvements (23 CFR 625.2(a) and 655.603(d)). The request must describe the commitments agreed upon to assure adequate collection and dispersion of the traffic resulting from the development with the adjoining local street network and Interstate access point (23 CFR 625.2(a) and 655.603(d)).*

Response:

There has been significant coordination with the stakeholders throughout the study including Socio-economic data. Socio-economic data used in the analysis is consistent with Lake~Sumter MPO LRTP as well as Ocala/Marion TPO LRTP.

8. *The proposal can be expected to be included as an alternative in the required environmental evaluation, review and processing. The proposal should include supporting information and current status of the environmental processing (23 CFR 771.111).*

Response:

Most of these improvements are turn lane improvements and are within the right of way. However, the cases where there is a need for environmental approval, FDOT District Five will coordinate with FHWA in subsequent phases.

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1. Background

1.1. Introduction

Interstate-75 (I-75) is an integral part of the Strategic Intermodal System (SIS), a system of major roadways intended to provide high-speed travel connections between major population centers throughout the State, as well as a significant interstate facility connecting major cities and markets from South Florida, through Atlanta, Georgia, and terminating in the Great Lakes region at the border of Ontario, Canada. This interstate is the backbone of commerce and travel in Florida. As part of this system, I-75 spans six (6) Economic Regions (as defined by Enterprise Florida[1]) within Florida, two (2) of which are located within FDOT District Five: the East Central Region and the North Central Region. In addition, the I-75 corridor spans three (3) megaregions: the Florida, Piedmont Atlantic, and Great Lakes megaregions. As noted in the 2060 Florida Transportation Plan (2010), a megaregion is a geographic area comprised of nationally significant networks of cities created by the expansion and conglomeration of multiple urban areas. These areas are linked by five major categories of relationships. Two (2) of those categories are economic linkages and infrastructure systems. Maintaining mobility and safety on such a regionally and nationally significant corridor benefits that economic linkage. **Figure 1.1** depicts megaregions and I-75.

The subject interchanges in the study area (CR 476B/CR 673, CR48/SR 48, CR 470, SR 44, CR 484, SR 200, SR 40, US 27, SR 326, and CR 318) span over approximately a 60-mile stretch of I-75 in Sumter (Section # 18130000) and Marion (Section # 36210000) counties. The southernmost interchange at CR 476B is located 1.8 miles north of the Sumter-Hernando County line, while the northernmost interchange at CR 318 is located approximately six (6) miles south of the Alachua-Marion County line. The project study area is shown in **Figure 1.2**.

1.2. Purpose of the Study

Due to growth in the area over the last decade, the interchanges have experienced significant increases in traffic volumes which have resulted in existing operational deficiencies and potential for additional congestion in the future. The purpose of the I-75 SAMR is to conduct the operational analysis on all ten (10) existing interchanges along I-75, evaluate the need for additional new interchanges and modifications to the existing interchanges within District Five, and prepare documentation for FHWA approval. The ultimate objective is to ensure mobility and safe operating conditions along this important interstate facility in the State.

[1] Source: http://www.eflorida.com/

FIGURE 1.1 | I-75 Corridor Connecting National MegaRegions to Florida Economic Regions

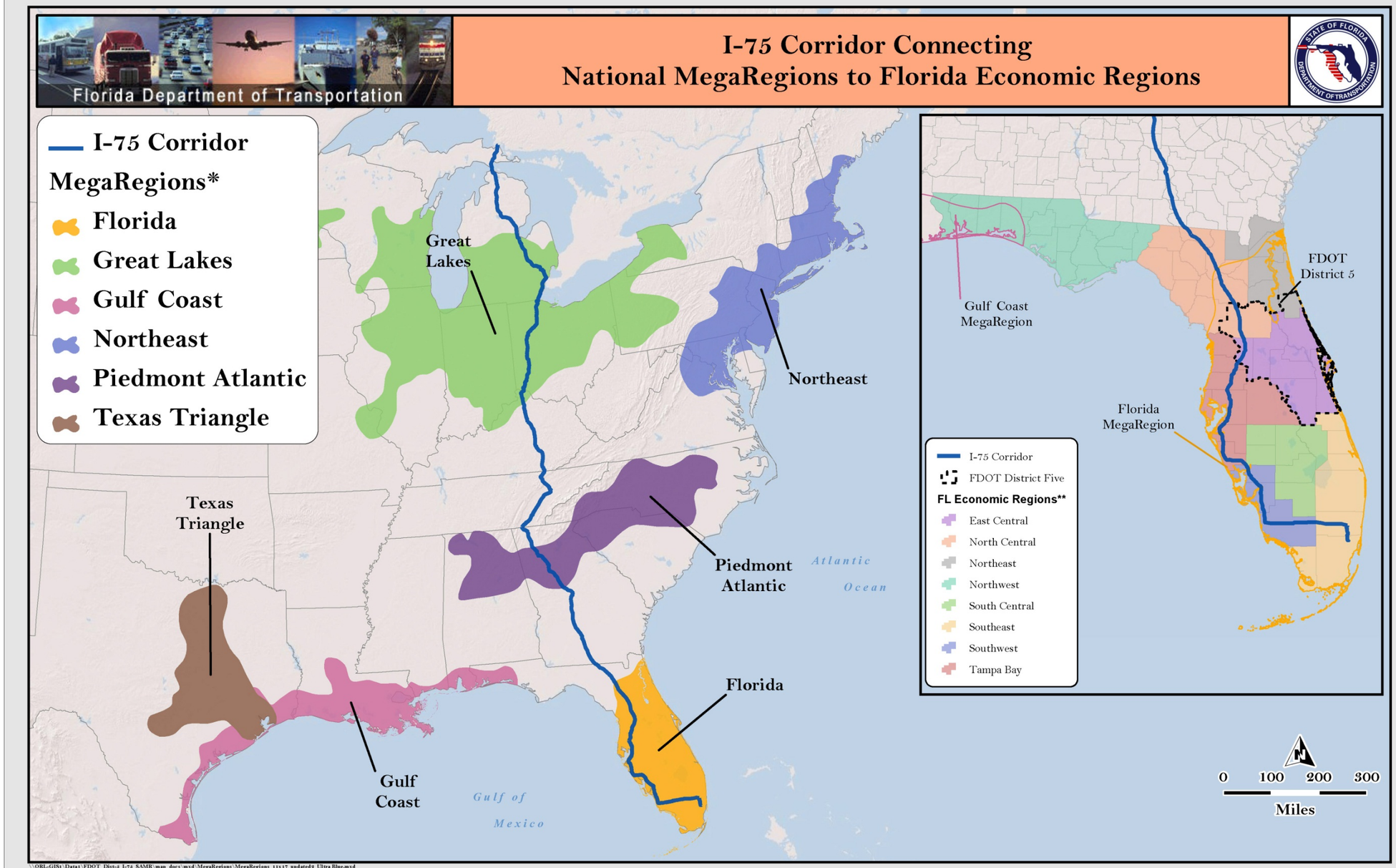
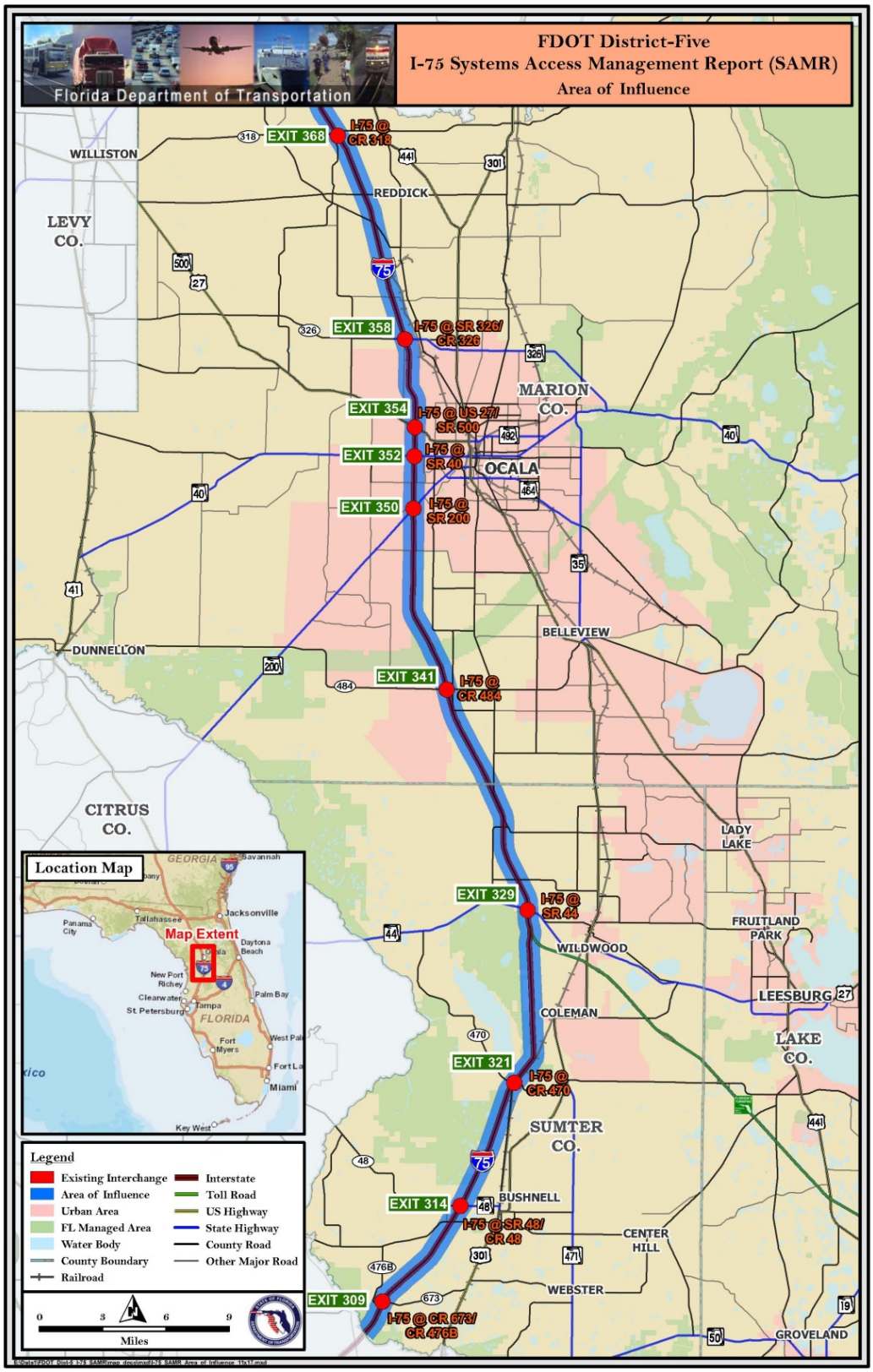


FIGURE 1.2 | Project Location and Area of Influence



1.3. Stakeholder Input from Previous Studies

FDOT District Five recently completed the I-75 Systems Operational Analysis Report (SOAR) in the Ocala Area for six (6) interchanges (CR 484, SR 200, SR 40, US 27, SR 326, and CR 318). The study was finalized and circulated in July 2008. Subsequently, the I-75 SOAR was expanded by the Department in order to conduct similar analyses for the remaining four (4) interchanges on I-75 within District Five (CR 476B/CR 673, CR48/SR 48, CR 470, and SR 44). Both studies analyzed existing conditions for the year 2007/2008 and future operating conditions for the years 2012 and 2017, and recommended a set of low cost improvements to address the existing and anticipated near future deficiencies. The recommended improvements from the I-75 SOAR are being considered by the Ocala/Marion TPO and Lake~Sumter MPO to be included in their LRTPs.

Several meetings were conducted during the I-75 SOAR with stakeholders comprising of staff from the Ocala/Marion TPO, Lake~Sumter MPO, Marion County, Sumter County, and City of Ocala. The purpose was to discuss the traffic-related issues at the interchanges, as perceived by the stakeholders, and to outline preliminary recommendations. **Table 1.1** summarizes stakeholder concerns and their recommendations from these meetings.

TABLE 1.1 | Stakeholder Input from Previous Studies

Interchange	Stakeholder Concerns	Stakeholder Recommendations
I-75 @ CR 476B	1. Sight distance and speeding 2. Safety concerns at NB ramps due to close spacing between the NB on and off ramps 3. Poor lighting 4. CR 673 shoulder might not meet design standards 5. Slope of the ramps 6. Truck traffic	1. Improve lighting 2. Consider signage and signalization of NB ramp termini 3. Look into the slope of the ramps 4. Crash Analysis
I-75 @ CR 48 / SR 48	1. Multiple entrances/exits exist at Wal-Mart and creates conflicting turning movements at the driveways 2. Weekend traffic due to Wal-Mart 3. SR 48 east of I-75 interchange experiences seasonal traffic	1. Access management at Wal-Mart 2. Review FDOT study for Wal-Mart internal traffic circulation 3. Perform weekend traffic counts collection in late January 4. Consider widening of off-ramps 5. Signalization of NB ramp
I-75 @ CR 470	1. Safety concerns at at-grade rail crossing immediately east of CR 475 intersection 2. Storage issues at the NB approach of the CR 475 intersection 3. Truck stop immediately east of interchange 4. Complex intersection geometry 5. Access management	1. Consider signalization of intersections (or metering of traffic) for safety reasons at railway crossing 2. Review FDOT interchange study 3. Review CR 470 PD&E study 4. Additional lighting under the bridge

TABLE 1.1 | Stakeholder Input from Previous Studies (Cont.)

Interchange	Stakeholder Concerns	Stakeholder Recommendations
I-75 @ SR 44	1. Truck stops located immediately west and east of the interchange 2. Truck queuing in left-turn lanes 3. Access management	1. Review I-75 PD&E study from north of Hernando County Line to north of Florida's Turnpike 2. ITS (truck signal priority/signal retiming/ signage) approach to solve truck operational issues 3. Access management to restrict ingress and egress of truck traffic to and from properties along the corridor 4. Consider additional pavement marking/signage for the extended left-turn lanes beyond the intersections
I-75 @ CR 484	1. Considerable truck traffic 2. Need additional storage for EB CR 484 to NB I-75 movement	1. Analysis to determine potential need for signal retiming and access management
I-75 @ SR 200	1. Storage issues on NB I-75 to WB SR 200 off ramp (significant number of left turns cause delay and long queues on the ramp)	1. Evaluate dual left turn for NB I-75 to WB SR 200 movement 2. Additional storage for EB SR 200 to NB I-75 movement
I-75 @ SR 40	1. Storage issues on NB I-75 to SR 40 and SB to SR 40 (left turns are blocking the right turns on the ramp) 2. Need to improve the operations for WB SR 40 to SB I-75 and EB SR 40 to NB I-75 movement	1. Evaluate dual left turn lanes on the off ramps 2. Evaluation of Access Management between SW 44th Ave. to SW 33rd Ave.
I-75 @ US 27	1. Storage issues on NB I-75 to US 27 and SB I-75 to US 27 (left turns are blocking the right turns on the ramp) 2. Need to improve WB US 27 to SB I-75 and EB US 27 to NB I-75 operations	1. Additional storage on the off ramps (to avoid queues back onto mainline) 2. Evaluate potential for access management
I-75 @ SR 326	1. Heavy truck traffic on NB I-75 to SR 326. Trucks make RT and then immediate LT	1. Access management review from western ramps to rail-road tracks east of I-75
I-75 @ CR 318	1. Sight distance and lighting issues	1. Crash analysis for potential safety improvements

1.4. Other Studies in the Area

Close coordination with other studies in the area has been maintained through the Department in order to ensure consistency. FDOT Central Office is conducting a "Sketch" Interstate Plan (SIP) for the I-75 corridor from south of Gainesville, Florida to one interchange south of the I-75/Turnpike split, south of Wildwood, Florida. The SIP study is evaluating mainline alternatives on the Strategic Intermodal System/Florida Intrastate Highway System (SIS/FIHS) for the year 2035. Preliminary scope review and

data sharing not only ensured consistency between these two studies, but of also helped minimize the Department's cost. Other studies that have been reviewed and considered include the following:

- CR 470 and I-75 Interchange Traffic Study (FDOT, August 2008)
- I-75 PD&E Study, (FDOT, March 2007) from north of Hernando County Line to north of Florida's Turnpike
- Interchange Operational Analysis Report (Florida Turnpike Enterprise, September 2006)
- SR 48 and the Wal-Mart Driveway Qualitative Assessment (FDOT, February 2006)
- Districtwide Design Traffic for PD&E and Design for SR 48 from I-75 to SR 475 (FDOT, March 2005)
- I-75 Interchange Systems Operational Analysis Report (SOAR) in Ocala Area
- I-75 Widening (FM ID - 242626-2 and 242626-3)
- SW 95th St Interchange Justification Report

2. Existing Conditions

2.1. Data Collection

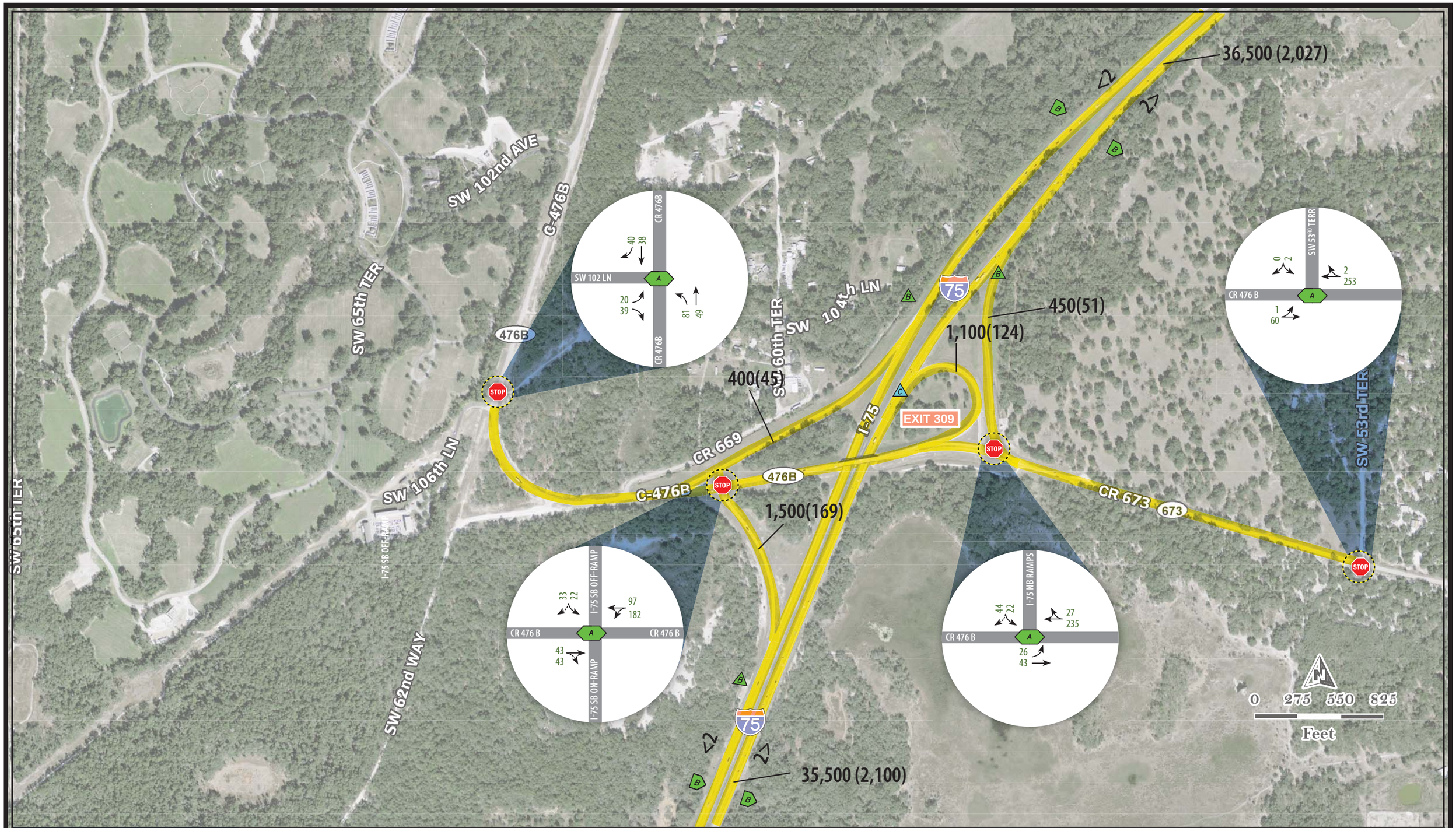
For the purposes of this study data was collected from various sources including FDOT, Ocala/ Marion TPO, City of Ocala, Marion County, Sumter County and other agencies in addition to the field collected data. Daily traffic counts on the study segments were obtained from the 2009 Florida Traffic Information (FTI) DVD. All stakeholders were contacted for any available data before collecting turning movement counts (TMCs) for the study intersections. Ocala/Marion TPO provided TMCs for some of the study intersections; of which only the latest (collected in year 2010) TMCs were used for the analyses. TMCs for the rest of the intersections in the study area were collected for the AM peak-hour and PM peak-hour on a typical weekday with the exception of the intersections on CR 476B and SR/CR 48 corridors. For CR 476B intersections, TMCs were collected on Monday to account for increased traffic caused by the Webster Flea Market. For the SR/CR 48 intersections, TMCs were collected on Saturday due to Wal-Mart traffic. **Figures 2.1** through **2.10** summarize the existing (year 2011) lane geometry and peak-hour turning volumes at each intersection for all the interchanges (the count data is included in Appendix B). The signal timing plans for signalized intersections were obtained from the City of Ocala Traffic Engineering Division, as well as Marion County and Sumter County Traffic Engineering Divisions. In addition, field visits were conducted to collect information on existing geometry, storage lengths, traffic signal heads, and traffic signal phasing. Crash data for recent five (5) years (2005 through 2009), as recorded in the Crash Analysis Reporting System, were obtained from the FDOT Central Office for the I-75 mainline and at-grade state roads. Crash data for county roads were obtained from the FDOT District Five Safety Office and the Marion County Traffic Engineering Office.

2.2. Land Use

The existing land use immediately adjacent to the interchanges is primarily commercial, with the exception of the CR 476B and CR 318 interchanges. The CR 476B and CR 318 interchange areas are less developed and surrounded primarily by vacant rural parcels.

2.3. Transportation Network

Within District Five, I-75 is a six-lane, north-south limited access facility north of Florida's Turnpike, while it is a four-lane north-south limited access facility south of Florida's Turnpike. I-75 is designated as an urban principal arterial-interstate between CR 484 and SR 326 and the rest of I-75 in the District Five is designated as rural principal arterial-interstate. CR 470 and SR 48 are designated as rural minor arterials, CR 48 and CR 476B as rural major collectors, and SR 44 as a rural minor arterial west of I-75 and a transitioning arterial east of I-75. On SR 40, the segment of US 27 east of I-75 and SR 200 are designated as urban principal arterials, CR 318 as a rural major collector, and CR 484 as an urban minor arterial west of I-75 and a rural principal arterial east of I-75.



I-75 Systems Access Management Report (SAMR)

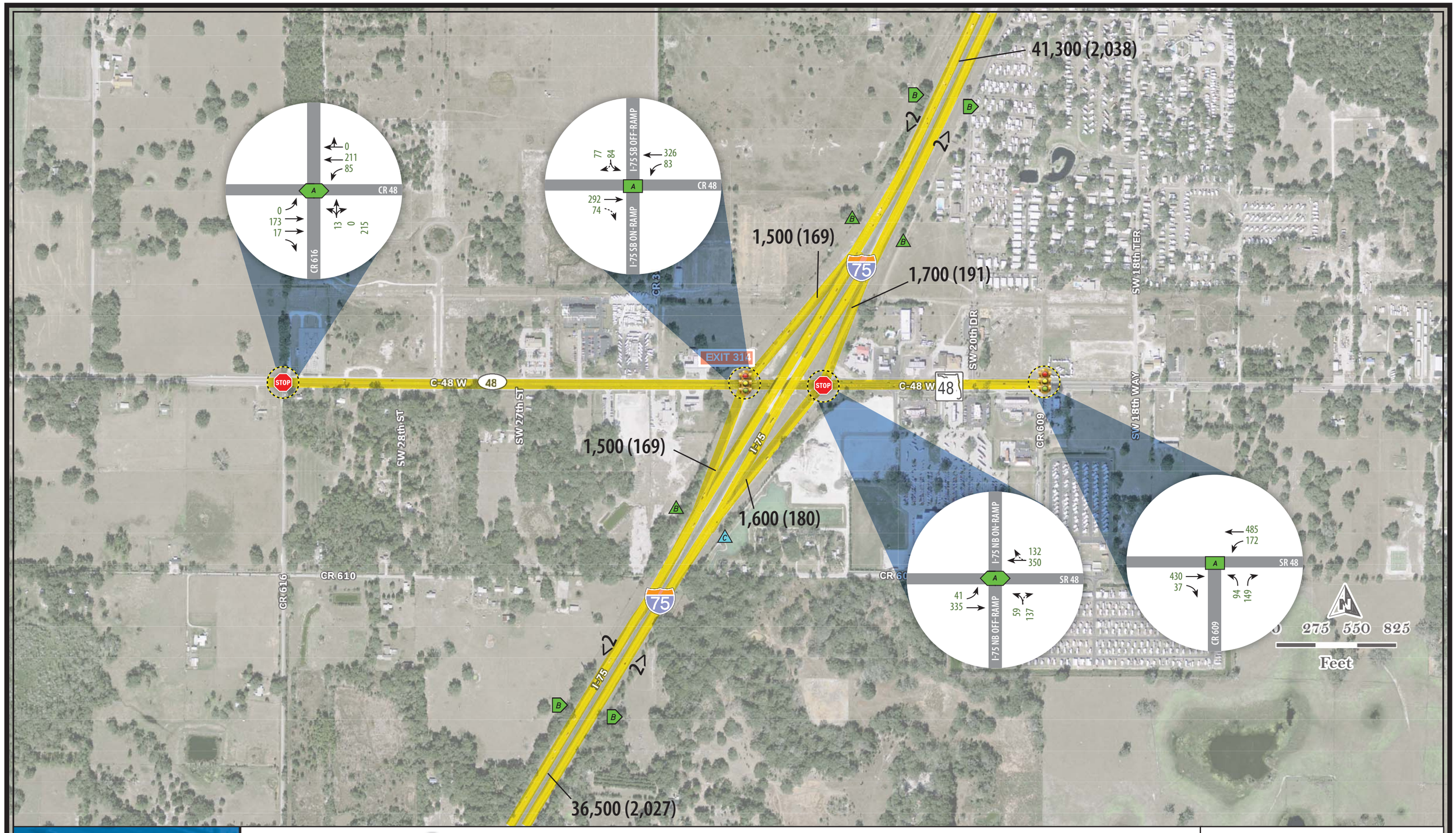
LEGEND:

- Study Segments
- 0,000 2009 AADT (DDHV)
- <1 Direction and Number of Lanes
- Unsignalized Intersection
- Signalized Intersection
- Design Hour Freeway LOS
- Signalized Intersection AM/PM or Midday Peak Hour LOS
- Unsignalized Minor Approach AM/PM or Midday Peak Hour LOS
- Design Hour Merge/Diverge LOS
- U-Turns 000 (000)
- 000 (000)
  - 2011 PM Peak Hour Volume
  - 2011 AM Peak Hour Volume
  - Existing Lane Geometry
- U-Turns 000
- 000
  - 2011 Midday Peak Hour Volume
  - Existing Lane Geometry

Existing Conditions (2011)
Geometry, Volume and LOS

I-75 @ CR 476B

Figure 2.1



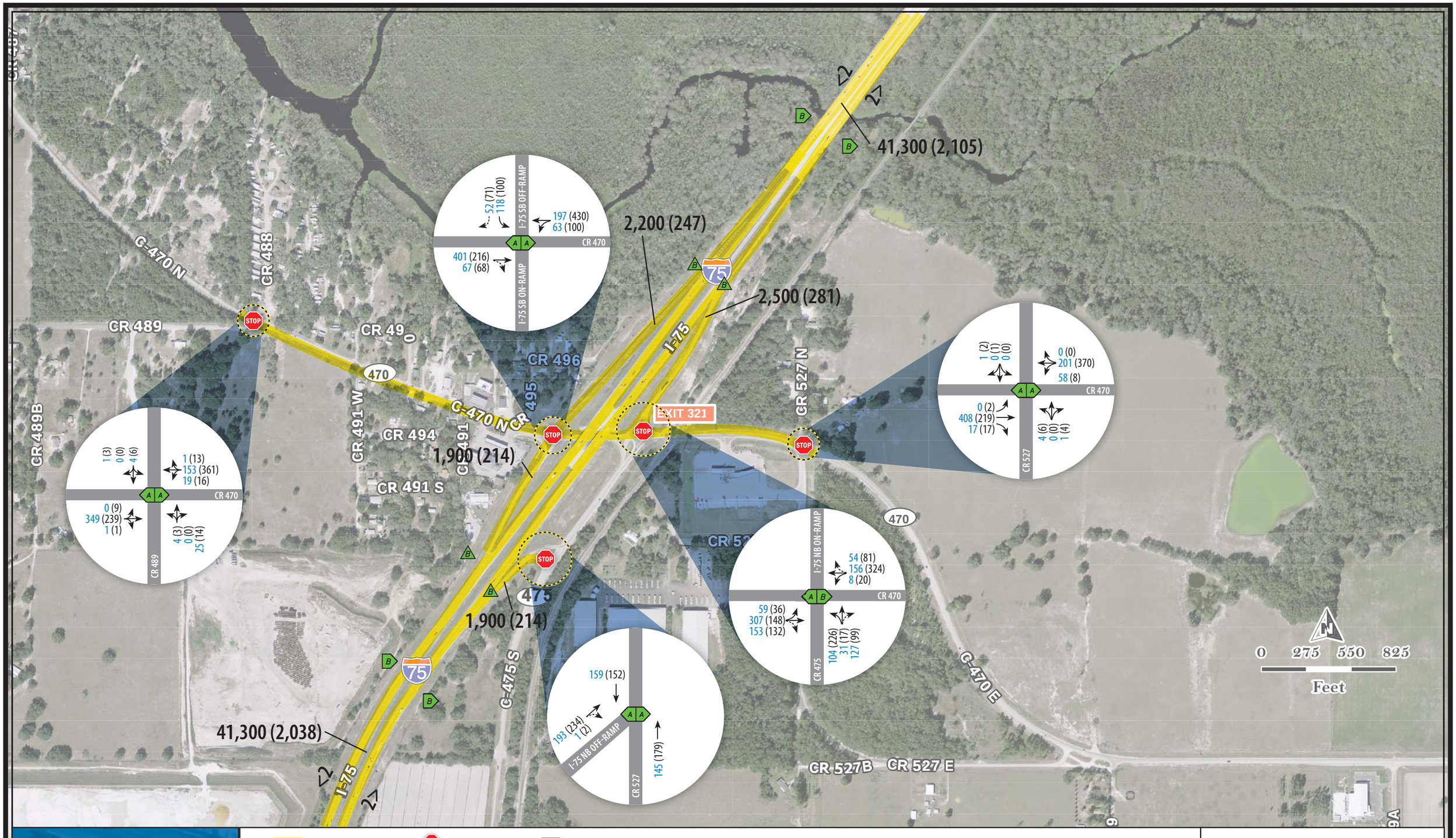
I-75 Systems Access Management Report (SAMR)

LEGEND:

- Study Segments
- 0,000 2009 AADT (DDHV)
- Channelized Right Turns
- <1 Direction and Number of Lanes
- Unsignalized Intersection
- Signalized Intersection
- Design Hour Freeway LOS
- Signalized Intersection AM/PM or Midday Peak Hour LOS
- Unsignalized Minor Approach AM/PM or Midday Peak Hour LOS
- Design Hour Merge/Diverge LOS
- U-Turns 000 (000)
- 000 (000)
  - 2011 PM Peak Hour Volume
  - 2011 AM Peak Hour Volume
  - Existing Lane Geometry
- U-Turns 000
- 000
  - 2011 Midday Peak Hour Volume
  - Existing Lane Geometry

Existing Conditions (2011)
Geometry, Volume and LOS

I-75 @ SR 48 — Figure 2.2



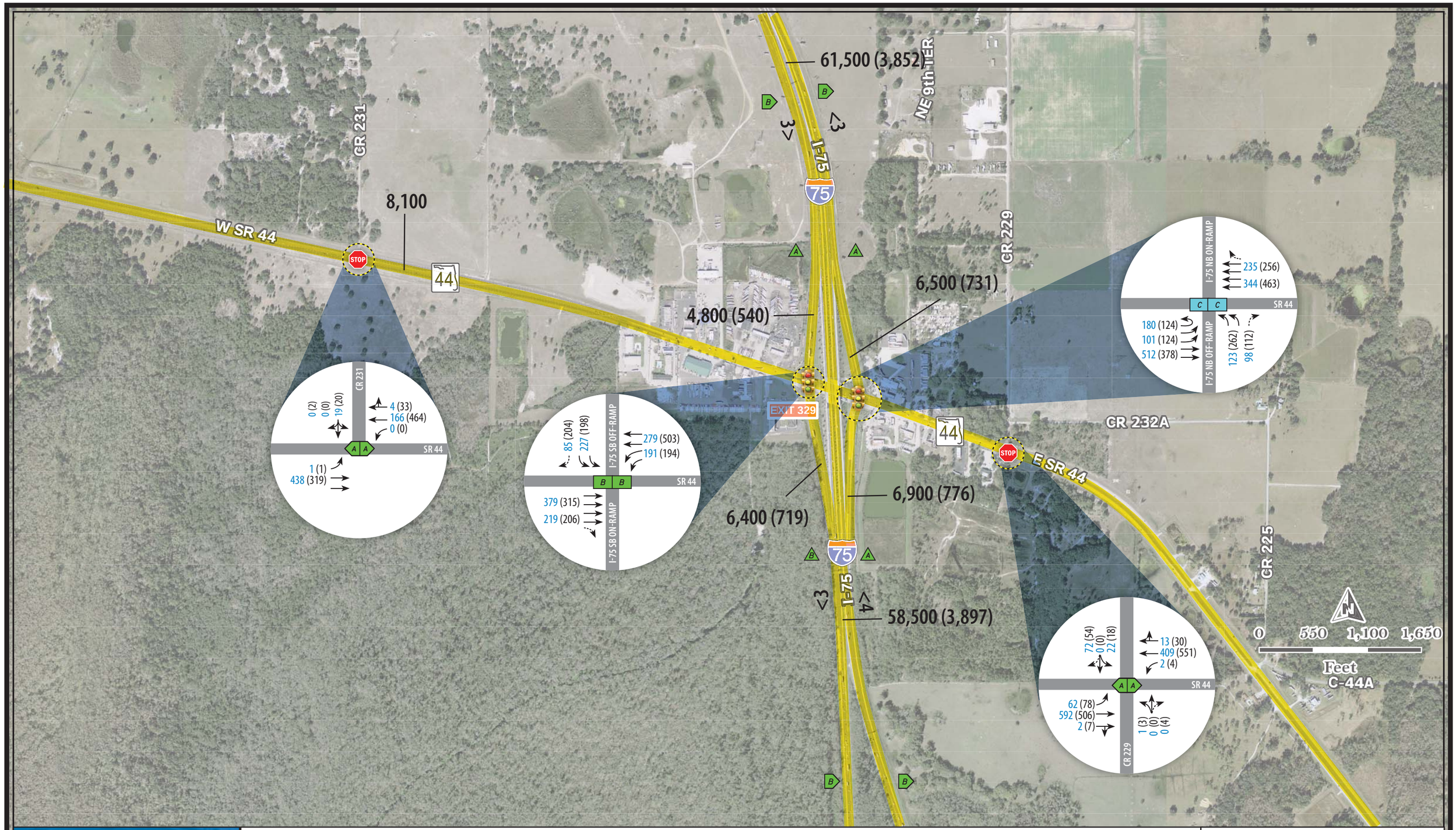
I-75 Systems Access Management Report (SAMR)

LEGEND:

- Study Segments
- 0,000 2009 AADT (DDHV)
- Channelized Right Turns
- <1 Direction and Number of Lanes
- Unsignalized Intersection
- Signalized Intersection
- Design Hour Freeway LOS
- Signalized Intersection AM/PM or Midday Peak Hour LOS
- Unsignalized Minor Approach AM/PM or Midday Peak Hour LOS
- Design Hour Merge/Diverge LOS
- U-Turns 000 (000)
- 000 (000)
  - 2011 PM Peak Hour Volume
  - 2011 AM Peak Hour Volume
  - Existing Lane Geometry
- U-Turns 000
- 000
  - 2011 Midday Peak Hour Volume
  - Existing Lane Geometry

Existing Conditions (2011)
Geometry, Volume and LOS

I-75 @ CR 470 — Figure 2.3



I-75 Systems Access Management Report (SAMR)

LEGEND:

- Study Segments
- 0,000 2009 AADT (DDHV)
- Channelized Right Turns
- <1 Direction and Number of Lanes
- Unsignalized Intersection
- Signalized Intersection
- Design Hour Freeway LOS
- Signalized Intersection AM/PM or Midday Peak Hour LOS
- Unsignalized Minor Approach AM/PM or Midday Peak Hour LOS
- Design Hour Merge/Diverge LOS
- U-Turns 000 (000)
- 000 (000)
- 2011 PM Peak Hour Volume
- 2011 AM Peak Hour Volume
- Existing Lane Geometry
- U-Turns 000
- 000
- 2011 Midday Peak Hour Volume
- Existing Lane Geometry

Existing Conditions (2011)
Geometry, Volume and LOS

I-75 @ SR 44 | Figure 2.4

I-75 Systems Access Management Report (SAMR)

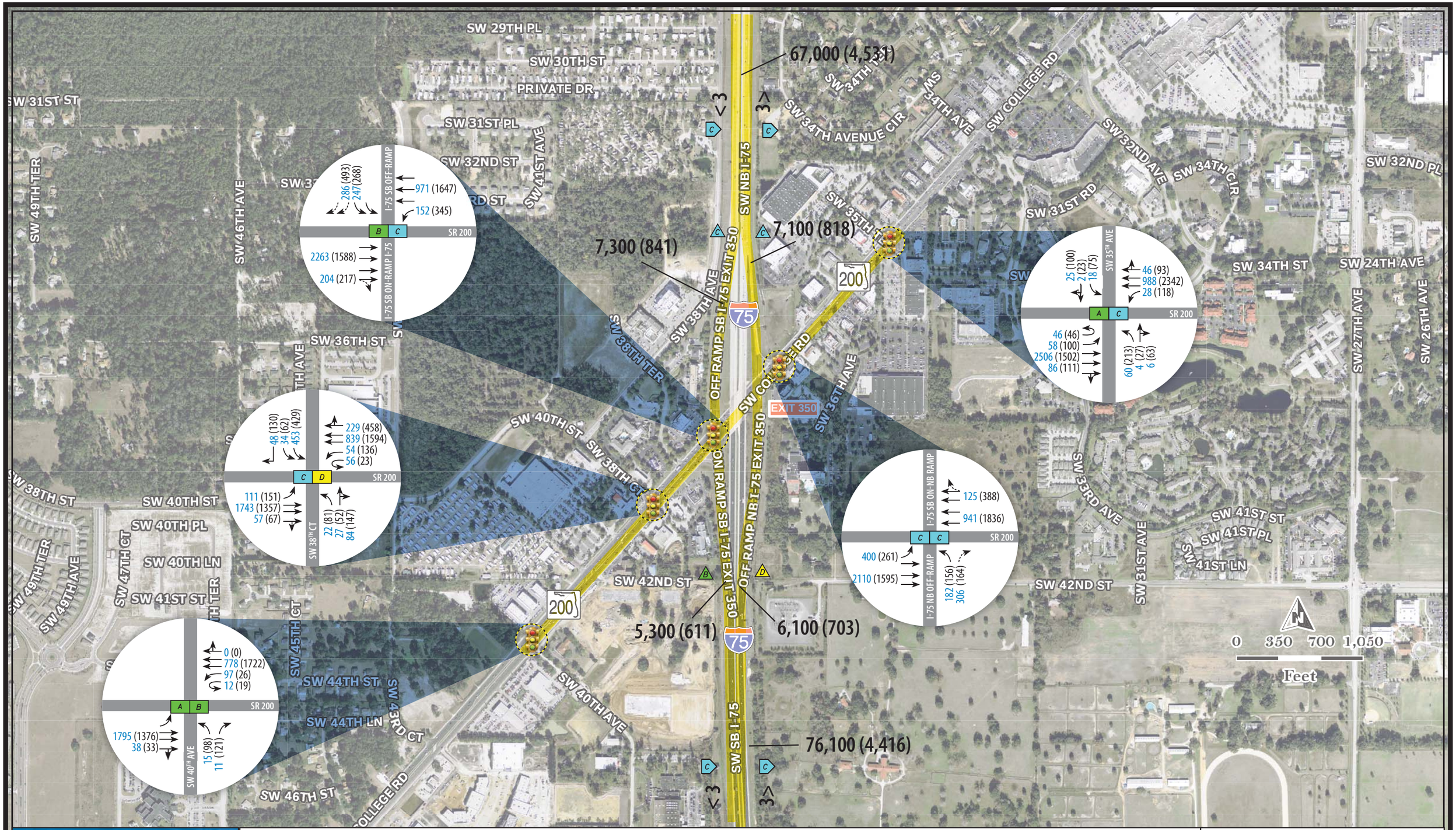
LEGEND:

- Study Segments
- 0,000 2009 AADT (DDHV)
- Channelized Right Turns
- <1 Direction and Number of Lanes
- Unsignalized Intersection
- Signalized Intersection
- Design Hour Freeway LOS
- Signalized Intersection AM/PM or Midday Peak Hour LOS
- Unsignalized Minor Approach AM/PM or Midday Peak Hour LOS
- Design Hour Merge/Diverge LOS
- U-Turns 000 (000)
- 000 (000)
  - 2011 PM Peak Hour Volume
  - 2011 AM Peak Hour Volume
  - Existing Lane Geometry
- U-Turns 000
- 000
  - 2011 Midday Peak Hour Volume
  - Existing Lane Geometry

Existing Conditions (2011)
Geometry, Volume and LOS

I-75 @ CR 484

Figure 2.5



I-75 Systems Access Management Report (SAMR)

LEGEND:

- Study Segments
- 0,000 2009 AADT (DDHV)
- Channelized Right Turns
- <1 Direction and Number of Lanes
- Unsignalized Intersection
- Signalized Intersection
- Design Hour Freeway LOS
- Signalized Intersection AM/PM or Midday Peak Hour LOS
- Unsignalized Minor Approach AM/PM or Midday Peak Hour LOS
- Design Hour Merge/Diverge LOS
- U-Turns 000 (000)
- 000 (000)
- 2011 PM Peak Hour Volume
- 2011 AM Peak Hour Volume
- Existing Lane Geometry
- U-Turns 000
- 000
- 2011 Midday Peak Hour Volume
- Existing Lane Geometry

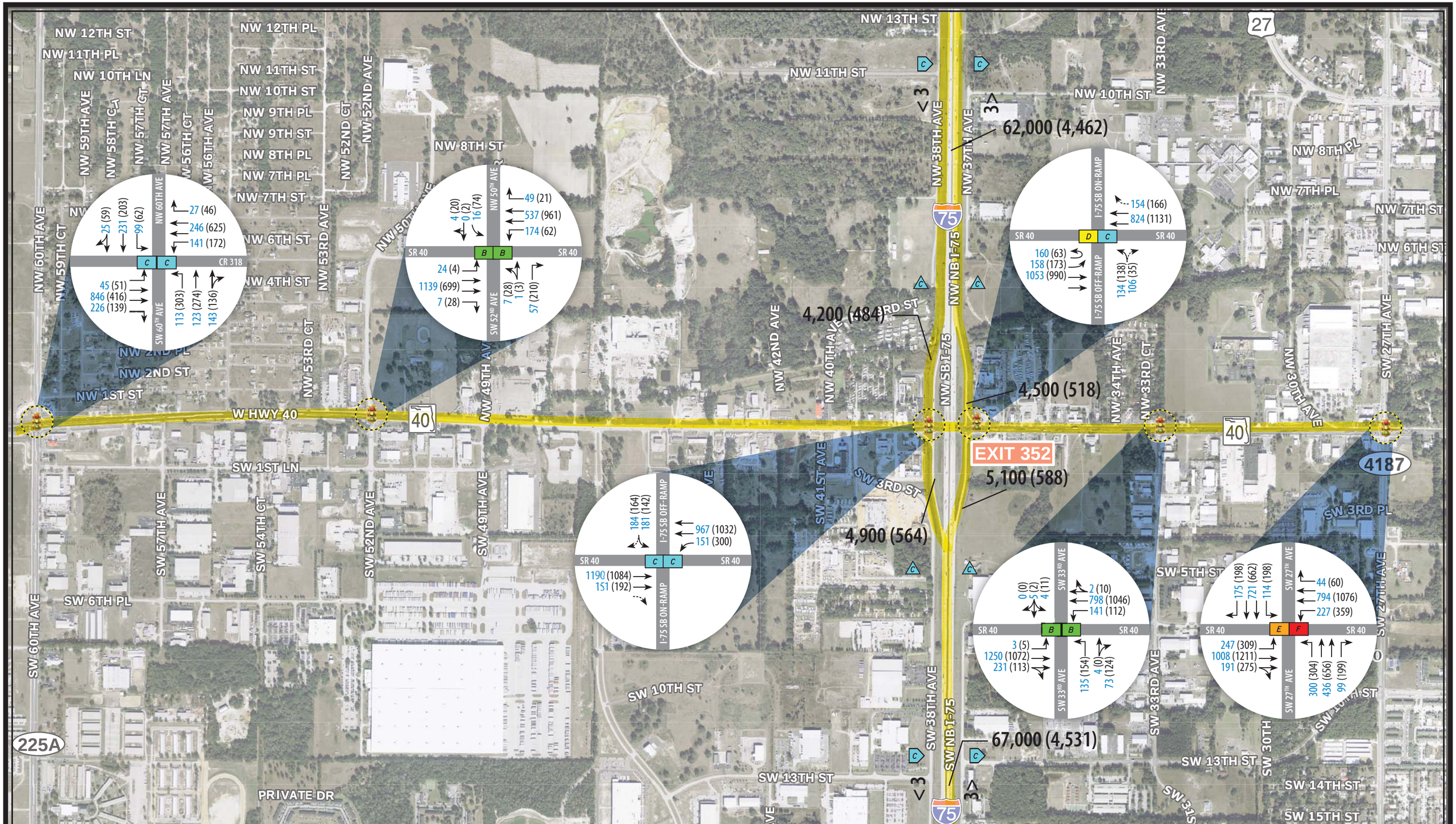
Level of Service

- D LOS B or Better
- C LOS C
- D LOS D
- E LOS E
- F LOS F

Existing Conditions (2011)
Geometry, Volume and LOS

I-75 @ SR 200

Figure 2.6



I-75 Systems Access Management Report (SAMR)

LEGEND:

- Study Segments
- 0,000 2009 AADT (DDHV)
- Channelized Right Turns
- <1 Direction and Number of Lanes
- Unsignalized Intersection
- Signalized Intersection
- Design Hour Freeway LOS
- Signalized Intersection AM/PM or Midday Peak Hour LOS
- Unsignalized Minor Approach AM/PM or Midday Peak Hour LOS
- Design Hour Merge/Diverge LOS
- U-Turns 000 (000)
- 000 (000)
  - 2011 PM Peak Hour Volume
  - 2011 AM Peak Hour Volume
  - Existing Lane Geometry
- U-Turns 000
- 000
  - 2011 Midday Peak Hour Volume
  - Existing Lane Geometry

Level of Service

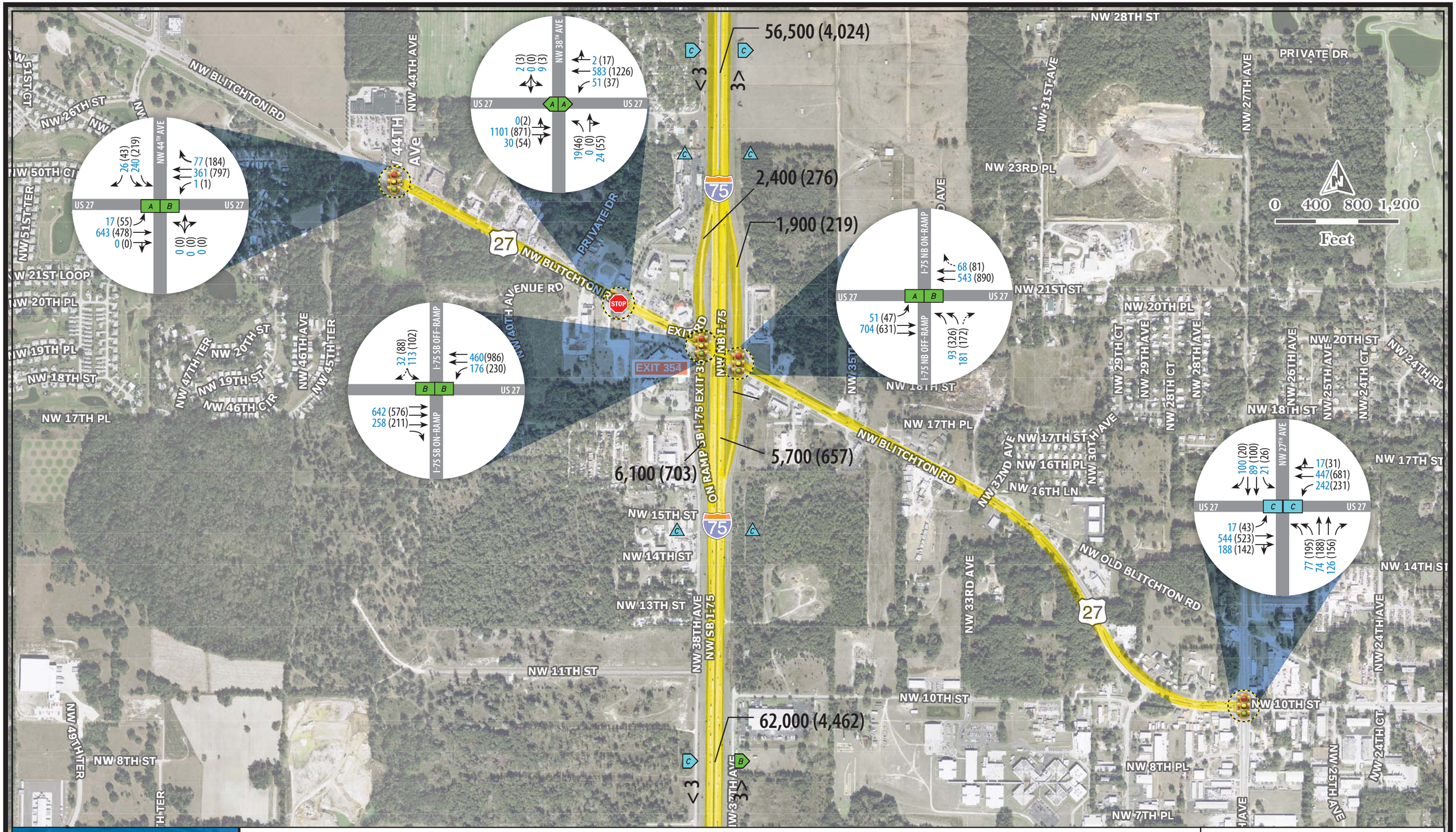
- B LOS B or Better
- C LOS C
- D LOS D
- E LOS E
- F LOS F

Existing Conditions (2011)
Geometry, Volume and LOS

I-75 @ SR 40

Figure 2.7

I-75 Systems Access Management Report (SAMR)



LEGEND:

- Study Segments
- 0,000 2009 AADT (DDHV)
- Channelized Right Turns
- <1 Direction and Number of Lanes
- Unsignalized Intersection
- Signalized Intersection
- Design Hour Freeway LOS
- Signalized Intersection AM/PM or Midday Peak Hour LOS
- Unsignalized Minor Approach AM/PM or Midday Peak Hour LOS
- Design Hour Merge/Diverge LOS
- U-Turns 000 (000)
- 000 (000)
  - 2011 PM Peak Hour Volume
  - 2011 AM Peak Hour Volume
  - Existing Lane Geometry
- U-Turns 000
- 000
  - 2011 Midday Peak Hour Volume
  - Existing Lane Geometry

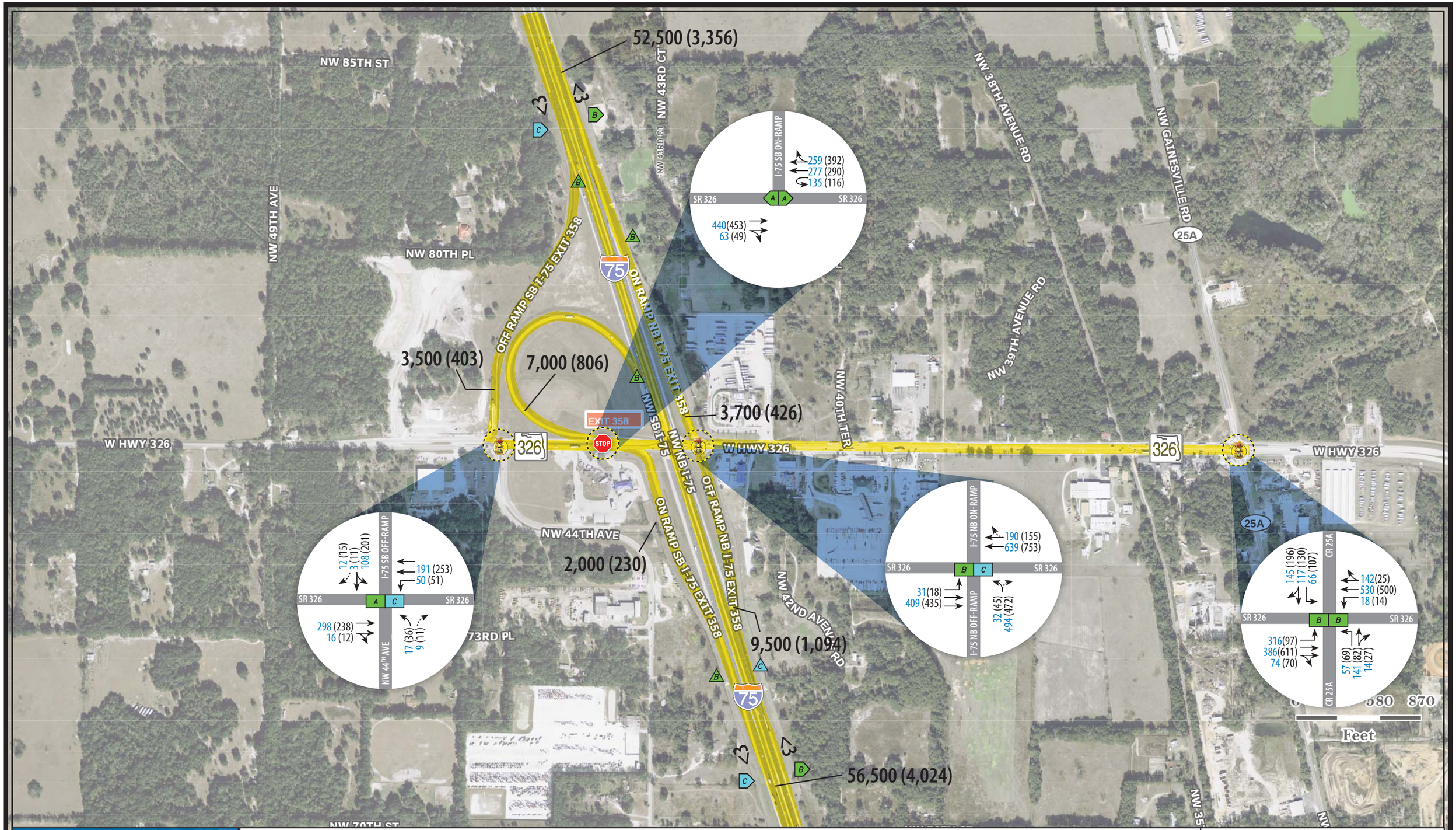
Level of Service

- D LOS B or Better
- C LOS C
- D LOS D
- E LOS E
- F LOS F

Existing Conditions (2011)
Geometry, Volume and LOS

I-75 @ US 27

Figure 2.8



I-75 Systems Access Management Report (SAMR)

LEGEND:

- Study Segments
- 0,000 2009 AADT (DDHV)
- Channelized Right Turns
- <1 Direction and Number of Lanes
- Unsignalized Intersection
- Signalized Intersection
- Design Hour Freeway LOS
- Signalized Intersection AM/PM or Midday Peak Hour LOS
- Unsignalized Minor Approach AM/PM or Midday Peak Hour LOS
- Design Hour Merge/Diverge LOS
- U-Turns 000 (000)
- 000 (000)
  - 2011 PM Peak Hour Volume
  - 2011 AM Peak Hour Volume
  - Existing Lane Geometry
- U-Turns 000
- 000
  - 2011 Midday Peak Hour Volume
  - Existing Lane Geometry

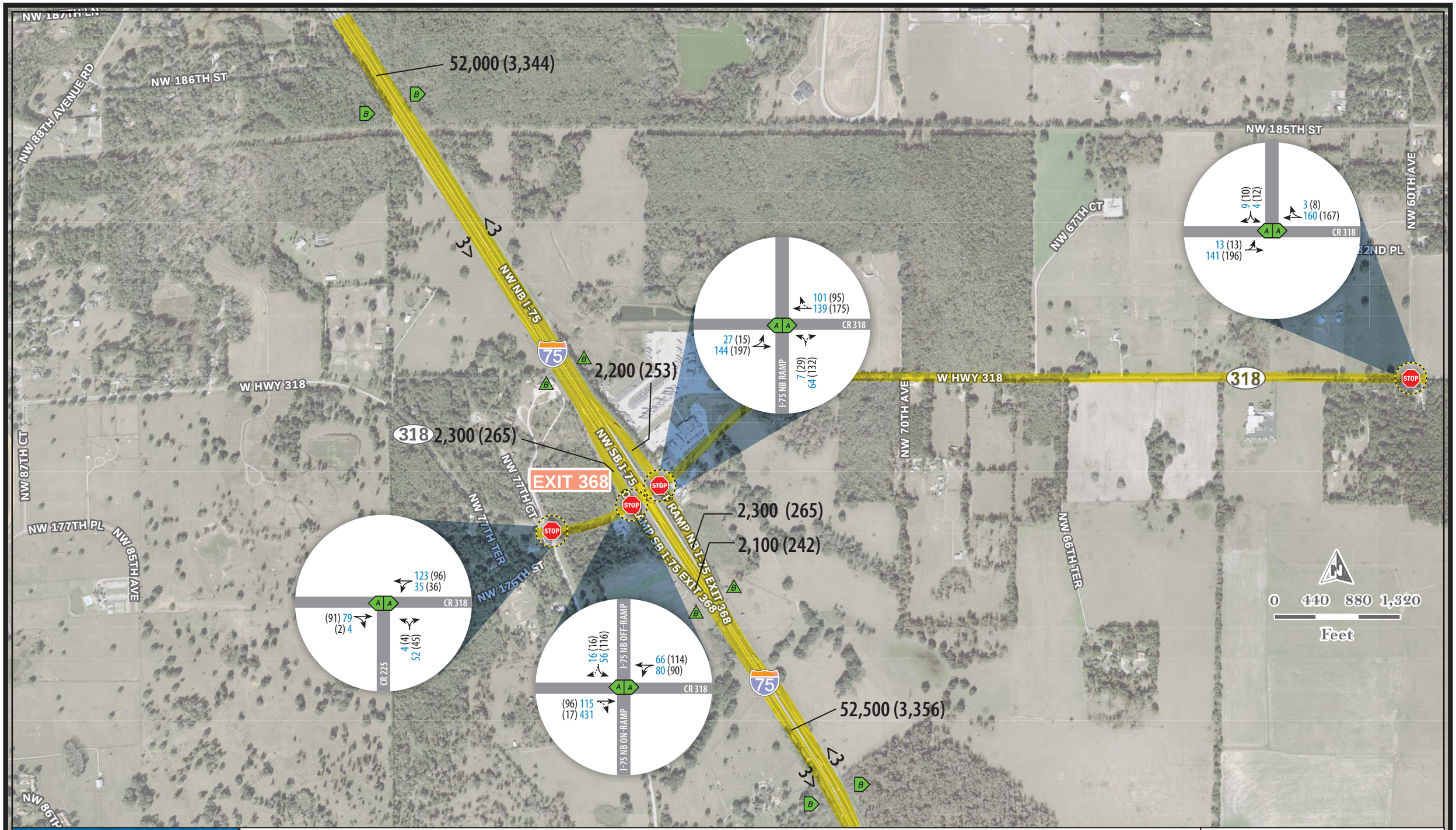
Level of Service

- B LOS B or Better
- C LOS C
- D LOS D
- E LOS E
- F LOS F

Existing Conditions (2011)
Geometry, Volume and LOS

I-75 @ SR 326

Figure 2.9



I-75 Systems Access Management Report (SAMR)

LEGEND:

- Study Segments
- 0,000 2009 AADT (DDHV)
- Channelized Right Turns
- <1 Direction and Number of Lanes
- Unsignalized Intersection
- Signalized Intersection
- Design Hour Freeway LOS
- Signalized Intersection AM/PM or Midday Peak Hour LOS
- Unsignalized Minor Approach AM/PM or Midday Peak Hour LOS
- Design Hour Merge/Diverge LOS
- U-Turns 000 (000) / 000 (000) — 2011 PM Peak Hour Volume / 2011 AM Peak Hour Volume / Existing Lane Geometry
- U-Turns 000 / 000 — 2011 Midday Peak Hour Volume / Existing Lane Geometry

Level of Service

- B LOS B or Better
- C LOS C
- D LOS D
- E LOS E
- F LOS F

Existing Conditions (2011)
Geometry, Volume and LOS

I-75 @ CR 318 — Figure 2.10

Please note that the segment of SR 44 west of I-75, the segment of SR 326 east of I-75, and the segment of US 27 west of I-75 are designated as SIS highways. There are two (2) rest areas along I-75 in the study area. One (1) rest area is located approximately 0.8 miles south of the CR 476 interchange and the other rest area is located approximately 3.9 miles south of the SR 200 interchange. **Table 2.1** shows the functional classification, number of lanes, and AADT for all existing roadway segments within the area of influence.

TABLE 2.1 | Number of Lanes and 2009 AADT for Study Area Roadways

Road Name	From	To	Functional Classification	Number of Lanes	2009 AADT
I-75	CR 476B	SR 48	Rural Principal Arterial-Interstate	4	36,500
	I-75 @ SR 48	CR 470		4	41,300
	CR 470	Florida's Turnpike		4	41,300
	Florida's Turnpike	SR 44		6	58,500
	SR 44	CR 484		6	61,500
	CR 484	SR 200	Urban Principal Arterial-Interstate	6	76,100
	SR 200	SR 40		6	67,000
	SR 40	SR 500/US 27		6	62,000
	SR 500/US 27	SR 326		6	56,500
	SR 326	CR 318	Rural Principal Arterial-Interstate	6	52,500
CR 476B	SW 102nd Avenue	SW 53rd Terrace	Rural Major Collector	2	2,000
SR 48/CR 48	CR 48 @ CR 616	I-75		4	4,600
SR 48/CR 48	I-75	CR 609	Rural Minor Arterial	2	9,800
CR 470	CR 489	CR 527 S		2	6,000
SR 44	CR 231	I-75	Rural Minor Arterial (SIS Highway)	4	8,100
SR 44	I-75	CR 229	Transitioning Arterial	4	13,800
CR 484	Marion Oaks Course	I-75	Urban Minor Arterial	4	24,700
CR 484	I-75	CR 475A	Rural Principal Arterial	4	23,600
SR 200	SW 39th Avenue	I-75	Urban Principal Arterial	6	39,700
SR 200	I-75	SW 34th Avenue		6	53,200
SR 40	NW 60th Avenue	I-75		4	29,600
SR 40	I-75	SW 27th Avenue		4	27,500
US 27	NW 44th Avenue	I-75	Urban Principal Arterial (SIS Highway)	4	17,500
US 27	I-75	NW 27th Avenue	Urban Principal Arterial	4	22,000
SR 326	NW 44th Avenue	I-75		2	6,000
SR 326	I-75	CR 25A	Urban Principal Arterial (SIS Highway)	2	18,900
CR 318	NW Highway 225	I-75	Rural Major Collector	2	3,100
CR 318	I-75	NW 60th Avenue		2	4,300

Sources: 2010 FDOT District Five LOS_ALL, Ocala/Marion TPO Road Segment Database

2.4. Level of Service (LOS) Standards

The LOS standards were obtained from 2010 FDOT District Five LOS_ALL, Rule 14-94, *Florida Administrative Code* (*FAC*), the Transportation Circulation Element of the Sumter County Comprehensive Plan (Adopted in 2008), the Transportation Element of the Ocala/Marion County Comprehensive Plan (Adopted in 2008), and FDOT Interchange Handbook Technical Resource Document. **Table 2.2** through **Table 2.4** present the LOS standards for I-75 mainline, I-75 ramp merge/diverge areas, and crossroads in the study area.

TABLE 2.2 | I-75 Mainline LOS Standards

From	To	Area Type	LOS Standard*
Hernando County Line	Rest Area South of CR 476B	Rural	C
Rest Area South of CR 476B	I-75 @ CR 476B	Rural	C
I-75 @ CR 476B	I-75 @ SR 48	Rural	C
I-75 @ SR 48	I-75 @ CR 470	Rural	C
I-75 @ CR 470	I-75 @ Florida's Turnpike	Rural	C
I-75 @ Florida's Turnpike	I-75 @ SR 44	Rural	C
I-75 @ SR 44	I-75 @ CR 484	Rural	C
I-75 @ CR 484	Rest Area South of SR 200	Urban	D
Rest Area South of SR 200	I-75 @ SR 200	Urban	D
I-75 @ SR 200	I-75 @ SR 40	Urban	D
I-75 @ SR 40	I-75 @ SR 500/US 27	Urban	D
I-75 @ SR 500/US 27	I-75 @ SR 326	Urban	D
I-75 @ SR 326	I-75 @ CR 318	Rural	C
I-75 @ CR 318	Alachua County Line	Rural	C

*LOS Standards effective April 18, 2012 (Topic No.: 525-000-006-a)

TABLE 2.3 | LOS Standards for I-75 Ramp Merge/Diverge Areas

I-75 Ramp Merge/Diverge Areas	Area Type	LOS Standard
	Rural	B
	Urban	D

Source: FDOT Interchange Handbook Technical Resource Document-2

TABLE 2.4 | LOS Standards for Cross Roads at I-75 Interchanges

I-75 Crossroads	From	To	Functional Classification	LOS Standard
CR 476B	SW 102nd Avenue	SW 53rd Terrace	Rural Major Collector	C
SR 48/CR 48	CR 616	I-75	Rural Major Collector	D
SR 48/CR 48	I-75	CR 609	Rural Minor Arterial	D
CR 470	CR 489	CR 527 S	Rural Minor Arterial	D
SR 44	CR 231	I-75	Rural Minor Arterial (SIS Highway)	B
SR 44	I-75	CR 229	Transitioning Arterial	D
CR 484	Marion Oaks Course	I-75	Urban Minor Arterial	E
CR 484	I-75	CR 475A	Rural Principal Arterial	C
SR 200	SW 39th Avenue	SW 34th Avenue	Urban Principal Arterial	D
SR 40	NW 60th Avenue	SW 27th Avenue	Urban Principal Arterial	D
US 27	NW 44th Avenue	I-75	Urban Principal Arterial (SIS Highway)	C
US 27	I-75	NW 27th Avenue	Urban Principal Arterial	D
SR 326	NW 44th Avenue	I-75	Urban Principal Arterial	D
SR 326	I-75	CR 25A	Urban Principal Arterial (SIS Highway)	C
CR 318	NW Highway 225	NW 60th Avenue	Rural Major Collector	B

2.5. Existing Condition Operational Analysis

Operational analyses have been conducted for existing conditions utilizing the 2000 Highway Capacity Manual (HCM 2000) methodologies. Freeway and ramp merge/diverge operational analyses were conducted using the latest version of the Highway Capacity Software (HCS) and intersection analyses were conducted using the latest version of SYNCHRO.

2.5.1. Basic Freeway Segment Analysis

Basic freeway segments include the portions of freeway where flow is not influenced by the diverging, merging, or weaving associated with ramp/freeway connections. All I-75 basic freeway segments have been analyzed for existing conditions utilizing the HCS + freeway module. **Table 2.5** shows the results of the analysis and the HCS+ outputs are included in Appendix C. The results are also graphically represented in **Figures 2.1** through **2.10**. The results indicate that all basic freeway segments are currently operating acceptably within the adopted LOS standards with one exception. The segment of I-75 between SR 44 and CR 484 is operating at LOS C in the peak direction while the LOS standard is B.

TABLE 2.5 | Basic Freeway Segment Analysis for I-75 Segments

From	To	Functional Classification	Number of Lanes	2009 AADT	Peak Direction (North Bound) Density (pas-car/ lane/mi)	Non-Peak Direction (South Bound) Density (pas-car/ lane/mi)	FDOT LOS Standard	Peak Direction LOS	Non-Peak Direction LOS
Hernando County Line	Rest Area South of CR 476B	Rural Principal Arterial-Interstate	4	33,000	16.7	13.2	C	B	B
Rest Area South of CR 476B	CR 476B		4	35,500	16.6	13.2		B	B
CR 476B	SR 48		4	36,500	16.0	12.3		B	B
SR 48	CR 470		4	41,300	16.1	12.3		B	B
CR 470	Florida's Turnpike		4	41,300	16.6	12.5		B	B
Florida's Turnpike	SR 44		6	58,500	15.4	17.8		B	B
SR 44	CR 484		6	61,500	20.3	16.8		C	B
CR 484	Rest Area South of SR 200	Urban Principal Arterial-Interstate	6	76,000	22.5	18.2	D	C	C
Rest Area South of SR 200	SR 200		6	76,000	22.5	18.2		C	C
SR 200	SR 40		6	67,000	23.1	19.4		C	C
SR 40	SR 500/US 27		6	62,000	22.7	19.0		C	C
SR 500/US 27	SR 326		6	56,500	20.3	16.8		C	B
SR 326	CR 318	Rural Principal Arterial-Interstate	6	52,500	16.8	13.4	C	B	B
CR 318	Alachua County Line		6	52,000	16.7	13.6		B	B

2.5.2. Freeway Weave Analysis

I-75 south of SR 44 is funded for widening to six (6) lanes in the FDOT Work Program (FY 2010/11 - 2014/15). The FTE is in the process of looking into several alternatives between the interchanges of FTE and SR 44 on I-75 to eliminate weaving and improve operations.

2.5.3. Ramp Merge/Diverge Analysis

Ramp merge and diverge influence areas include the acceleration or deceleration lane on the freeway within 1500 feet of the ramp/freeway gore. Ramp merge/ diverge analysis was conducted utilizing the HCS + ramp module. Results of the analysis are shown in **Table 2.6** and also presented graphically in **Figures 2.1** through **2.10**. The HCS+ outputs are included in **Appendix C**. The results indicate that the following merge/diverge areas are currently operating deficiently: CR 476B NB off ramp, SR 48/CR 48 NB off ramp, CR 484 NB on ramp, CR 484 NB off ramp, CR 484 SB off ramp, and SR 326 NB off ramp.

TABLE 2.6 | Ramp Merge/Diverge Analysis Results

I-75 Interchange	Ramp	Number of Lanes	AADT	DDHVs	Area Type	FDOT LOS Standard	Density	LOS
CR 476B	NB loop off ramp	1	1,100	124	Rural Principal Arterial-Interstate	B	20.6	C
	NB on Ramp	1	450	51			18.8	B
	SB off-Ramp	1	400	45			15.5	B
	SB on-Ramp	1	1,500	169			14.5	B
SR 48/CR 48	NB off ramp	1	1,600	180			21.7	C
	NB on Ramp	1	1,700	191			17.6	B
	SB off-Ramp	1	1,500	169			17.7	B
	SB on-Ramp	1	1,500	169			17.2	B
CR 470	NB off ramp	1	1,900	214			19.1	B
	NB on Ramp	1	2,500	281			17.2	B
	SB off-Ramp	1	2,200	247			17.6	B
	SB on-Ramp	1	1,900	214			15.6	B
SR 44	NB off ramp	2	6,900	776			<1	A
	NB on Ramp	2	6,500	731			3.2	A
	SB off-Ramp	2	4,800	540			<1	A
	SB on-Ramp	1	6,400	719			17.5	B
CR 484	NB off ramp	1	4,100	472			23.5	C
	NB on Ramp	1	7,500	864			25.0	C
	SB off-Ramp	1	6,200	714			22.0	C
	SB on-Ramp	1	3,900	449			18.8	B
SR 200	NB off ramp	1	6,100	703	Urban Principal Arterial-Interstate	D	29.5	D
	NB on Ramp	1	7,100	818			24.6	C
	SB off-Ramp	1	7,300	861			27.1	C
	SB on-Ramp	1	5,300	611			18.9	B
SR 40	NB off ramp	1	5,100	588			27.2	C
	NB on Ramp	1	4,500	518			25.7	C
	SB off-Ramp	1	4,200	484			24.5	C
	SB on-Ramp	1	4,900	564			21.4	C
US 27	NB off ramp	1	5,700	657			26.1	C
	NB on Ramp	1	1,900	219			21.8	C
	SB off-Ramp	1	2,400	276			21.5	C
	SB on-Ramp	1	6,100	703			23.0	C
SR 326	NB off ramp	1	9,500	1,094	Rural Principal Arterial-Interstate	B	23.9	C
	NB on Ramp	1	3,700	426			17.5	B
	SB off-Ramp	1	3,500	403			19.9	B
	SB loop-Ramp	1	7,000	806			13.8	B
	SB on-Ramp	1	2,000	230			18.4	B
CR 318	NB off ramp	1	2,300	265			19.2	B
	NB on Ramp	1	2,200	253			18.1	B
	SB off-Ramp	1	2,300	265			14.8	B
	SB on-Ramp	1	2,100	242			13.5	B

2.5.4. Intersection Analysis

TMCs were collected on different days for each of the corridors. Each intersection has different peak-hour traffic patterns along the analysis corridor. In order to analyze the corridor when all the intersections are operating in peak conditions, TMCs were further analyzed and a single peak-hour for the corridor was determined from the TMC data. The typical peak hour for AM was 7:30 am to 8:30 am, for PM was from 4:30 pm to 5:30 pm and for midday was from 12:30 pm to 1:30 pm. Then a detailed intersection capacity analysis was performed for all the study intersections using HCM module of the SYNCHRO Version 7 software. The results of the existing peak hour intersection analyses are summarized in **Table 2.7** and the detailed reports are included in **Appendix C**.

TABLE 2.7 | Intersection Analysis Results

Roadway	LOS Standard	Approach	Midday Peak-Hour			
			Approach		Intersection	
			Delay (sec)	LOS	Delay	LOS
CR 476B @ SW 102 (unsignalized)	C	EB	9.5	A	4.4	A
		NB	4.7	A		
		SB	0	A		
CR 476B @ I-75 SB Ramps (unsignalized)	C	EB	0	A	5.3	A
		WB	5.5	A		
		SB	12.5	B		
CR 476B @ I-75 NB Ramps (unsignalized)	C	EB	3	A	0.8	A
		WB	0	A		
		SB	11.1	B		
CR 476B @ SW 53rd Ter. (unsignalized)	C	EB	0.1	A	0.1	A
		WB	0	A		
		SB	11.1	B		
CR 48 @ CR 616 (unsignalized)	D	EB	0	A	3.2	A
		WB	2.3	A		
		NB	9.8	A		
		SB	0	A		
CR 48 @ I-75 SB Ramps (signalized)	D	EB	3.9	A	8.1	A
		WB	4.4	A		
		SB	26.8	C		
SR 48@ I-75 NB Ramps (unsignalized)	D	EB	0.9	A	3.9	A
		WB	0	A		
		NB	19	C		
SR 48 @ CR 609 (unsignalized)	D	EB	4.5	A	5.3	A
		WB	4.7	A		
		NB	8.7	A		

TABLE 2.7 | Intersection Analysis Results (Cont.)

Roadway	LOS Standard	Approach	AM Peak-Hour				PM Peak-Hour			
			Approach		Intersection		Approach		Intersection	
			Delay (sec)	LOS	Delay	LOS	Delay (sec)	LOS	Delay	LOS
CR 470 @ CR 488 (unsignalized)	D	EB	0	A	1	A	0.4	A	0.9	A
		WB	1	A			0.4	A		
		NB	11.3	B			10.8	B		
		SB	13.6	B			14.3	B		
CR 470 @ I-75 SB Ramps (unsignalized)	D	EB	0	A	5.4	A	0	A	5.5	A
		WB	2.6	A			2.2	A		
		SB	24.6	C			24.8	C		
CR 470 @ CR 475 (unsignalized)	D	EB	0	A	6.9	A	0	A	10.5	B
		WB	0	A			0	A		
		NB	20.6	C			27.4	D		
CR 470 @ CR 527 (unsignalized)	D	EB	0	A	0.2	A	0.1	A	0.4	A
		WB	0.2	A			0.2	A		
		NB	14.8	B			13	B		
		SB	15.5	C			12.1	B		
CR 470 @ I-75 NB Off-Ramp (unsignalized)	D	EB	13.2	B	5.1	A	14.4	B	6	A
		NB	0	A			0	A		
		SB	0	A			0	A		
SR 44 @ CR 231 (unsignalized)	B	EB	0	A	0.4	A	0	A	0.4	A
		WB	0	A			0	A		
		SB	12.0	B			14.8	B		
SR 44 @ I-75 SB Ramps (signalized)	B	EB	8.3	A	17.8	B	12.3	B	18.2	B
		WB	13.8	B			14.3	B		
		SB	42.1	D			32.6	C		
SR 44 @ I-75 NB Ramps (signalized)	D	EB	20.3	C	20.3	C	20.5	C	20.5	C
		WB	13.8	B			9.6	A		
		NB	37.5	D			41.6	D		
SR 44 @ CR 229 (unsignalized)	D	EB	0.8	A	1.7	A	1.2	A	1.4	A
		WB	0	A			0.1	A		
		NB	31.3	D			13.1	B		
		SB	14.9	B			12.6	B		

TABLE 2.7 | Intersection Analysis Results (Cont.)

Roadway	LOS Standard	Approach	AM Peak-Hour				PM Peak-Hour			
			Approach		Intersection		Approach		Intersection	
			Delay (sec)	LOS	Delay	LOS	Delay (sec)	LOS	Delay	LOS
CR 484 @ Marion Oaks Course (signalized)	E	EB	9.8	A	12.9	B	9.8	A	9.9	A
		WB	9.4	A			10.9	B		
		NB	9.7	A			7.3	A		
		SB	22.2	C			8.8	A		
CR 484 @ Marion Oaks Course (signalized)	E	EB	24.7	C	23.3	C	11.7	B	42.6	D
		WB	16.9	B			69.2	E		
		NB	26.7	C			8	A		
CR 484 @ SW 20th Ave (unsignalized)	E	EB	0	A	1.6	A	0	A	1.3	A
		WB	0.9	A			0.5	A		
		SB	24.6	C			22.1	C		
CR 484 @ I-75 SB Ramps (signalized)	E	EB	13.1	B	12.7	B	15.4	B	20	C
		WB	4.8	A			9.6	A		
		SB	25.7	C			43.3	D		
CR 484 @ I-75 NB Ramps (signalized)	C	EB	8.9	A	13.5	B	5.1	A	18.2	B
		WB	16.5	B			12.5	B		
		NB	43.5	D			92.3	F		
CR 484 @ CR 475A	C	EB	17.2	B	21	C	21.6	C	25.7	C
		WB	24.8	C			28.4	C		
		NB	19.6	B			22	C		
		SB	30.7	C			35.8	D		
SR 200 @ SW 40 Ave.	D	SE	0	A	8.7	A	0	A	11.4	B
		NW	61.9	E			62	E		
		NE	8.5	A			12.2	B		
		SW	7.5	A			4.4	A		
SR 200 @ SW 38 Ct.	D	SE	54.2	D	34.5	C	64.9	E	47	D
		NW	57.1	E			72.5	E		
		NE	38.4	D			45.7	D		
		SW	16.7	B			39.6	D		
SR 200 @ I-75 SB Ramps	D	SB	54.2	D	15.6	B	59.7	E	28.8	C
		NE	9.9	A			29.8	C		
		SW	9.7	A			16.1	B		
SR 200 @ I-75 NB Ramps	D	NB	53.2	D	33.6	C	67	E	21.6	C
		NE	30.6	B			16.2	B		
		SW	31.5	B			19.5	B		
SR 200 @ SW 35 Ave.	D	SE	59.6	E	5.2	A	46.1	D	33.2	C
		NW	65.1	E			99.3	F		
		NE	2.4	A			22.3	C		
		SW	6.4	A			31.9	C		

TABLE 2.7 | Intersection Analysis Results (Cont.)

Roadway	LOS Standard	Approach	AM Peak-Hour				PM Peak-Hour			
			Approach		Intersection		Approach		Intersection	
			Delay (sec)	LOS	Delay	LOS	Delay (sec)	LOS	Delay	LOS
SR 40 @ SW 60th Ave	D	EB	30.1	C	31.8	C	27.9	C	27.6	C
		WB	30.8	C			28.5	C		
		NB	33.3	C			24.5	C		
		SB	36.5	D			31.5	C		
SR 40 @ SW 52nd Ave	D	EB	16	B	14.1	B	10.9	B	11.6	B
		WB	10.9	B			10.9	B		
		NB	10.7	B			11.7	B		
		SB	31.2	C			25	C		
SR 40 @ I-75 SB Ramps	D	EB	27.5	C	29.4	C	28.8	C	27.4	C
		WB	20.9	C			15.6	B		
		SB	66.3	E			73.4	E		
SR 40 @ I-75 NB Ramps	D	EB	21.3	C	38.2	D	13.8	B	22	C
		WB	56	E			23.5	C		
		NB	62.1	E			68.3	E		
SR 40 @ NW 33rd Ave	D	EB	18.2	B	20.5	B	16.1	B	16	B
		WB	15	B			4.9	A		
		NB	59.8	E			60.4	E		
		SB	47.7	D			49.7	D		
SR 40 @ SW 27th Ave	D	EB	72.7	E	62.4	E	260.3	F	143.3	F
		WB	56.8	E			136.3	F		
		NB	61.6	E			44.3	D		
		SB	54.5	D			62.9	E		
US 27 @ NW 44th Ave.	C	EB	6.7	A	9	A	5.2	A	11.3	B
		WB	9.8	A			12.3	B		
		NB	0	A			0	A		
		SB	13.3	B			19.6	B		
US 27 @ NW 38th Ave (unsignalized)	C	EB	0	A	0.9	A	0	0	1.3	A
		WB	1	A			0.3	0		
		NB	20.2	C			22.8	C		
		SB	18.3	C			27.4	D		
US 27 @ I-75 SB Ramps	C	EB	9.6	A	10	B	10.1	B	10.2	B
		WB	3.5	A			5	A		
		SB	41.4	D			43.1	D		
US 27 @ I-75 NB Ramps	D	EB	2.4	A	9.8	A	3.3	A	11.7	B
		WB	6.6	A			9.6	A		
		NB	37.5	D			27.1	C		
US 27 @ NW 27th Ave	D	EB	25.5	C	33.2	C	16.6	B	23.8	C
		WB	27.2	C			10.7	B		
		NB	52.3	D			45.6	D		
		SB	55.8	E			63.0	E		

TABLE 2.7 | Intersection Analysis Results (Cont.)

Roadway	LOS Standard	Approach	AM Peak-Hour				PM Peak-Hour			
			Approach		Intersection		Approach		Intersection	
			Delay (sec)	LOS	Delay	LOS	Delay (sec)	LOS	Delay	LOS
SR 326 @ NW 44 Ave	D	EB	6.8	A	8.3	A	11.5	B	20.7	C
		WB	6.5	A			11.4	B		
		NB	12.8	B			56.7	E		
		SB	13.2	B			29	C		
SR 326 @ I-75 NB Ramps	C	EB	10.7	B	19.4	B	9.5	A	32.6	C
		WB	19.5	B			37.8	D		
		NB	26.6	C			43.9	D		
SR 326 @ SW 27th Ave	C	EB	16.3	B	15.1	B	10	A	10.8	B
		WB	6.2	A			9.2	A		
		NB	23.0	C			11.7	B		
		SB	25.8	C			14.1	B		
CR 318 @ CR 225 (unsignalized)	B	EB	0	A	2.7	A	0	A	2.7	A
		WB	1.9	A			2.2	A		
		NB	9.2	A			9.2	A		
CR 318 @ I-75 SB Ramps (unsignalized)	B	EB	0	A	4.3	A	0	A	5.9	A
		WB	4.6	A			3.7	A		
		SB	12.3	B			14.3	B		
CR 318 @ I-75 SB Ramps (unsignalized)	B	EB	1.4	A	2	A	0.7	A	3.2	A
		WB	0	A			0	A		
		NB	10.1	B			11.8	B		
CR 318 @ NW 60th Ave (unsignalized)	B	EB	0.2	A	0.5	A	0.6	A	0.9	A
		WB	0	A			0	A		
		SB	9.9	A			10.5	B		

The results indicate that the following intersections are operating below the LOS standards and need immediate improvements: SR 40 at SW 27th Ave intersections in both AM and PM peak hour conditions.

2.5.5. Queue Analysis

A queue analysis at the ramp intersections was also conducted using SYNCHRO to ensure that the available storage lengths were adequate and there was no backup to I-75 mainline. **Table 2.8** summarizes the 95th percentile queue lengths. SYNCHRO queue reports are included in **Appendix C**. Results indicate that following movements are experiencing storage deficiencies:

- SB left turn at I-75 southbound off ramp to CR 484
- WB left turn at I-75 southbound ramps and EB left turn at I-75 NB ramps on SR 40

TABLE 2.8 | Queue Summary

Intersection	Movement	Available Storage (feet)	Midday Peak-Hour 95th Percentile Queue length (feet)	Storage Sufficient?
CR 476B @ I-75 SB Ramps	EBR	100	0	YES
	WBLT	0	14	YES
	SBLR	1600	7	YES
	SBR	50	4	YES
CR 476B @ I-75 NB Ramps	EBL	200	2	YES
	WBR	50	0	YES
	SBL	150	3	YES
CR 48 @ I-75 SB Ramps	EBR	1000	0	YES
	WBL	150	9	YES
	SBL	1700	81	YES
	SBR	150	81	YES
SR 48@ I-75 NB Ramps	EBL	150	3	YES
	NBL	1400	57	YES
	NBR	150	57	YES
SR 48 @ CR 609	EBR	150	9	YES
	WBL	350	59	YES
	NBR	140	18	YES

TABLE 2.8 | Queue Summary (Cont.)

Intersection	Movement	Available Storage (feet)	AM Peak-Hour 95th Percentile Queue length (feet)	PM Peak-Hour 95th Percentile Queue length (feet)	Storage Sufficient?
CR 470 @ I-75 SB Ramps	EBTR	100	0	0	YES
	WBTL	0	5	7	YES
	SBL	1800	62	56	YES
	SBR	400	6	11	YES
CR 470 @ I-75 NB Off-Ramp	EBL	120	34	47	YES
	EBR	1000	34	47	YES
SR 44 @ I-75 SB Ramps	EBR	350	35	40	YES
	WBL	300	98	m98	YES
	SBL	2000	112	86	YES
	SBR	450	43	56	YES
SR 44 @ I-75 SB Ramps	EBL	300	#221	264	YES
	WBR	300	73	11	YES
	NBL	1500	68	49	YES
	NBR	450	47	9	YES
CR 484 @ I-75 SB Ramps	WBL	300	51	41	YES
	SBL	1260	78	111	YES
	SBR	350	48	#386	NO
CR 484 @ I-75 NB Ramps	EBL	300	279	116	YES
	NBL	1700	109	#304	YES
	NBR	350	22	42	YES
SR 200 @ I-75 SB Ramps	SWL	750	m154	#429	YES
	SBL	1800	102	113	YES
	SBR	400	44	#276	YES
SR 200 @ I-75 SB Ramps	NEL	750	m#327	#305	YES
	NBL	1700	#182	148	YES
	NBR	500	#369	135	YES
SR 40 @ I-75 SB Ramps	EBR	400	39	43	YES
	WBL	110	84	#235	NO
	SBL	1300	#348	#263	YES
	SBR	1300	#348	#263	YES
SR 40 @ I-75 NB Ramps	EBL	110	#259	154	NO
	WBR	500	39	38	YES
	NBL	1700	180	147	YES
	NBR	1700	180	147	YES

TABLE 2.8 | Queue Summary (Cont.)

Intersection	Movement	Available Storage (feet)	AM Peak-Hour 95th Percentile Queue length (feet)	PM Peak-Hour 95th Percentile Queue length (feet)	Storage Sufficient?
US 27 @ I-75 SB Ramps	EBR	250	36	35	YES
	WBL	250	49	63	YES
	SBL	1800	105	109	YES
	SBR	1800	105	109	YES
US 27 @ I-75 NB Ramps	EBL	250	16	17	YES
	WBR	180	20	20	YES
	NBL	1700	31	121	YES
	NBR	400	44	29	YES
SR 326 @ NW 44 Ave/SB off ramp	NBL	850	27	103	YES
	NBR	850	7	16	YES
	SBL	2400	47	176	YES
	SBR	380	8	14	YES
SR 326 @ I-75 NB Ramps	EBL	200	40	27	YES
	NBL	1850	#278	#304	YES
	NBR	1850	#278	#304	YES
CR 318 @ I-75 SB Ramps	EBR	>500	0	0	YES
	WBTR	230	5	5	YES
	SBL	1150	11	27	YES
	SBR	1150	11	27	YES
CR 318 @ I-75 SB Ramps	EBTL	230	2	1	YES
	NBL	1150	8	24	YES
	NBR	1150	8	24	YES
	WBR	>500	0	0	YES

Note: # = 95th percentile volume exceeds capacity, queue may be longer
M = Volume for 95th percentile queue is metered by upstream signal

2.6. Crash Analysis

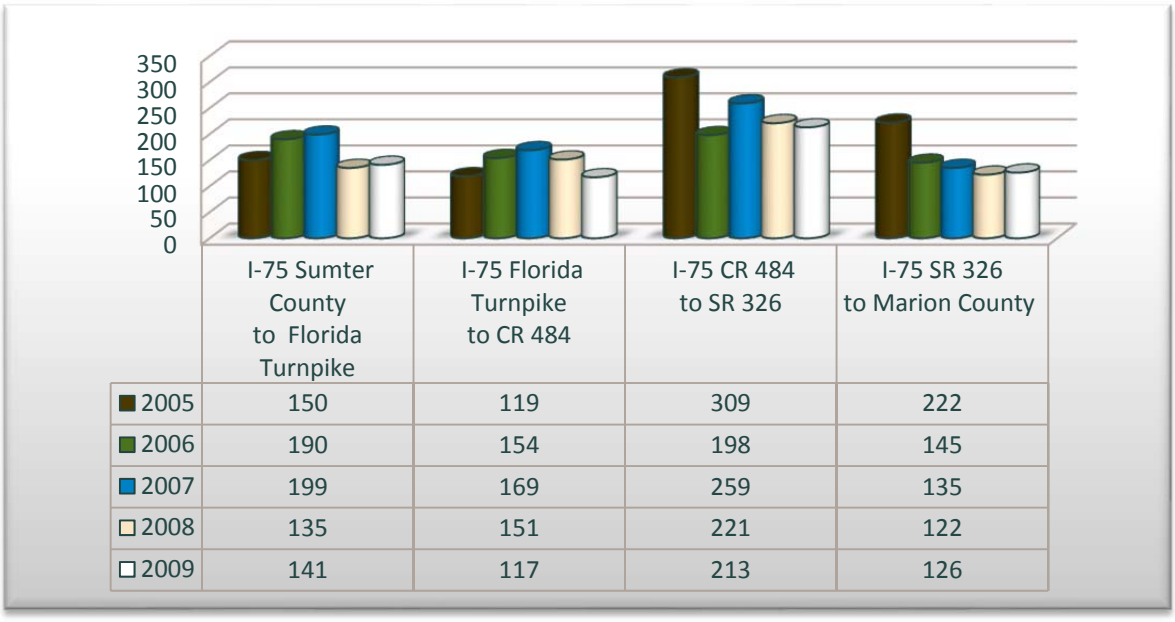
Crash data for the recent five (5) years (2005 through 2009), as recorded in the Crash Analysis Reporting System, were obtained from the FDOT Central Office for the I-75 segments and state roads in the study area. Remaining crash data was obtained from the FDOT District Five Safety Office and the Marion County Traffic Engineering Office.

I-75 is divided into four (4) segments by functional classification and number of lanes, for crash analysis purposes, and they are tabulated in **Table 2.9**. The total number of crashes and fatalities for these four (4) segments are summarized in **Figure 2.11** and **Figure 2.12**. These figures indicate that the number of crashes and fatalities on the segment from CR 484 to SR 326 are higher than on other I-75 segments. Additionally, the I-75 segment from CR 484 to SR 326 is averaging about five (5) fatalities per year.

TABLE 2.9 | I-75 Segmentation for Crash Analysis

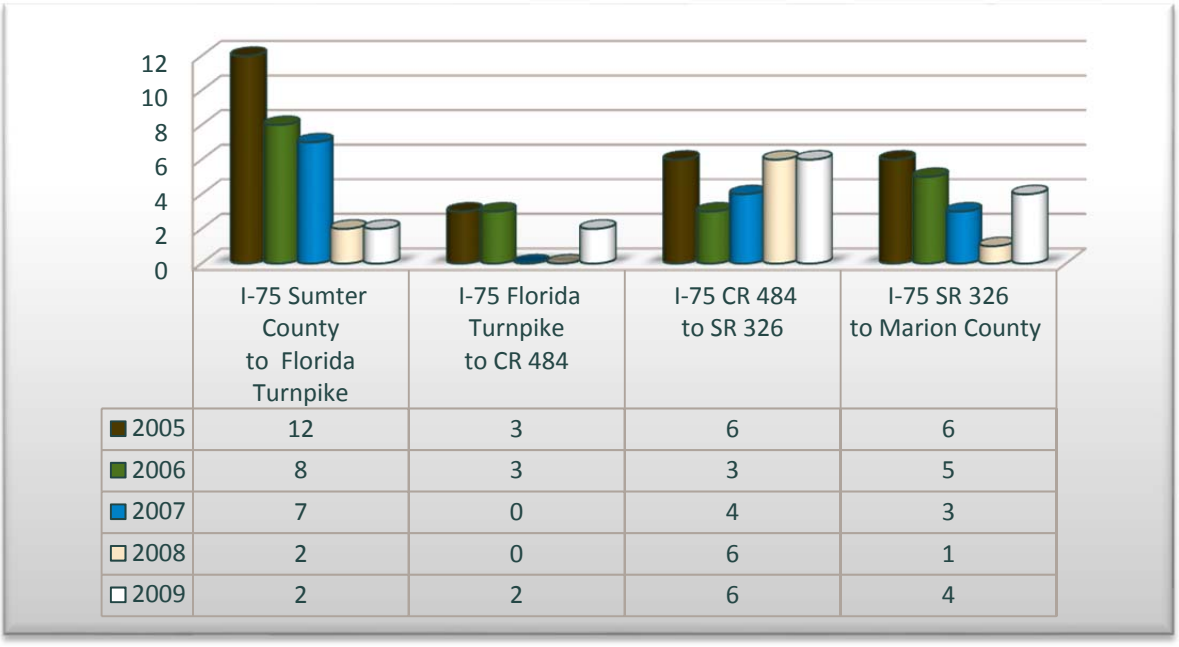
I-75 Segment	Number of Lanes	Functional Classification
Hernando County Line to Florida's Turnpike	4	Rural Principal Arterial-Interstate
Florida's Turnpike to CR 484	6	Rural Principal Arterial-Interstate
CR 484 to SR 326	6	Urban Principal Arterial-Interstate
SR 326 to Marion County	6	Rural Principal Arterial-Interstate

FIGURE 2.11 | Total Crashes on I-75 in the Study Area



	I-75 Sumter County to Florida Turnpike	I-75 Florida Turnpike to CR 484	I-75 CR 484 to SR 326	I-75 SR 326 to Marion County
2005	150	119	309	222
2006	190	154	198	145
2007	199	169	259	135
2008	135	151	221	122
2009	141	117	213	126

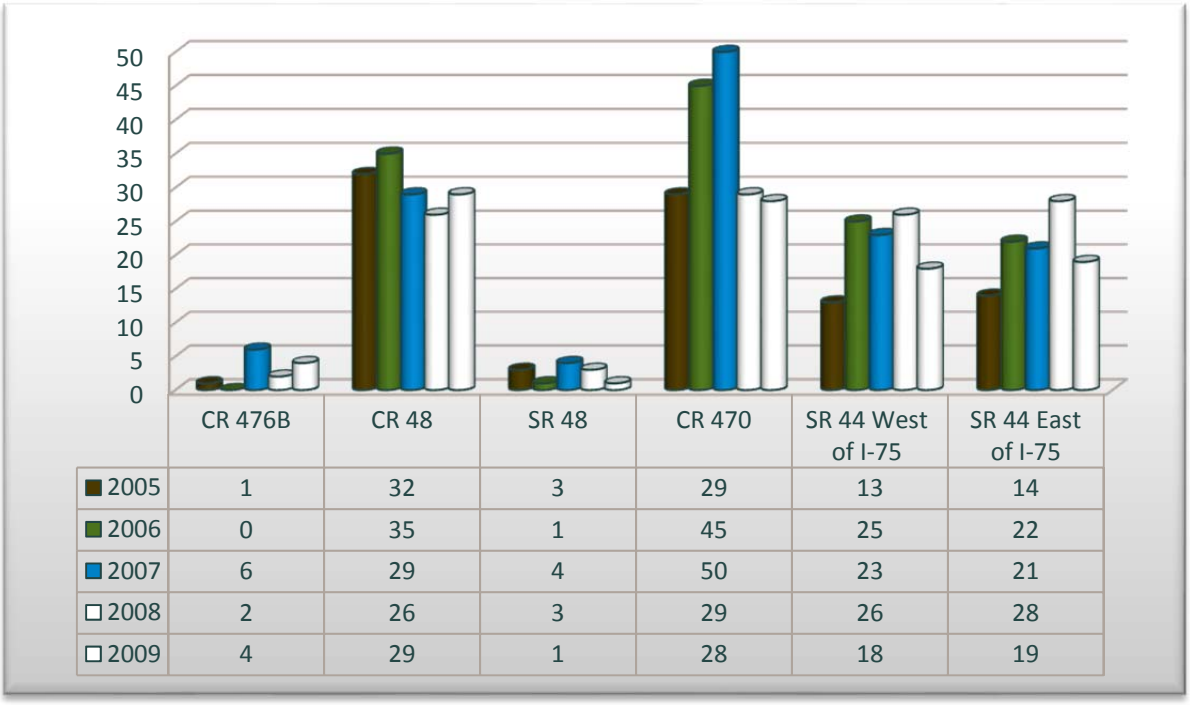
FIGURE 2.12 | Fatal Crashes on I-75 in the Study Area



	I-75 Sumter County to Florida Turnpike	I-75 Florida Turnpike to CR 484	I-75 CR 484 to SR 326	I-75 SR 326 to Marion County
2005	12	3	6	6
2006	8	3	3	5
2007	7	0	4	3
2008	2	0	6	1
2009	2	2	6	4

Total crashes and fatalities for cross roads are summarized by county in **Figure 2.13** through **Figure 2.16**. **Figures 2.13 and 2.14** indicate that the total number of crashes and fatalities are higher on CR 470 than any of the cross road segments. **Figure 2.15 and 2.16** indicate that SR 200 has highest number of crashes compared to other cross roads and US 27, SR 40, and SR 200 have at least one fatality in Marion County. The remaining cross roads do not have any fatalities for the years 2005-2009.

FIGURE 2.13| Total Crashes on Study Area Road Segments in Sumter County



	CR 476B	CR 48	SR 48	CR 470	SR 44 West of I-75	SR 44 East of I-75
2005	1	32	3	29	13	14
2006	0	35	1	45	25	22
2007	6	29	4	50	23	21
2008	2	26	3	29	26	28
2009	4	29	1	28	18	19

FIGURE 2.14 | Fatalities on Study Area Road Segments in Sumter County

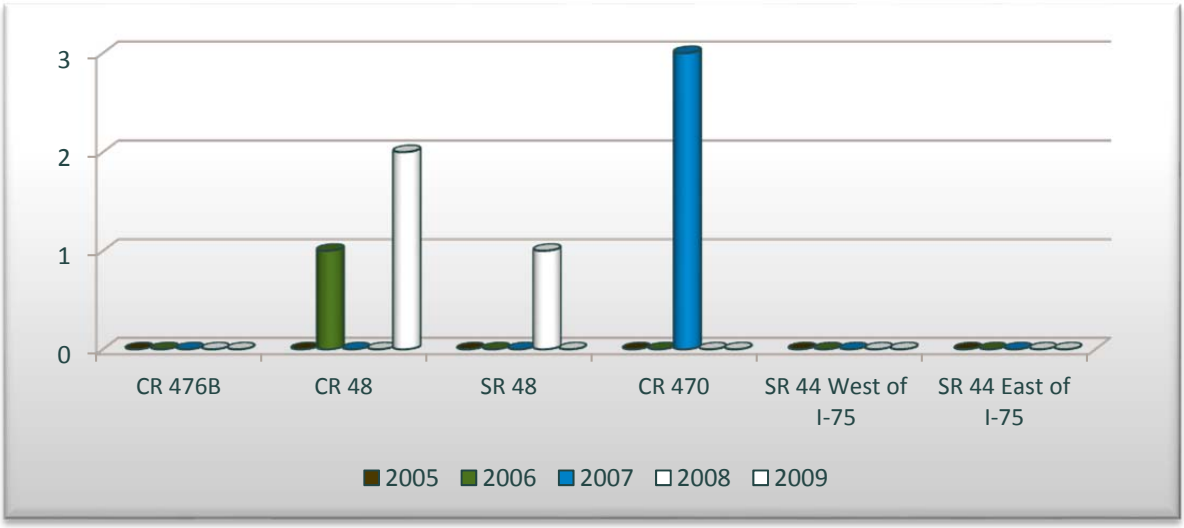
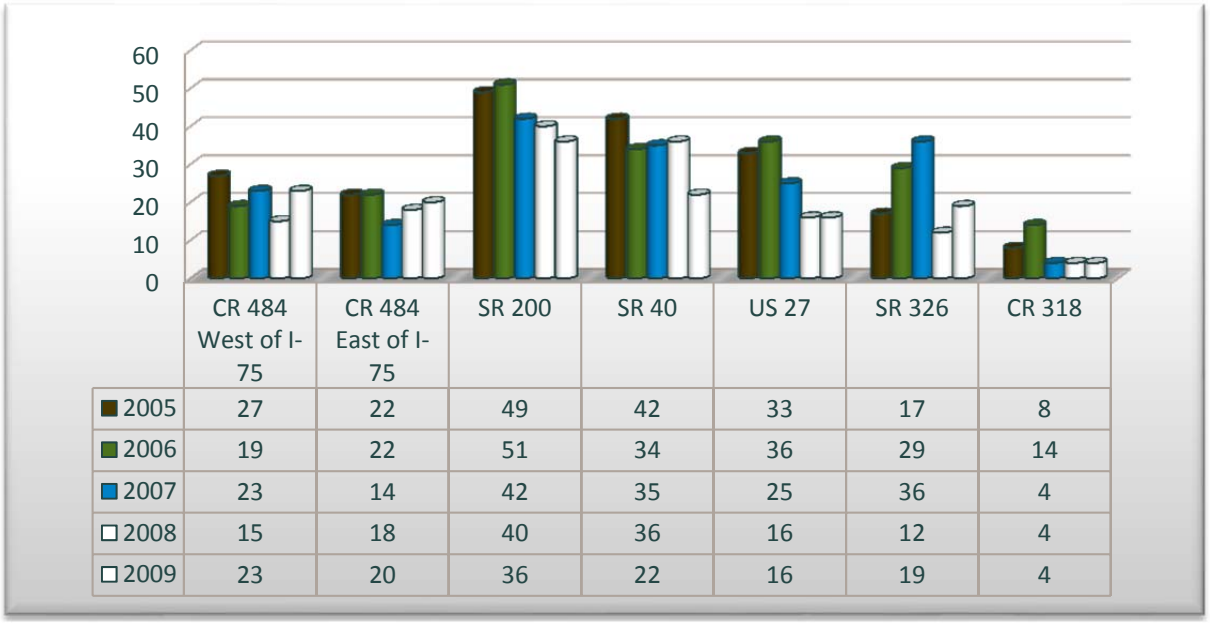
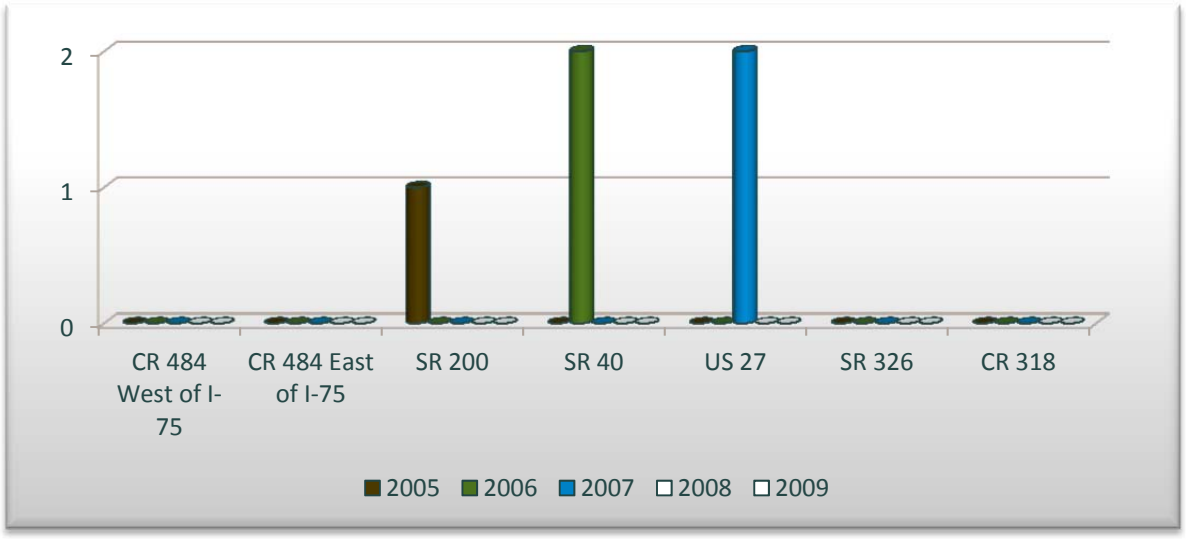


FIGURE 2.15 | Total Crashes on Study Area Road Segments in Marion County



	CR 484 West of I-75	CR 484 East of I-75	SR 200	SR 40	US 27	SR 326	CR 318
2005	27	22	49	42	33	17	8
2006	19	22	51	34	36	29	14
2007	23	14	42	35	25	36	4
2008	15	18	40	36	16	12	4
2009	23	20	36	22	16	19	4

FIGURE 2.16 | Fatalities on Study Area Road Segments in Marion County



Crash rates expressed as number of crashes per million vehicle miles traveled (MVMT) for the I-75 segments and cross road segments in the study area are estimated using the following formula:

$$\text{Crash Rate} = \frac{\text{Annual Average Number of Crashes} * 1{,}000{,}000}{\text{Length of Segment} * \text{Average Daily Traffic Volume} * 365}$$

Crash rates are then compared with District-wide crash rates for similar facilities and are shown in **Tables 2.10** and **2.11**.

TABLE 2.10 | I-75 Mainline Segment Crash Rates

Road Name	From	To	Functional Classification	Number of Lanes	Length (miles)	Average AADT	Number of Crashes (2005-2009)	Average Annual Number of Crashes	Crash Rate (MVMT)	District Five Crash Rate for Similar Facilities
I-75	Hernando County Line	Florida's Turnpike	RPAI	4	21.5	38,650	815	163.0	**0.537**	0.393
	I-75 @ Florida's Turnpike	CR 484	RPAI	6	12.2	60,000	710	142.0	**0.531**	0.393
	CR 484	SR 326	UPAI	6	17.1	65,400	1200	240.0	**0.588**	0.414
	SR 326	Marion County Line	RPAI	6	16.2	52,250	750	150.0	**0.486**	0.393

RPAI = Rural Principal Arterial-Interstate, UPAU = Urban Principal Arterial-Interstate

TABLE 2.11 | Cross Road Segment Crash Rates

Road Name	From	To	Functional Classification	Number of Lanes	Length (miles)	AADT	Number of Crashes (2005-2009)	Average Annual Number of Crashes	Crash Rate (MVMT)	District Five Crash Rate for Similar Facilities
CR 476B	SW 102nd Avenue	SW 53rd Terrace	Rural Major Collector	2	1.2	2,002	13	2.6	**3.093**	N/A*
CR 48	CR 48 @ CR 616	I-75	Rural Major Collector	4	0.7	4,604	151	30.2	**27.651**	N/A*
SR 48	I-75	0.5 mi East of I-75	Rural Minor Arterial	2	0.5	9,800	12	2.4	1.342	1.605
CR 470	CR 489	CR 527 S	Rural Minor Arterial	2	1.0	6,015	181	36.2	**16.488**	N/A*
SR 44	0.5 mi West of I-75	I-75	Rural Minor Arterial	4	0.5	8,100	105	21.0	**14.206**	2.711
SR 44	I-75	0.5 mi East of I-75	Transitioning Arterial	4	0.5	13,800	104	20.8	**8.259**	1.645
CR 484	Marion Oaks Course	I-75	Urban Minor Arterial	4	4.5	24,700	107	21.4	**0.527**	N/A*
CR 484	I-75	CR 475A	Rural Principal Arterial	4	0.3	23,600	96	19.2	**7.430**	N/A*
SR 200	0.5 mi West of I-75	0.5 mi East of I-75	Urban Principal Arterial	6	1.0	34,160	218	43.6	**3.497**	2.209
SR 40	0.5 mi West of I-75	0.5 mi East of I-75	Urban Principal Arterial	4	1.0	29,600	169	33.8	**3.128**	2.464
US 27	0.5 mi West of I-75	0.5 mi East of I-75	Urban Principal Arterial	4	1.0	19,750	126	25.2	**3.496**	2.464
SR 326	0.5 mi West of I-75	0.5 mi East of I-75	Urban Principal Arterial	2	1.0	12,450	123	24.6	**5.413**	1.605
CR 318	NW Highway 225	NW 70th Avenue	Rural Major Collector	2	0.8	3,100	34	6.8	**7.512**	N/A*

* Districtwide crash rates are available only for the State roads

The crash rates on most of the study segments are higher than the average crash rates for similar facilities in FDOT District Five. The District-wide crash rate statistics are included in **Appendix D**.

2.7. Summary of Existing Conditions

The following points summarize the existing conditions of the study area based on the analysis.

1. **I-75 Mainline**
   - I. All basic freeway segments are currently operating within FDOT adopted LOS standards.
   - II. Crash rates on all I-75 segments are higher than FDOT District Five average crash rates.
2. **I-75 Ramp Merge/Diverge Areas**
   - I. The following merge/diverge areas currently do not operate within FDOT adopted LOS standards: CR 476B NB off ramp, SR 48/CR 48 NB off ramp, CR 484 NB on ramp, CR 484 NB off ramp, CR 484 SB off ramp and SR 326 NB off ramp.
3. Crash rates on most of the cross road segments are significantly higher than FDOT District Five average crash rates.
4. **CR 476B**
   - I. All intersections are operating within LOS standards.
5. **CR 48**
   - I. Intersections are operating within LOS standards and all the movements have adequate storage lengths.
6. **SR 48**
   - I. Intersections are operating within LOS standards and all the movements have adequate storage lengths.
7. **CR 470**
   - I. All the intersections are operating within LOS standards.
   - II. Three (3) fatalities reported between 2004 through 2009.
8. **SR 44**
   - I. All the intersections are operating within adopted LOS standards.
   - II. Truck stops are located immediately east and west of the interchange.
9. **CR 484**
   - I. All the intersections are operating within adopted LOS standards.
   - II. Crash rate is lower to the west of I-75 and significantly higher to the east of I-75.
   - III. The SB right turn at the I-75 southbound ramp is experiencing queues.
10. **SR 200**
    - I. All the intersections are operating within adopted LOS standards.
    - II. There has been one (1) fatality in the last five (5) years.
11. **SR 40**
    - I. Except the SR 40 at SW 27th Ave intersection, all intersections are operating within the LOS standards.
    - II. WB left turn at I-75 SB ramps and EB left turn at I-75 NB ramps are experiencing queues.
    - III. There were two (2) fatalities in last five (5) years.
12. **US 27**
    - I. Except the US 27 at NW 38th Ave intersection in PM peak-hour conditions, all intersections are operating within the LOS standards.
    - II. There were two (2) fatalities in last five (5) years.
13. **SR 326**
    - I. All the intersections are operating within LOS standards
    - II. It was also observed that WB vehicles make an illegal U-turn to access the southbound on ramp instead of using the loop ramp to travel south on I-75.
14. **CR 318.**
    - I. All the intersections are operating within LOS standards

3. Future Year Traffic

3.1. Sub-Area Refinement

CFRPM 5.0 was utilized to develop future traffic projections for the Opening Year (2020), Mid Year (2030) and Horizon Year (2040). CFRPM 5.0 utilizes a base year of 2005 and horizon year of 2035. The sub-area consisted of Marion County and Sumter County boundaries. A base year sub-area model reasonableness check and validation was performed to ensure that the model is reasonably replicating the base year travel conditions in the study area. Root Mean Square Error (RMSE) calculations for the base year sub-area were conducted per FDOT and FHWA guidelines and are summarized in **Table 3.1** by the volume group for the entire sub-area. As per the FDOT and FHWA guidelines, the values are within the acceptable ranges. Refinements made to the base year model were carried over to the future years.

TABLE 3.1 | Sub-area RMSE Comparison

Volume Group	RMSE	Maximum Acceptable RMSE per FHWA[1]	Maximum Acceptable RMSE per FSUTMS[2]
0-5,000	43.5%	47%	45%
5,000-10,000	36.0%	29%	45%
10,000-20,000	2.5%	25%	30%
20,000-30,000	19.8%	22%	27%
30,000-50,000	22.6%	22%	25%
Sub-Area	33.9%	NA	45%

Note: 1. FHWA Validation and Reasonableness Checking Manual, 1997
2. FSUTMS-Cube Model Calibration and Validation Standards, 2008

3.2. Future Land Use Coordination

Growth in the area and network assumptions were coordinated with stakeholders. A series of maps (included in **Appendix E)** showing future year land use/socioeconomic growth from the adopted CFRPM 5.0 were distributed to project stakeholders. Ocala/Marion TPO has indicated that changes have been made to the year 2035 Cost Feasible Model since the adoption of CFRPM 5.0. Ocala/Marion TPO provided updated land use and network files. Hence, the 2035 socioeconomic data and network changes for the Ocala/Marion TPO were incorporated and the CFRPM model was executed to extract volumes for the project corridor.

3.3. Future Transportation Network

The following is a list of programmed improvements in the study area:

- ITS Communication System improvements on I-75 from Hernando County to SR 44 (FM # 4282121)
- Resurfacing of I-75 from North End of Panasofkee Creek Bridges to SR 91 (FM # 4235661)

- Resurfacing of SR 48 from East of I-75 to West of CR 475 (FM # 4272411)
- Adding lanes and rehabilitating pavement along SR 48 from I-75 ramps to CR 475 (Main Street) (FM # 2404182).
- Bike Path from Downtown Bushnell to I-75 (FM # 4161121)
- Resurfacing of SR 44 from West of I-75 to East of Parkwood Oak/Village Drive (FM # 4219881)
- I-75 south of SR 44 is funded through right-of-way for widening to six (6) lanes in the FDOT Work Program (FY 2010/11 - 2014/15)
- Signalization of CR 484 at SW 20th Avenue by 2020 (Per Marion County)

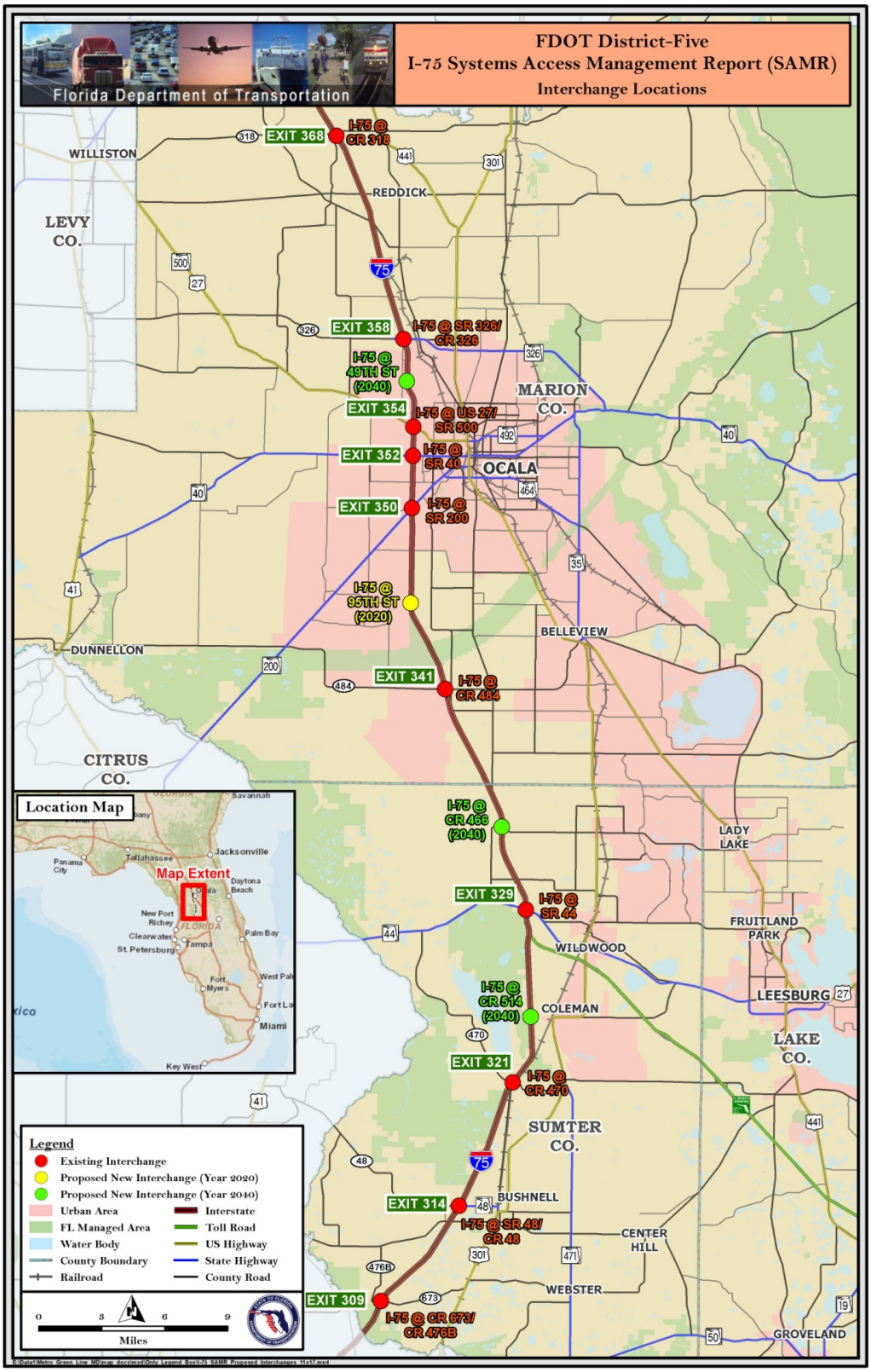
In addition, the 2035 cost feasible model includes roadway improvements specified in local and regional transportation plans including the FDOT Five-Year Work Program, FIHS Cost Feasible Plan, Ocala/Marion County TPO Cost Feasible Long-Range Plan, and Lake~Sumter MPO Cost Feasible Plan. The following is a list of study corridors and their improvements that are included in the CFRPM 5.0 2035 cost feasible model network:

- CR 470 widening to four (4) lanes from CR 475 to US 301
- CR 484 widening to six (6) lanes from Marion Oaks Course to County Highway 475A
- SR 40 widening to six (6) lanes from NW 60th Ave to NW 27th Ave
- US 27 widening to six (6) lanes from NW 44th Ave to NW 27th Ave

Within the area of influence, there are two (2) new interchange proposals included in the adopted 2035 Ocala/Marion TPO LRTP: I-75 at SW 95th Street (located south of SR 200) and the I-75 at 49th Street overpass (located north of US 27). . Marion County is currently in the process of conducting the IJR for the new interchange at SW 95th St at I-75. Also, there is one (1) new interchange proposed at CR 514 in Lake~Sumter MPO located south of Florida Turnpike , which is included in adopted 2035 Lake~Sumter MPO LRTP. Another interchange at I-75 and CR 466 in Sumter County was approved by FHWA; however, the interchange has not been constructed. The SW 49th St, CR 466, and CR 514 interchanges are to be included in the year 2040 Build network, while 95th Street is to be included in the 2020 No-Build and Build conditions as the IJR for the subject interchange is underway.

As discussed in the MLOU, this study will not evaluate the need for new interchanges as subsequent IJRs will be required for federal approval. In other words, although the I-75 SAMR will consider these interchanges in the analysis, additional documentation will be required along with the identified funding source in order to secure FHWA approval. **Figure 3.1** shows the location of the new interchanges in the study area.

FIGURE 3.1 | Proposed Interchange Location Map



3.4. Alternatives

Alternatives for future conditions analyses consist of a No-Build and a Build Scenario. These two (2) alternatives were evaluated for the Opening Year 2020, Interim Year 2030, and the Design Year 2040.

3.4.1. No-Build Alternative

All the programmed improvements and the roadway projects considered in the 2035 Cost Feasible Model are included in the No-Build conditions. The three proposed interchanges at SW 49th St, CR 466, and CR 514 were not included in the No-Build Alternative.

3.4.2. Build Alternative

In addition to the network changes considered in the No-Build Alternative, the following network changes are included in the Build Alternative per recommendations from the project stakeholders:

- SW 49th St, CR 466, and CR 514 interchanges are included only in the year 2040 Build conditions.
- The widening of I-75 to six lanes south of SR 44 improvements is funded. However, there are no plans to widen I-75 north of the Turnpike. It was project team consensus that the I-75 mainline be analyzed with six (6) lanes south of the Turnpike from 2020, and eight (8) lanes north of the Turnpike in 2040.

The adjusted 2035 Cost Feasible Model was executed for the two (2) alternatives and the model plots for the both scenarios were included in **Appendix F**.

3.5. Traffic Projections

The forecasting approach is consistent with the policies and procedures outlined in FDOT's *The Interchange Handbook, Project Traffic Forecasting Handbook and* approved MLOU. The refined sub-area CFRPM 5.0 was used to develop 2020, 2030, and 2040 Annual Average Daily Traffic (AADT) forecasts.

Models were executed for the base and horizon years and then growth rates were calculated between these two analysis years. Growth rates from the model were checked for reasonableness with studies in the area. In general, model projected growth rates were used to develop I-75 mainline forecasts for all of the analysis years. For the cross roads, model growth rates were used to develop 2020 traffic projections. If the annual growth rates were more than 3 percent, a reasonable average growth rates were used to obtain 2030 and 2040 traffic forecasts. The growth rates are shown in **Table 3.2 and Table 3.3.**

A projected annual growth rate was applied to the existing year (2009) AADT volumes to develop the future year AADTs for the years 2020, 2030, and 2040 No-Build conditions. AADTs were converted to Directional Design Hour Volumes (DDHV) by applying the K_{30} and D_{30} factors shown in **Table 3.4**. The DDHVs have been manually smoothed and balanced along the corridor. This study ensured that the resulting D factors, due to balancing along the corridor, are within the ranges specified in the **Table 3.5**. DDHVs for I-75 mainline are presented in **Table 3.6**. DDHVs for cross roads are converted to AM

peak-hour and PM peak-hour volumes based on the existing turn volume percentages at the intersections. Peak-hour turning movement volumes for intersections are shown in **Figures 3.1** through **3.3**

A standalone Design Traffic Memorandum, included in **Appendix G**, was developed during the study and coordinated with project stakeholders, including FDOT. Based on the comments received from the project stakeholders, the traffic projections in the Design Traffic Memorandum were updated.

TABLE 3.2 | I-75 Cross Road Traffic Projections

Road Name	From	To	CFRPM 5.0 (PSWADT)					No-Build Projected Growth Rate			No-Build AADT				No-Build Peak-Hour Volume		
			2005 Volumes	2035 No-Build Volumes	2035 Build Volumes	2035 No-Build Annual Growth Rate	2035 Build Annual Growth Rate	2020	2030	2040	2009	2020	2030	2040	2020	2030	2040
CR 476B	SW 102nd Avenue	I-75	2,743	3,932	3,683	1.4%	1.1%	4.0%	2.6%		3,000	4,320	5,450	6,870	430	550	690
	I-75	SW 53rd Terrace	3,492	7,607	7,760	3.9%	4.1%				3,000	4,320	5,450	6,870	430	550	690
SR 48/ CR 48	CR 616	I-75	7,650	10,464	10,197	1.2%	1.1%	1.2%			7,690	8,730	9,800	11,000	860	970	1,090
	I-75	CR 609	11,200	16,969	14,199	1.7%	0.9%	1.7%			9,800	11,650	13,650	15,990	1,150	1,350	1,580
CR 470	CR 489	I-75	4,963	10,481	9,544	3.7%	3.1%	3.7%	3.0%		6,015	8,470	11,010	14,310	850	1,110	1,440
	I-75	CR 527 S	10,266	26,826	23,218	5.4%	4.2%	5.4%			6,015	9,570	12,440	16,170	960	1,250	1,620
SR 44	CR 231	I-75	11,054	27,880	20,449	5.1%	2.8%	5.1%	2.5%		8,000	12,470	15,630	19,600	1,230	1,540	1,940
	I-75	CR 229	24,644	43,400	38,137	2.5%	1.8%	2.5%			13,800	17,650	22,130	27,740	1,770	2,220	2,790
CR 484	Marion Oaks Course	I-75	22,676	43,658	43,592	3.1%	3.1%	2.5%	2.0%		24,700	31,490	37,790	45,350	3,160	3,790	4,550
	I-75	CR 475A	32,244	64,232	64,232	3.3%	3.3%	2.5%			23,600	30,090	36,110	43,330	3,020	3,630	4,350
SR 200	SW 39th Avenue	I-75	52,290	58,035	58,167	0.4%	0.4%	3.0%	1.0%		39,700	52,800	58,080	63,890	5,300	5,830	6,410
	I-75	SW 35th Avenue	60,867	60,248	60,964	0.0%	0.0%	-0.1%			53,200	52,610	57,870	63,660	5,280	5,810	6,390
SR 40	NW 60th Avenue	I-75	30,378	45,588	45,649	1.7%	1.7%	1.5%	1.3%		29,600	34,480	38,960	44,020	3,460	3,910	4,420
	I-75	SW 27th Avenue	40,388	54,588	55,139	1.2%	1.2%				27,500	32,040	36,210	40,920	3,220	3,640	4,110
US 27	NW 44th Avenue	I-75	31,516	37,387	35,299	0.6%	0.4%	2.5%	1.0%		17,500	22,310	24,540	26,990	2,240	2,460	2,710
	I-75	NW 27th Avenue	34,172	38,078	45,398	0.4%	1.1%	1.5%			22,000	25,630	28,190	31,010	2,570	2,830	3,110
SR 326	NW 44th Avenue	I-75	13,284	17,049	15,893	0.9%	0.7%	3.0%	1.0%		7,000	9,310	10,240	11,260	930	1,030	1,130
	I-75	CR 25A	23,667	37,645	37,178	2.0%	1.9%	3.0%			18,900	25,140	27,650	30,420	2,520	2,780	3,050
CR 318	NW Highway 225	I-75	8,721	12,995	12,927	1.6%	1.6%	5.0%	1.0%		4,000	6,200	6,820	7,500	620	680	750
	I-75	NW 60th Avenue	7,163	11,220	11,661	1.9%	2.1%				4,300	6,670	7,340	8,070	670	740	810

TABLE 3.3 | I-75 Mainline No-Build AADT

From	To	CFRPM 5.0 (PSWADT)			AADT			
		2005 Volumes	2035 Volumes	Annual Growth Rate	2009	2020	2030	2040
County Boundary	CR 476B	43,166	89,662	3.59%	35,500	46,380	55,400	65,200
CR 476B	SR 48	42,910	82,548	3.08%	36,500	44,100	52,600	61,500
SR 48	CR 470	48,432	83,855	2.44%	41,300	44,200	52,800	61,600
CR 470	CR 514	49,729	81,631	2.14%	41,300	45,400	54,200	63,400
CR 514	Florida's Turnpike	49,729	81,631	2.14%	41,300	45,400	54,200	63,400
Florida's Turnpike	SR 44	101,228	159,659	1.92%	58,500	77,500	89,500	107,300
SR 44	CR 466/CR 475	89,096	143,845	2.05%	61,500	75,400	87,000	104,100
CR 466/CR 475	CR 484	89,096	143,845	2.05%	61,500	75,400	87,000	104,100
CR 484	SW 95th St	92,332	132,299	1.44%	76,100	93,900	108,700	117,500
SW 95th St	SR 200	92,332	126,888	1.25%	76,100	89,700	104,300	112,600
SR 200	SR 40	89,271	120,214	1.16%	67,000	93,300	108,200	116,600
SR 40	SR 500/US 27	86,427	118,977	1.26%	62,000	91,500	106,300	114,500
SR 500/US 27	NW 49th St	76,335	108,103	1.39%	62,000	82,400	96,300	104,500
NW 49th St	SR 326	76,335	108,103	1.39%	56,500	82,400	96,300	104,500
SR 326	CR 318	70,858	114,230	2.04%	52,500	60,900	72,000	87,200
CR 318	County Boundary	65,976	129,084	3.19%	52,000	60,900	72,000	87,200

TABLE 3.4 | Approved Traffic Factors from MLOU

Roadway	K_{30}	D_{30}	T_{24}	Design Hour Truck %
I-75	11.36	56.34	19.86	9.93
I-75 Ramps @ CR 476 B	11.24	100.00	16.97	8.49
I-75 Ramps @ SR 48	11.24	100.00	16.97	8.49
I-75 Ramps @ CR 470	11.24	100.00	16.97	8.49
I-75 Ramps @ SR 44	11.24	100.00	16.97	8.49
I-75 Ramps @ CR 484	11.52	100.00	8.59	4.30
I-75 Ramps @ SR 200	11.52	100.00	4.20	2.10
I-75 Ramps @ SR 40	11.52	100.00	7.23	3.62
I-75 Ramps @ US 27	11.52	100.00	9.69	4.85
I-75 Ramps @ SR 326	11.52	100.00	5.83	2.92
I-75 Ramps @ CR 318	11.52	100.00	8.59	4.30
CR 476 B	10.04	59.21	8.59	4.30
SR 48	9.88	55.48	8.92	4.46
CR 470	10.04	59.21	8.59	4.30
SR 44	9.88	55.48	10.78	5.39
CR 484	10.04	59.21	8.59	4.30
SR 200	10.04	59.21	3.93	1.97
SR 40	10.04	59.21	8.72	4.36
US 27	10.04	59.21	10.66	5.33
SR 326	10.04	59.21	5.83	2.92
CR 318	10.04	59.21	8.59	4.30

Source: 2009 Florida Traffic Information (FTI) DVD

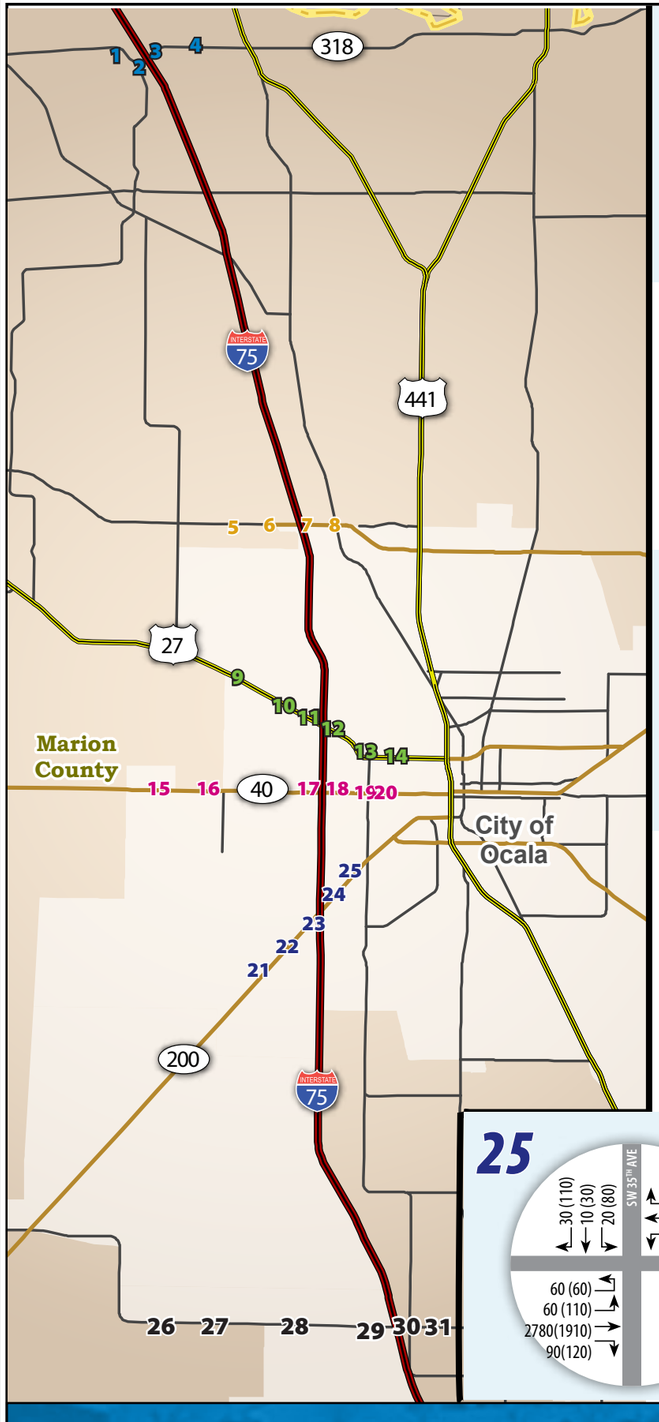
TABLE 3.5 | Approved D_{30} Ranges from MLOU

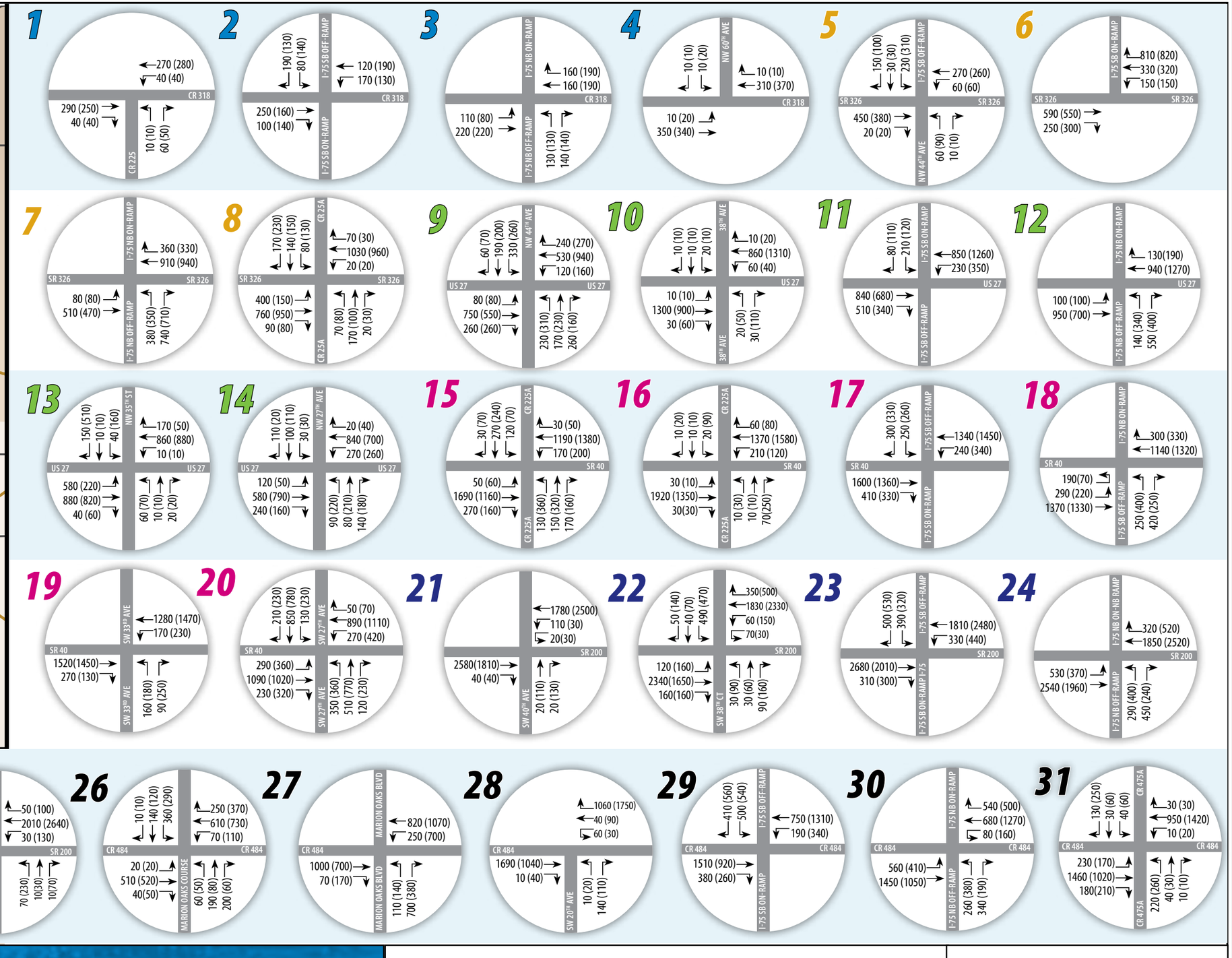
Road Type	Low	D_{30} Average	High	Standard Deviation
Rural Freeway	**52.3**	**54.8**	**57.3**	1.73
Rural Arterial	**51.1**	**58.1**	**79.6**	6.29
Urban Freeway	**50.4**	**55.8**	**61.2**	4.11
Urban Arterial	**50.8**	**57.9**	**67.1**	4.60

**Source: FDOT Project Traffic Forecasting Handbook, 2002*

TABLE 3.6 | I-75 Mainline Directional Hourly Volumes

Segment	2020	2030	2040
I-75 Northbound			
1 County Line to CR 476B	2,770	3,320	3,980
2 CR 476B to SR 48	2,670	3,200	3,820
3 SR 48 to CR 470	2,680	3,220	3,830
4 CR 470 to CR 514	2,770	3,320	3,960
5 CR 514 to FL TPK	2,770	3,320	3,960
6 FL TPK to SR 44	4,770	5,520	6,560
7 SR 44 to CR 475	4,720	5,450	6,480
8 CR 475 to CR 484	4,720	5,450	6,480
9 CR 484 to SW 95 St	5,220	6,050	7,160
10 SW 95 St to SR 200	5,010	5,830	6,890
11 SR 200 to SR 40	5,120	5,940	7,020
12 SR 40 to US 27	5,040	5,860	6,920
13 US 27 to NW 49	4,580	5,350	6,350
14 NW 49 St to SR 326	4,580	5,350	6,350
15 SR 326 to CR 318	3,900	4,610	5,540
16 CR 318 to County Line	3,900	4,610	5,540
I-75 Southbound			
17 County Line to CR 318	3,010	3,560	4,350
18 CR 318 to SR 326	3,010	3,560	4,350
19 SR 326 to NW 49 St	3,660	4,280	5,140
20 NW 49 St to US 27	3,660	4,280	5,140
21 US 27 to SR 40	4,110	4,770	5,680
22 SR 40 to SR 200	4,210	4,880	5,810
23 SR 200 to SW 95 St	3,960	4,600	5,500
24 SW 95 St to CR 484	4,170	4,820	5,770
25 CR 484 to CR 475	3,830	4,420	5,330
26 CR 475 to SR 44	3,830	4,420	5,330
27 SR 44 to FL TPK	4,020	4,630	5,610
28 FL TPK to CR 514	2,380	2,830	3,230
29 CR 514 to CR 470	2,380	2,830	3,230
30 CR 470 to SR 48	2,330	2,770	3,150
31 SR 48 to CR 476B	2,330	2,760	3,150
32 CR 476B to County Line	2,490	2,960	3,410





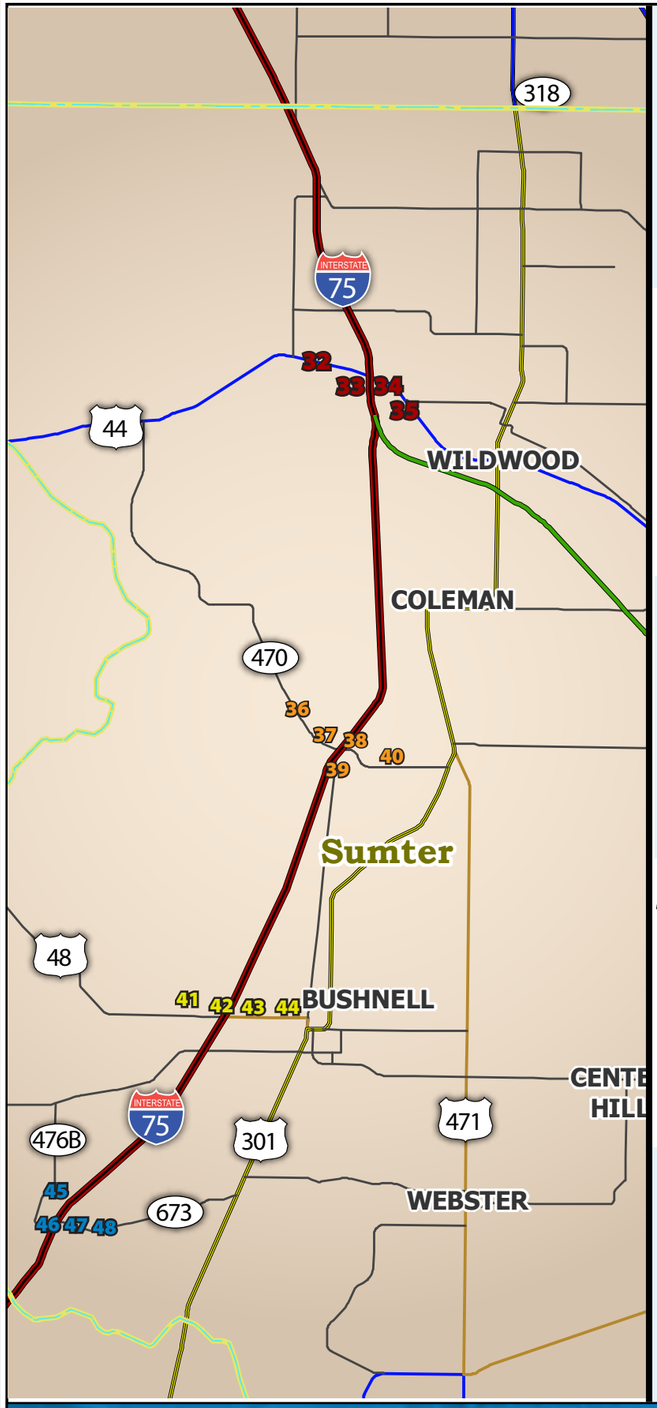
I-75 Systems Access Management Report (SAMR)

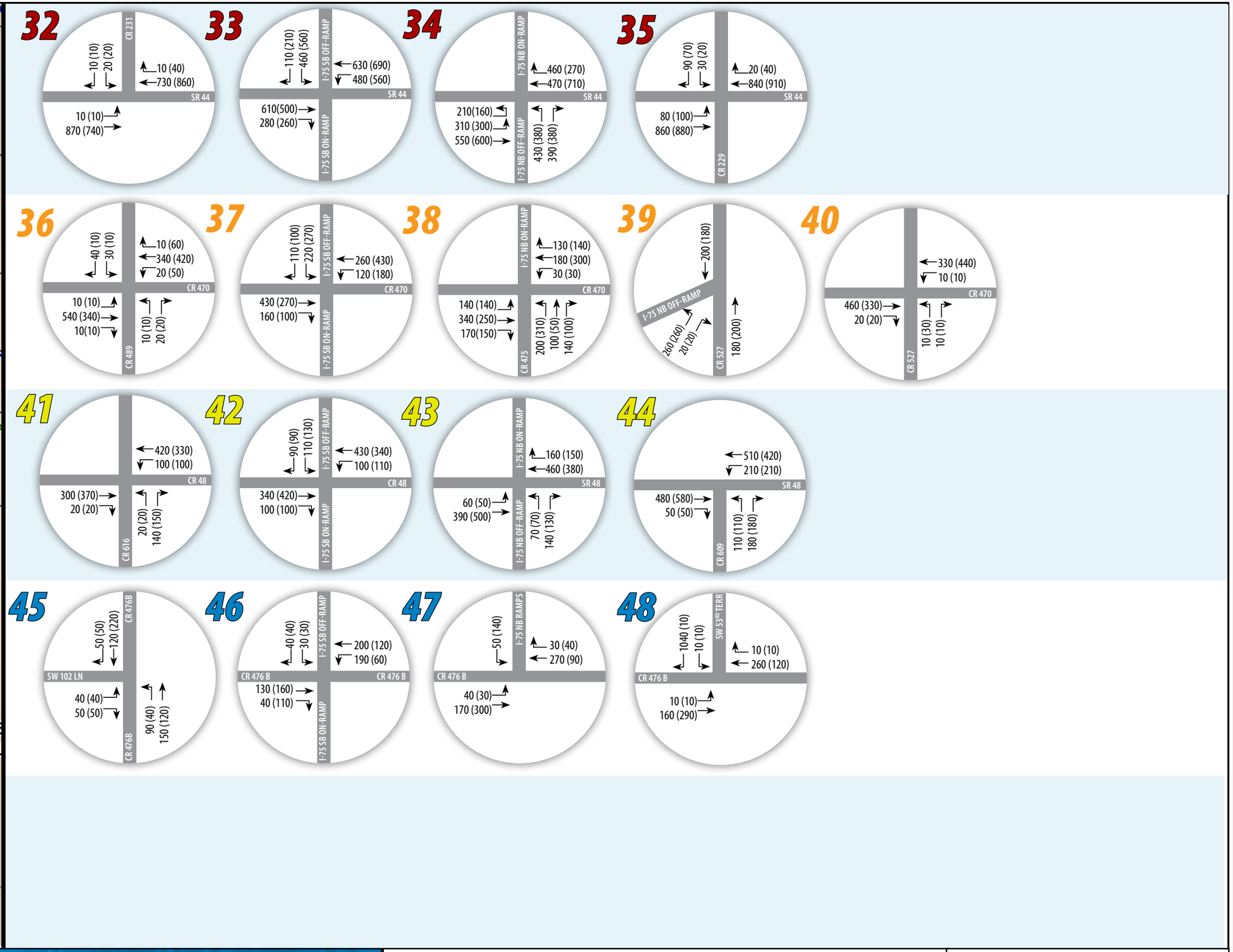
LEGEND:

- Interstates
- Florida's Turnpike
- US Highways
- State Roads
- County Roads
- Local Roads
- ←000 (000) — PM Peak Hour Turn Volume / AM Peak Hour Turn Volume

2020 Peak-Hour Volumes

FIGURE 3.1





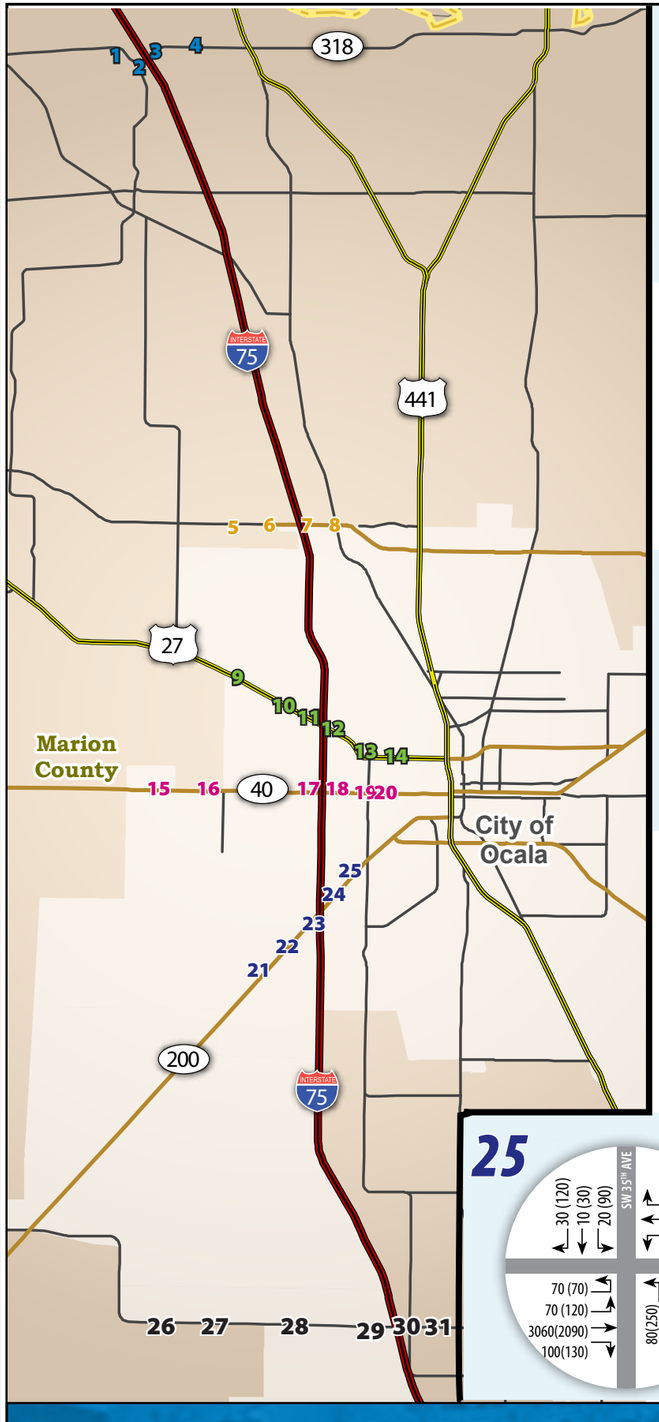
I-75 Systems Access Management Report (SAMR)

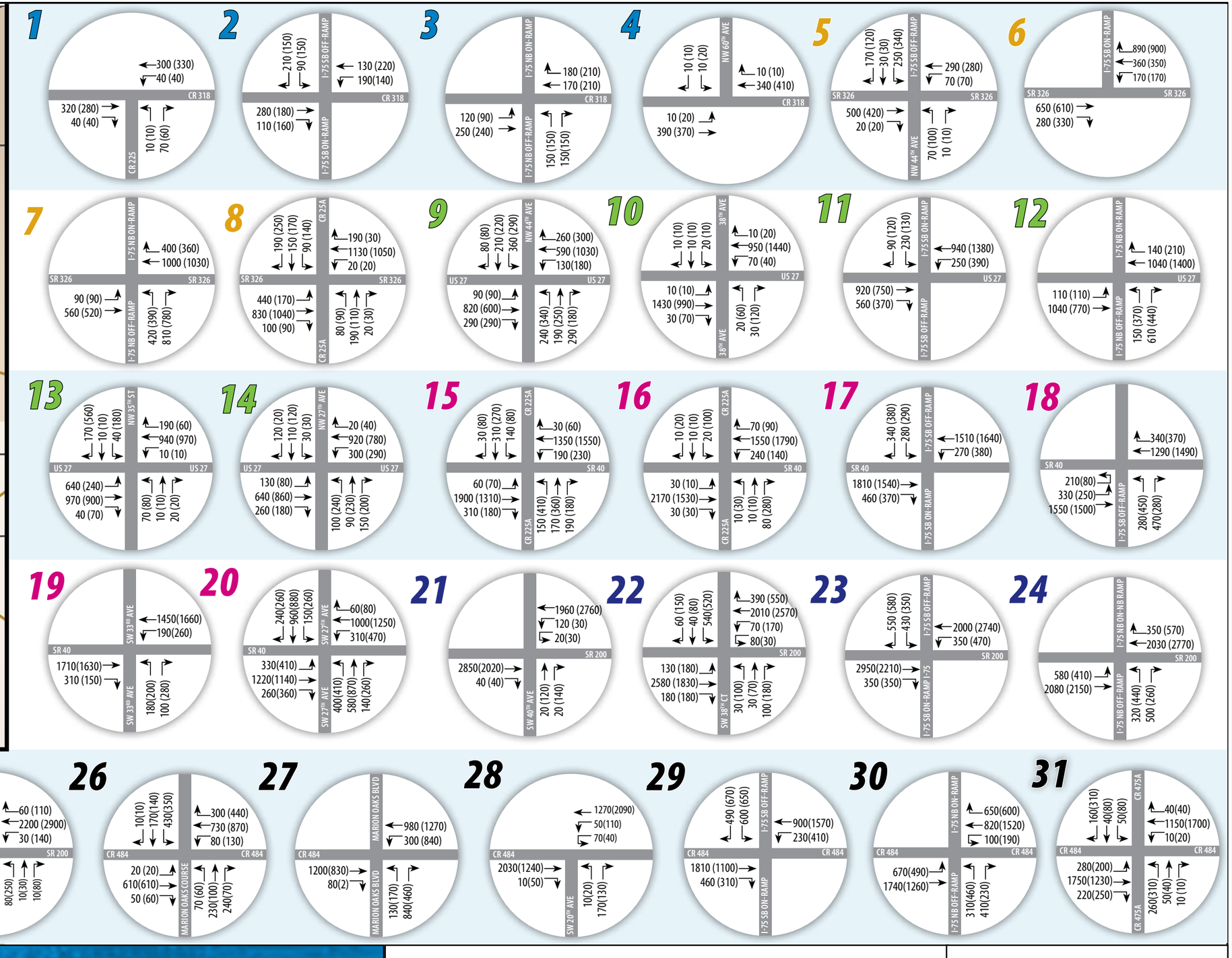
LEGEND:

- Interstates
- Florida's Turnpike
- US Highways
- State Roads
- County Roads
- Local Roads
- ←000 (000)
  - PM Peak Hour Turn Volume
  - AM Peak Hour Turn Volume

2020 Peak-Hour Volumes

FIGURE 3.1





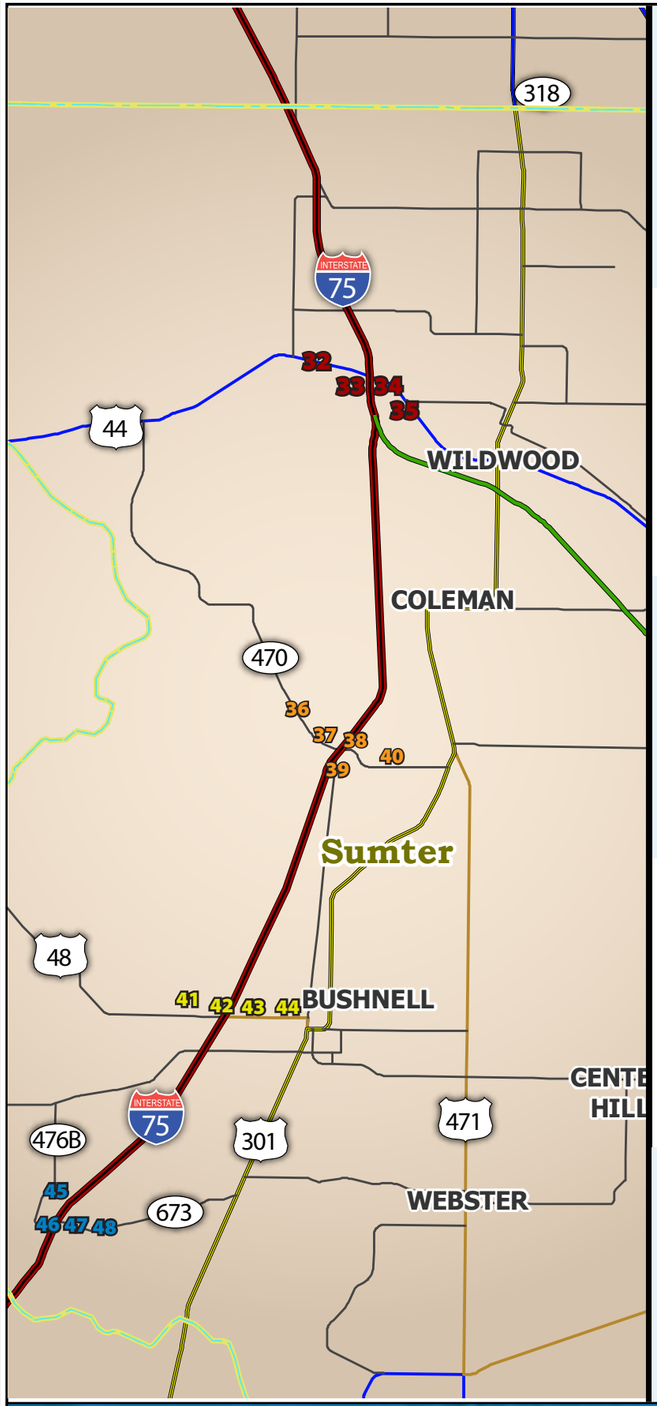
I-75 Systems Access Management Report (SAMR)

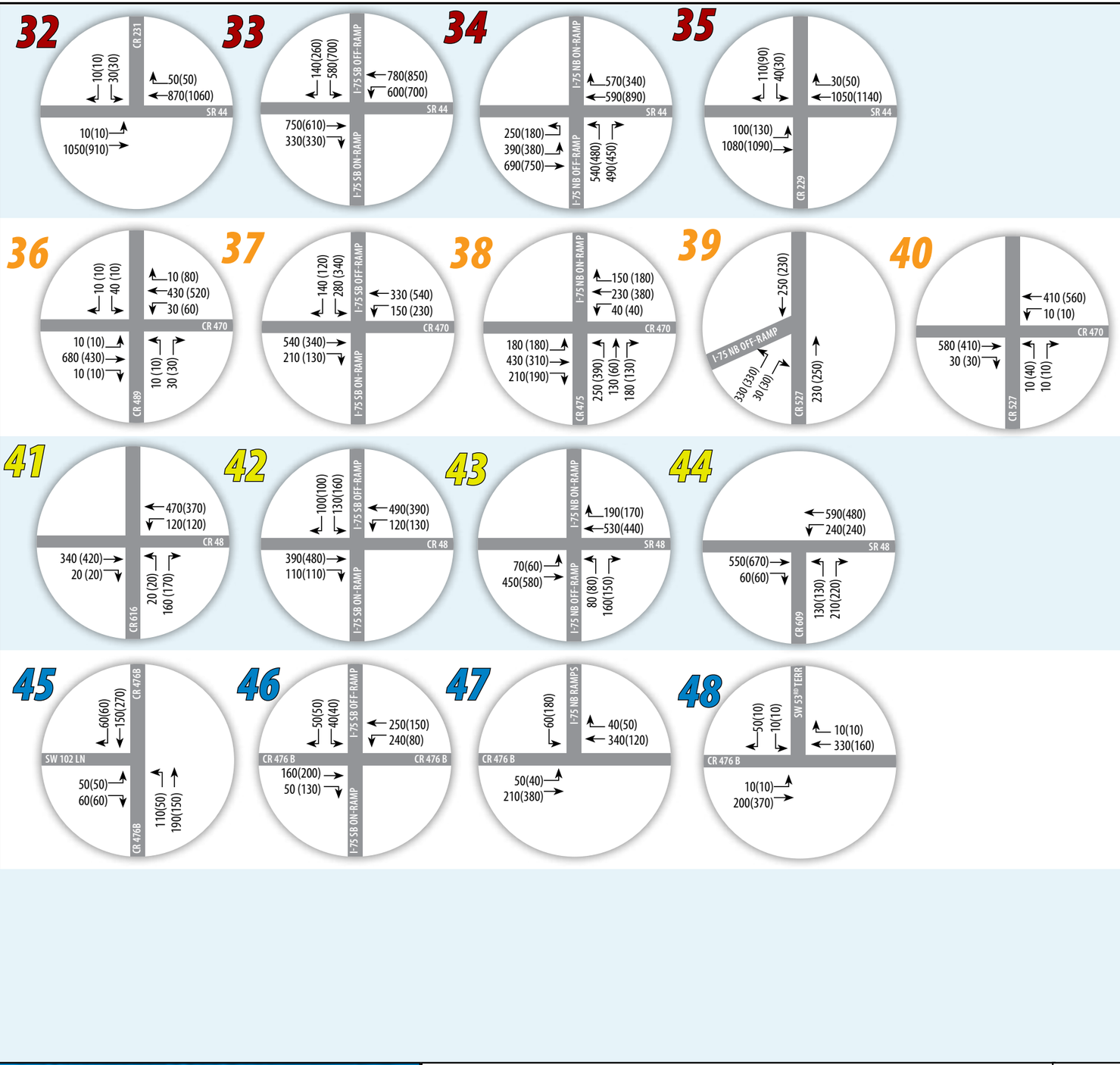
LEGEND:

- Interstates
- Florida's Turnpike
- US Highways
- State Roads
- County Roads
- Local Roads
- ←000 (000) — PM Peak Hour Turn Volume / AM Peak Hour Turn Volume

2030 Peak-Hour Volumes

FIGURE 3.2





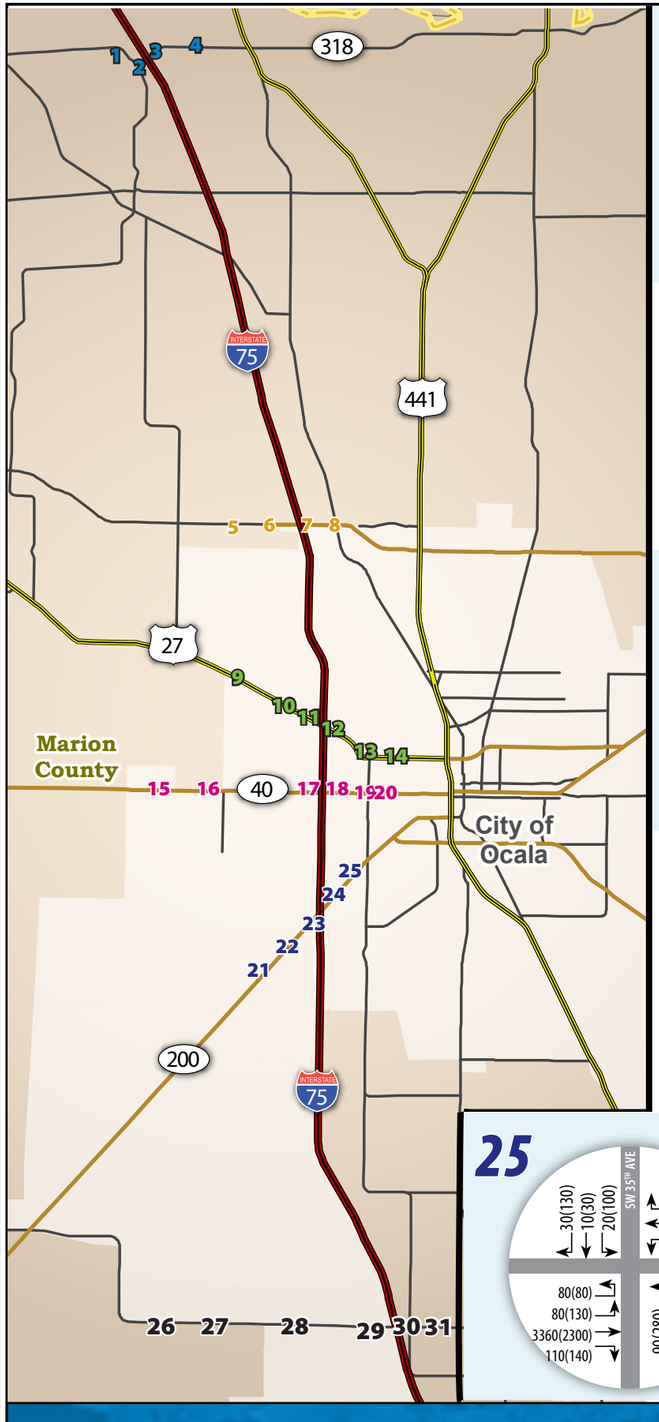
I-75 Systems Access Management Report (SAMR)

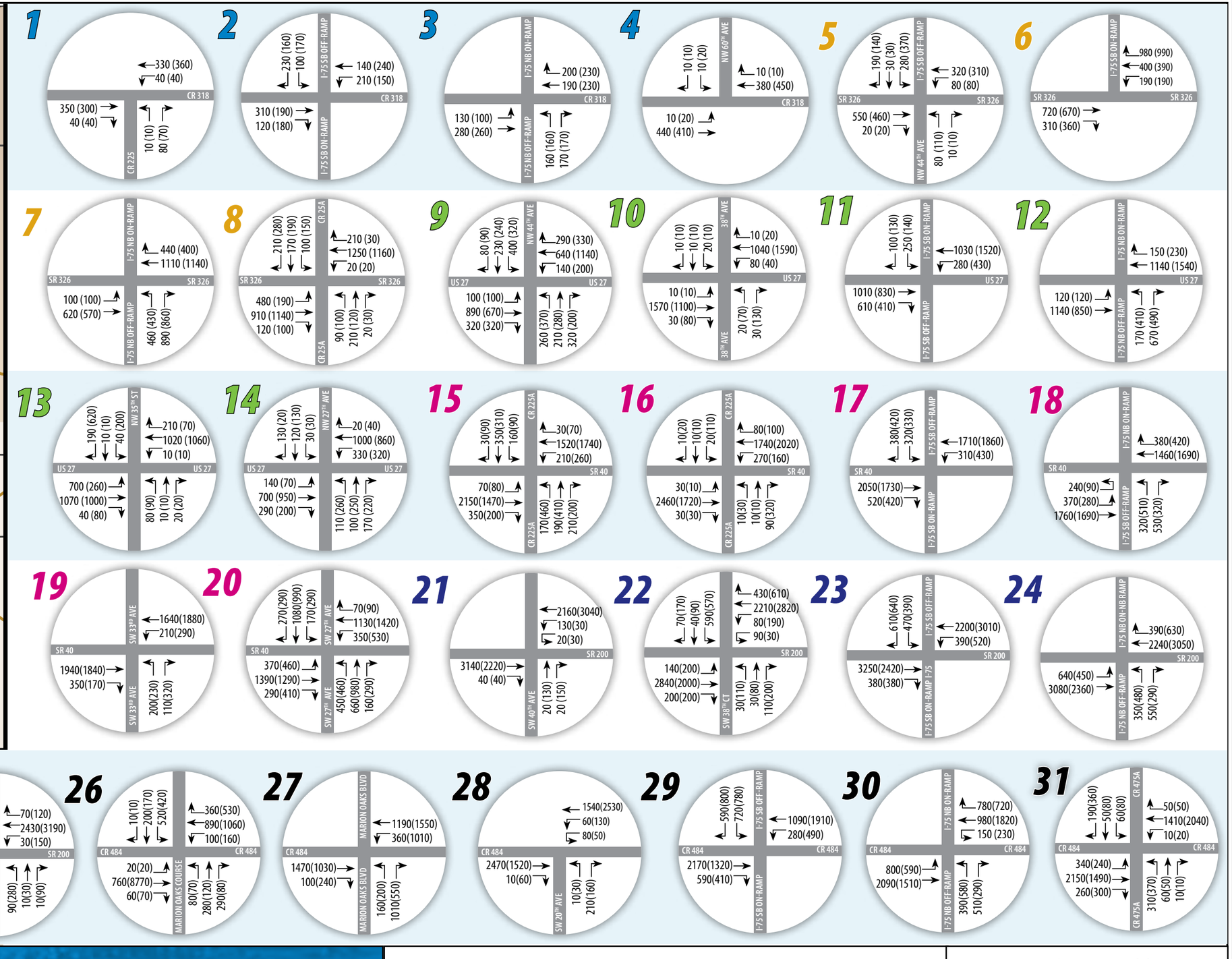
LEGEND:

- Interstates
- Florida's Turnpike
- US Highways
- State Roads
- County Roads
- Local Roads
- ←000 (000) — PM Peak Hour Turn Volume / AM Peak Hour Turn Volume

2030 Peak-Hour Volumes

FIGURE 3.2





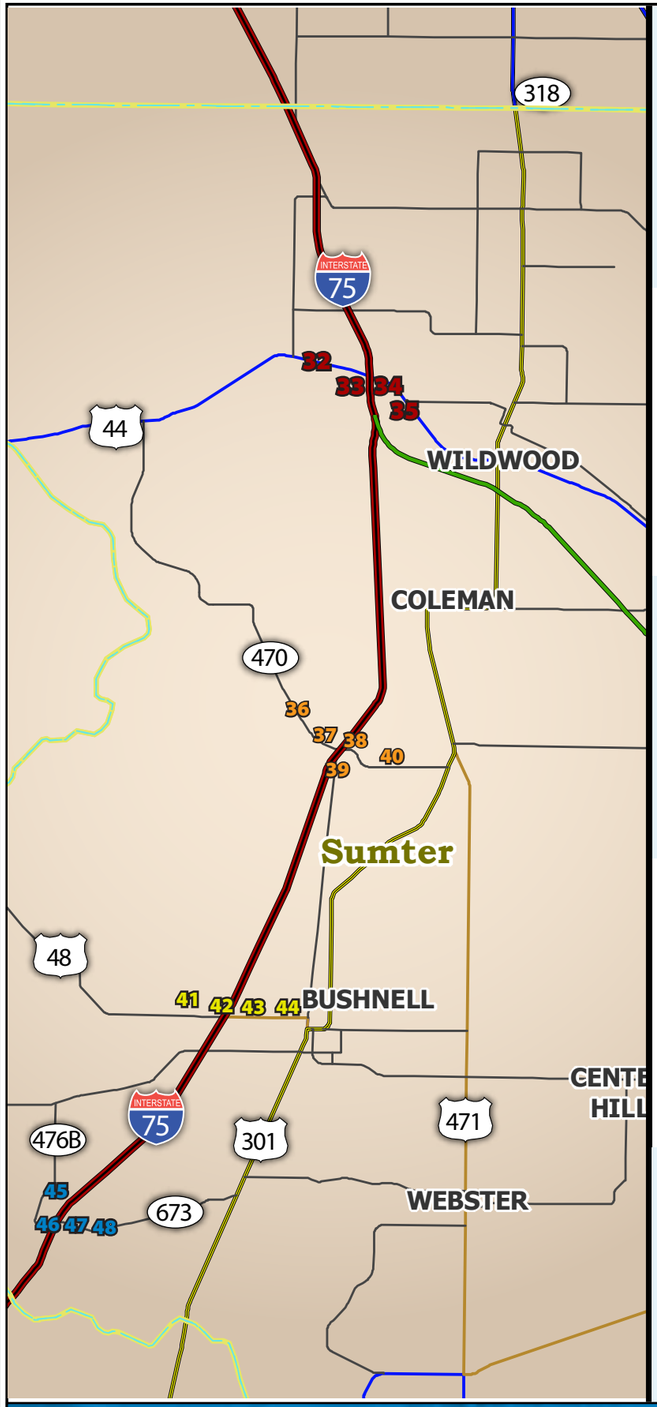
I-75 Systems Access Management Report (SAMR)

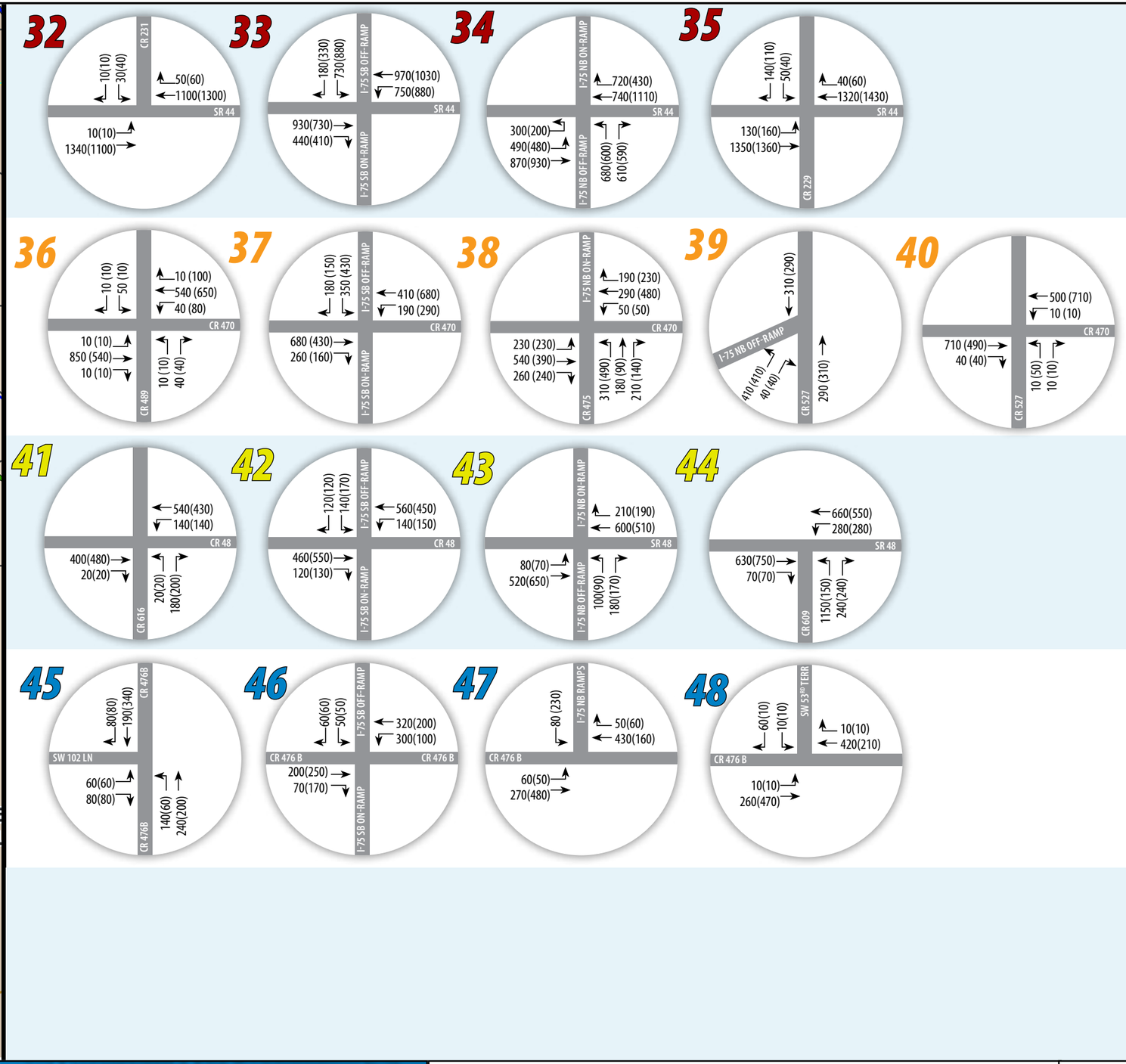
LEGEND:

- Interstates
- Florida's Turnpike
- US Highways
- State Roads
- County Roads
- Local Roads
- ←000 (000)
  - PM Peak Hour Turn Volume
  - AM Peak Hour Turn Volume

2040 No-Build Peak-Hour Volumes

FIGURE 3.3





I-75 Systems Access Management Report (SAMR)

LEGEND:

- Interstates
- Florida's Turnpike
- US Highways
- State Roads
- County Roads
- Local Roads
- ←000 (000) — PM Peak Hour Turn Volume / AM Peak Hour Turn Volume

2040 No-Build Peak-Hour Volumes

FIGURE 3.3

3.6. New Interchanges

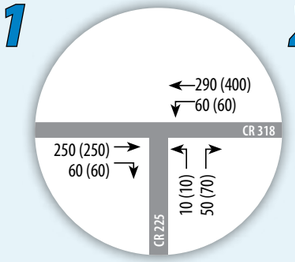
The Build condition model scenario with CR 514, CR 475 and NW 49th St interchanges was executed and model volumes were extracted. The diversion calculations for the new interchanges were based on the general knowledge of the study area. The ramp 2040 AM peak hour volumes are shown in **Table 3.7**. PM peak hour volumes were obtained by reversing the direction of the AM volumes. The addition of these three interchanges are expected to divert traffic from SR 326, US 27, CR 484, SR 444, CR 470 and CR 48/SR 48 interchange ramps and the I-75 mainline. 2040 Build condition peak-hour turning movement volumes for intersections are shown in **Figure 3.4**.

TABLE 3.7 | New Interchange Ramp DDHVs

Ramp	2040 DDHVs
CR 514 NB Exit	200
CR 514 NB Entr	200
CR 514 SB Exit	600
CR 514 SB Entr	630
CR 475 NB Exit	1,200
CR 475 NB Ent	720
CR 475 SB Exit	1290
CR 475 SB Entr	780
NW49 NB Exit	420
NW49 NB Entr	280
NW49 SB Exit	300
NW49 SB Entr	420

Note: Vehicles per hour

1



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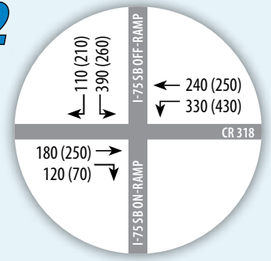

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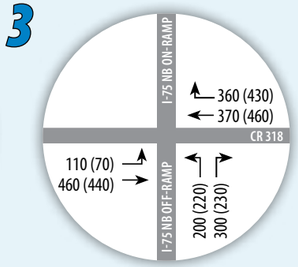

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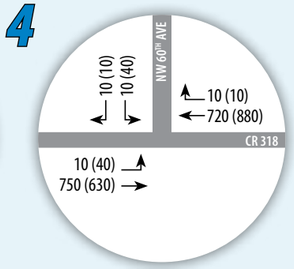

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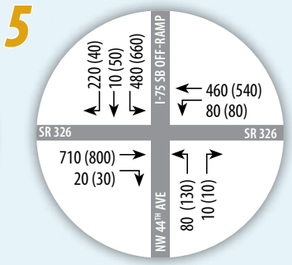

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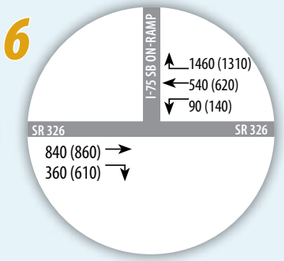

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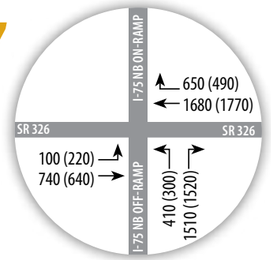

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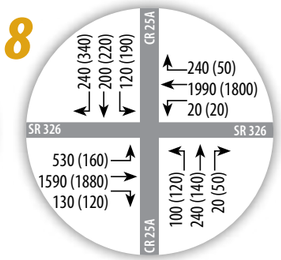

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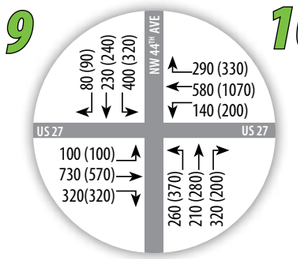

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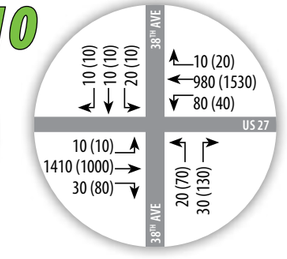

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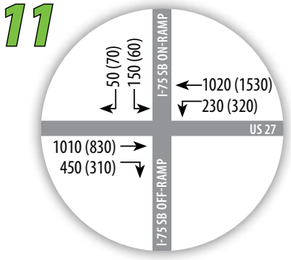

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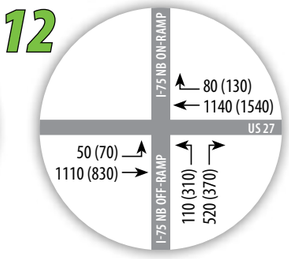

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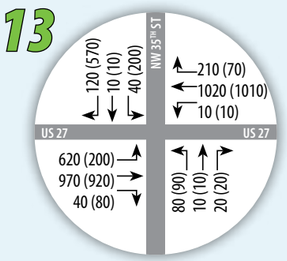

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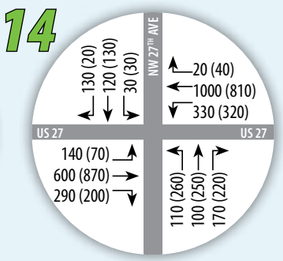

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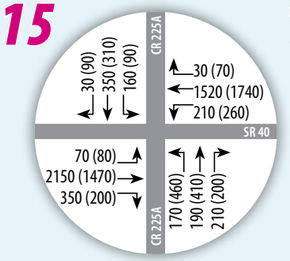

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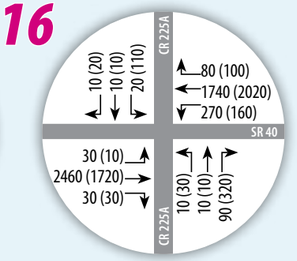

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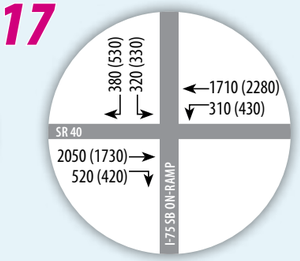

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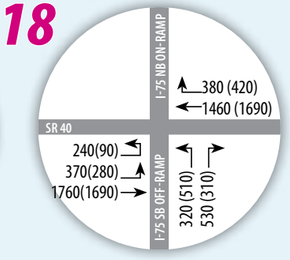

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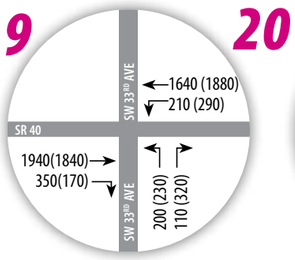

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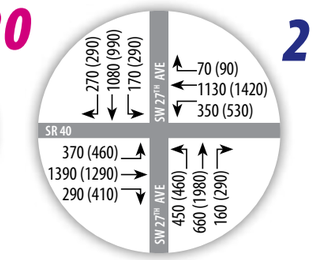

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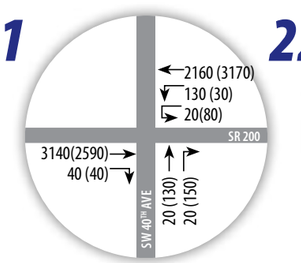

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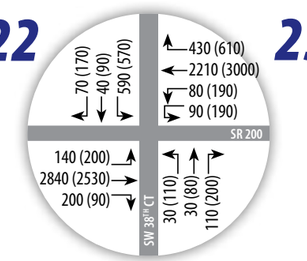

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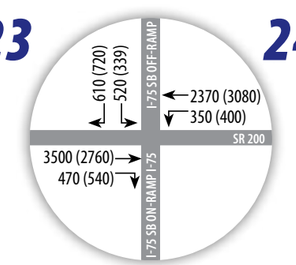

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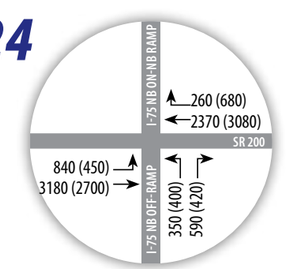

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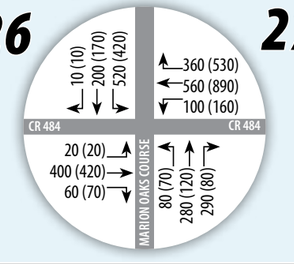

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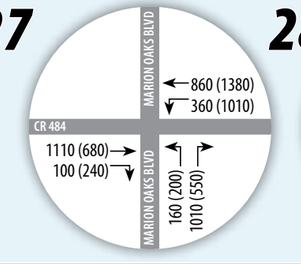

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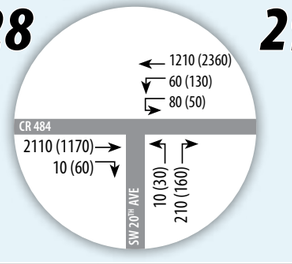

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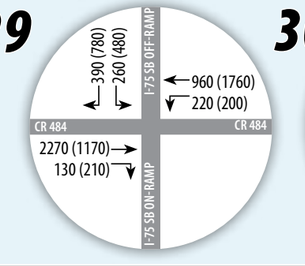

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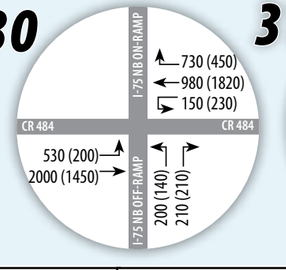

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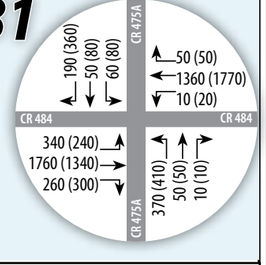

I-75 Systems Access Management Report (SAMR)

LEGEND:

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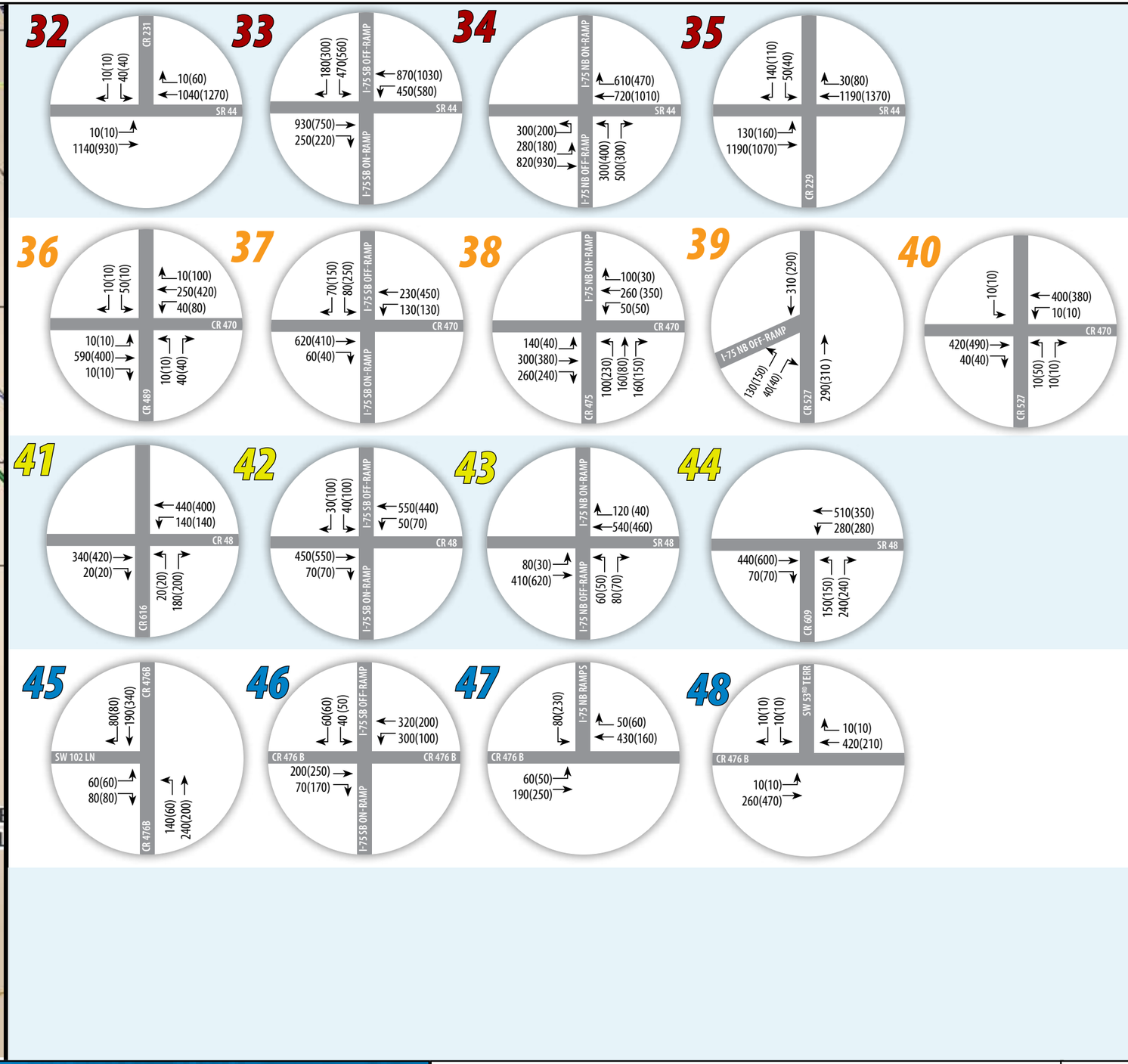
- County Roads
- Local Roads
- ←000 (000) — PM Peak Hour Turn Volume / AM Peak Hour Turn Volume

2040 Build Peak-Hour Volumes

FIGURE 3.4



I-75 Systems Access Management Report (SAMR)

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- Local Roads
- ←000 (000): PM Peak Hour Turn Volume / AM Peak Hour Turn Volume

2040 Build Peak-Hour Volumes

FIGURE 3.4

4. Future No-Build Conditions

A future No-Build conditions analysis was performed to identify future deficiencies. The analysis methodology is consistent with the procedures outlined in Department's *The Interchange Handbook*, *Project Traffic Forecasting Handbook*, *Manual on Uniform Traffic Studies (MUTS)*, and the approved Methodology Letter of Understanding (MLOU). Detailed operational analyses of the No-Build Alternatives were performed for all analysis years. The operational analysis was conducted using the latest version of the Highway Capacity Software (HCS) and the SYNCHRO software. A Peak-Hour Factor (PHF) of 0.95 and truck factors (rounded to nearest value), as approved in MLOU, were used in the future conditions analysis. The following analyses were conducted for both AM and PM peak hours for all the alternatives:

- Freeway Analysis
- Freeway Weaving Analysis
- Ramp Merge and Diverge Analysis
- Queuing Analysis
- Intersection Analysis

Since a detailed intersection analysis was performed in the study area, a separate arterial analysis (as mentioned in the MLOU) was not conducted. Operations analyses were conducted for the mainline freeway segments, ramp merge/diverge areas, ramp junctions and intersections using the procedures outlined in the 2000 HCM.

4.1. Freeway & Ramp Merge/Diverge Analysis

Tables 4.1 through **4.2** summarize the results of the freeway and ramp merge/diverge operational analyses for No-Build conditions. HCS and SYNCHRO outputs for No-Build conditions are included in **Appendix H**. Table 4.1 indicates that:

I. With the six lane widening of I-75 from the Hernando County Line to SR 44 (FM # 242626-2 & 242626-3), the I-75 mainline and ramp merge/diverge areas are expected to operate at LOS B in 2020 and 2030 and at LOS C in design year 2040.
II. I-75 segments north of SR 44 are projected to operate deficiently as listed below in both northbound and southbound directions.
    a. SR 44 to CR 484 by the opening year.
    b. CR 484 to US 27 by the interim year.
    c. US 27 to Marion County boundary by the design year.
III. I-75 segment from SR 44 to Florida's Turnpike Enterprise (FTE) is projected to operate deficiently by the opening year in southbound direction.

TABLE 4.1 | No-Build Basic Freeway Analysis Summary

Segment	FDOT LOS Standard	2020 AM		2030 AM		2040 AM		2020 PM		2030 PM		2040 PM	
		Density (pas-car/ lane/mi)	LOS	Density (pas-car/ lane/mi)	LOS	Density (pas-car/ lane/mi)	LOS	Density (pas-car/ lane/mi)	LOS	Density (pas-car/ lane/mi)	LOS	Density (pas-car/ lane/mi)	LOS
I-75 North Bound													
1 County Line to CR 476B	C	14.6	B	17.5	B	21.2	C	13.1	B	15.6	B	18.0	B
2 CR 476B to SR 48		14.1	B	16.8	B	20.2	C	12.3	B	14.5	B	16.6	B
3 SR 48 to CR 470		14.1	B	16.9	B	20.3	C	12.3	B	14.5	B	16.6	B
4 CR 470 to CR 514		14.6	B	17.5	B	21.1	C	12.5	B	14.8	B	17.0	B
5 CR 514 to FL TPK		14.6	B	17.5	B	21.1	C	12.5	B	14.8	B	17.0	B
6 FL TPK to SR 44		18.9	C	22.2	C	27.6	D	15.9	B	18.3	C	22.6	C
7 SR 44 to CR 475		26.1	D	32.2	D	44.5	E	20.3	C	24.0	C	31.1	D
8 CR 475 to CR 484		26.1	D	32.2	D	44.5	E	20.3	C	24.0	C	31.1	D
9 CR 484 to SW 95 St	D	30.1	D	38.6	E	57.3	F	22.4	C	26.8	D	35.4	E
10 SW 95 St to SR 200		28.3	D	36.1	E	51.6	F	21.1	C	25.2	C	32.6	D
11 SR 200 to SR 40		29.2	D	37.3	E	54.2	F	22.6	C	27.3	D	35.8	E
12 SR 40 to US 27		28.6	D	36.4	E	52.1	F	22.0	C	26.5	D	34.5	D
13 US 27 to NW 49		25.1	C	31.2	D	42.6	E	19.3	C	23.1	C	29.4	D
14 NW 49 St to SR 326		25.1	C	31.2	D	42.6	E	19.3	C	23.1	C	29.4	D
15 SR 326 to CR 318	C	20.7	C	25.3	C	33.0	D	15.8	B	18.8	C	23.5	C
16 CR 318 to County Line		20.7	C	25.3	C	33.0	D	15.8	B	18.8	C	23.5	C
I-75 Southbound													
17 County Line to CR 318	C	15.8	B	18.8	C	23.5	C	20.7	C	25.3	C	33.0	D
18 CR 318 to SR 326		15.8	B	18.8	C	23.5	C	20.7	C	25.3	C	33.0	D
19 SR 326 to NW 49 St	D	19.3	C	23.1	C	29.4	D	25.1	C	31.2	D	42.6	E
20 NW 49 St to US 27		19.3	C	23.1	C	29.4	D	25.1	C	31.2	D	42.6	E
21 US 27 to SR 40		22.0	C	26.5	D	34.5	D	28.6	D	36.4	E	52.1	F
22 SR 40 to SR 200		22.6	C	27.3	D	35.8	E	29.2	D	37.4	E	54.2	F
23 SR 200 to SW 95 St		21.1	C	25.2	C	32.6	D	28.3	D	36.2	E	51.6	F
24 SW 95 St to CR 484		22.4	C	26.8	D	35.4	E	30.1	D	38.8	E	57.3	F
25 CR 484 to CR 475	C	20.3	C	24.0	C	31.1	D	26.1	D	32.3	D	44.5	E
26 CR 475 to SR 44		20.3	C	24.0	C	31.1	D	26.1	D	32.3	D	44.5	E
27 SR 44 to FL TPK		21.1	C	25.5	C	33.7	D	26.5	D	32.8	D	45.8	F
28 FL TPK to CR 514		12.5	B	14.9	B	17.0	B	14.6	B	17.5	B	21.1	C
29 CR 514 to CR 470		12.5	B	14.9	B	17.0	B	14.6	B	17.5	B	21.1	C
30 CR 470 to SR 48		12.3	B	14.6	B	16.6	B	14.1	B	16.9	B	20.3	C
31 SR 48 to CR 476B		12.3	B	14.5	B	16.6	B	14.1	B	16.8	B	20.2	C
32 CR 476B to County Line		13.1	B	15.6	B	18.0	B	14.6	B	17.5	B	21.2	C

TABLE 4.2 | No-Build Ramp Merge/Diverge Analysis Summary

Merge/Diverge Ramp	FDOT LOS Standard	2020 AM			2030 AM			2040 AM			2020 PM			2030 PM			2040 PM		
		Capacity	Density (pc/mi/ln	LOS	Capacity	Density (pc/mi/ln	LOS	Capacity	Density (pc/mi/ln	LOS	Capacity	Density (pc/mi/ln	LOS	Capacity	Density (pc/mi/ln	LOS	Capacity	Density (pc/mi/ln	LOS
I-75 North Bound																			
1 CR 476B NB Exit	B	UC	18.9	B	UC	19.4	B	UC	23.0	C	UC	14.6	B	UC	17.5	B	UC	20.2	C
2 CR 476B NB Entr		UC	15.3	B	UC	18.1	B	UC	21.2	C	UC	13.9	B	UC	15.8	B	UC	17.9	B
3 SR 48 NB Exit		UC	19.3	B	UC	19.7	B	UC	23.1	C	UC	14.6	B	UC	17.2	B	UC	19.4	B
4 SR 48 NB Entr		UC	14.6	B	UC	17.7	B	UC	21.1	C	UC	12.9	B	UC	15.2	B	UC	17.4	B
5 CR 470 NB Exit		UC	17.7	B	UC	19.1	B	UC	22.5	C	UC	13.9	B	UC	16.6	B	UC	18.9	B
6 CR 470 NB Entr		UC	14.7	B	UC	17.6	B	UC	21.2	C	UC	12.3	B	UC	14.8	B	UC	17.3	B
7 Tpk NB Ent.		UC	7	A	UC	11.3	B	UC	17.7	F	UC	2	2.2	UC	6	A	UC	12	B
8 SR 44 NB Exit		UC	<0	A	UC	<0	A	UC	-2	A	UC	<0	A	UC	<0	A	UC	<0	A
9 SR 44 NB Entr		UC	7.6	A	UC	11.8	B	UC	17.6	B	UC	3	2.6	UC	6	A	UC	11	B
12 CR 484 NB Exit	D	UC	28	C	UC	31.4	D	UC	37.2	E	UC	23.6	C	UC	26.7	C	UC	31.2	D
13 CR 484 NB Ent		UC	30.2	D	UC	35.1	E	UC	41.5	F	UC	24.2	C	UC	28.1	D	UC	33.6	D
14 SW 95 NB Exit		UC	27.8	C	UC	31.4	D	UC	41.4	F	UC	22.9	C	UC	26.2	C	UC	30.4	D
15 SW 95 NB Entr		UC	23.5	C	UC	27.8	C	UC	34.1	F	UC	17.9	B	UC	21.5	C	UC	26.4	C
16 SR 200 NB Exit		UC	33.1	D	UC	36.7	E	UC	44.7	F	UC	28	C	UC	31.2	D	UC	35.3	E
17 SR 200 NB Entr		UC	28.7	D	UC	33.1	D	UC	39	F	UC	24	C	UC	27.7	C	UC	32.8	D
18 SR 40 NB Exit		UC	30.8	D	UC	34.3	D	UC	43.3	F	UC	26.5	C	UC	29.8	D	UC	34	D
19 SR 40 NB Entr		UC	29.7	D	UC	34.1	D	UC	40.3	F	UC	24.8	C	UC	28.4	D	UC	33.2	D
20 US 27 NB Exit		UC	29.7	D	UC	33.5	D	UC	41.4	F	UC	25.8	C	UC	29.3	D	UC	33.6	D
21 US 27 NBEntr		UC	25.6	C	UC	29.6	D	UC	34.9	D	UC	21	C	UC	24.3	C	UC	28.8	D
24 SR 326 NBExit	B	UC	27.5	C	UC	31.1	D	UC	35.2	E	UC	22.9	C	UC	26.2	C	UC	30.3	D
25 SR 326 NBEntr		UC	21.2	C	UC	25.1	C	UC	30	D	UC	16.5	B	UC	19.5	B	UC	23.7	C
26 CR 318 Exit		UC	23	C	UC	26.5	C	UC	30.7	D	UC	18.2	B	UC	21.3	C	UC	25.3	C
27 CR 318 NB Entr		UC	21.9	C	UC	25.6	C	UC	30.5	D	UC	17.3	B	UC	20.2	C	UC	24.4	C
I-75 South Bound																			
28 CR 318 SB Exit	B	UC	17.3	B	UC	20.4	C	UC	24.4	C	UC	22.1	C	UC	25.6	C	UC	29.8	D
29 CR 318 SB Entr		UC	15.9	B	UC	18.9	B	UC	23.1	C	UC	20.6	C	UC	24.3	C	UC	29.2	D
30 SR 326 SB Exit	D	UC	22.5	C	UC	25.6	C	UC	29.7	D	UC	27.3	C	UC	30.9	D	UC	35.1	E
31 SR 326 SB Loop Entr		UC	16.3	B	UC	19.6	B	UC	24.2	C	UC	20.9	C	UC	24.9	C	UC	29.6	D
32 SR 326 SB Entr		UC	19.0	B	UC	22.3	C	UC	26.8	C	UC	23.9	C	UC	28	C	UC	33.3	D
35 US 27 SB Exit		UC	23.6	C	UC	26.8	C	UC	30.8	D	UC	28.1	D	UC	31.6	D	UC	37.3	E
36 US 27 SB Entr		UC	24	C	UC	27.6	C	UC	32.5	D	UC	28.7	D	UC	33.1	D	UC	38.8	F
37 SR 40 SB Exit		UC	27.2	C	UC	30.8	D	UC	35.2	E	UC	31.1	D	UC	34.8	D	UC	42.8	F
38 SR 40 SB Entr		UC	24.2	C	UC	27.9	C	UC	33	D	UC	29	D	UC	33.5	D	UC	39.6	F
39 SR 200 SB Exit		UC	29.7	D	UC	33	D	UC	37.1	E	UC	33.8	D	UC	37.4	E	UC	46	F
40 SR 200 SB Entr		UC	21.5	C	UC	25	C	UC	29.9	D	UC	27.3	C	UC	31.8	D	UC	37.5	F
41 SW 95 SB Exit		UC	23.3	C	UC	26.6	C	UC	30.7	D	UC	28.4	D	UC	32	D	UC	40.7	F
42 SW 95 SB Entr		UC	25	C	UC	28.5	D	UC	33.6	D	UC	30.3	D	UC	34.8	D	UC	42.5	F
43 CR 484 SB Exit	B	UC	26	C	UC	29.4	D	UC	33.9	D	UC	31.2	D	UC	35	D	UC	43.7	F
44 CR 484 SB Entr		UC	22.4	C	UC	25.7	C	UC	30.9	D	UC	27	C	UC	31.2	D	UC	36.9	E
47 SR 44 SB Exit		UC	0	A	0	0.00	A	UC	1.70	A	UC	0	A	UC	2.4	A	UC	11.1	B
48 SR 44 SB Entr		UC	20.7	C	24.3	C	63	UC	29.90	D	UC	24.6	C	UC	29	D	UC	34.9	F
49 Tpk SB Exit		UC	<0	A	1.9	A	A	UC	9.10	A	UC	3.5	A	UC	7.8	A	UC	14.3	B
50 CR 470 SB Exit		UC	14.3	B	UC	17.1	B	UC	19.5	B	UC	16.6	B	UC	19.8	B	UC	23.4	C
51 CR 470 SB Entr		UC	15	B	UC	17.5	B	UC	19.7	B	UC	16.8	B	UC	19.8	B	UC	23.2	C
52 CR 48 SB Exit		UC	18.7	B	UC	16.8	B	UC	19	B	UC	16.3	B	UC	19.4	B	UC	22.7	C
53 CR 48 SB Entr		UC	16.2	B	UC	16.8	B	UC	18.9	B	UC	16.3	B	UC	19.1	B	UC	22.4	C
54 CR 476B SB Exit		UC	18.4	B	UC	16.5	B	UC	18.7	B	UC	15.9	B	UC	19	B	UC	22.3	C
55 CR 476B SB Entr		UC	14.6	B	UC	17.2	B	UC	19.7	B	UC	15.8	B	UC	18.8	B	UC	22.4	C

4.2. Freeway Weave Analysis

I-75 south of SR 44 is funded for widening to six (6) lanes in the FDOT Work Program (FY 2010/11 - 2014/15). The FTE is in the process of looking into several alternatives between the interchanges of FTE and SR 44 on I-75 to eliminate weaving and improve operations.

4.3. Intersection Analysis

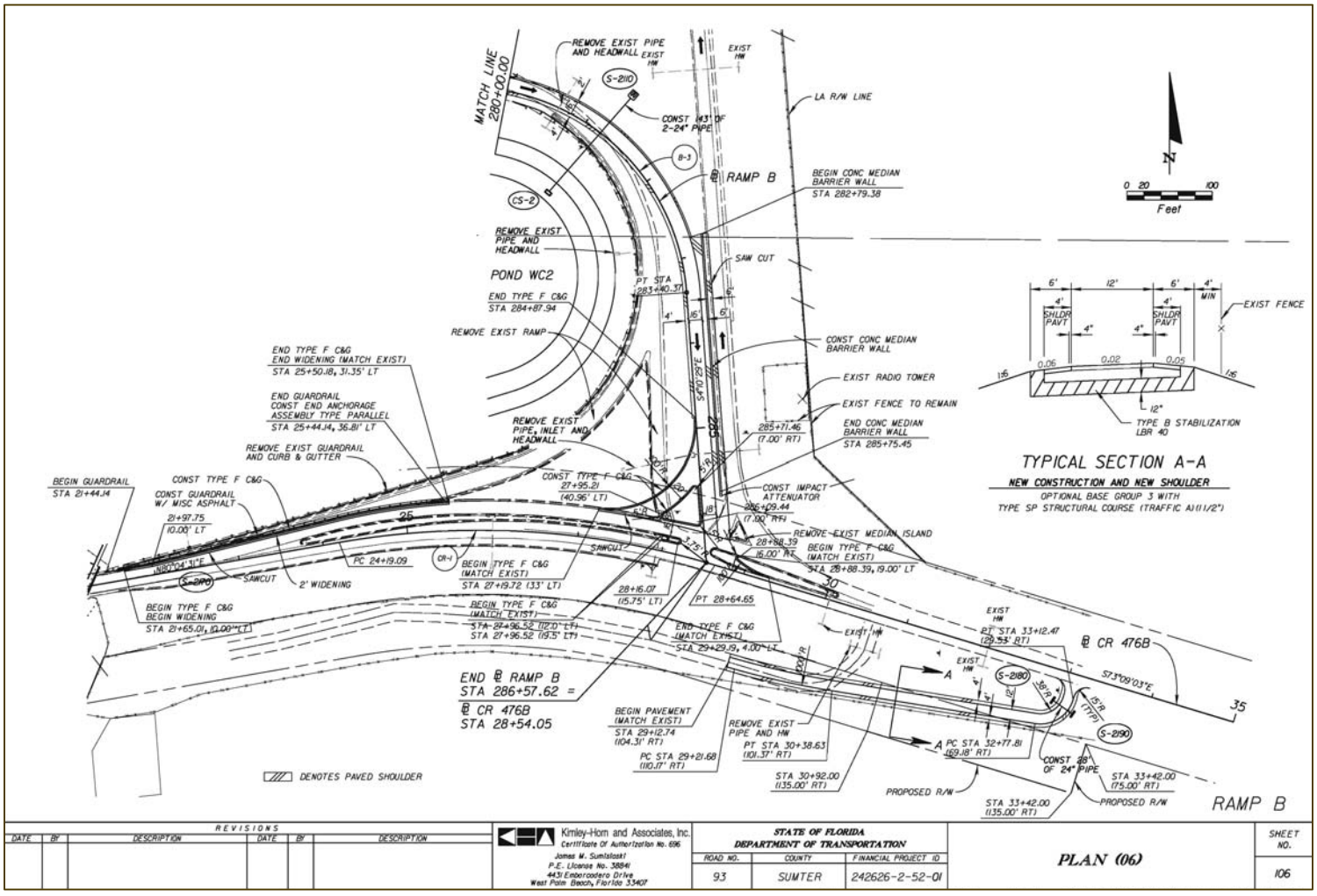
Intersection analysis considered all the programmed improvements mentioned in Section 3.3 in No-Build conditions. In addition, widening of I-75 is expected to improve CR 476 B, CR 470 and SR 48 interchange intersections as shown in **Figures 4.1 through 4.4**. These improvements are considered in all the No-Build conditions analyses. Detailed 60 percent plans of the subject widening are included in **Appendix I**.

In addition, the 2035 cost feasible model includes roadway improvements specified in local and regional transportation plans including the FDOT Five-Year Work Program, FIHS Cost Feasible Plan, Ocala/Marion County TPO Cost Feasible Long-Range Plan, and Lake~Sumter MPO Cost Feasible Plan. The following is a list of study corridors and their improvements that are included in the CFRPM 5.0 2035 cost feasible model network. These improvements are considered in the 2040 No-Build analysis.

- CR 470 widening to four (4) lanes from CR 475 to US 301
- CR 484 widening to six (6) lanes from Marion Oaks Course to County Highway 475A
- SR 40 widening to six (6)lanes from NW 60th Ave to NW 27th Ave
- US 27 widening to six (6)lanes from NW 44th Ave to NW 27th Ave

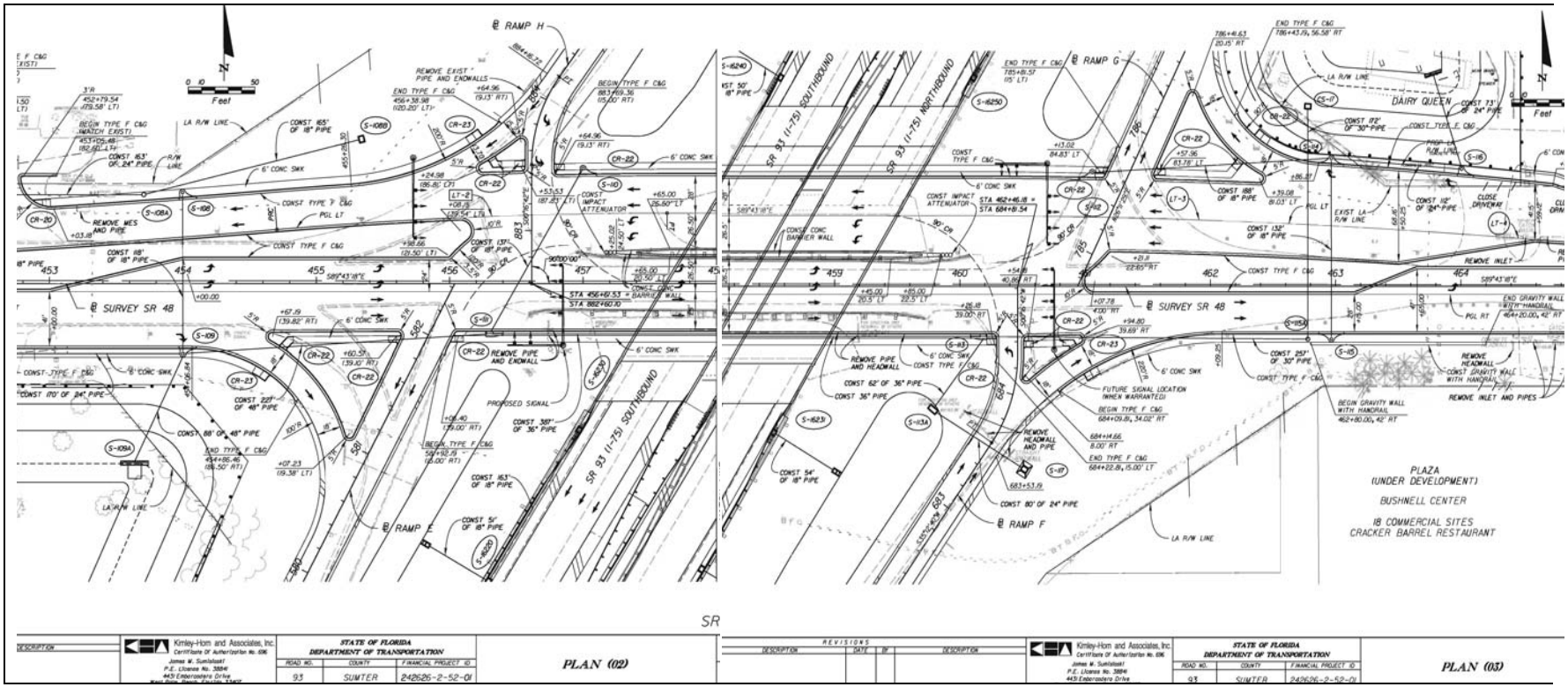
A detailed intersection analysis was performed using the latest version of SYNCHRO for all study intersections and all alternatives. The results of the analysis are summarized in **Table 4.3**, and the outputs are included in **Appendix H**.

FIGURE 4.1 | CR 476B Northbound Ramp Improvements from I-75 Widening Project



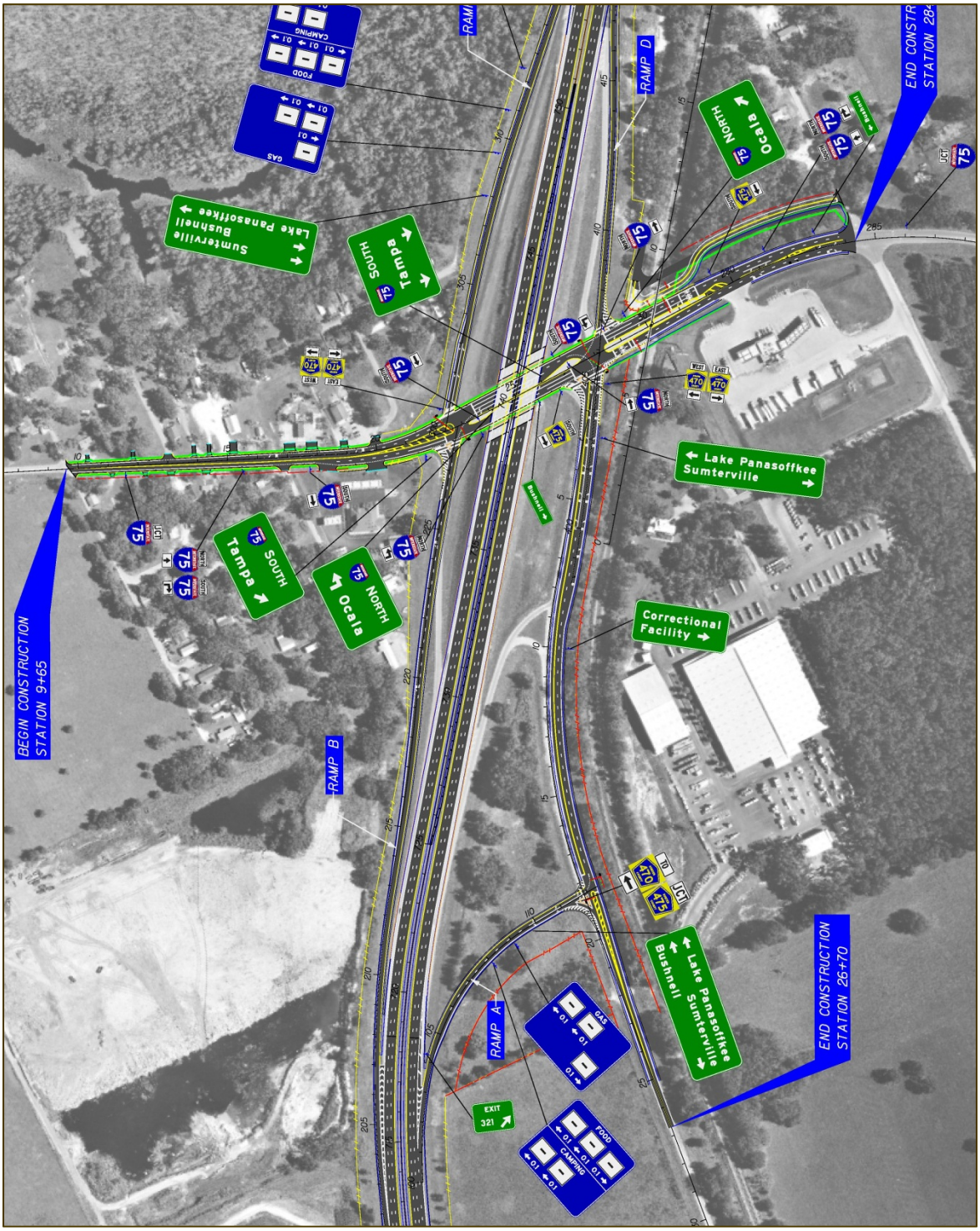
Source: I-75 Widening Project (FM # 242626-2 & 242626-3, detailed sheets are included in Appendix I)

FIGURE 4.2 | SR 48 Interchange Improvements from I-75 Widening Project



Source: I-75 Widening Project (FM # 242626-2 & 242626-3, detailed sheets are included in Appendix I)

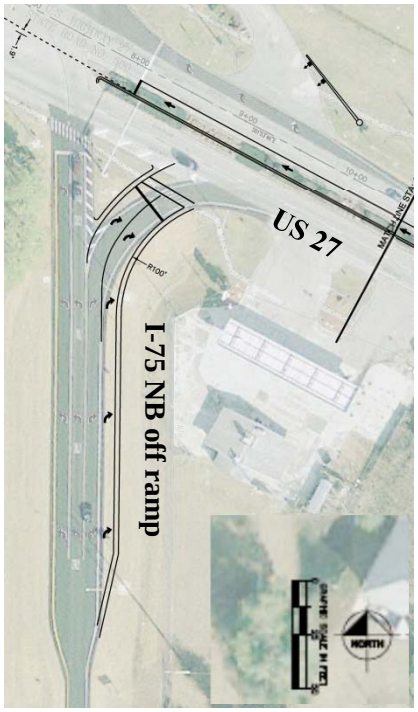
FIGURE 4.3 | CR 470 Interchange Improvements from I-75 Widening Project



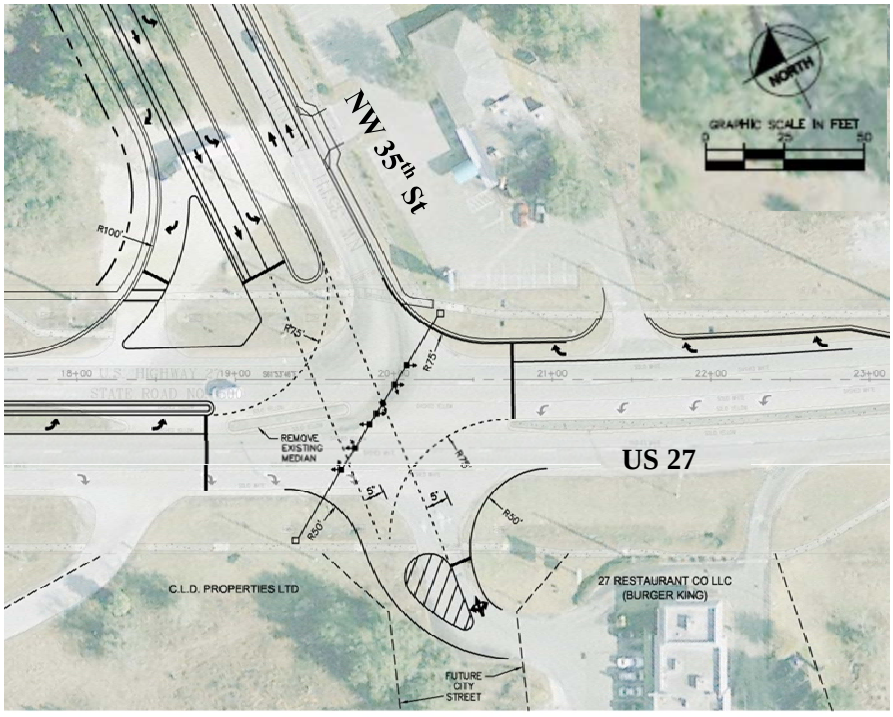
Source: I-75 Widening Project Signage Plan Sheets (detailed sheets are included in Appendix M)

FIGURE 4.4 |City of Ocala US 27 Intersection Improvements

I-75 NB off-Ramp at US 27



US 27 at NW 35th St



Source: US 27 OMCCP IMRPOVEMENTS, City of Ocala (detailed sheets are included in Appendix M)

TABLE 4.3 | No-Build Intersection Analysis Summary

Intersection	Approach	LOS Standard	2020 AM Peak-Hour				2020 PM Peak-Hour				2030 AM Peak-Hour				2030 PM Peak-Hour				2040 AM Peak-Hour				2040 PM Peak-Hour			
			Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
CR 476B @ SW 102 (unsig)	EB	C	10.7	B	3.3	A	10.8	B	2.5	A	11.8	B	3.5	A	11.8	B	2.7	A	13.4	B	3.8	A	13.3	B	2.9	A
	NB		2.9	A			2.0	A			2.9	A			2.0	A			3.0	A			1.9	A		
	SB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
CR 476B @ I-75 SB Ramps (unsig)	EB	C	0.0	A	4.3	A	0.0	A	2.4	A	0.0	A	5.1	A	0.0	A	2.8	A	0.0	A	6.5	A	0.0	A	3.1	A
	WB		4.5	A			2.8	A			4.9	A			3.1	A			5.4	A			3.2	A		
	SB		13.8	B			10.8	B			17.8	C			12.0	B			29.2	D			14.4	B		
CR 476B @ I-75 NB Ramps (unsig)	EB	C	0.0	A	1.3	A	0.0	A	3.9	A	0.0	A	1.4	A	0.0	A	4.5	A	0.0	A	1.7	A	0.0	A	5.7	A
	WB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
	SB		12.1	B			11.6	B			13.6	B			13.4	B			16.6	C			17.0	C		
CR 476B @ SW 53rd Ter. (unsig)	EB	C	0.5	A	1.3	A	0.3	A	0.7	A	0.5	A	1.3	A	0.3	A	0.6	A	0.4	A	1.3	A	0.2	A	0.5	A
	WB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
	SB		10.6	B			10.4	B			11.3	B			11.2	B			12.4	B			12.3	B		
CR 48 @ CR 616 (unsig)	EB	D	0.0	A	2.6	A	0.0	A	2.8	A	0.0	A	2.7	A	0.0	A	3.0	A	0.0	A	2.8	A	0.0	A	3.2	A
	WB		1.6	A			2.0	A			1.7	A			2.1	A			1.8	A			2.2	A		
	NB		11.0	B			11.4	B			11.5	B			12.1	B			12.3	B			13.1	B		
	SB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
CR 48 @ I-75 SB Ramps (sig)	EB	D	9.2	A	8.6	A	9.7	A	9.9	A	9.7	A	8.9	A	10.1	B	10.5	B	9.7	A	8.8	A	10.1	B	10.4	B
	WB		4.4	A			5.8	A			4.6	A			6.0	A			4.6	A			6.1	A		
	SB		18.1	B			19.1	B			18.7	B			20.2	C			18.4	B			19.9	B		
SR 48@ I-75 NB Ramps (sig)	EB	D	3.9	A	6.9	A	2.9	A	6.4	A	4.0	A	6.9	A	3.0	A	6.4	A	4.0	A	7.2	A	3.4	A	6.6	A
	WB		3.1	A			3.2	A			3.1	A			3.2	A			4.1	A			3.7	A		
	NB		24.6	C			24.6	C			24.4	C			24.4	C			23.0	C			23.1	C		
SR 48 @ CR 609 (sig)	EB	D	1.3	A	4.5	A	1.1	A	4.3	A	1.4	A	4.9	A	1.4	A	4.8	A	1.7	A	5.6	A	1.7	A	5.8	A
	WB		3.9	A			4.0	A			4.5	A			4.7	A			5.5	A			6.6	A		
	NB		11.9	B			11.9	B			12.3	B			12.3	A			12.8	B			12.8	B		
CR 470 @ CR 488 (unsig)	EB	D	0.3	A	1.8	A	0.3	A	1.7	A	0.3	A	2.9	A	0.3	A	2.0	A	0.3	A	7.0	A	0.3	A	2.6	A
	WB		0.7	A			1.2	A			1.0	A			1.5	A			1.5	A			2.2	A		
	NB		16.5	C			14.9	B			20.3	C			17.1	C			28.6	D			22.2	C		
	SB		23.0	C			17.5	C			42.7	E			23.4	C			140.3	F			37.2	E		
CR 470 @ I-75 SB Ramps (sig)	EB	D	13.8	B	14.1	B	16.0	B	13.1	B	15.2	B	15.1	B	17.2	B	13.7	B	17.9	B	17.2	B	21.2	C	14.7	B
	WB		11.8	B			9.3	A			11.8	B			8.6	A			12.6	B			8.4	A		
	SB		17.2	B			16.5	B			18.7	B			18.3	B			21.1	C			18.7	B		
CR 470 @ CR 475 (sig)	EB	D	23.1	C	11.9	B	23.1	C	11.3	B	4.7	A	14.0	B	4.7	A	11.6	B	6.0	A	14.0	B	6.0	A	14.0	B
	NB		3.4	A			3.4	A			22.1	C			23.3	C			21.4	C			22.5	C		
	SB		3.7	A			1.7	A			19.8	B			9.7	A			18.7	B			17.2	B		
CR 470 @ CR 527 (unsig)	EB	D	0.0	A	0.7	A	0.0	A	1.1	A	0.0	A	0.7	A	0.0	A	1.5	A	0.0	A	0.8	A	0.0	A	2.2	A
	WB		0.2	A			0.2	A			0.2	A			0.1	A			0.2	A			0.1	A		
	NB		15.2	C			17.4	C			18.9	C			24.6	C			26.0	D			41.8	E		
	SB		19.1	C			18.6	C			25.4	D			24.2	C			37.8	E			34.1	D		

TABLE 4.3 | No-Build Intersection Analysis Summary (Cont.)

Intersection	Approach	LOS Standard	2020 AM Peak-Hour				2020 PM Peak-Hour				2030 AM Peak-Hour				2030 PM Peak-Hour				2040 AM Peak-Hour				2040 PM Peak-Hour			
			Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
SR 44 @ CR 231 (unsig)	EB	B	0.1	A	0.5	A	0.1	A	0.6	A	0.1	A	0.9	A	0.1	A	1.2	A	0.1	A	1.7	A	0.1	A	4.0	A
	WB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
	SB		25.2	D			28.6	D			44.7	E			58.0	F			108.2	F			197.6	F		
SR 44 @ I-75 SB Ramps (sig)	EB	B	17.1	B	16.0	B	18.0	B	15.7	B	20.4	C	17.3	B	18.6	B	18.1	B	32.6	C	29.6	C	29.7	C	22.7	C
	WB		9.6	A			10.4	B			10.2	B			12.2	B			20.7	C			12.6	B		
	SB		26.7	C			21.8	C			26.2	C			27.2	C			42.1	D			32.0	C		
SR 44 @ I-75 NB Ramps (sig)	EB	D	10.4	B	18.5	B	10.6	B	15.1	B	18.9	B	26.2	C	11.7	B	18.8	B	20.5	C	40.0	D	20.1	C	28.4	C
	WB		20.6	C			14.2	B			22.4	C			17.7	B			43.5	D			31.0	C		
	NB		26.6	C			22.6	C			39.9	D			30.2	C			61.1	E			36.1	D		
SR 44 @ CR 229 (unsig)	EB	D	0.9	A	2.5	A	1.2	A	1.3	A	1.0	A	11.4	B	1.5	A	1.9	A	1.4	A	627.7	F	2.1	A	3.7	A
	WB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
	SB		33.5	D			16.3	C			175.3	F			24.1	C			Err	F			57.2	F		
CR 484 @ Marion Oaks Course (sig)	EB	E	15.4	B	18.8	B	10.0	B	13.1	B	22.1	C	42.9	D	15.5	B	23.8	C	16.5	B	80.8	F	11.4	B	19.9	C
	WB		20.5	C			14.9	B			48.4	D			28.6	C			22.3	C			21.5	C		
	NB		8.9	A			9.3	A			10.4	B			15.3	B			12.1	B			8.9	A		
	SB		28.4	C			13.9	B			85.0	F			25.4	C			324.1	F			32.3	C		
CR 484 @ Marion Oaks Blvd (sig)	EB	E	45.4	D	36.9	D	48.1	D	27.6	C	91.8	F	75.3	E	92.0	F	65.9	E	120.6	F	107.3	F	87.2	F	69.4	E
	WB		14.0	B			21.9	C			27.4	C			68.9	E			22.2	C			76.4	E		
	NB		55.9	E			12.9	B			116.7	F			13.1	B			202.1	F			15.5	B		
CR 484 @ SW 20th Ave (sig)	EB	E	8.5	A	10.7	B	5.8	A	7.6	A	40.7	D	33.1	C	6.0	A	7.0	A	5.4	A	31.6	C	5.9	A	16.0	B
	WB		10.5	B			6.6	A			23.6	C			6.6	A			59.2	E			21.0	C		
	SB		38.7	D			37.1	D			20.7	C			32.2	C			116.7	F			28.4	C		
CR 484 @ I-75 SB Ramps (sig)	EB	E	20.4	C	24.4	C	36.9	D	28.9	C	32.6	C	37.7	D	32.1	C	81.4	F	92.1	F	73.9	E	147.8	F	100.5	F
	WB		14.1	B			13.6	B			24.6	C			9.2	A			37.6	D			48.5	D		
	SB		43.5	D			43.2	D			61.9	E			242.5	F			73.7	E			127.7	F		
CR 484 @ I-75 NB Ramps (sig)	EB	C	12.3	B	25.2	C	27.7	C	30.7	C	13.4	B	33.9	C	14.9	B	103.4	F	130.5	F	162.4	F	119.6	F	124.6	F
	WB		26.1	C			20.5	C			53.8	D			86.7	F			72.6	E			72.7	E		
	NB		66.3	E			73.3	E			59.5	E			383.9	F			455.5	F			301.9	F		
CR 484 @ CR 475A (sig)	EB	C	25.9	C	29.0	C	30.3	C	62.7	E	36.0	D	35.7	D	118.1	F	242.9	F	24.2	C	35.3	D	44.3	D	86.6	F
	WB		31.8	C			101.3	F			29.2	C			456.6	F			43.1	D			108.3	F		
	NB		31.6	C			43.3	D			46.8	D			34.2	C			69.3	E			128.9	F		
	SB		39.9	D			47.9	D			50.1	D			36.4	D			54.8	D			128.5	F		
SR 200 @ SW 40 Ave. (sig)	SE	D	0.0	A	11.2	B	0.0	A	15.1	B	0.0	A	14.9	B	0.0	A	17.7	B	0.0	A	25.1	C	0.0	A	21.5	C
	NW		62.3	E			62.8	E			62.3	E			62.7	E			62.3	E			62.7	E		
	NE		14.8	B			19.6	B			19.8	B			22.1	C			35.4	D			27.2	C		
	SW		5.3	A			7.3	A			7.3	A			10.4	B			10.3	B			15.1	B		
SR 200 @ SW 38 St. (sig)	SE	D	53.4	D	104.8	F	67.0	E	104.1	F	52.5	D	188.3	F	76.0	E	152.1	F	52.9	D	274.6	F	94.0	F	208.6	F
	NW		57.9	E			74.7	E			58.7	E			79.4	E			60.4	E			88.4	F		
	NE		152.6	F			61.6	E			262.5	F			75.0	F			366.3	F			116.0	F		
	SW		66.5	E			143.3	F			146.3	F			227.1	F			239.3	F			308.4	F		

TABLE 4.3 | No-Build Intersection Analysis Summary (Cont.)

Intersection	Approach	LOS Standard	2020 AM Peak-Hour				2020 PM Peak-Hour				2030 AM Peak-Hour				2030 PM Peak-Hour				2040 AM Peak-Hour				2040 PM Peak-Hour			
			Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
SR 200 @ I-75 SB Ramps (sig)	SB	D	79.4	E	28.4	C	61.7	E	38.8	D	107.8	F	52.5	D	67.1	E	67.6	E	146.4	F	86.1	F	83.3	F	93.4	F
	NE		18.7	B			58.2	E			54.4	D			126.7	F			102.7	F			175.3	F		
	SW		20.7	C			16.7	B			26.8	C			20.7	C			37.8	D			31.3	C		
SR 200 @ I-75 NB Ramps (sig)	NB	D	55.5	E	157.5	F	105.6	F	71.2	E	60.7	E	213.1	F	134.0	F	104.5	F	79.1	E	273.4	F	166.7	F	141.9	F
	NE		35.1	D			35.0	C			51.9	D			45.0	D			96.7	F			56.3	E		
	SW		365.4	F			91.8	F			494.5	F			143.9	F			589.7	F			202.0	F		
SR 200 @ SW 35 Ave. (sig)	SE	D	54.9	D	9.2	A	46.6	D	42.1	D	52.6	D	12.0	B	47.3	D	63.8	E	51.8	D	18.1	B	48.1	D	94.2	F
	NW		66.0	E			118.8	F			60.3	E			155.8	F			61.5	E			221.7	F		
	NE		5.0	A			25.4	C			7.4	A			27.7	C			14.8	B			30.6	C		
	SW		11.5	B			45.9	D			15.4	B			82.2	F			20.1	C			131.7	F		
SR 40 @ SW 60th Ave (sig)	EB	D	52.0	D	49.5	D	45.1	D	44.7	D	100.5	F	76.6	E	88.6	F	76.2	E	102.5	F	73.6	E	34.4	C	62.0	E
	WB		41.5	D			47.5	D			53.3	D			85.3	F			52.0	D			64.6	E		
	NB		50.0	D			38.0	D			50.0	D			50.4	D			40.1	D			110.6	F		
	SB		63.5	E			46.7	D			68.5	E			49.1	D			42.0	D			42.8	D		
SR 40 @ SW 52nd Ave (sig)	EB	D	26.8	C	26.6	C	12.4	B	14.1	B	52.7	D	43.9	D	16.3	B	18.2	B	47.0	D	37.1	D	17.9	B	16.1	B
	WB		26.3	C			14.7	B			34.6	C			20.1	C			26.5	C			14.2	B		
	NB		17.7	B			11.5	B			16.6	B			11.1	B			13.7	B			13.2	B		
	SB		47.2	D			28.6	C			47.2	D			29.7	C			29.6	C			30.4	C		
SR 40 @ I-75 SB Ramps (sig)	EB	D	51.3	D	50.2	D	45.0	D	50.0	D	95.1	F	83.5	F	94.1	F	82.3	F	53.0	D	75.9	E	37.7	D	93.1	F
	WB		17.7	B			37.5	D			35.6	D			41.3	D			38.7	D			31.5	C		
	SB		139.5	F			101.1	F			178.4	F			172.2	F			267.7	F			440.3	F		
SR 40 @ I-75 NB Ramps (sig)	EB	D	38.6	D	70.5	E	26.1	C	44.7	D	48.8	D	104.7	F	31.8	C	80.2	F	422.8	F	281.8	F	25.8	C	130.5	F
	WB		57.7	F			44.0	D			117.2	F			74.8	E			86.5	F			80.9	F		
	NB		186.3	E			93.0	F			232.8	F			215.0	F			311.5	F			516.4	F		
SR 40 @ NW 33rd Ave (sig)	EB	D	52.6	D	33.2	C	26.4	C	28.4	C	18.2	B	23.2	C	24.5	C	43.1	D	20.1	C	27.6	C	35.3	D	52.3	D
	WB		7.3	A			17.8	B			15.3	B			33.6	C			27.0	C			27.7	C		
	NB		44.9	D			78.0	E			106.3	F			150.4	F			85.9	F			211.8	F		
SR 40 @ SW 27th Ave (sig)	EB	D	87.3	F	84.3	F	126.2	F	109.8	F	120.8	F	122.1	F	208.8	F	160.6	F	84.8	F	121.7	F	176.1	F	163.4	F
	WB		54.0	D			82.8	F			79.4	E			91.4	F			119.6	F			182.4	F		
	NB		87.1	F			108.9	F			128.9	F			148.0	F			138.3	F			81.9	F		
	SB		108.6	F			123.0	F			161.4	F			197.8	F			159.6	F			211.2	F		
US 27 @ NW 44th Ave. (sig)	EB	C	5.9	A	13.4	B	4.8	A	11.1	B	6.7	A	13.3	B	5.9	A	12.1	B	5.8	A	11.5	B	5.1	A	14.7	B
	WB		20.0	B			12.3	B			12.2	B			14.0	B			12.9	B			16.6	B		
	NB		10.8	B			12.9	B			11.9	B			15.6	B			12.9	B			22.1	C		
	SB		20.3	C			16.0	B			28.7	C			13.1	B			18.2	B			15.8	B		
US 27 @ NW 38th Ave (unsig)	EB	C	0.1	A	1.4	A	0.1	A	1.7	A	0.1	A	1.6	A	0.1	A	1.9	A	0.1	A	1.9	A	0.1	A	2.0	A
	WB		0.9	A			0.3	A			1.1	A			0.3	A			1.3	A			0.3	A		
	NB		24.2	C			17.9	C			28.5	D			20.9	C			31.3	D			22.7	C		
	SB		28.9	D			25.7	D			37.5	E			29.8	D			54.2	F			31.9	D		
US 27 @ I-75 SB Ramps (sig)	EB	C	15.4	B	14.4	B	13.3	B	12.3	B	17.1	B	15.2	B	14.9	B	14.4	B	15.9	B	21.3	C	16.1	B	18.6	B
	WB		8.2	A			8.8	A			7.2	A			9.4	A			18.6	B			16.4	B		
	SB		32.7	C			32.2	C			36.0	D			47.5	D			56.0	E			46.3	D		

TABLE 4.3 | No-Build Intersection Analysis Summary (Cont.)

Intersection	Approach	LOS Standard	2020 AM Peak-Hour				2020 PM Peak-Hour				2030 AM Peak-Hour				2030 PM Peak-Hour				2040 AM Peak-Hour				2040 PM Peak-Hour			
			Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
US 27 @ I-75 NB Ramps (sig)	EB	D	5.1	A	11.9	B	13.1	B	16.4	B	5.9	A	14.0	B	14.9	B	17.2	B	8.3	A	16.7	B	9.8	A	16.7	B
	WB		10.7	B			17.0	B			14.4	B			17.5	B			15.7	B			17.7	B		
	NB		24.0	C			18.6	B			25.9	C			19.1	B			30.7	C			22.2	C		
US 27 @35 th St (sig)	EB	D	36.4	D	45.6	D	24.8	C	37.7	D	40.5	D	54.9	D	32.6	C	43.2	D	37.1	D	50.7	D	28.5	C	38.1	D
	WB		58.1	E			49.1	D			79.5	E			41.7	D			69.2	E			40.4	D		
	NB		52.3	D			35.0	C			67.6	E			35.7	D			62.4	E			36.5	D		
	SB		46.9	D			43.1	D			57.3	E			63.7	E			52.3	D			50.7	D		
US 27 @ NW 27th Ave (sig)	EB	D	25.2	C	31.1	C	29.4	C	25.8	C	31.9	C	38.8	D	25.6	C	28.7	C	25.2	C	33.9	C	27.1	C	24.8	C
	WB		24.0	C			19.1	B			29.7	C			15.8	B			31.6	C			20.9	C		
	NB		54.2	D			26.9	C			67.1	E			46.3	D			51.8	D			23.3	C		
	SB		57.2	E			40.3	D			72.9	E			63.0	E			56.1	E			43.0	D		
SR 326 @ NW 44 Ave/SB off-Ramp (sig)	EB	D	8.0	A	13.0	B	19.2	B	27.1	C	7.7	A	15.8	B	16.2	B	31.0	C	9.7	A	15.9	B	25.1	C	32.6	C
	WB		6.2	A			6.6	A			4.3	A			14.9	B			10.7	B			8.1	A		
	NB		22.1	C			103.4	F			37.7	D			140.3	F			29.3	C			125.1	F		
	SB		21.7	C			21.2	C			27.6	C			15.6	B			22.8	C			22.6	C		
SR 326 @ I-75 NB Ramps (sig)	EB	C	40.3	D	139.8	F	29.8	C	132.5	F	61.4	E	182.7	F	70.3	E	169.0	F	63.3	E	237.0	F	55.2	E	222.3	F
	WB		138.2	F			136.7	F			182.8	F			167.2	F			248.6	F			220.9	F		
	NB		194.0	F			180.9	F			246.8	F			222.6	F			316.4	F			310.7	F		
SR 326 @CR 25 A (sig)	EB	C	128.6	F	70.5	E	16.2	B	15.0	B	237.6	F	112.4	F	17.9	B	21.5	C	464.8	F	202.5	F	30.6	C	38.4	D
	WB		9.8	A			11.5	B			10.1	B			12.9	B			14.8	B			14.7	B		
	NB		81.3	F			14.8	B			80.0	E			43.5	D			64.3	E			162.1	F		
	SB		66.9	E			19.2	B			54.4	D			37.5	D			48.5	D			52.7	D		
CR 318 @ CR 225 (unsig)	EB	B	0.0	A	1.7	A	0.0	A	1.6	A	0.0	A	1.8	A	0.0	A	1.6	A	0.0	A	1.8	A	0.0	A	1.7	A
	WB		1.3	A			1.3	A			1.3	A			1.2	A			1.2	A			1.2	A		
	NB		11.4	B			11.0	B			11.8	B			11.4	B			12.3	B			11.8	B		
CR 318 @ I-75 SB Ramps (unsig)	EB	B	0.0	A	7.4	A	0.0	A	9.1	A	0.0	A	9.4	A	0.0	A	12.6	B	0.0	A	13.8	B	0.0	A	21.5	C
	WB		5.3	A			3.7	A			5.6	A			3.7	A			5.8	A			3.7	A		
	SB		19.1	C			25.5	D			25.7	D			37.5	E			40.3	E			67.4	F		
CR 318 @ I-75 NB Ramps (unsig)	EB	B	3.1	A	8.2	A	2.5	A	7.3	A	3.1	A	11.8	B	2.6	A	10.3	B	3.2	A	19.4	C	2.8	A	15.9	C
	WB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
	NB		24.1	C			22.8	C			36.4	E			33.3	D			62.5	F			52.5	F		
CR 318 @ NW 60th Ave (unsig)	EB	B	0.3	A	0.5	A	0.6	A	0.9	A	0.3	A	0.5	A	0.6	A	0.8	A	0.3	A	0.5	A	0.6	A	0.8	A
	WB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
	SB		12.5	B			14.5	B			13.2	B			15.5	C			14.1	B			16.7	C		

Results from the **Table 4.3** are summarized below:

- **CR 476B, CR/ SR 48 and CR 470:**
    - Considering the improvements shown in **Figures 4.1** through **4.3**, all the intersections along CR 476B, CR/ SR 48 and CR 470 intersections are expected to perform better than the No-Build Condition.
- **SR 44:**
    - All the ramp intersections are expected to operate better.
- **CR 484:**
    - SB and NB ramp, and CR 475 intersections start to fail in the year 2030.
    - CR 484 widening to six (6) lanes from Marion Oaks Course to County Highway 475A is considered in 2040 No-Build.
- **SR 200**
    - SW 38 Ct and NB ramp intersections are expected to operate deficiently from the opening year.
- **SR 40**
    - NB ramp and SW 27th Ave intersections are expected to operate deficiently from the opening year.
    - Both ramp intersections, SW 60th Ave and SW 27th Ave, continue to fail.
    - SR 40 widening to six (6)lanes from NW 60th Ave to NW 27th Ave 475A is considered in 2040 No-Build.
- **US 27**
    - Considering the improvements shown in Figure 4.4 for NB ramp and NW 35th St intersections, all the intersections are expected to perform better.
    - US 27 widening to six (6)lanes from NW 44th Ave to NW 27th Ave is included in 2040 No-Build.
- **SR 326**
    - NB ramp and CR 25A intersections are expected to operate deficiently from the 2020 analysis year.

TABLE 4.4 | No-Build Ramp Intersection Queue Analysis Summary (unsignalized)

Intersection	Movement	Available Storage	2020 No-Build			2030 No-Build			2040 No-Build		
			AM Peak-Hour	PM Peak-Hour	Storage Sufficient?	AM Peak-Hour	PM Peak-Hour	Storage Sufficient?	AM Peak-Hour	PM Peak-Hour	Storage Sufficient?
CR 476B @ I-75 SB Ramps	EBR	100	0	0	YES	0	0	YES	0	0	YES
	WBLT	0	12	4	YES	16	5	YES	23	7	YES
	SBLR	1600	9	5	YES	19	9	YES	44	16	YES
	SBR	50	4	4	YES	5	5	YES	7	6	YES
CR 476B @ I-75 NB Ramps	EBL	200	0	0	YES	0	0	YES	0	0	YES
	WBR	50	0	0	YES	0	0	YES	0	0	YES
	SBL	150	8	20	YES	11	32	YES	20	58	YES
CR 48 @ I-75 SB Ramps	EBR	1000	27	27	YES	29	29	YES	28	29	YES
	WBL	150	38	42	YES	44	48	YES	51	56	YES
	SBL	1700	75	84	YES	84	97	YES	88	102	YES
	SBR	150	25	26	YES	28	27	YES	28	28	YES
SR 48@ I-75 NB Ramps	EBL	150	30	26	YES	34	29	YES	36	32	YES
	WBR	150	4	3	YES	4	4	YES	4	6	YES
	NBL	1400	55	55	YES	60	60	YES	70	65	YES
	NBR	150	40	39	YES	43	41	YES	44	43	YES
CR 470 @ I-75 SB Ramps	WBL	450	46	52	YES	47	76	YES	#76	m#80	YES
	SBL	0	120	139	YES	154	179	YES	#197	225	YES
	SBR	0	29	26	YES	33	29	YES	37	31	YES
CR 470 @ I-75 NB Off-Ramp	EBL	450	64	71	YES	77	m132	YES	m90	m153	YES
	WBL	400	26	25	YES	34	32	YES	43	41	YES
	NBL	0	55	64	YES	94	104	YES	126	#206	YES
	NBR	700	0	1	YES	36	29	YES	21	33	YES
CR 318 @ I-75 SB Ramps	EBTR	>500	0	0	YES	0	0	YES	0	0	YES
	WBTL	230	12	8	YES	14	9	YES	16	10	YES
	SBL	1150	77	106	YES	117	161	YES	184	254	YES
	SBR	1150	77	106	YES	117	161	YES	184	254	YES
CR 318 @ I-75 NB Ramps	EBTL	230	7	5	YES	8	6	YES	8	7	YES
	NBL	1150	100	94	YES	158	147	YES	243	220	YES
	NBR	1150	100	94	YES	158	147	YES	243	220	YES
	WBTR	>500	0	0	YES	0	0	YES	0	0	YES

Storage lengths for unsignalized intersections are based on the 95% Queue Length reported in the HCS output sheets.

TABLE 4.4 | No-Build Ramp Intersection Queue Analysis Summary (Cont.)

Movement	Existing Available Storage (ft)	Percent Trucks	2040 No-Build AM							2040 No-Build PM							Overall Req'd Lane Length (ft)
			Adjustment Factor	Number of Lanes	Volume (veh/hr)	G/C Ratio	Cycle Length (sec)	Calc'd Lane Lenth (ft)	Req'd Lane Length (ft)	Adjustment Factor	Number of Lanes	Volume (veh/hr)	G/C Ratio	Cycle Length (sec)	Calc'd Lane Lenth (ft)	Req'd Lane Length (ft)	
Intersection: SR 44 / SB Ramps																	
WB Left	300	5.4%	1.50	2	750	0.18	100	338	350	1.50	2	880	0.16	100	406	400	400
SB Left	2,000	5.4%	1.50	2	730	0.18	100	328	325	1.50	2	880	0.23	100	372	375	375
SB Right	450	5.4%	2.00	1	180	0.18	100	216	225	1.75	1	330	0.23	100	325	325	325
EB Right	350	5.4%	1.75	1	440	0.52	100	270	275	1.75	1	410	0.49	100	268	275	275
Intersection: SR 44 / NB Ramps																	
EB Left	300	5.4%	1.75	2	490	0.32	100	213	225	1.75	2	480	0.28	100	221	225	225
NB Left	1,500	5.4%	1.50	2	680	0.16	100	313	325	1.50	2	600	0.23	100	254	250	325
NB Right	450	5.4%	1.50	1	610	0.16	100	562	550	1.50	1	590	0.23	100	499	500	550
WB Right	300	5.4%	1.50	1	720	0.34	100	522	525	1.75	1	430	0.37	100	347	350	525
Intersection: I-75 Southbound / CR 484																	
WB Left	650	4.3%	2.00	1	280	0.67	90	120	125	1.75	1	490	0.67	90	184	175	175
SB Left	400	4.3%	1.50	2	720	0.22	90	275	275	1.50	2	780	0.22	90	297	300	300
SB Right	1,350	4.3%	1.50	1	590	0.22	90	450	450	1.50	1	800	0.22	90	610	600	600
Intersection: I-75 Northound / CR 484																	
EB Left	460	4.3%	1.50	1	800	0.76	90	188	200	1.50	1	590	0.76	90	138	150	200
NB Left	1,250	4.3%	1.75	1	390	0.13	90	387	375	1.50	1	580	0.13	90	493	500	500
NB Right	300	4.3%	1.50	1	510	0.13	90	434	425	2.00	1	290	0.13	90	329	325	425
Intersection: I-75 Southbound / SR 200																	
WB Left	550	2.0%	1.75	1	390	0.18	130	515	525	1.50	1	520	0.28	140	557	550	550
SB Left	1,500	2.0%	1.75	2	470	0.17	130	314	325	1.75	2	390	0.23	140	260	250	325
SB Right	450	2.0%	1.50	2	610	0.17	130	350	350	1.50	2	640	0.23	140	366	375	375
Intersection: I-75 Northbound / SR 200																	
EB Left	280	2.0%	1.50	1	640	0.32	130	601	600	1.75	1	450	0.20	140	625	625	625
NB Left	1,450	2.0%	1.75	1	350	0.34	130	372	375	1.75	1	480	0.21	140	658	650	650
NB Right	550	2.0%	1.50	1	550	0.34	130	501	500	2.00	1	290	0.21	140	454	450	500
Intersection: I-75 Southbound / SR 40																	
EB Right	450	4.4%	1.50	1	520	0.43	130	419	425	1.75	1	420	0.43	140	425	425	425
WB Left	280	4.4%	1.75	1	310	0.60	130	204	200	1.75	1	430	0.65	140	267	275	275
SB	1,400	4.4%	1.50	1	700	0.30	130	692	700	1.50	1	750	0.26	140	845	850	850
Intersection: I-75 Northbound / SR 40																	
EB Left	280	4.4%	1.75	1	370	0.57	130	262	250	2.00	1	280	0.67	140	188	200	250
WB Right	350	4.4%	1.75	1	380	0.48	130	326	325	1.75	1	430	0.45	140	420	425	425
NB	1,300	4.4%	1.50	1	850	0.34	130	793	800	1.50	1	830	0.25	140	947	950	950
Intersection: I-75 Southbound / US 27																	
EB Right	100	5.4%	1.50	1	620	0.51	90	300	300	1.75	1	410	0.47	90	250	250	300
WB Left	240	5.4%	2.00	1	280	0.70	90	111	100	1.75	1	430	0.71	90	144	150	150
SB	1,250	5.4%	1.75	1	350	0.19	90	327	325	2.00	1	270	0.18	90	292	300	325
Intersection: I-75 Northbound / US 27																	
EB Left	240	5.4%	2.00	1	120	0.55	90	71	75	2.00	1	120	0.70	90	47	50	75
WB Right	200	5.4%	2.00	1	150	0.41	90	117	125	2.00	1	230	0.55	90	136	125	125
NB Left	1,200	5.4%	2.00	2	170	0.33	90	75	75	1.75	2	410	0.19	90	191	200	200
NB Right	---	5.4%	1.50	1	670	0.33	90	443	450	1.75	1	480	0.55	90	249	250	450
Intersection: I-75 Northbound / SR 326																	
EB Left	160	2.9%	2.00	1	100	0.10	73	94	100	2.00	1	100	0.13	75	93	100	100
NB	1,250	2.9%	1.25	1	1,350	0.35	73	570	575	1.25	1	1,290	0.32	75	588	600	600

Where:

L = storage length
DHV = design hour volume
G/C = ratio of green time to cycle length
N = number of lanes
T = percent heavy vehicles
AF = adjustment factor (1.5 to 2.0)
C = cycle length

Vol <= 300 AF = 2.0
300 < Vol <= 500 AF = 1.75
500 < Vol <= 1000 AF = 1.5
Vol > 1000 AF = 1.25

Values from: Toolbox on Intersection Safety and Design, ITE, 2004.

For a conservative estimate, the green time for the protected left turn movement was used to calculate the G/C ratio of the protected/permitted lefts.

Queue analysis results from the **Table 4.4** indicate that:

- SR 44, CR 484, SR 200, SR 40 and US 27 ramp intersections are expected to experience queues.

5. Future Build Conditions

A meeting was held with Stakeholders on August 1, 2011 to review the No-Build conditions analysis and to discuss alternative improvement concepts. It was evident from the No-Build analysis that the left turns under the I-75 bridge are bottlenecks. Additional lanes could not be proposed due to space constraints under the bridge. Therefore, the project team recommended evaluating bridge spans to accommodate more lanes under the bridge without modifying the interchange. Hence, a pilot study was initiated for the CR 484, SR 40 and US 27 interchanges in Marion County, as these interchanges were priority corridors for Marion County. Stakeholders also recommended that the access management of each corridor be evaluated further. The findings of the pilot study and access management are discussed below.

5.1. Bridge Embankment Modifications Pilot Study

The purpose of this pilot study was to determine the feasibility of accommodating more lanes under the I-75 bridge by cutting back the sloped embankment. This improvement at the bridge is expected to extend the functional life of the interchanges and maintain mobility at a minimal cost. The recommendations from this pilot study were critical, as no lane widening is planned for the Marion County section of I-75.

Data such as right-of-way maps and as-built information for the bridges was collected from the FDOT, Ocala/Marion TPO, and the City of Ocala. In addition, field visits were conducted in order to collect information on existing geometry, storage lengths, bridge spans, vertical clearance, right-of-way limits and to confirm significant congestion hot-spots.

Several alternatives to cut back the embankment under bridges to accommodate additional lanes were evaluated for the subject interchanges. The results of the study show that two (2) lanes could be added under the bridge of CR 484 and four (4) lanes under the SR 40 overpass. Due to skewed geometry of the I-75 mainline at US 27, additional lanes could not be accommodated under the bridge with sidewalks. Conceptual plans from this feasibility study are included in **Appendix J**. Findings of the study were presented to the District roadway design engineers who gave their preliminary approval to consider these additional lanes in the Build condition analysis.

5.2. Access Management Considerations

The access management along most of the study roadway corridors can be considered poor. In general, the existing access spacing on these corridors falls well below FDOT standards. Further, many driveways on these corridors are wide and undefined, which causes an operational hazard because of driver expectancy problems. Drivers are not able to clearly identify where other drivers should be accessing or leaving the highway. This lack of defined access to and from the corridor can also cause safety issues for pedestrians and bicyclists along the corridor due to the uncertainty of where vehicles may be leaving the highway. Yet another access issue on these corridors is the lack of cross access connections between adjacent developments. In many instances, there are opportunities for abutting land uses to share

access. The sharing of access and provision of cross access easements results in a safer corridor by reducing the number of driveways and the potential for turning conflicts on the arterial. The current access classifications and standards for the study corridors are shown in **Table 5.1**.

TABLE 5.1 | Existing Corridor Access Classifications and Standards

Roadway	Segment	Access Class	Posted Speed (mph)	Median Opening Spacing Standards (ft)		Min Connection Spacing (ft)
				Directional	Full	
CR 476B	E/W of I-75	NA	45	NA	NA	NA
CR 48/ SR 48	W of I-75	NA	45	NA	NA	NA
	E of I-75	4	40	Non Restrictive		440
CR 470	E/W of I-75	NA	45	NA	NA	NA
SR 44	E of I-75	3	45	2,640	2,640	440
CR 484	E/W of I-75	N/A	45	N/A	N/A	N/A
SR 200	W. of I-75	3	45	1,320	2,640	440
	E. of I-75	6	45	N/A	N/A	245
SR 40	W. of I-75	5	50	660	2,640	440
	E. of I-75	5	45	660	1,320	245
US 27	W. of I-75	3	45	1,320	2,640	440
	E. of I-75	5	45	660	1,320	245
SR 326	E/W of I-75	3	45	1,320	2,640	440
CR 318	E/W of I-75	N/A	45	N/A	N/A	N/A

A set of preliminary corridor access management concepts was developed to represent the potential modifications that could be made along each of the corridors to maximize traffic flow and minimize vehicle conflict points for all the corridors with the exception of CR 470 and SR 48. CR 470 and SR 48 interchanges are scheduled to undergo interchange modifications as part of the I-75 widening to six lanes. The concept access management figures are included in **Appendix K**. These preliminary concepts were limited to the areas within approximately one-half mile of I-75 and were intended to allow each corridor to be retrofitted to generally achieve the median spacing standards while being sensitive to the developed property and existing access along the corridor. Access management spacing standards are intended to provide a reasonable distance between conflict areas along a corridor. Adhering to appropriate access spacing standards will allow for more efficient traffic flow along a corridor, while reducing the number of vehicle conflict points and enhancing safety.

Design guidelines documented in the FDOT Median Handbook Interim Version and AASHTO should be considered during the design for minimum median widths for U-turns. U-turns should not be permitted from through traffic lane because of the potential for high speed, rear-end crashes and serious detrimental impact on traffic operations. Rather all left-turns and U-turns should be made from a left-turn/U-turn lane. Extremely wide medians are needed for a U-turn by all design vehicles.

Detailed access management plans for each of the corridors will be developed during subsequent phases of the project in accordance with FAC Rule 14-97 standards. "Future Access Management Considerations" presented in Appendix K should be should be regarded as preliminary concepts because a number of important factors have not been fully considered at this level, including the following:

1. Existing and projected traffic volumes at cross streets and driveways (outside of the interchange ramp intersections)
2. Historical crash records
3. Public involvement
4. Logical termini of Access Management.

5.3. Freeway Build Conditions

As indicated in previous sections, there is no difference in the number of lanes on I-75 between the No-Build and Build Alternatives for the opening (2020) and mid (2030) analysis years. The I-75 mainline was analyzed with eight (8) lanes north of the Turnpike in 2040 Build conditions and with three (3) new interchanges at SW 49th St, CR 466, and CR 514. These three interchanges are included in the LRTPs. The operational analyses were conducted for the mainline freeway segments and ramp merge/diverge areas using the procedures outlined in the 2000 HCM. **Table 5.2** and **Table 5.3** summarize and compare 2040 Build with No-Build results of basic freeway and ramp merge/diverge analysis. The HCS output files are included in **Appendix L**.

I-75 mainline and ramp merge/diverge areas are expected to operate better than the No-build conditions. However, I-75 mainline and ramp merge/diverge areas are still operate deficiently in 2040, indicating the need for more lanes as specified in the *I-75 Sketch Interstate Master Plan* study completed by FDOT Central Office.

TABLE 5.2 | Build Basic Freeway Analysis Summary

Segment	FDOT LOS Standard	2040 AM No-Build		2040 AM Build		2040 PM No-Build		2040 PM Build	
		Density (pas-car/ lane/mi)	LOS	Density (pas-car/ lane/mi)	LOS	Density (pas-car/ lane/mi)	LOS	Density (pas-car/ lane/mi)	LOS
		I-75 Northbound							
1 County Line to CR 476B	B	21.2	C	21.0	C	18.0	B	17.9	B
2 CR 476B to SR 48		20.2	C	20.1	C	16.6	B	16.6	B
3 SR 48 to CR 470		20.3	C	20.4	C	16.6	B	16.3	B
4 CR 470 to CR 514		21.1	C	21.7	C	17.0	B	16.1	B
5 CR 514 to FL TPK		21.1	C	21.7	C	17.0	B	15.9	B
6 FL TPK to SR 44		27.6	D	27.0	D	22.6	C	21.8	C
7 SR 44 to CR 475		44.5	E	27.5	D	31.1	D	20.1	C
8 CR 475 to CR 484		44.5	E	25.0	C	31.1	D	22.3	C
9 CR 484 to SW 95 St	C	57.3	F	29.7	D	35.4	E	23.6	C
10 SW 95 St to SR 200		51.6	F	28.1	D	32.6	D	22.4	C
11 SR 200 to SR 40		54.2	F	28.9	D	35.8	E	23.8	C
12 SR 40 to US 27		52.1	F	28.3	D	34.5	D	23.2	C
13 US 27 to NW 49		42.6	E	25.6	C	29.4	D	21.1	C
14 NW 49 St to SR 326		42.6	E	24.9	C	29.4	D	20.6	C
15 SR 326 to CR 318	B	33.0	D	21.6	C	23.5	C	17.7	B
16 CR 318 to County Line		33.0	D	21.6	C	23.5	C	17.7	B
		I-75 Southbound							
17 County Line to CR 318	B	23.5	C	16.9	B	33.0	D	22.0	C
18 CR 318 to SR 326		23.5	C	16.9	B	33.0	D	22.0	C
19 SR 326 to NW 49 St	C	29.4	D	19.8	C	42.6	E	25.3	C
20 NW 49 St to US 27		29.4	D	20.3	C	42.6	E	26.0	D
21 US 27 to SR 40		34.5	D	22.3	C	52.1	F	28.8	D
22 SR 40 to SR 200		35.8	E	22.8	C	54.2	F	29.4	D
23 SR 200 to SW 95 St		32.6	D	21.5	C	51.6	F	28.6	D
24 SW 95 St to CR 484		35.4	E	22.6	C	57.3	F	30.3	D
25 CR 484 to CR 475	B	31.1	D	21.4	C	44.5	E	25.5	C
26 CR 475 to SR 44		31.1	D	19.3	C	44.5	E	28.0	D
27 SR 44 to FL TPK		33.7	D	20.9	C	45.8	F	27.5	D
28 FL TPK to CR 514		17.0	B	16.2	B	21.1	C	20.0	C
29 CR 514 to CR 470		17.0	B	16.4	B	21.1	C	20.0	C
30 CR 470 to SR 48		16.6	B	16.6	B	20.3	C	18.7	C
31 SR 48 to CR 476B		16.6	B	16.8	B	20.2	C	18.4	C
32 CR 476B to County Line		18.0	B	18.2	C	21.2	C	19.3	C

TABLE 5.3 | Build Ramp Merge/Diverge Analysis Summary

Merge/Diverge Ramp	FDOT LOS Standard	2040 AM No-Build			2040 AM Build			2040 PM No-Build			2040 PM Build		
		Capacity	Density (pc/mi/ln)	LOS	Capacity	Density (pc/mi/ln	LOS	Capacity	Density (pc/mi/ln	LOS	Capacity	Density (pc/mi/ln	LOS
I-75 North Bound													
1 CR 476B NB Exit	B	UC	23.0	C	UC	23.0	C	UC	20.2	C	UC	20.2	C
2 CR 476B NB Entr		UC	21.2	C	UC	21.2	C	UC	17.9	B	UC	17.9	B
3 SR 48 NB Exit		UC	23.1	C	UC	22.8	C	UC	19.4	B	UC	19.2	B
4 SR 48 NB Entr		UC	21.1	C	UC	20.4	C	UC	17.4	B	UC	15.9	B
5 CR 470 NB Exit		UC	22.5	C	UC	24.1	C	UC	18.9	B	UC	18.1	B
6 CR 470 NB Entr		UC	21.2	C	UC	21.5	C	UC	17.3	B	UC	15.3	B
5 CR 514 NB Exit		-	-	-	UC	25.3	C	-	-	-	UC	20.6	C
6 CR 514 NB Entr		-	-	-	UC	21.2	C	-	-	-	UC	16.7	B
7 Tpk NB Ent.		UC	17.7	F	UC	17.6	F	UC	12.3	B	UC	12.0	B
8 SR 44 NB Exit		UC	-2.0	A	UC	0.0	A	UC	<0	A	UC	0.0	A
9 SR 44 NB Entr		UC	17.6	B	UC	9.1	A	UC	11.0	B	UC	2.5	A
10 CR 475 NB Exit		-	-	-	UC	32.9	D	-	-	-	UC	24.1	C
11 CR 475 NB Ent		-	-	-	UC	24.8	C	-	-	-	UC	25.2	C
12 CR 484 NB Exit	D	UC	37.2	E	UC	26.8	C	UC	31.2	D	UC	23.9	C
13 CR 484 NB Ent		UC	41.5	F	UC	30.1	D	UC	33.6	D	UC	23.4	C
14 SW 95 NB Exit		UC	41.4	F	UC	29.3	D	UC	30.4	D	UC	24.5	C
15 SW 95 NB Entr		UC	34.1	F	UC	21.2	C	UC	26.4	C	UC	17.2	B
16 SR 200 NB Exit		UC	44.7	F	UC	35.3	E	UC	35.3	E	UC	29.8	D
17 SR 200 NB Entr		UC	39.0	F	UC	28.2	D	UC	32.8	D	UC	25.1	C
18 SR 40 NB Exit		UC	43.3	F	UC	32.9	D	UC	34.0	D	UC	28.7	D
19 SR 40 NB Entr		UC	40.3	F	UC	29.2	D	UC	33.2	D	UC	25.5	C
20 US 27 NB Exit		UC	41.4	F	UC	30.4	D	UC	33.6	D	UC	26.5	C
21 US 27 NBEntr		UC	34.9	D	UC	23.8	C	UC	28.8	D	UC	20.7	C
22 NW49 NBExit		-	-	-	UC	26.3	C	-	-	-	UC	22.2	C
23 NW49 NBEntr		-	-	-	UC	22.4	C	-	-	-	UC	19.1	B
24 SR 326 NBExit	B	UC	35.2	E	UC	29.5	D	UC	30.3	D	UC	25.2	C
25 SR 326 NBEntr		UC	30.0	D	UC	20.4	C	UC	23.7	C	UC	16.8	B
26 CR 318 Exit		UC	30.7	D	UC	22.7	C	UC	25.3	C	UC	18.7	B
27 CR 318 NB Entr		UC	30.5	D	UC	21.3	C	UC	24.4	C	UC	18.0	B
I-75 South Bound													
28 CR 318 SB Exit	B	UC	24.4	C	UC	17.0	B	UC	29.8	D	UC	22.2	C
29 CR 318 SB Entr		UC	23.1	C	UC	15.7	B	UC	29.2	D	UC	20.1	C
30 SR 326 SB Exit	D	UC	29.7	D	UC	22.0	C	UC	35.1	E	UC	27.5	C
31 SR 326 SB Loop Entr		UC	24.2	C	UC	15.6	B	UC	29.6	D	UC	19.8	B
32 SR 326 SB Entr		UC	26.8	C	UC	17.8	B	UC	33.3	D	UC	22.4	C
33 NW49 SB Exit		-	-	-	UC	22.5	C	-	-	-	UC	27.7	C
34 NW49 SB Entr		-	-	-	UC	20.3	C	-	-	-	UC	24.8	C
35 US 27 SB Exit		UC	30.8	D	UC	22.5	C	UC	37.3	E	UC	27.5	C
36 US 27 SB Entr		UC	32.5	D	UC	23.0	C	UC	38.8	F	UC	27.3	C
37 SR 40 SB Exit		UC	35.2	E	UC	27.0	C	UC	42.8	F	UC	32.7	D
38 SR 40 SB Entr		UC	33.0	D	UC	24.2	C	UC	39.6	F	UC	28.7	D
39 SR 200 SB Exit		UC	37.1	E	UC	31.9	D	UC	46.0	F	UC	36.9	E
40 SR 200 SB Entr		UC	29.9	D	UC	21.3	C	UC	37.5	F	UC	26.9	C
41 SW 95 SB Exit		UC	30.7	D	UC	22.9	C	UC	40.7	F	UC	28.9	D
42 SW 95 SB Entr		UC	33.6	D	UC	24.8	C	UC	42.5	F	UC	29.9	D
43 CR 484 SB Exit	B	UC	33.9	D	UC	25.9	C	UC	43.7	F	UC	35.1	E
44 CR 484 SB Entr		UC	30.9	D	UC	21.3	C	UC	36.9	E	UC	24.7	C
45 CR 475 SB Exit		-	-	-	UC	0.0	A	-	-	-	UC	0.0	A
46 CR 475 SB Entr		-	-	-	UC	18.8	B	-	-	-	UC	27.1	C
47 SR 44 SB Exit		UC	1.7	A	UC	0.0	A	UC	11.1	B	UC	0.0	A
48 SR 44 SB Entr		UC	29.9	D	UC	25.2	C	UC	34.9	F	UC	29.0	D
49 Tpk SB Exit		UC	9.1	A	OC	35.9	F	UC	14.3	B	OC	45.4	F
50 CR 514 SB Exit		-	-	-	UC	23.3	C	-	-	-	UC	26.4	C
51 CR 514 SB Entr		-	-	-	UC	19.9	B	-	-	-	UC	22.2	C
50 CR 470 SB Exit		UC	19.5	B	UC	18.1	B	UC	23.4	C	UC	22.2	C
51 CR 470 SB Entr		UC	19.7	B	UC	18.9	B	UC	23.2	C	UC	21.0	C
52 CR 48 SB Exit		UC	19.0	B	UC	18.7	B	UC	22.7	C	UC	25.6	C
53 CR 48 SB Entr		UC	18.9	B	UC	18.7	B	UC	22.4	C	UC	20.3	C
54 CR 476B SB Exit		UC	18.7	B	UC	19.0	B	UC	22.3	C	UC	25.1	C
55 CR 476B SB Entr		UC	19.7	B	UC	19.8	B	UC	22.4	C	UC	20.6	C

5.4. Intersection and Queue Analysis

To mitigate expected intersection deficiencies identified in No-Build conditions, intersection analyses were conducted for all analysis years for both AM and PM peak hours utilizing the future year traffic forecasts. Transportation System Management (TSM) alternatives were considered at existing intersections. Examples of TSM improvements include adding turn lanes at existing intersections and improving the operation of the existing signals.

Recommendations from the pilot study of adding lanes under the bridge by modifying embankment slopes were also included in the analysis. **Tables 5.4** and **Table 5.5** list the results of the intersection and queue analyses. The build intersection LOS table indicates most of the intersections are operating within acceptable LOS Standards. The HCS and SYNCHRO outputs for Build conditions are included in **Appendix L**. Improvements included in the Build Alternative will maintain or exceed the adopted LOS at all of the study intersections. The primary objective of the recommended improvements is to ensure that the ramp intersections are operating within adopted LOS standards and there is no backup to the I-75 mainline from the ramp intersections.

A separate queue analysis was not performed in Build conditions for all the intersections as Table 4.4 indicated that only SR 44, CR 484, SR 200, SR 40 and US 27 ramp intersections are expected to experience queues. CR 484 and SR 40 interchange ramp intersections are to be widened based on the recommendations of the bridge embankment pilot study. The storage length required for deficient turn lanes for the intersections at SR 44, SR 200 and SR 44 turn lanes are provided in Table 4.4

TABLE 5.4 | Build Intersection Analysis Summary

Intersection	Approach	LOS Standard	2020 AM Peak-Hour				2020 PM Peak-Hour				2030 AM Peak-Hour				2030 PM Peak-Hour				2040 AM Peak-Hour				2040 PM Peak-Hour			
			Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
CR 476B @ SW 102 (unsig)	EB	C	10.7	B	3.3	A	10.8	B	2.5	A	11.8	B	3.5	A	11.8	B	2.7	A	13.4	B	3.8	A	13.3	B	2.9	A
	NB		2.9	A			2.0	A			2.9	A			2.0	A			3.0	A			1.9	A		
	SB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
CR 476B @ I-75 SB Ramps (unsig)/(2040 sig)	EB	C	0.0	A	4.3	A	0.0	A	2.4	A	0.0	A	5.1	A	0.0	A	2.8	A	9.1	A	13.2	B	13.0	B	11.0	B
	WB		4.5	A			2.8	A			4.9	A			3.1	A			16.2	B			10.2	B		
	SB		13.8	B			10.8	B			17.8	C			12.0	B			6.9	A			5.8	A		
CR 476B @ I-75 NB Ramps (unsig)	EB	C	2.0	A	1.9	A	1.2	A	4.3	A	2.1	A	2.1	A	1.3	A	5.1	A	2.1	A	2.6	A	1.3	A	7.0	A
	WB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	B			0.0	A		
	SB		13.0	B			12.4	B			15.2	C			15.0	C			19.7	A			21.1	C		
CR 476B @ SW 53rd Ter. (unsig)	EB	C	0.5	A	1.3	A	0.3	A	0.7	A	0.5	A	1.3	A	0.3	A	0.6	A	0.4	A	1.3	A	0.2	A	0.5	A
	WB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
	SB		10.6	B			10.4	B			11.3	B			11.2	B			12.4	B			12.3	B		
CR 48 @ CR 616 (unsig)	EB	D	0.0	A	2.6	A	0.0	A	2.8	A	0.0	A	2.7	A	0.0	A	3.0	A	0.0	A	3.1	A	0.0	A	3.3	A
	WB		1.6	A			2.0	A			1.7	A			2.1	A			2.1	A			2.3	A		
	NB		11.0	B			11.4	B			11.5	B			12.1	B			11.7	B			12.5	B		
	SB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
CR 48 @ I-75 SB Ramps (sig)	EB	D	9.2	A	8.6	A	9.7	A	9.9	A	9.7	A	8.9	A	10.1	B	10.5	B	5.7	A	5.1	A	7.7	A	7.8	A
	WB		4.4	A			5.8	A			4.6	A			6.0	A			2.8	A			4.4	A		
	SB		18.1	B			19.1	B			18.7	B			20.2	C			19.8	B			16.5	B		
SR 48@ I-75 NB Ramps (sig)	EB	D	3.9	A	6.9	A	2.9	A	6.4	A	4.0	A	6.9	A	3.0	A	6.4	A	3.7	A	5.7	A	1.8	A	4.2	A
	WB		3.1	A			3.2	A			3.1	A			3.2	A			3.2	A			2.1	A		
	NB		24.6	C			24.6	C			24.4	C			24.4	C			24.7	C			26.3	C		
SR 48 @ CR 609 (sig)	EB	D	1.3	A	4.5	A	1.1	A	4.3	A	1.4	A	4.9	A	1.4	A	4.8	A	1.4	A	5.7	A	1.6	A	5.7	A
	WB		3.9	A			4.0	A			4.5	A			4.7	A			4.7	A			5.7	A		
	NB		11.9	A			11.9	A			12.3	B			12.3	B			12.8	B			12.8	B		
CR 470 @ CR 488 (unsig)	EB	D	0.3	A	1.8	A	0.3	A	1.7	A	0.3	A	2.9	A	0.3	A	2.0	A	0.2	A	3.2	A	0.3	A	2.3	C
	WB		0.7	A			1.2	A			1.0	A			1.5	A			1.6	A			1.9	A		
	NB		16.5	C			14.9	B			20.3	C			17.1	C			16.0	C			15.3	C		
	SB		23.0	C			17.5	C			42.7	E			23.4	C			29.9	D			21.5	C		
CR 470 @ I-75 SB Ramps (sig)	EB	D	13.8	B	14.1	B	16.0	B	13.1	B	15.2	B	15.1	B	17.2	B	13.7	B	13.7	B	13.2	B	14.4	B	13.8	B
	WB		11.8	B			9.3	A			11.8	B			8.6	A			10.8	B			11.2	B		
	SB		17.2	B			16.5	B			18.7	B			18.3	B			16.4	B			16.7	B		
CR 470 @ CR 475 (sig)	EB	D	23.1	C	11.9	B	23.1	C	11.3	B	4.7	A	14.0	B	4.7	A	11.6	B	5.3	A	13.8	B	5.4	A	16.0	B
	NB		3.4	A			3.4	A			22.1	C			23.3	C			21.0	C			22.1	C		
	SB		3.7	A			1.7	A			19.8	B			9.7	A			11.6	B			16.4	B		
CR 470 @ CR 527 (unsig)	EB	D	0.0	A	0.7	A	0.0	A	1.1	A	0.0	A	0.7	A	0.0	A	1.5	A	0.0	A	0.7	A	0.0	A	1.7	A
	WB		0.2	A			0.2	A			0.2	A			0.1	A			0.2	A			0.2	A		
	NB		15.2	C			17.4	A			18.9	C			24.6	C			15.4	C			22.7	C		
	SB		19.1	C			18.6	C			25.4	D			24.2	C			19.8	C			21.3	C		
CR 470 @ I-75 NB Off-Ramp (sig)	EB	D	6.5	A	9.0	A	11.5	B	12.8	B	6.0	A	12.5	B	10.7	B	16.2	B	5.4	A	8.5	A	5.0	A	7.8	A
	NB		13.8	B			14.8	B			15.5	B			17.9	B			14.0	B			11.9	B		
	SB		9.1	A			12.2	B			19.8	B			20.8	C			8.3	A			8.1	A		

TABLE 5.4 | Build Intersection Analysis Summary (Cont.)

Intersection	Approach	LOS Standard	2020 AM Peak-Hour				2020 PM Peak-Hour				2030 AM Peak-Hour				2030 PM Peak-Hour				2040 AM Peak-Hour				2040 PM Peak-Hour			
			Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
SR 44 @ CR 475 (unsig)	EB	B	0.1	A	0.5	A	0.1	A	0.6	A	0.1	A	0.9	A	0.1	A	1.2	A	0.1	A	2.0	A	0.1	A	3.0	A
	WB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
	SB		25.2	D			28.6	D			44.7	E			58.0	F			87.2	F			138.2	F		
SR 44 @ I-75 SB Ramps (sig)	EB	B	17.1	B	16.0	B	18.0	B	15.7	B	20.4	C	17.3	B	18.6	B	18.1	B	17.8	B	16.1	B	22.7	C	18.8	B
	WB		9.6	A			10.4	B			10.2	B			12.2	B			9.7	A			12.9	B		
	SB		26.7	C			21.8	C			26.2	C			27.2	C			26.1	C			25.2	C		
SR 44 @ I-75 NB Ramps (sig)	EB	D	10.4	B	18.5	B	10.6	B	15.1	B	18.9	B	26.2	C	11.7	B	18.8	B	15.0	B	25.0	C	7.7	A	11.8	B
	WB		20.6	C			14.2	B			22.4	C			17.7	B			25.4	C			7.9	A		
	NB		26.6	C			22.6	C			39.9	D			30.2	C			41.8	D			27.6	C		
SR 44 @ CR 229 (unsig)	EB	D	0.9	A	2.5	A	1.2	A	1.3	A	1.0	A	11.4	B	1.5	A	1.9	A	10.0	A	10.9	B	23.0	C	15.5	C
	WB		0.0	A			0.0	A			0.0	A			0.0	A			10.5	B			8.3	A		
	SB		33.5	D			16.3	C			175.3	F			24.1	C			20.0	C			24.6	C		
CR 484 @ Marion Oaks Course (sig)	EB	E	15.4	B	18.8	B	10.0	B	13.1	C	22.1	C	42.9	D	10.7	B	17.7	B	24.2	C	29.3	C	13.9	B	22.9	C
	WB		20.5	C			14.9	B			48.2	D			19.3	B			28.6	C			20.4	C		
	NB		8.9	A			9.3	A			10.4	B			11.8	B			33.9	C			17.6	B		
	SB		28.4	C			13.9	B			85.0	F			25.6	C			29.7	C			39.4	D		
CR 484 @ Marion Oaks Blvd (sig)	EB	E	45.4	D	36.9	D	48.1	D	27.6	C	91.5	F	75.0	E	33.4	C	22.2	C	22.1	C	20.3	C	29.8	C	18.4	B
	WB		14.0	B			21.9	C			27.4	C			19.3	B			12.7	B			16.0	B		
	NB		55.9	E			12.9	B			116.0	F			13.6	B			26.5	C			12.2	B		
CR 484 @ SW 20th Ave (sig)	EB	E	8.5	A	10.7	B	5.8	A	7.6	A	9.6	A	22.5	C	3.8	A	5.1	A	8.0	A	16.5	B	3.7	A	5.2	A
	WB		10.5	B			6.6	A			37.8	D			2.5	A			27.5	C			2.5	A		
	SB		38.7	D			37.1	D			51.0	D			56.5	E			31.1	C			51.6	D		
CR 484 @ I-75 SB Ramps (sig)	EB	E	20.4	C	24.4	C	36.9	D	28.9	C	52.9	D	48.6	D	61.8	E	53.8	D	22.7	C	28.2	C	53.2	D	46.1	D
	WB		14.1	B			13.6	B			17.0	B			44.7	D			7.1	A			36.3	D		
	SB		43.5	D			43.2	D			72.3	E			59.0	E			86.5	F			53.6	D		
CR 484 @ I-75 NB Ramps (sig)	EB	C	12.3	B	25.2	C	27.7	C	30.7	C	10.6	B	26.4	C	34.1	C	29.9	C	28.7	C	22.7	C	8.2	A	13.2	B
	WB		26.1	C			20.5	C			32.7	C			14.0	B			8.6	A			14.4	B		
	NB		66.3	E			73.3	E			65.3	E			72.6	E			49.4	D			28.2	C		
CR 484 @ CR 475A (sig)	EB	C	25.9	C	29.0	C	30.3	C	62.7	E	21.1	C	27.2	C	11.7	B	38.2	D	7.5	A	23.4	C	12.0	B	32.8	C
	WB		31.8	C			101.3	F			31.9	C			48.7	D			31.0	C			38.0	D		
	NB		31.6	C			43.3	D			42.2	D			78.8	E			65.3	E			59.3	E		
	SB		39.9	D			47.9	D			40.3	D			64.0	E			59.6	E			67.6	E		
SR 200 @ SW 39 Ave. (sig)	SE	D	0.0	A	11.6	B	0.0	A	9.0	A	0.0	A	13.9	B	0.0	A	9.0	A	0.0	A	21.1	C	0.0	A	12.1	B
	NW		67.6	E			58.5	E			67.6	E			53.1	D			70.0	E			51.0	D		
	NE		13.2	B			8.6	A			10.4	B			9.0	A			30.3	C			12.2	B		
	SW		8.2	A			4.6	A			17.7	B			4.9	A			7.7	A			8.5	A		
SR 200 @ SW 38 St. (sig)	SE	D	57.1	E	51.0	D	53.0	D	41.2	D	56.2	E	48.1	D	47.2	D	38.9	D	61.1	E	60.4	E	44.5	D	73.0	E
	NW		72.0	E			131.3	F			62.7	E			47.9	D			67.8	E			63.5	E		
	NE		71.8	E			37.2	D			48.3	D			53.1	D			73.9	E			51.3	D		
	SW		24.5	C			32.0	C			45.0	D			26.7	C			44.5	D			94.8	F		
SR 200 @ I-75 SB Ramps (sig)	SB	D	80.5	F	27.8	C	87.2	F	30.4	C	107.9	F	53.8	D	111.3	F	47.0	D	40.2	D	35.6	D	30.4	C	41.8	D
	NE		20.0	C			31.3	C			64.0	E			59.4	E			22.9	C			11.0	B		
	SW		16.7	B			13.2	B			16.9	B			18.4	B			51.4	D			69.5	E		

TABLE 5.4 | Build Intersection Analysis Summary (Cont.)

Intersection	Approach	LOS Standard	2020 AM Peak-Hour				2020 PM Peak-Hour				2030 AM Peak-Hour				2030 PM Peak-Hour				2040 AM Peak-Hour				2040 PM Peak-Hour			
			Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
SR 200 @ I-75 SB Ramps (sig)	NB	D	78.4	E	30.7	C	80.2	F	28.3	C	103.6	F	37.0	D	105.5	F	48.4	D	113.5	F	49.0	D	100.3	F	39.7	D
	NE		11.7	B			17.0	B			17.0	B			25.9	C			21.8	C			19.9	B		
	SW		41.3	D			26.1	C			42.4	D			53.6	D			65.3	E			42.2	D		
SR 200 @ SW 35 Ave. (sig)	SE	D	59.6	E	7.2	A	42.6	D	35.1	D	57.2	E	12.6	B	40.9	D	52.5	D	60.5	E	16.6	B	39.5	D	92.6	F
	NW		72.3	E			97.3	F			66.2	E			133.7	F			72.5	E			151.3	F		
	NE		2.7	A			9.2	A			8.2	A			15.4	B			12.3	B			24.4	C		
	SW		9.4	A			47.2	D			15.3	B			72.5	E			19.4	B			142.1	F		
SR 40 @ SW 60th Ave (sig)	EB	D	51.9	D	49.3	D	52.3	D	47.9	D	53.4	D	53.8	D	38.2	D	46.6	D	38.0	D	42.5	D	32.5	C	39.5	D
	WB		41.1	D			49.4	D			45.7	D			51.0	D			35.8	D			36.4	D		
	NB		50.0	D			38.3	D			66.4	E			49.4	D			61.9	E			49.1	D		
	SB		63.5	E			46.9	D			68.9	E			52.0	D			65.6	E			57.0	E		
SR 40 @ SW 52nd Ave (sig)	EB	D	26.8	C	26.5	C	13.3	B	14.5	B	52.8	D	43.8	D	16.0	B	17.1	B	26.7	C	25.4	C	13.6	B	13.2	B
	WB		26.1	C			14.9	B			34.4	C			17.9	B			23.9	C			12.0	B		
	NB		17.7	B			11.5	B			16.6	B			11.3	B			15.8	B			10.9	B		
	SB		47.2	D			28.8	C			47.2	D			32.6	C			46.0	D			35.0	D		
SR 40 @ I-75 SB Ramps (sig)	EB	D	21.0	C	21.2	C	20.6	C	20.3	C	24.4	C	26.8	C	22.8	C	23.5	C	28.1	C	27.6	C	27.2	C	22.3	C
	WB		13.7	B			12.4	B			21.1	C			16.4	B			19.3	B			11.4	B		
	SB		43.4	D			43.4	D			51.6	D			47.2	D			49.9	D			42.0	D		
SR 40 @ I-75 NB Ramps (sig)	EB	D	19.3	B	21.5	C	16.5	B	17.1	B	20.4	C	24.6	C	20.0	C	20.6	C	14.8	B	29.4	C	13.1	B	16.7	B
	WB		15.7	B			9.4	A			18.2	B			13.5	B			34.5	C			11.0	B		
	NB		40.3	D			38.3	D			50.0	D			40.1	D			59.2	E			40.3	D		
SR 40 @ NW 33rd Ave (sig)	EB	D	31.4	C	24.1	C	25.0	C	22.9	C	41.0	D	34.5	C	52.7	D	44.4	D	15.2	B	18.7	B	32.3	C	31.5	C
	WB		4.4	A			7.9	A			9.3	A			15.0	B			13.3	B			15.9	B		
	NB		86.9	F			74.7	E			135.3	F			131.2	F			75.7	E			90.4	F		
SR 40 @ SW 27th Ave (sig)	EB	D	18.0	B	39.7	D	23.3	C	60.2	E	23.6	C	50.8	D	22.3	C	43.8	D	50.5	D	69.4	E	35.7	D	63.9	E
	WB		43.2	D			47.2	D			41.6	D			52.0	D			56.3	E			78.3	E		
	NB		52.2	D			57.5	E			66.0	E			50.0	D			83.2	F			64.4	E		
	SB		55.1	E			130.6	F			83.9	F			55.6	E			96.6	F			83.6	F		
US 27 @ NW 44th Ave. (sig)	EB	C	5.6	A	9.2	A	5.8	A	11.7	B	5.3	A	11.7	B	5.9	A	12.6	B	5.2	A	11.5	B	4.8	A	12.4	B
	WB		11.0	B			14.2	B			13.8	B			14.8	B			12.5	B			12.4	B		
	NB		10.8	B			15.8	B			11.8	B			17.4	B			13.4	B			16.7	B		
	SB		11.4	B			10.2	B			20.2	B			12.2	B			18.2	B			18.6	B		
US 27 @ NW 38th Ave (unsig)	EB	C	0.1	A	1.4	A	0.1	A	1.7	A	0.1	A	1.6	A	0.1	A	1.9	A	0.1	A	1.6	A	0.1	A	1.9	A
	WB		0.9	A			0.3	A			1.1	A			0.3	A			1.2	A			0.3	A		
	NB		24.3	C			17.9	C			28.5	D			20.9	C			25.6	D			20.1	C		
	SB		29.0	D			25.7	D			37.5	E			29.8	D			41.1	E			32.0	D		
US 27 @ I-75 SB Ramps (sig)	EB	C	15.3	B	13.9	B	16.2	B	10.9	B	17.9	B	17.4	B	14.9	B	15.9	B	12.8	B	13.6	B	10.5	B	9.6	A
	WB		6.2	A			4.6	A			11.6	B			12.0	B			11.6	B			7.8	A		
	SB		36.2	D			32.2	C			37.0	D			47.5	D			32.0	C			28.2	C		
US 27 @ I-75 NB Ramps (sig)	EB	D	4.9	A	12.9	B	3.6	A	14.5	B	11.1	B	16.0	B	5.9	A	12.8	B	4.2	A	11.7	B	6.6	A	18.3	B
	WB		13.6	B			19.7	B			14.4	B			13.4	B			12.4	B			24.5	C		
	NB		24.0	C			16.0	B			25.9	C			19.1	B			24.2	C			18.7	B		

TABLE 5.4 | Build Intersection Analysis Summary (Cont.)

Intersection	Approach	LOS Standard	2020 AM Peak-Hour				2020 PM Peak-Hour				2030 AM Peak-Hour				2030 PM Peak-Hour				2040 AM Peak-Hour				2040 PM Peak-Hour			
			Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection		Approach		Intersection	
			Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
US 27 @ NW 35th St (sig)	EB	D	22.1	C	27.2	C	15.8	B	19.7	B	24.6	C	36.0	D	14.0	B	21.4	C	20.0	C	26.2	C	9.4	A	16.8	B
	WB		32.8	C			20.6	C			53.1	D			22.1	C			33.8	C			20.4	C		
	NB		35.8	D			18.7	B			37.2	D			19.2	B			31.7	C			16.7	B		
	SB		32.0	C			24.9	C			32.1	C			32.5	C			26.8	C			23.2	C		
US 27 @ NW 27th Ave (sig)	EB	D	26.1	C	27.5	C	21.3	C	19.4	B	28.3	C	32.1	C	24.4	C	22.5	C	24.7	C	31.2	C	23.0	C	20.9	C
	WB		24.7	C			13.7	B			33.4	C			17.7	B			34.8	C			14.9	B		
	NB		36.4	D			22.5	C			35.6	D			25.4	C			33.8	C			23.2	C		
	SB		35.2	D			31.2	C			36.5	D			30.3	C			34.1	C			37.4	D		
SR 326 @ NW 44 Ave (sig)	EB	D	9.7	A	10.0	A	16.7	B	24.1	C	10.0	B	10.3	B	21.7	C	24.1	C	6.8	A	17.2	B	18.8	B	29.0	C
	WB		9.0	A			12.8	B			9.2	A			12.7	B			5.0	A			16.3	B		
	NB		11.0	B			56.2	E			11.5	B			79.4	E			52.0	D			69.0	E		
	SB		10.9	B			27.3	C			11.1	B			13.9	B			32.1	C			33.6	C		
SR 326 @ I-75 NB Ramps (sig)	EB	C	14.0	B	21.7	C	10.3	B	33.7	C	15.9	B	25.5	C	12.9	B	25.1	C	11.6	B	16.0	B	9.8	A	19.1	B
	WB		25.0	C			42.3	D			26.2	C			26.7	C			6.4	A			16.5	B		
	NB		21.8	C			35.4	D			29.7	C			29.4	C			28.4	C			27.0	C		
SR 326 @ SW 27th Ave (sig)	EB	C	18.7	B	23.2	C	12.2	B	17.3	B	21.8	C	29.6	C	15.2	B	19.6	B	33.2	C	32.7	C	9.7	A	15.9	B
	WB		24.2	C			19.8	B			32.6	C			21.8	C			26.3	C			13.6	B		
	NB		28.0	C			20.3	C			40.3	D			23.7	C			47.1	D			26.0	C		
	SB		30.9	C			22.9	C			38.2	D			24.0	C			36.9	D			26.9	C		
CR 318 @ CR 225 (unsig)	EB	B	0.0	A	1.7	A	0.0	A	1.6	A	0.0	A	1.8	A	0.0	A	1.6	A	0.0	A	1.8	A	0.0	A	1.7	A
	WB		1.3	A			1.3	A			1.3	A			1.2	A			1.2	A			1.2	A		
	NB		11.4	B			11.0	B			11.8	B			11.4	B			12.3	B			11.8	B		
CR 318 @ I-75 SB Ramps (sig)	EB	B	10.6	B	16.3	B	10.5	B	12.7	B	9.9	A	19.8	B	10.1	B	15.7	B	14.1	B	19.1	B	16.7	B	18.3	B
	WB		30.9	C			19.2	B			41.9	D			27.9	C			34.2	C			28.9	C		
	SB		7.9	A			7.6	A			9.2	A			7.3	A			9.5	A			7.5	A		
CR 318 @ I-75 NB Ramps (sig)	EB	B	16.8	B	11.9	B	21.2	C	13.6	B	20.9	C	13.5	B	26.3	C	15.4	B	24.7	C	16.2	B	34.6	C	19.1	B
	WB		10.7	B			12.3	B			10.1	B			12.1	B			11.3	B			12.9	B		
	NB		7.4	A			7.0	A			8.5	A			8.1	A			11.3	B			10.7	B		
CR 318 @ NW 60th Ave (unsig)	EB	B	0.3	A	0.5	A	0.6	A	0.9	A	0.3	A	0.5	A	0.6	A	0.8	A	0.3	A	0.5	A	0.6	A	0.8	A
	WB		0.0	A			0.0	A			0.0	A			0.0	A			0.0	A			0.0	A		
	SB		12.5	B			14.5	B			13.2	B			15.5	C			14.1	B			16.7	C		

6. Conceptual Funding Plan and Commitment

Potential funding for the recommendations that have been identified by the SAMR is anticipated to be obtained from local, state and federal sources. As specific funding sources are identified for the needed improvements, FDOT District Five will ensure that the improvement concepts remain responsive to changing conditions over time, which includes a required re-evaluation of the traffic operations during the design phase of the I-75 improvements. Conditions during the final design phase of the project may result in minor geometric refinements to the concepts approved in the I-75 SAMR. To ensure that the refinements are appropriate, traffic operations analyses of the refinements will be conducted during the final design phase. Due to the time required for implementing the improvements, new economic or environmental factors may arise. Consideration of these issues will be included in the traffic operations assessments and documented in technical memoranda which will serve as SAMR addendums. Regional and local trip characteristics may change during the course of the implementation phase and the regional model may also be updated during this time frame. In light of this, the traffic studies during the design phase will evaluate the traffic operational impacts of any geometric changes using the most current traffic projections available at the time of design. The traffic re-evaluations will include a systems analysis of the proposed design project and a comparison with the approved SAMR concept. The Department and FHWA will work together to ensure that the systems analysis draws upon the latest available tools and data that best represents operations of the transportation network and supports informed decision making.

7. Summary of Findings and Recommendations

As indicated in previous sections, projects shown in Figures 4.1 through 4.4 are expected to mitigate deficiencies identified for CR 476B, CR 48/SR 48, CR 470, US 27 interchanges. Additional TSM recommendations, presented in Table 7.1, are proposed to improve intersections for the remainder of the interchanges in the study area. Table 7.1 provides the specific recommendations that address the various issues; recommendations are provided by location. It is to be noted that the costs are planning level Preliminary Construction Estimates. Costs of right-of-way, right-of-way support, landscaping, lighting, utility relocations and wetland mitigation are not included. Potential signalization of the intersections is recommended at several unsignalized intersections. It is recommended that a detailed signal warrant analysis be performed before implementation. The following sections provide a brief discussion regarding the resolution of stakeholder issues.

CR 476B/CR 673

The primary issues on this corridor at the interchange intersections are non-capacity issues related to roadway design elements. Design issues are expected to be addressed during I-75 widening. A crash analysis was performed and indicates that safety is not a concern along CR 467B in the study area

CR 48/SR 48

To account for seasonal traffic in the CR 48/SR 48 vicinity, weekend traffic data collection was performed in late January.

Access management is identified as a viable solution to relieve traffic problems east of the I-75 interchange caused by Walmart driveways. Signalization of Walmart driveways is not recommended based on the FDOT signal spacing standards.

CR 470

The primary issues on the CR 470 corridor included queue length storage on the CR 475 northbound approach, as well as CR 475 complex intersection geometry. Re-design of the CR 475/I-75 on-ramp intersection geometry with appropriate signs and pavement markings is included as part of the I-75 widening.

SR 44

SR 44 west of I-75 interchange is a SIS roadway facility and the acceptable LOS is B. Truck stop facilities located immediately west and east of the I-75 interchange is the other major issue that needs to be addressed to improve traffic operation and safety on the SR 44 corridor. Access management at the truck stop facilities is one solution to reduce traffic conflicts along the SR 44 roadway segment in the vicinity of the I-75 interchange. In addition to access management, providing auxiliary receiving lane

from the I-75 southbound off-ramp to the truck facility located in the northwest corner of the interchange would be useful in separating the truck traffic from the SR 44 westbound traffic.

CR 484

A primary issue on this corridor was improving storage and access management. Access management was addressed through "Future Access Management Considerations," presented in **Appendix K**. Eastbound storage issues are improved with adding lanes under the bridge and by modifying embankment slopes without making extensive interchange modification and still increasing the capacity and operational life of the interchange

SR 200

The left turn-lane storage was recently extended beyond the ramp intersections. In addition, queuing concerns on the northbound off-ramp, as well as operational issues at the northbound ramp intersection have led to turn lane recommendations at the northbound ramp intersection. Additional recommendations for the intersections within the study are shown in Table 7.1**.**

SR 40

At this interchange, the primary issues included queue length storage on the northbound and southbound ramps, as well as for the eastbound and westbound left turn movements. Eastbound and westbound storage issues are addressed by adding lanes under the bridge and by modifying embankment slopes without making extensive interchange modification and still increasing the capacity and operational life of the interchange. Access management was addressed through "Future Access Management Considerations," presented in **Appendix K**.

US 27

The northbound left and right turn lanes at northbound ramp intersection, recommendations from the I-75 SOAR study, are constructed through the FDOT work program. The City of Ocala is in the process of widening NW 35th Street to four lanes including turn lane improvements at northbound ramp and the NW 35th Street intersections to further relieve congested conditions along US 27. An embankment pilot study also evaluated adding lanes under the US 27 bridge by modifying the embankment slopes. However, additional lanes with bike lanes were not feasible under the bridge due to I-75 bridge skew.

SR 326

Heavy truck traffic at this interchange causes a number of problems including a weaving issue between the northbound off-ramp and a truck stop located just east of I-75. "Future Access Management Considerations" provided in **Appendix K** could relieve potential weave issues through consolidation of driveways and median enhancements. In addition, queuing concerns on the northbound off-ramp is addressed by turn lane recommendation at the northbound ramp intersection.

CR 318

Although a full signal warrant study and roundabout analysis not been performed as part of this study, based on peak hour volumes, the CR 318 ramp intersections would warrant signalization. However, it is recommended that the two ramp intersections be monitored periodically to determine if any of the MUTCD's/ MUTS's eight signal warrants could be met in the future before implementation.

A second set of issues is sight distance, particularly for eastbound vehicles on CR 318 as they approach the southbound ramps intersection, as well as lighting. A previous lighting study did not recommend lighting improvements at this interchange. Other improvements being considered that would help address not only the traffic operations of the ramp intersections, but also the sight distance and eastbound vehicle speed issue would be the installation of roundabouts at the two ramp intersections; this improvement is included in the access management concepts for CR 318.

7.1. Access Management Plan

A set of preliminary corridor access management concepts was developed to represent the potential modifications that could be made along each of the corridors to maximize traffic flow and minimize vehicle conflict points for all the corridors, with the exception of CR 470 and SR 48. CR 470 and SR 44 interchanges are scheduled to interchange modifications part of I-75 widening to six lanes. These improvements, however, should be regarded as preliminary concepts. Implementation of these concepts would involve extensive public involvement and thus these concepts should be coordinated with FDOT before implementation.

"Future Access Management Considerations" presented in Appendix K should be regarded as preliminary concepts as the access modifications have not been coordinated with the property owners at this stage of the study. Detailed access management plans for each of the corridors will be developed during subsequent phases of the project in accordance with FAC Rule 14-97 standards.

7.2. Conceptual Signage Plan

This study evaluated ten existing interchanges in Marion and Sumter counties along I-75. The current signage for the existing interchanges is adequate and no additional signage is necessary as the interchange configurations are not being modified. The study also considered four new interchanges along I-75 (refer to Figure 3.1), for which signage plans would be necessary. Individual signage plans will be developed for all new interchanges during the interchange justification process in accordance with standards set forth by FDOT and FHWA.

7.3. Anticipated Exceptions

There are no exceptions anticipated for the recommended improvements.

TABLE 7.1 | Recommended Improvements

I-75 & CR 476 B, CR 48/SR 48 & CR 470 Interchanges

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
CR 476 B Interchange	I-75 widening to six lanes (FM # 242626-2 & 242626-3) is expected to include all the interchange improvements. No additional improvements are required.					
Total	**$0**		-	**$0**	-	**$0**

I-75 & SR 44 Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
SR 44 Interchange	No Additional Improvements are Required					
Total	**$0**		-	**$0**	-	**$0**

I-75 & CR 484 Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
Marion Oaks Course	-	-	-	-	Planned widening of CR 484 to six lanes	
Marion Oaks Blvd	-	-	Add 2nd WB LT Lane	$705,600		
SW 20th Ave Rd	-	-	-	-		
I-75 SB Ramp	-	-	-	-		
I-75 NB Ramp	-	-	Add 2nd EB LT Lane by cutting back the existing sloped embankment	$2,102,400		
			Add a WB RT Lane	$100,800		
			Add 2nd NB LT Lane	$115,200		
CR 475A	-	-	Add 2nd EB LT Lane and Add 2nd Receiving Lane	$561,600		
			Add 2nd NB LT Lane & SB RT Lane	$604,800		
Total		**$0**	-	**$4,190,400**	-	**$0**

Notes*

1. Costs of right-of-way, right-of-way support, landscaping, lighting, utility relocations and wetland mitigation are not included.
2. The cost of adding 2nd receiving lane or roundabout is not included in the cost esimates.
3. Cost estimates for access management improvements to be developed when projects under this category are more precisely identified for each location.
4. Costs are planning level **Preliminary Construction and Design Estimates.** Unit Costs per FDOT Statewide averages (09/2010 - 10/2011). More detailed cost estimates should be performed prior to programming projects for design, right-of-way and construction phases.
5. Improvements are included in "Ocala/Marion County Commerce Park - US 27 Improvements Study". City of Ocala is in the process of widening NW 35th St to four lanes.
6. Roundabout is recommended during future access management consideration. Detailed anallysis should be perfomed before implementation.

TABLE 7.1 | Recommended Improvements (Cont.)

I-75 & SR 500 (US 27) Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
NW 44th Ave	-	-	-	-	Planned widening of US 27 to six lanes	
NW 38th Ave	-	-				
I-75 SB Ramp	Extend WB LT Lane [5]	-				
I-75 NB Ramp	1) Add 2nd NB RT Lane[5] 2) Modify traffic signal as necessary for the I-75 NB improvements[5]	-				
NW 35th Ave.	Add a EB LT Lanes & Signalize[5]	-				
	Add SB LT Lane & SB RT Lane[5]	-				
	Add WB RT Lane[5]	-				
	Align NB and SB lanes at US 27 @ NW 35 intersection[5]	-				
NW 27th Ave	-	-				
Total		**$0**	-	**$0**	-	**$0**

I-75 & SR 326 Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
I-75 SB off ramp	-	-	-	-	-	-
I-75 NB Ramp	Add a NB RT Lane	$207,400				
CR 25A	Add 2nd EB LT Lane	$529,900				
Total		**$737,300**	-	**$0**	-	**$0**

I-75 & CR 318 Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
CR 225	-	-	-	-	-	-
I-75 SB Ramp	Potential Signalization[6]	$234,600	-	-	Add a WB LT Lane	$545,800
I-75 NB Ramp	Potential Signalization[6]	$234,600	-	-	-	-
NW 60	-	-	-	-	-	-
Total		**$469,200**	-	**$0**	-	**$545,800**

Total Cost By Phase	Phase I - 2020	$5,656,200	Phase II- 2030	$8,136,000	Phase III - 2040	$704,300

Notes*

1. Costs of right-of-way, right-of-way support, landscaping, lighting, utility relocations and wetland mitigation are not included.
2. The cost of adding 2nd receiving lane or roundabout is not included in the cost esimates.
3. Cost estimates for access management improvements to be developed when projects under this category are more precisely identified for each location.
4. Costs are planning level **Preliminary Construction and Design Estimates.** Unit Costs per FDOT Statewide averages (09/2010 - 10/2011). More detailed cost estimates should be performed prior to programming projects for design, right-of-way and construction phases.
5. Improvements are included in "Ocala/Marion County Commerce Park - US 27 Improvements Study". City of Ocala is in the process of widening NW 35th St to four lanes.
6. Roundabout is recommended during future access management consideration. Detailed anallysis should be perfomed before implementation.

TABLE 7.1 | Recommended Improvements (Cont.)

I-75 & SR 500 (US 27) Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
NW 44th Ave	-	-	-	-	Planned widening of US 27 to six lanes	
NW 38th Ave	-	-				
I-75 SB Ramp	Extend WB LT Lane [5]	-				
I-75 NB Ramp	1) Add 2nd NB RT Lane[5] 2) Modify traffic signal as necessary for the I-75 NB improvements[5]	-				
NW 35th Ave.	Add a EB LT Lanes & Signalize[5]	-				
	Add SB LT Lane & SB RT Lane[5]	-				
	Add WB RT Lane[5]	-				
	Align NB and SB lanes at US 27 @ NW 35 intersection[5]	-				
NW 27th Ave	-	-				
Total		**$0**	-	**$0**	-	**$0**

I-75 & SR 326 Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
I-75 SB off ramp	-	-	-	-	-	-
I-75 NB Ramp	Add a NB RT Lane	$207,400				
CR 25A	Add 2nd EB LT Lane	$529,900				
Total		**$737,300**	-	**$0**	-	**$0**

I-75 & CR 318 Interchange

Improvement Location	Phase I - 2020	Costs* (2010 PDC)	Phase II - 2030	Costs* (2010 PDC)	Phase III - 2040	Costs* (2010 PDC)
CR 225	-	-	-	-	-	-
I-75 SB Ramp	Potential Signalization[6]	$234,600	-	-	Add a WB LT Lane	$545,800
I-75 NB Ramp	Potential Signalization[6]	$234,600	-	-	-	-
NW 60	-	-	-	-	-	-
Total		**$469,200**	-	**$0**	-	**$545,800**

Total Cost By Phase	**Phase I - 2020**	**$5,656,200**	**Phase II- 2030**	**$8,136,000**	**Phase III - 2040**	**$704,300**

Notes*

1. Costs of right-of-way, right-of-way support, landscaping, lighting, utility relocations and wetland mitigation are not included.
2. The cost of adding 2nd receiving lane or roundabout is not included in the cost esimates.
3. Cost estimates for access management improvements to be developed when projects under this category are more precisely identified for each location.
4. Costs are planning level Preliminary Construction and Design Estimates. Unit Costs per FDOT Statewide averages (09/2010 - 10/2011). More detailed cost estimates should be performed prior to programming projects for design, right-of-way and construction phases.
5. Improvements are included in "Ocala/Marion County Commerce Park - US 27 Improvements Study". City of Ocala is in the process of widening NW 35th St to four lanes.
6. Roundabout is recommended during future access management consideration. Detailed anallysis should be perfomed before implementation.

Appendices

(refer to CD on back cover of this report)

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