
# I-75 SKETCH INTERSTATE PLAN TECHNICAL MEMORANDUM

## PLANNED IMPROVEMENTS AND CORRIDOR MOBILITY OPPORTUNITIES

November, 2010

Florida Department of Transportation
Systems Planning

# I-75 Sketch Interstate Plan
## Planned Improvements and Corridor Mobility Opportunities

FLORIDA DEPARTMENT OF TRANSPORTATION

CENTRAL OFFICE

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## Project Team

Florida Department of Transportation, Central Office

- Systems Planning Office
- Statistics Office

Florida Department of Transportation, Districts Two and Five Representatives

Department Consultants

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## Project Background

The Florida Department of Transportation Central Office in coordination with the District Offices has prepared a Sketch Interstate Plan for the I-75 corridor from the Florida-Georgia border south through Sumter County, Florida. **Exhibit 1** displays the I-75 Sketch Plan Corridor Area. The major purpose of this Sketch Interstate Plan is to improve the mobility of users of I-75 by examining the existing interstate system, with respect to planned improvements, and reveal general problem areas and trends that will be examined in more detail in a later phase. Examples of later phases of analysis are Master Plans, Corridor Studies, and Project Development and Environmental studies (PD&Es).

The preparation of a Sketch Plan is an integral part of the long range planning process for the development of the Strategic Intermodal System (SIS). The benefit of this Sketch Plan process is that it reveals general mobility issues earlier in the planning process, so limited resources needed for later phases of analysis can be focused in specific areas. Since this I-75 Sketch Plan process is a new planning tool, the Project Team, which included Department Staff from Central Office and their consultant, developed multiple Technical Memorandums to analyze different planning concepts encompassing many focus areas to determine which concepts would be utilized in future Sketch Plans. The I-75 Sketch Plan Technical Memorandums focus on five general areas. These areas are:

- Safety
- Traffic
- Freight Mobility
- Environmental Analysis
- Planned Improvements and Corridor Mobility Opportunities

## Purpose

The purpose of this Technical Memorandum is to provide corridor background information and to identify potential corridor improvement options for further study. The background information in this memorandum focuses on existing conditions of the I-75 Sketch Plan corridor, specifically the structural aspects, as well as the planned improvements anticipated to occur on the I-75 corridor during the planning horizon.

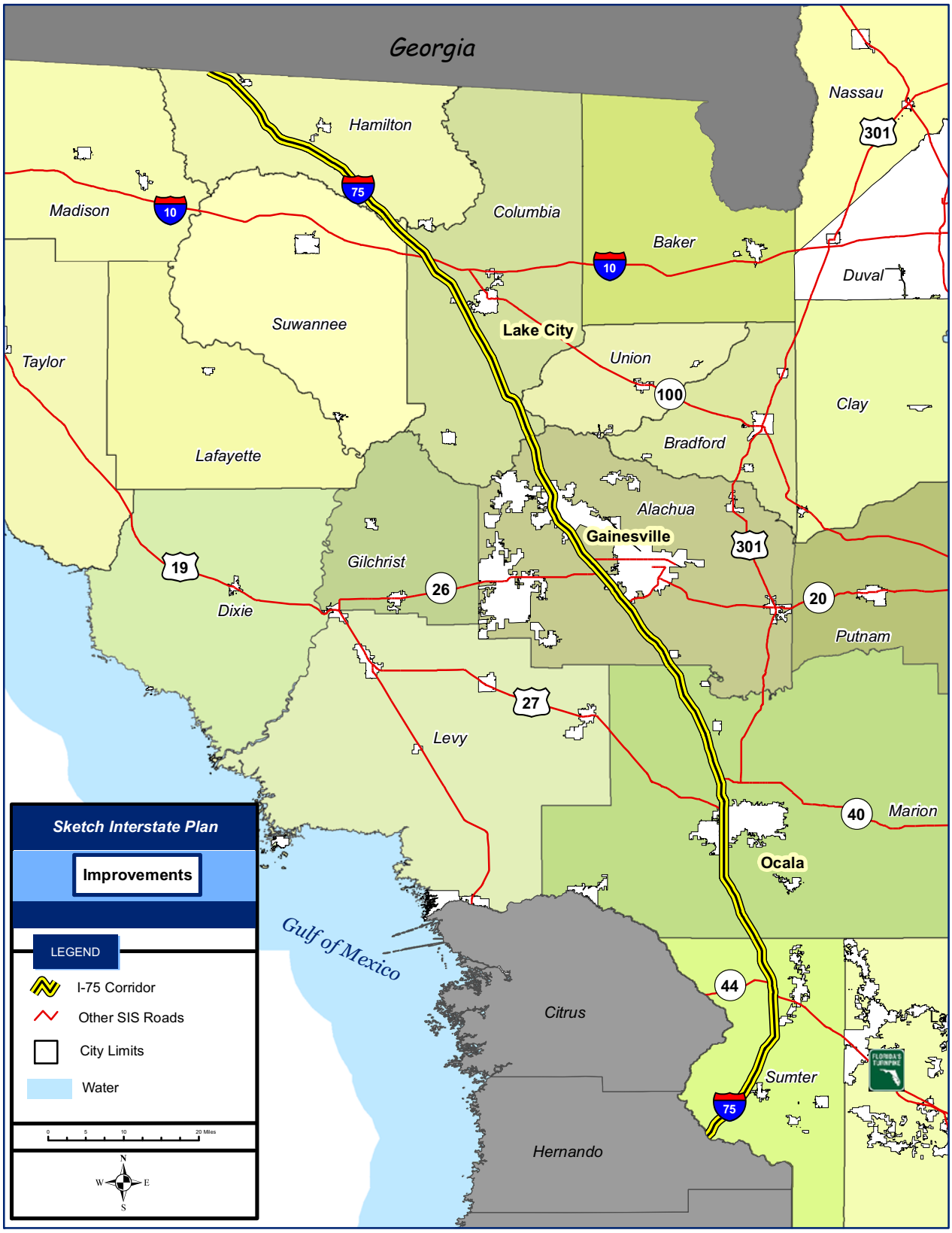
The structural aspects reviewed during this existing condition analysis include the typical cross section of I-75, and a review of the interstate structures including the bridges and overpasses. The bridges and interchanges were reviewed for clearance requirements and sufficiency ratings. In order to complete this existing conditions analysis and to better fit potential corridor improvements, the project team determined the need to review existing planned improvements anticipated to be completed during the planning horizon.

The objective of the planned improvements review along the corridor was to ensure that potential corridor improvement recommendations did not duplicate or conflict with existing planned or programmed improvements. In addition, while examining plans for I-75, the project team also reviewed other local plans that may have improvements anticipated to impact the I-75 corridor. For example, the project team reviewed local Long Range Transportation Plans (LRTPs) that anticipate reducing the impact of local commuter traffic utilizing I-75 by improving cross streets.

The review of planned improvements was from a variety of sources including the Florida Department of Transportation's Five Year Work Program, and the SIS Multi-Modal Needs Plan, various District level corridor studies, and local LRTPs. For the purposes of the Sketch Plan, these programs, plans, and studies have been reviewed with the goal of establishing a long-range plan to accommodate future traffic and establish a framework for future improvements.

The final aspect of this Technical Memorandum is to introduce potential Corridor Mobility Opportunities. While there is no identification or selection of a preferred alternative in a Sketch Plan because of National Environmental Policy Act (NEPA) requirements, the project team has researched potential Corridor Opportunities that would enhance mobility. The Corridor Mobility Opportunities identified in this memorandum are for informational purposes, but the Sketch Plan will identify potential Corridor Mobility Opportunities that may need additional study.

Future conceptual mobility opportunities consist of interstate improvements and enhancements other than typical capacity expansion. Typical capacity expansion involves adding additional general-purpose lanes. The mobility concepts listed were not analyzed in detail but rather are provided to gain knowledge of existing concepts that will enhance mobility. The concepts outlined will be analyzed in more detail within the complete I-75 Sketch Plan.




# I-75 Sketch Interstate Plan

## Exhibit 1: Study Area

State of Florida
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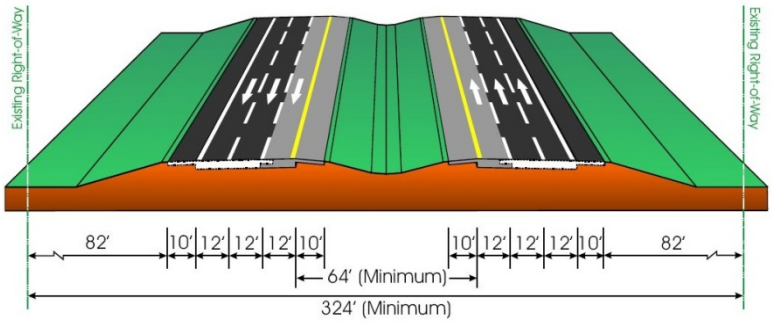
## Existing Structures and Conditions

Review of existing structures and conditions is an integral part of the Sketch Interstate Plan. Within this section, I-75 general characteristics are described and the roadway and bridge network that crosses the interstate is examined. Bridge examination is vital to the free flowing health of the corridor. Standards such as clearance requirements that are not met may pose both a safety concern and prohibit movement of goods that would otherwise utilize the Sketch Plan corridor.

### I-75 Characteristics

The limits of the section of I-75 under the study extend from the Florida-Georgia border south to the southern limits of Sumter County. The corridor covers 168 miles, crosses through Districts Two and Five, and has 26 interchanges including the Florida Turnpike merge.




A typical section along the length of the I-75 corridor consists of six lanes, three in each direction separated by a median. South of the Florida Turnpike merge, I-75 consists of four lanes, two in each direction separated by a median. The typical section of I-75 consists of 12-foot general purpose lanes with a minimum 40-foot median. At certain locations, the median may extend to over 140 feet, or at times, be less than 40 for short intervals. The minimum right of way width is approximately 300 feet, however, the width at times may be greater depending on geometric conditions and curve alignment.

The functional classification of a roadway is assigned according to the type of service provided in relation to the surrounding network. There are only two designated functional classification types for I-75: rural and urban interstate highway.

### Bridge Structures

The transportation network surrounding I-75 generally consists of two and four lane rural and urban roadways. Interchanges provide linkages for motorists gaining access to surrounding communities from a limited access facility. The purpose of this section is to not only list both overpasses and interchanges but also analyze bridge data to determine horizontal and vertical clearances and structural sufficiency ratings along the I-75 corridor. Bridge clearance is vital to the movement of goods along the corridor and may pose a safety hazard if requirements are not met.

The Sketch Plan inventoried I-75's recent (2007) bridge inspection reports. Current standard requirements are specified in the *2009 FDOT Plans Preparation Manual*. According to the manual, vertical clearance for a roadway or railroad over a roadway is 16'-6'' measured from the profile grade point and includes freeways, arterials, collectors, and others.[1] Sufficiency results represent a final

[1] *Plans Preparation Manual,* Volume 1; Design Geometrics and Criteria 2-59, January 1, 2009

measurement tool in rating the condition of the interchange. A one hundred percent (100%) would represent an entirely sufficient bridge while zero (0%) would represent an entirely insufficient bridge. **Tables 1** and **2** list the structure clearance and sufficiency ratings. Highlighted in orange are vertical clearances that do not meet minimum requirements.

**Table 1**
**Interchange Location and Sufficiency for Bridges Carrying I-75**

| County | Year | Bridge No. | Vertical (ft) | Horizontal (ft) | Sufficiency | Direction | Location |
|---|---|---|---|---|---|---|---|
| Hamilton | 2007 | 320940 | N/A | 55.8 | 97.3 | NB | SCL RR (Abandoned) |
| Hamilton | 2007 | 320033 | N/A | 55.8 | 96.8 | SB | SCL RR (Abandoned) |
| Hamilton | 2007 | 320044 | N/A | 56.1 | 97.3 | NB | Alapaha River Overflow |
| Hamilton | 2007 | 320037 | N/A | 56.1 | 95.2 | SB | Alapaha River Overflow |
| Hamilton | 2007 | 320045 | N/A | 56.1 | 97.3 | NB | Alapaha River |
| Hamilton | 2007 | 320038 | N/A | 56.1 | 97.3 | SB | Alapaha River |
| Hamilton | 2007 | 320046 | 16.7 | 55.5 | 97.3 | NB | SR 6 |
| Hamilton | 2007 | 320039 | 16.3 | 56.1 | 97.3 | SB | SR 6 |
| Suwannee | 2007 | 3700022 | N/A | 55.8 | 96.8 | NB | Suwannee River Overflow |
| Suwannee | 2007 | 370002 | N/A | 55.8 | 96.8 | SB | Suwannee River Overflow |
| Suwannee | 2007 | 370023 | N/A | 55.8 | 91.7 | NB | Suwannee River |
| Suwannee | 2007 | 370023 | N/A | 55.8 | 91.7 | SB | Suwannee River |
| Columbia | 2007 | 290035 | 22.6 | 55.8 | 93.1 | NB | CR 341 |
| Columbia | 2007 | 290060 | 21.8 | 55.8 | 93.1 | SB | CR 341 |
| Columbia | 2007 | 290039 | 16.5 | 55.8 | 97.8 | NB | SR 47 |
| Columbia | 2007 | 290059 | 16.3 | 55.8 | 98.7 | SB | SR 47 |
| Columbia | 2007 | 290082 | 14.5 | 56.1 | 96.0 | NB | US 441/SR 25 |
| Columbia | 2007 | 290053 | 14.9 | 56.1 | 96.0 | SB | US 441/SR 25 |
| Columbia | 2007 | 290055 | 23.0 | 55.8 | 95.8 | NB | SCL RR |
| Columbia | 2007 | 290062 | 23.6 | 55.8 | 95.8 | SB | SCL RR |
| Columbia | 2007 | 290064 | 14.5 | 56.1 | 94.6 | NB | US 90 |
| Columbia | 2007 | 290061 | 14.6 | 56.1 | 94.6 | SB | US 90 |
| Columbia | 2007 | 290087 | N/A | 55.8 | 85.2 | NB | Sante Fe River |
| Alachua | 2007 | 260080 | 20.7 | 55.8 | 93.1 | NB | SR 224 |
| Alachua | 2007 | 260054 | 20.1 | 55.8 | 93.1 | SB | SB SR 24 |
| Alachua | 2007 | 260081 | N/A | 55.7 | 94.6 | NB | Hogtown Creek |
| Alachua | 2007 | 260055 | N/A | 55.7 | 95.6 | SB | Hogtown Creek |
| Alachua | 2007 | 260082 | 14.7 | 56.0 | 91.8 | NB | SR 26 |
| Alachua | 2007 | 260057 | 15.2 | 64.0 | 90.8 | SB | SR 26 |
| Alachua | 2007 | 260060 | 13.7 | 56.1 | 92.4 | NB | CR 2054 |
| Alachua | 2007 | 260069 | 13.4 | 56.1 | 92.4 | SB | CR 2054 |
| Alachua | 2007 | 260078 | 15.0 | 56.1 | 98.0 | NB | CR 234 |
| Alachua | 2007 | 260061 | 14.4 | 56.1 | 97.0 | SB | CR 234 |
| Alachua | 2007 | 260079 | 15.1 | 64.0 | 95.3 | NB | NB SR 121 |

| County | Year | Bridge No. | Vertical (ft) | Horizontal (ft) | Sufficiency | Direction | Location |
|---|---|---|---|---|---|---|---|
| Alachua | 2007 | 260063 | 15.4 | 64.0 | 90.2 | SB | SR 121 |
| Alachua | 2007 | 260073 | 15.2 | 64.3 | 96.0 | NB | US 441 |
| Alachua | 2007 | 260065 | 15.5 | 64.3 | 96.0 | SB | US 441 |
| Alachua | 2007 | 260067 | N/A | 55.8 | 96.5 | NB | SCL RR (Removed) |
| Alachua | 2007 | 260070 | N/A | 64.0 | 82.0 | SB | SCL RR (Removed) |
| Alachua | 2007 | 260071 | 23.2 | 56.5 | 93.8 | NB | CR 235 |
| Alachua | 2007 | 260068 | 22.6 | 56.5 | 90.9 | SB | CR 235 |
| Marion | 2007 | 360045 | 18.0 | 38.0 | 90.5 | NB | over CR 484 |
| Marion | 2007 | 360001 | 17.1 | 38.0 | 83.4 | SB | over CR 484 |
| Marion | 2007 | 360920 | 16.0 | 73.6 | 90.1 | NB | over SR 40 |
| Marion | 2007 | 360018 | 16.3 | 73.6 | 90.1 | SB | over SR 40 |
| Marion | 2007 | 360066 | 19.9 | 33.5 | 94.6 | NB | over Dungarvin Rd. |
| Marion | 2007 | 360065 | 16.9 | 33.5 | 94.6 | SB | over Dungarvin Rd. |
| Marion | 2007 | 360043 | 16.9 | 43.0 | 90.3 | NB | over SR 326 |
| Marion | 2007 | 360024 | 17.4 | 43.0 | 90.0 | SB | over SR 326 |
| Marion | 2007 | 360038 | 17.1 | 39.9 | 96.0 | NB | over CR 318 |
| Marion | 2007 | 360037 | 15.1 | 39.9 | 94.4 | SB | over CR 318 |
| Marion | 2007 | 360036 | 15.1 | 32.3 | 93.4 | NB | over CR 329 |
| Marion | 2007 | 360035 | 15.1 | 32.3 | 94.4 | SB | over CR 329 |
| Marion | 2007 | 360063 | 16.5 | 53.1 | 92.1 | BOTH | Over SR 200 |
| Marion | 2007 | 360064 | 16.1 | 44.5 | 96.0 | BOTH | Over Airport Rd. |
| Marion | 2009 | 360022 | 14.9 | 41.6 | 90.1 | SB | SB over US-27 |
| Marion | 2007 | 360023 | 15.5 | 41.6 | 89.9 | NB | over US 27 |
| Sumter | 2007 | 180038 | N/A | N/A | 95.0 | NB | over CR 470 |
| Sumter | 2007 | 180037 | N/A | N/A | | SB | Over CR 470 |
| Sumter | 2007 | 180036 | N/A | N/A | 95.9 | NB | over Jumper Creek |
| Sumter | 2007 | 180035 | N/A | N/A | 95.9 | SB | over Jumper Creek |
| Sumter | 2009 | 180034 | 15.3 | 40.3 | 92.1 | NB | SR 48 |
| Sumter | 2009 | 180033 | 15.3 | 40.3 | 92.1 | SB | over SR 48 |
| Sumter | 2007 | 180069 | 16.7 | 52.2 | 92.5 | NB | over SR 44 |
| Sumter | 2007 | 180070 | 16.7 | 52.2 | 89.5 | SB | over SR 44 |
| Sumter | 2007 | 180032 | N/A | N/A | 94.1 | NB | over Gum Slough |
| Sumter | 2007 | 180031 | 100.0 | 54.7 | 96.1 | SB | over Gum Slough |
| Sumter | 2009 | 180940 | 20.2 | 56.6 | 96.0 | BOTH | I-75 over Panasoffkee Creek |
| Sumter | 2009 | 180027 | 25.0 | 18.2 | 92.0 | SB | I-75 over Forestry Road |
| Sumter | 2009 | 180028 | 24.3 | 18.2 | 92.0 | NB | i-75 over Forestry Rd. |

**Table 2**
**Interchange Location and Sufficiency for Bridges Over I-75**

| County | Year | Bridge No. | Vertical (ft) | Horizontal (ft) | Sufficiency | Direction | Location |
|---|---|---|---|---|---|---|---|
| Hamilton | 2009 | 320011 | 15.9 | 59.4 | 65.0 | BOTH | US 129/SR 51 |
| Hamilton | 2009 | 320018 | 15.8 | 65.5 | 88.1 | BOTH | SR 143 |
| Hamilton | 2009 | 320031 | 15.9 | 59.2 | 81.7 | BOTH | CR 25A |
| Hamilton | 2009 | 320032 | 16.1 | 59.1 | 80.3 | BOTH | CR 132 |
| Hamilton | 2009 | 320034 | 15.8 | 58.1 | 75.5 | BOTH | CR 249 |
| Hamilton | 2009 | 320042 | 15.9 | 58.4 | 78.0 | BOTH | Bellville Road |
| Hamilton | 2009 | 320047 | 15.8 | 58.1 | 81.8 | BOTH | CR 152 |
| Hamilton | 2009 | 320941 | 16.0 | 57.7 | 77.7 | BOTH | CR 141 |
| Suwannee | 2009 | 370001 | 16.1 | 67.9 | 81.1 | BOTH | SR 136 |
| Columbia | 2009 | 290024 | 16.0 | 57.0 | 81.7 | BOTH | CR 349 |
| Columbia | 2009 | 290025 | 16.1 | 57.8 | 72.6 | BOTH | CR 240 |
| Columbia | 2009 | 290034 | 16.0 | 58.4 | 63.0 | BOTH | SR 247 |
| Columbia | 2009 | 290037 | 16.1 | 59.1 | 77.5 | BOTH | CR 131 |
| Columbia | 2009 | 290038 | 16.1 | 67.3 | 86.5 | EB | I-10 |
| Columbia | 2009 | 290054 | 16.0 | 60.7 | 84.3 | BOTH | CR 250 |
| Columbia | 2009 | 290063 | 16.0 | 56.9 | 75.0 | BOTH | Nash Road |
| Columbia | 2009 | 290065 | 15.9 | 68.2 | 87.5 | WB | I-10 |
| Columbia | 2009 | 290066 | 16.1 | 57.6 | 81.7 | BOTH | Springville Road |
| Columbia | 2009 | 290084 | 16.0 | 57.7 | 85.6 | BOTH | CR 18 |
| Alachua | 2009 | 260101 | 17.2 | 82.0 | 91.0 | BOTH | SR 222 |
| Alachua | 2009 | 260066 | 15.9 | 58.3 | 75.8 | BOTH | CR 235A |
| Alachua | 2009 | 260064 | 16.1 | 58.9 | 77.6 | BOTH | CR 241 |
| Alachua | 2009 | 260050 | 15.9 | 59.4 | 81.1 | BOTH | CR 232 |
| Alachua | 2009 | 260056 | 15.9 | 58.4 | 95.5 | BOTH | CR 2074 |
| Alachua | 2009 | 260002 | 15.9 | 56.9 | 85.5 | BOTH | CR 236 over I-75 |
| Alachua | 2009 | 260062 | 15.9 | 58.7 | 84.0 | BOTH | SW 18th |
| Alachua | 2009 | 260058 | 15.3 | 55.0 | 79.5 | BOTH | NW 23rd Aveneue |
| Marion | 2009 | 360050 | 15.7 | 59.0 | 93.8 | BOTH | Martin Road over I-75 |
| Marion | 2009 | 360049 | 15.9 | 59.0 | 86.2 | BOTH | Leroy Baldwin Road over I-75 |
| Marion | 2009 | 360048 | 15.9 | 58.8 | 63.0 | BOTH | Williams Road over I-75 |
| Marion | 2009 | 360034 | 16.0 | 59.4 | 94.9 | BOTH | CR 320 over I-75 |
| Marion | 2009 | 360033 | 15.9 | 58.8 | 85.4 | BOTH | CR 316 over I-75 |
| Sumter | 2009 | 180048 | 15.7 | 59.2 | 86.4 | BOTH | CR 475 over I-75 |
| Sumter | 2009 | 180029 | 16.1 | 46.2 | 75.7 | BOTH | CR 476B over I-75 |
| Sumter | 2009 | 180017 | 15.8 | 48.7 | 79.6 | BOTH | CR 476 over I-75 |

##: Bridge clearance **over I-75** less than 16 feet.

### Overview

The clearance review shows that 28 interchanges and bridges that carry I-75 along the corridor have vertical clearances less than the Department standards of 16'-6''. Of the 35 bridges and interchanges that cross over I-75, 34 have clearances less than the Department standards with 19 have a clearance less than 16 feet. County Road 2054 in Alachua County has a vertical clearance less than 14 feet while several state roads are less than 15 feet. It should be noted that this analysis contained both under and over clearances. Cross streets that travel under I-75 not meeting vertical clearance requirements would ultimately have an effect on the mainline and are included for the purposes of this review. Results were reviewed by the Project Team and it was determined that any future capacity project or resurfacing should restore the required clearance.

## Construction Projects

During the course of the analysis, the Project Team met to discuss future construction improvements along the I-75 corridor. This section of the Sketch Plan serves to provide funded and unfunded project needs along the I-75 corridor and cross street interchanges. For funded projects, the Florida Department of Transportation's Five Year Work Program was reviewed and catalogued. For unfunded projects, the SIS Multi-Modal Needs Plan was reviewed. The I-75 Master Plan created by District Two has also provided project needs and results and included for the purposes of this section. Each of these sources has been reviewed and catalogued to complete the I-75 Sketch Plan corridor.

### 5 Year Work Program

The 5- Year Work Program is the Florida Department of Transportation's list of funded projects over the next five years. The Work Program reveals any major construction projects that will be occurring over the five-year period that affect the Sketch Plan corridor.

For funded projects along the I-75 corridor, the Florida Department of Transportation's Five Year Work Program for years 2010 through 2014 was reviewed and catalogued. Major rehabilitation and construction projects that affect the I-75 Sketch Plan corridor were listed. Results can be found within **Table 3** below. **Exhibit 2** maps the results from **Table 3**.

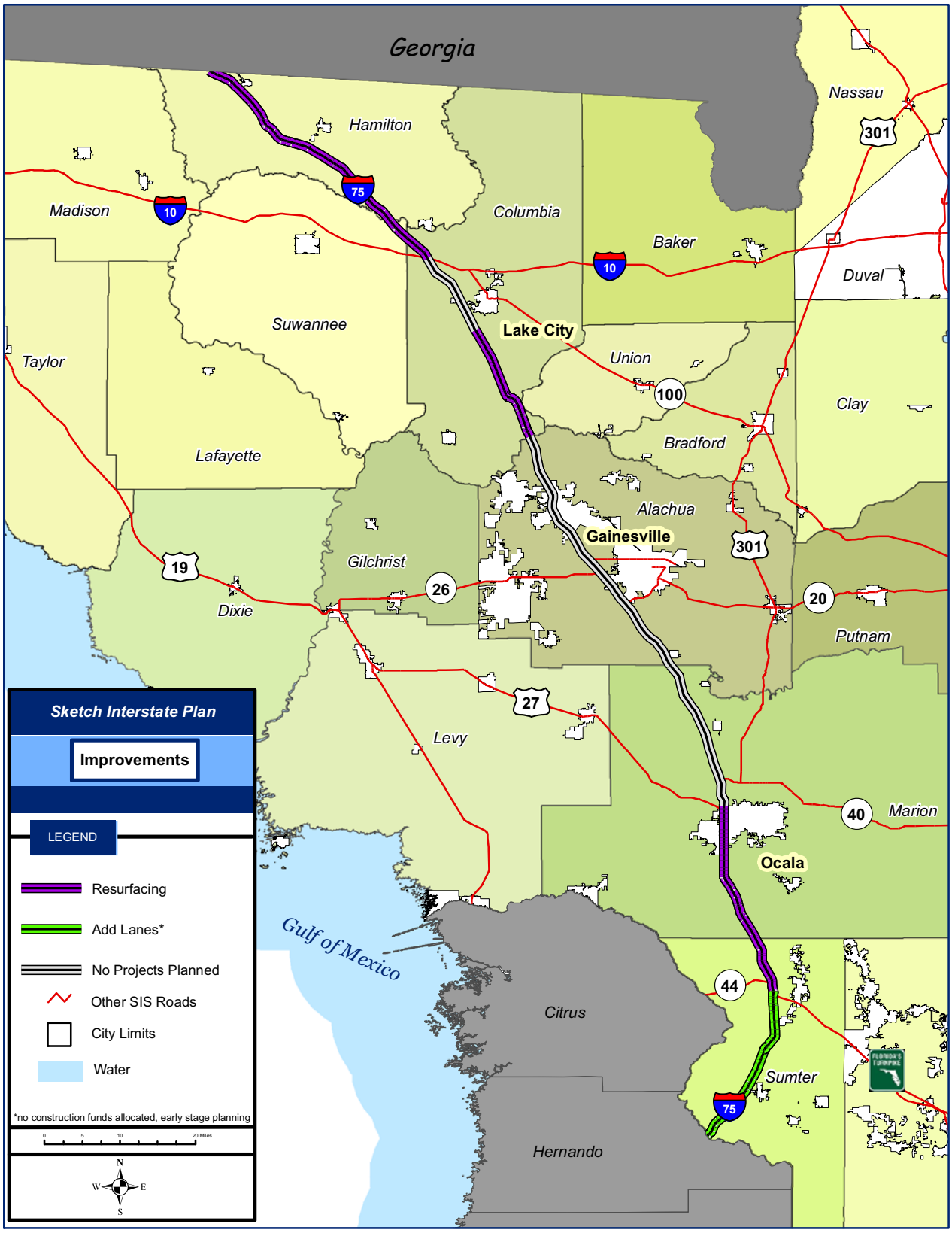
**Table 3**
**Work Program Projects Summary**

| FDOT Five Year Work Program 2010 - 2014 | | | | | | |
|---|---|---|---|---|---|---|
| **Project Category: Highways** | | | | | | |
| **Type** | **Hamilton** | **Suwannee** | **Columbia** | **Alachua** | **Marion** | **Sumter** |
| **Resurfacing** | MP 8.874 - MP 19.175; SR 6 to Georgia SL; Suwannee CL to US 129 | CL TO CL | Alacua CL north of US 441/MP 9.802; I-10 to Suwannee CL; n/o US 441 to n/o SR 47 | | Sumter CL to .8 miles s/o SR 200; SR 200 to n/o SR 500 | SR 91 to Marion CL; north end of Panasofkee Creek Bridge to SR 91 (Turnpike) |
| **Add Lanes and Rehabilitate** | | | | | | |
| **Safety Project** | | | | Marion CL to 3000' North | | |
| **Guardrail** | | | | | | N/Panasofkee Bridge to s/o the Turnpike |
| **Bridge/Interchange** | | Rehabilitation Br# 370023 & 370030 | | Operational Improvement @ SR 26 | | |
| **Traffic Ops Improvement** | | | | | | North and South of SR 44 Interchange |

*Note: Updated in 2010 to remove add lane construction in Sumter County*

## Overview

The Work Program project summary reveals that the only major construction project that will be occurring over the five-year period is located in Sumter County. Beginning from the Turnpike and extending southward to the southern Sumter County line, I-75 is in the preliminary stages of a planned widening. Outside of this location, resurfacing jobs are planned for the nearly the entire corridor with the exception of Alachua County. I-75 through Alachua County has recently undergone resurfacing and rehabilitation.




# I-75 Sketch Interstate Plan

## Exhibit 2: Work Program

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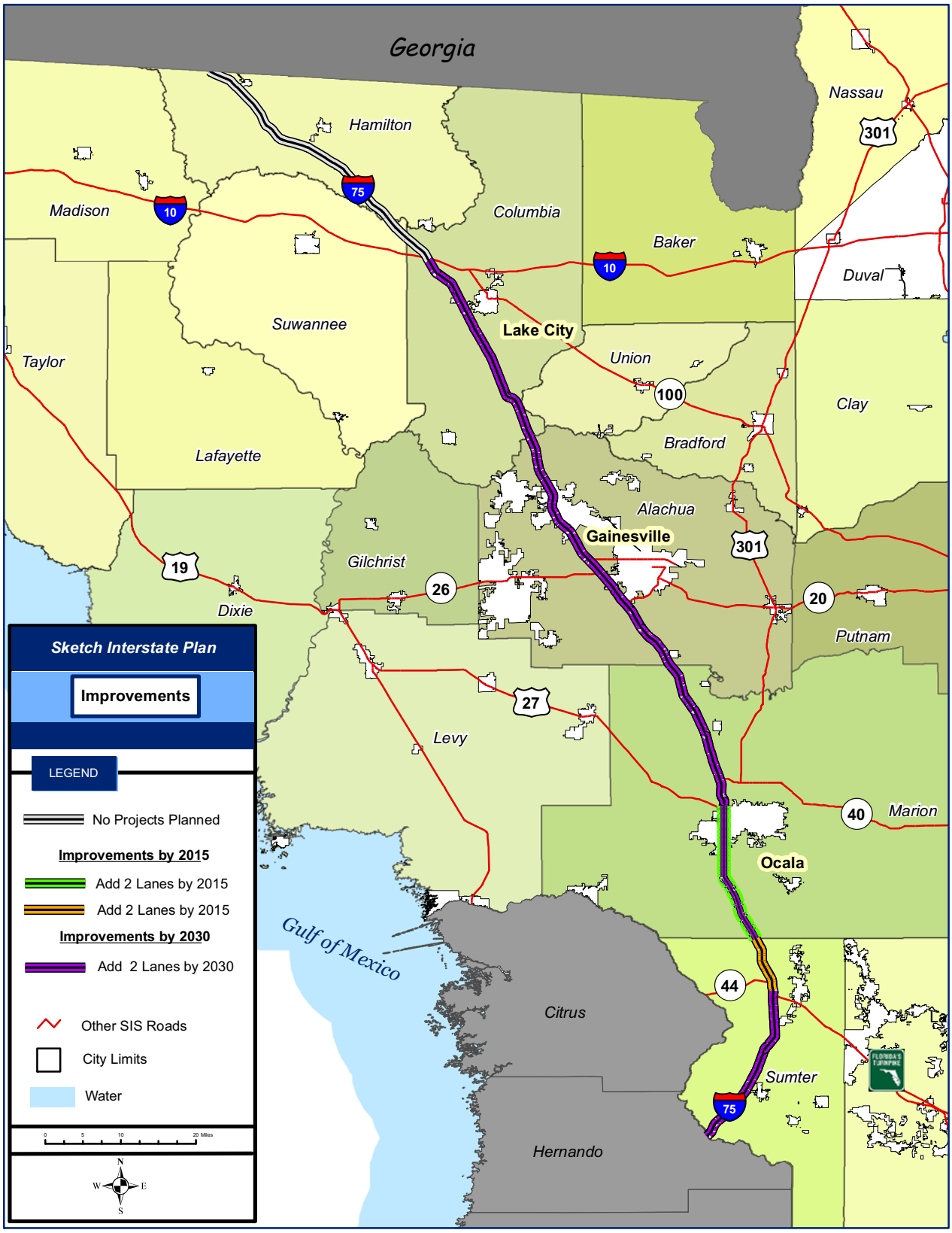
## Multi-Modal Needs Plan

The Florida Department of Transportation's Multi-Modal Needs Plan was reviewed to gain further insight into the needs of the corridor. The purpose of the needs plan is to identify the major transportation capacity improvement needs for the designated Strategic Intermodal System (SIS) network through 2030. Improvements consist of highway, rail, aviation, and seaport facilities. These projects are currently unfunded in the Departments Work Program and are not planned in the 10 year plan or the Cost Feasible Plan and have been analyzed without regard to funding availability. Because the Multi-Modal Needs Plan focuses on capacity needs, projects for rehabilitation, resurfacing, safety, and maintenance are not included within this document but within other Departmental plans (i.e. Work Program). **Table 4** below outlines the results for I-75 from the Needs Plan by District, highway, and interchange needs.

**Table 4**
**SIS Multi-Modal Needs Plan on I-75**

| **Highway Improvement Needs** |
|---|
| **District Two** |
| No capacity improvements needed by 2015 |
| Add 2 lanes to provide 8 lanes by 2030 from I-10 to south Alachua County Line |
| **Cross Streets** |
| No capacity improvements needed |
| **District Five** |
| Add 2 lanes to provide 8 lanes by 2015 from US 27 south to Marion County Line |
| Add 4 lanes to provide 10 lanes by 2015 from north Sumter County Line south to the Turnpike |
| Add 2 lanes to provide 8 lanes by 2030 from north Marion County Line south to US 27 |
| Add 2 lanes to provide 10 lanes by 2030 from US 27 south to the Marion County Line |
| Add 2 lanes to provide 8 lanes by 2030 from Turnpike south to the Sumter County Line |
| **Cross Streets** |
| US 27: add 2 lanes to provide 6 lanes by 2015 from NW 80th Ave. east to I-75 |
| **Interchange Modifications** |
| **District Two** |
| I-75 at SR 26 Modify Interchange |
| I-75 at US 90 Modify Interchange |
| I-10 at I-75 Modify Interchange |
| I-75 at US 441 Modify Interchange |
| **District Five** |
| I-75 at Turnpike Modify Interchange |




# I-75 Sketch Interstate Plan

## Exhibit 3: SIS Needs Plan

State of Florida
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### Overview

Results of the SIS Multi-Modal Needs Plans show that I-75 would need to be widened from I-10 south to the southern Sumter County Line by 2030. It should be noted that the Needs Plan does not take into account funding sources and only focuses on capacity improvements. These results from the Needs Plan mirror the results found within the *Traffic* section of the I-75 Sketch Plan in that it has recognized the need to address the future capacity concerns on the Sketch Plan corridor.

## District Two Master Plan

The I-75 Master Plan created by District Two is a valuable resource for the Sketch Plan. Several projects to widen, resurface, expand and otherwise modify roadways within the corridor are being planned and implemented by the Florida Department of Transportation. **Table 5** below lists all projects planned within the I-75 corridor for District Two. For the purposes of Sketch, only mainline projects are of concern. However, all projects were provided. Those projects specifically along the I-75 mainline are highlighted and in bold. These projects were also reflected in **Table 3** which provided the Florida Department of Transportation 5 Year Work Program summary.

**Table 5**
**Master Plan Projects for District Two**

| Road | From To | Improvement | County | Planned Period |
|---|---|---|---|---|
| SR 121 | Levy CL to I-75 | Resurfacing | Alachua | Currently Under Construction |
| SR 121 | NW 5th Ave. to US 441 | Resurfacing | Alachua | Currently Under Construction |
| SR 20 | Railroad Overpass to I-75 | Resurfacing | Alachua | Currently Under Construction |
| SR 222 | e/o I-75 w/o 43rd St | Resurfacing | Alachua | Currently Under Construction |
| SR 24 | SW 75th St to SW 43rd | Add Lanes & Reconstruct | Alachua | Preliminary Engineering |
| SR 24 | SW 122nd to SW 75th | Add Lanes & Reconstruct | Alachua | Right of Way Activities |
| SR 26 | At NW 48th Street | Right of Way Activities | Alachua | Currently Under Construction |
| SR 26 | 43rd St to 39th St | Add Left Turn Lane | Alachua | Currently Under Construction |

| Road | From To | Improvement | County | Planned Period |
|---|---|---|---|---|
| SR 331 | SR 121 to US 441 | Resurfacing | Alachua | Currently Under Construction |
| **I-75** | **At SR 222** | **Guardrail** | **Alachua** | **Currently Under Construction** |
| **I-75** | **Ramps at Paynes Prairie rest Area** | **Traffic Operations Improvement** | **Alachua** | **Preliminary Engineering** |
| SR 24 | At I-75 | Add Left Turn Lane | Alachua | Currently Under Construction |
| SR 235 | At CR 239 | Add Left Turn Lane | Alachua | Currently Under Construction |
| SR 136 | Suwannee CL to Hamilton CL | Resurfacing | Columbia | Currently Under Construction |
| SR 238 | US 441 to Union CL | Resurfacing | Columbia | Preliminary Engineering |
| SR 247 | CR 242 to US 90 | Feasibility Study | Columbia | Preliminary Engineering |
| SR 247 | Suwannee CL to I-75 | Resurfacing | Columbia | Currently Under Construction |
| SR 25/US 441 | I-75 to CR 252 | Resurfacing | Columbia | Currently Under Construction |
| **I-75** | **I-10 to Suwannee CL** | **Resurfacing** | **Columbia** | **Preliminary Engineering** |
| **I-75** | **I-10 to Suwannee CL** | **Resurfacing** | **Columbia** | **Preliminary Engineering** |
| **I-75** | **n/o SR 47 to US 90** | **Resurfacing** | **Columbia** | **Currently Under Construction** |
| **I-75** | **n/o US 441 to n/o SR 47** | **Resurfacing** | **Columbia** | **Currently Under Construction** |
| **I-75** | **Columbia CL to Hamilton CL** | **Resurfacing** | **Suwannee** | **Preliminary Engineering** |
| CR 141 | Madison CL to CR 143 | Widen, resurface existing lanes | Hamilton | Currently Under Construction |
| CR 143 | CR 146 to I-75 | Widen, resurface existing lanes | Hamilton | Currently Under Construction |

| Road | From To | Improvement | County | Planned Period |
|---|---|---|---|---|
| CR 143 | SR 6 to CR 146 | Widen, resurface existing lanes | Hamilton | Currently Under Construction |
| CR 249 | US 41 to CR 158 | Resurfacing | Hamilton | Currently Under Construction |
| CR 249 | CR 158 to CR 751 | New Road Construction | Hamilton | Currently Under Construction |
| CR 751 | Suwannee River to SR 6 | Widen, resurface existing lanes | Hamilton | Currently Under Construction |
| NW 5th Ave | Columbia CL to US 129/SR 51 | Resurfacing | Hamilton | Preliminary Engineering |
| SR 25/US 41 | SR 6 to Georgia State Line | Resurfacing | Hamilton | Currently Under Construction |

### Overview

Results from the District Two Master Plan reveal similar improvements along the I-75 Sketch Plan corridor as reflected in the Five Year Work Program. Resurfacing jobs dominate the corridor with no major construction improvements planned within District Two.

## Other Plans

The following technical reports were reviewed to gain further insight into District Five I-75 improvements. Furthermore, the data within these reports was cross-examined with the traffic data produced within the *Traffic* Technical Memorandum. However, for the purposes of the Sketch Plan, it was determined that these reports provide a level of detail not appropriate for use.

- The I-75 Interchange Operational Analysis Report (IOAR) for the Ocala area created by District Five.
- The IOAR for the I-75/Turnpike interchange developed by the Florida Turnpike Enterprise.
- I-75 PD&E Study conducted by District Five.

Each report provided detailed cross street and ramp analysis where as the Sketch Plan provides a mainline only analysis. Regional plans have been taken into account; however, the plans listed above were used specifically for the traffic portion of the Sketch Plan.

## Transportation Plans

As part of the Sketch Plan process, transportation plans that govern and shape the future of the I-75 corridor have been reviewed. Long Range Transportation Plans (LRTP) serve as a guide for selection and funding of transportation projects over a given time horizon, usually 20 years. Within the limits of the I-75 Sketch Plan corridor, there are two transportation plans that have been reviewed. Initiatives that specifically targeted the corridor were catalogued and discussed. The first plan is the *2025 Long Range Transportation Plan for the Ocala/Marion County Transportation Planning Organization (TPO)*. The second plan reviewed was the *Gainesville Urbanized Area Year 2025 Long Range Transportation Plan Update*.

### Gainesville 2025 Long Range Transportation Plan Update

The goal of the Gainesville LRTP is to maintain a balanced and sustainable transportation system that supports the economic vitality and preserves the existing transportation network of the Gainesville metropolitan area. Within the plan, several transportation projects are addressed that have impact to the I-75 Sketch Plan corridor. These projects are outlined below:

- Improve North-South Corridor between Archer Road and Newberry Road to provide congestion relief to Interstate 75 corridor, State Road 121, State Road 24, and State Road 26

- SW 40$^{th}$ Boulevard Extension (new 2-lane construction) from Williston Road/SR 331 to Archer Road/SR 24 to provide a parallel facility for I-75.

The initiatives taken by the Gainesville LRTP support the continuing view of maintaining the integrity and functional class of the interstate by maintaining high speed, long distance through and too movement. Local planning organizations realize the impact local traffic has on the interstate and are working to alleviate the demand by providing alternative routes for use by local motorists. Further discussions were held with the Department on the idea of new overpasses to help relieve mainline congestion by providing motorists an alternative route besides the interstate. Greater detail on the feasibility of these networks will be provided within the Sketch Plan.

### 2025 Long Range Transportation Plan for the Ocala/Marion County TPO

The goal of the Ocala/Marion County LRTP is to identify area transportation needs and cost feasible projects to address future transportation demand in the Ocala/Marion County area. Transportation need is based off population growth, existing development, and new growth envisioned by local comprehensive plans. Within the plan, several transportation projects are addressed that have impact to the I-75 Sketch Plan corridor.

The LRTP provides an emphasis on Intelligent Transportation Systems (ITS) improvements to congested corridors to enhance the safety and operation of existing facilities to minimize the need for additional capacity improvements. Proposed new facilities include:

- An interchange at I-75 and SW 95th Street.
- A new fly-over I-75 to provide connection across the interstate in the northwest portion of Ocala.
- A new parallel facility (SW 38th Avenue/44th Avenue) west of I-75 providing north/south mobility to minimize congestion on I-75 and major state facilities.

The LRTP further identified roadway corridors that have segments/connections between counties in need of improvement. Expressway facilities identified were I-4, I-95, and regional toll facilities including the Florida Turnpike. However, I-75 was not identified as a facility in need of improvement to complete the regional network.

### Summary of Local Transportation Plans

The goals taken by the Ocala/Marion County LRTP are similar to those held by the Gainesville LRTP in that they each support the continuing view of maintaining the integrity of the through and too movement for the interstate system. Fly-over cross streets and parallel facilities provide alternative routes for use by local traffic other than the interstate. Results of the plans show the continuing efforts made by local planning organizations in coordination with the Florida Department of Transportation to alleviate local traffic on the interstate without the expense of adding additional lanes.

## Summary

The purpose of this Technical Memorandum was to review the existing conditions and structures along the I-75 Sketch Plan corridor as well as planned construction improvements and transportation plans.

Upon review, it was determined that multiple bridges and interchanges along the corridor do not meet minimum vertical clearance requirements determined by the Department. Instances generally occurred at cross street interchanges that I-75 passed over. At times, clearance was less than 14 feet (CR 2054 in Alachua County). Clearances below standards pose problems to trucks passing under the structures and may cause safety concerns if the vehicle is moving at a high rate of speed. These concerns were discussed among the Project Team and it was determined that any future capacity project or another resurfacing should restore the required clearance.

Review was then focused on planned construction improvements along the corridor. The 5- Year Work Program is the Florida Department of Transportation's list of funded projects over the next five years. Within the program, the only major capacity improvement is the widening of I-75 to six lanes between the Florida Turnpike and the southern Sumter County line. Resurfacing jobs constituted the majority of work along the Sketch Plan corridor, specifically within Marion and Columbia Counties.

The SIS Multi-Modal Plan Needs Plan was reviewed for capacity improvements along the Sketch Plan corridor. It should be noted the Needs Plan has been developed without regards to funding or lane continuity along the corridor. The long term unfunded needs along the I-75 corridor are:

- By 2015

  Add 2 lanes from south Marion County line to SR 27.
  Add 4 lanes from the Turnpike north to south Marion County Line.

- By 2030

  Add 2 more additional lanes from south Marion County line to SR 27.
  Add 2 lanes from SR 27 north to I-10.
  Add 2 lanes from the Turnpike south to southern Sumter County line.

The District Two Master Plan documents were compiled and reviewed as part of the Sketch Plan process. Projects listed reflect results provided with the Florida Department of Transportation's 5 Year Work Program.

Two Transportation plans were reviewed for the purposes of the Sketch Plan; first being the Gainesville LRTP and second the Ocala/Marion County LRTP. Each contained several project initiatives that influence I-75. However, each plan reflected similar views of creating parallel and cross street facilities to aid in reducing congestion on I-75.

## Corridor Mobility Opportunities

Concept development and analysis is an integral part of the Sketch Interstate Plan. This section strives to offer guidance when analyzing the various conceptual alternatives and corridor management opportunities. The unique characteristics of this section provide the framework for identifying possible future alternatives that the Sketch Interstate Plan indicates as necessary. Each section outlines the concepts that have national recognition and are currently being considered by transportation organizations around the country. The following improvements and concepts are outlined within this section.

- No Build
- General Purpose Lanes
- Auxiliary Lanes
- Managed Lanes
- Truck Only Lanes
- Beltways
- Rail
- Intelligent Transportation Systems

It should be noted the purpose of this section within the Technical Memorandum is not to provide detailed analysis for each of these concepts, but to outline the general characteristics and provide background knowledge. It has been found that current initiatives undertaken by FDOT only provide congestion relief through the addition of general purpose lanes. This section strives to offer other means in achieving both congestion relief and acceptable operational results.

## Conventional Capacity Improvement

Conventional improvement of the interstate generally includes the following three design scenarios: a no build scenario, which is predominantly used as bases for comparison, construction of general purpose lanes, and construction of auxiliary lanes. According to the improvement plans reviewed, current I-75 planned construction projects only incorporate expansion of the existing facility by adding additional general purpose lanes.

### No Build

A no build scenario provides operation under existing and future conditions without capacity expansion. It provides a constant to compare any potential modifications to from an operational standpoint. The traffic analysis provided within the *Traffic* Memorandum showed that I-75 will exceed existing capacity by design year and would need to be widened to accommodate growth. The SIS Multi-Modal Needs Plan provided insight into the corridor needs under unconstrained conditions and concluded that I-75 would need to be widened to accommodate future growth. A No Build scenario is not a viable option and may prove not only a capacity problem but heighten safety concerns.

### General Purpose Lanes

Currently, the only planned large scale projects for I-75 are expansion projects. These projects create additional capacity by adding general purpose lanes. General purpose lanes are at grade directional lanes which increase the available capacity by diluting the number of vehicles per lane. I-75 operates as 6 lanes from the Georgia border, south to the Turnpike. At this point, I-75 drops to four lanes. However, FDOT has plans to widen this section of I-75 but the timeframe remains uncertain. This improvement would only provide additional at grade directional lanes to increase available capacity.

Performance objectives for increased mobility benefits include the following:

- Reduced congestion
- Reduced travel times
- Decreased interference between "through traffic" and "short trips"
- Improved emergency response
- Improved freight flow
- Increased connectivity

Adding capacity to the interstate through general-purpose lanes remains the primary means undertaken to combat growing demand and increase mobility. However, it should be noted The *Traffic Analysis* section of the *Sketch Plan* indicated the impacts traffic growth will have on the corridor. Demand is anticipated to grown beyond what the existing configuration can accommodate. Capacity expansion should take place after efforts have been made to optimize capacity and use of existing facilities and arterial networks.

### Auxiliary Lanes

An auxiliary lane is typically any lane whose primary function is not simply to carry through traffic. In the case of I-75, far right traffic lanes of the freeway that connect the entrance ramps at one interchange to the next exit ramp. Examples of these lanes can be found throughout Florida, typically in more urbanized and congested regions. Motorists have access from interchange to interchange with no need to inter the mainline flow of traffic.

Auxiliary lanes provide congestion relief by removing short trip motorists from mainline through traffic. In order for auxiliary lanes to be economical, there needs to be a high demand for interstate short trips. In the case of I-75, urbanized sections of interstate along Gainesville and Ocala would be prime locations. According to the *Traffic Analysis* document, traffic nearly doubles along I-75 along the urbanized portions. The *Safety Analysis* also targeted Gainesville as a high crash location due to localized demand on the interstate.

## Conceptual Improvements

Conceptual improvements consist of interstate improvements that are not generally considered typical capacity enhancements. Yet, the concepts outlined have gained statewide and national recognition with

many currently functioning while others are still within their initial planning phase. The goal of conceptual improvements is to provide congestion relief, improve operations, improve safety conditions, and enhance mobility in a more cost efficient manor but still maintaining the integrity of the I-75 Sketch Plan corridor.

### Managed Lanes

Managed lanes are lanes created for congestion support to general-purpose lanes. They are proactively managed in response to changing conditions to reach the desired outcome. Three broad application types encompass many individual strategies. Those application types include price controls, vehicle eligibility, and controlled access.

**Price Controls** utilize either traditional tolling methods or variable tolls, which adjust accordingly in response to demand (e.g. peak charge, off-peak discounts).

**Vehicle Eligibility** allows certain vehicles access while restricting others. Examples would be high occupancy vehicles, buses, or emergency response vehicles.

**Controlled Access** allows all vehicles but minimizes access points. An example would be limited access lanes bypassing multiple interchanges and minimizing turbulence in the flow of vehicles.

A single operating strategy is provided and multiple, more specific lane management solutions may then be presented. Depending on goals and objectives, these performance solutions may be applied at either macro or micro levels along the corridor to create a multifaceted managed lane facility, which actively manages demand with a high degree of operational flexibility.

## Range of Managed Lane Solutions

The following provides a brief overview of current managed lane solutions undertaken by transportation organizations around both the state and country.

A **reversible lane** is a lane in which traffic may travel in either direction depending on traffic conditions and time of day. Typically, they are meant to improve traffic flow in the peak direction of traffic during both the morning and afternoon rush hours. This is accomplished by daily phasing in of traffic to the reversible lane using overhead message boards, special signing, traffic control safety devices (signal lights, gates, vehicle restraints, etc.) on a regularly scheduled daily time interval.

Reversible lanes are designed to reverse direction to handle peak travel times. Peak hours are normally considered between the hours of 6 a.m. and 9 a.m. and 3 p.m. and 6 p.m. Reversible lanes are typically operational, during time blocks. For example, 5 a.m. to 11 a.m. peak direction and 2 p.m. to 8 p.m. peak direction. The lanes would be open for both directions in off-peak times or not open at all, depending on travel demand needs for the adjacent general purpose lanes.

**Express lanes** are special use lanes primarily reserved for High Occupancy Vehicles (HOV), Bus Rapid Transit/Express Buses, or longer-distance trips, and normally operate in both directions. Motorists have the ability to bypass multiple access points with no interference from merging and diverging traffic.

**Toll lanes** are managed lanes that are tolled using either a traditional or a variable rate throughout the day. The variable toll increases or decreases throughout the day to maintain a minimum operating level of service and speed. For example, motorists are provided an optional toll, which may increase as congestion increases during peak times to reduce volumes on the managed lane and decrease travel times.

**High Occupancy Vehicle (HOV)** and **High Occupancy Toll (HOT)** lanes are each specific types of managed lanes. HOV lanes or carpooling lanes are reserved for vehicles with a driver and one or more passengers. HOV lanes may either be designated simply by diamond markings or isolated lanes. HOT lanes gives single occupancy motorists access to HOV lanes by paying a toll. Typically, the tolls are variable depending on time of day and traffic conditions.

**Truck only lanes** are a special use lane that separate trucks from high-speed traffic. This strategy is designed to reduce congestion, increase the longevity of pavement, and expand the economic benefits of streamlined freight mobility. Two common methods of separating trucks from general traffic are lane striping and concrete barriers. The lane markers can be paint or "rumble strips" consisting of grooves in the roadway.

## Application

Each of these solutions offers unique benefits. As for application on I-75, careful consideration should be given based upon specific performance objectives. Goals for I-75 may include increasing available capacity, provide more choice for motorists, or focus on freight mobility.

Each of the special use lanes discussed has gained national recognition as a way to increase capacity and manage demand. I-75 was designed under strict, uniform guidelines. These guidelines provided a wide median, which in turn has the ability to be modified to accommodate special use lanes within the given right of way. The following section provides an example of managed lanes that have be merged with existing configurations to provide not only congestion support, but also improved operations.

### Cited Example

As described in the introduction, express lanes are special use lanes primarily reserved for high occupancy vehicles (HOV), bus rapid transit/express buses, or longer-distance, and normally operate in both directions. Motorists have the ability to bypass multiple access points with no interference from merging and diverging traffic.

95 Express is the Florida Department of Transportation's (FDOT) congestion management program for Interstate 95 (I-95) in southeast Florida. The express corridor incorporates High Occupancy Toll (HOT) lanes with car pool and transit incentives, ramp signaling, and rapid incident detection and management strategies. Express/HOT lanes offer drivers a choice to use the express lanes for the cost of a toll, which fluctuates with the level of congestion. However vanpools, carpools, public transit vehicles, hybrid vehicles, and motorcycles can use the express lanes without paying a toll.

95 Express is being implemented in three phases. Phase 1A is open, as of January 2009, and runs on converted HOV lanes northbound on I-95 from State Road (SR) 112 to just north of NW 151st Street in Miami-Dade County. On January 15, 2010 Phase 1B was implemented and began southbound operations. The southbound operation runs from the Golden Glades Interchange to I-395. In addition, Phase 1B extended the north bound express further south from SR-112 to I-395. Phase 2 of 95 Express will create HOT lanes in both directions on I-95 between the Golden Glades Interchange (Miami-Dade County) and I-595 (Broward County). Currently Phase 2 of the project is unfunded, and a contract for the project is yet to be awarded.

**Benefits**

Today, transportation departments and metropolitan planning organizations (MPO) are unable to build adequate capacity to meet growing demand. However express lanes, specifically 95 Express, are an alternative that offer opportunities to reduce congestion and eventually create more travel options and support the use of transit. The congestion pricing management strategy employed in the 95 Express project offers an advantage; it allows the price of the toll to change in response to the level of congestion. This pricing strategy can be used to manage demand and generate revenue. The pricing strategy also promotes emission reduction and encourages a reduction in vehicle miles traveled (VMT). Although affordable in comparison to construction projects, funding express lane development may be challenging in the present economic climate with many agencies and local governments struggling with a severe transportation funding crisis.

**Implementation**

According to the FDOT's 2009 *95 Express Midyear Report* Phase 1A and 1B was projected to cost $121.5 million. A USDOT UPA Grant provided $62.9 million, of which $19.5 was for transit. The Florida Legislature allocated an additional $35 million, with the balance of funding coming from future toll revenues. Some of the cost was also carried by the contractor as part of their design, build, and finance contract.

**Revenue**

As held in the FDOT's 2009 *95 Express Midyear Report* the northbound 95 express lane had total revenue of approximately $2.8 million, approximately 89 percent of the projected estimates. In regards to the average monthly revenue, 55 percent came from the PM peak period. The average PM peak period revenue was nearly $10,700 from over 6,900 vehicles between 4pm and 7pm daily. Concerning the southbound operations, data is only available for January 2010. During January, total revenue for southbound operations was $220,124.[2]

**Impact to Mobility**

In terms of the impact to mobility, 95 express illustrates a positive effect on speed/travel times, reliability, and person throughput. According to the *95 Express Midyear Report*, travel speeds along both the northbound express lanes and general purpose lanes increased considerably. The express lanes operated PM peak period speeds roughly 39 MPH faster with travel times 14 minutes faster through the corridor than in 2008. Likewise, general purpose lanes were generally 23 MPH faster than in 2008 and travel times decreased by 11 minutes during the PM peak period. In terms of reliability, the express lanes operated at speeds in excess of the minimum requirement (45 MPH) 95.4 percent during PM peak and 99.5 percent all of the time.

As part of the FDOT midyear report, data on average vehicle occupancy was collected, including express bus ridership and traffic volume data to calculate the person throughput of 95 Express northbound. Person throughput increased by 12 percent overall, compared to 2008. Person throughput on express lanes during the PM peak increased 23 percent, while general purpose lanes increased by 8 percent.

### Truck Only Lanes

Along the I-75 Sketch Plan corridor, truck traffic accounts for high percentages of total traffic ranging from 15 percent to over 35 percent. Truck only lanes are special use lanes that separate trucks from high-speed traffic. This strategy is designed to reduce congestion, increase the longevity of pavement, and expand the economic benefits of streamlined freight mobility. Two common methods of separating trucks from general traffic are lane striping and concrete barriers. Tolls may be imposed to generate revenue.

The concept of truck-only lanes on Interstate 75 is gaining momentum, and state and federal money has allowed planners and engineers to incorporate the idea into the evolving plans for the eventual widening of the interstate. With truck traffic rising, many states are considering proposals to separate big rigs from cars on interstate highways, hoping to reduce congestion, improve safety and increase commerce by moving goods faster. The *Freight Mobility* report from the *Sketch Plan* provides further detail on the growth of both trucks and commodity flows in and out of the state. For this reason, truck only lanes have been outlined in more detail rather than other managed lane types.

**Cited Example**

[2] From January 15 2010

Currently the Florida Department of Transportation (FDOT) is building a new north-south toll road, connecting Interstate 4 with the Selmon Expressway west of 31st Street in Tampa. The elevated roadway will link the two major east-west corridors aiming to improve the movement of people and goods. The new roadway will provide truck only lanes for direct access to the Port of Tampa and remove heavy truck traffic from local roads in Ybor City, one of only two National Historic Districts in Florida. The estimated cost is $389.5 million.

Benefits

- May contribute to the reduction of congestion, emissions, and improve safety in general purpose lanes
- Economic benefits can be viewed in terms of more efficient movement of goods resulting in reduced freight costs

Potential Issues

- Difficulties may arise when accidents occur or maintenance needs to be conducted
- Truck only lanes may be viewed by the public as providing a minimal overall benefit because citizens will not be able to use them

Cost

- Initial funding of designated truck lanes would come from tolling that would be implemented to fund the construction
- According to a study on constructing truck ways on Florida's freeways, costs for constructing truck lanes are estimated to be $4 to $8 million per mile. Costs are due to right of way acquisition, heavy duty construction, and design work[3]

Mobility

- Barrier separated dedicated truck lanes achieve optimum feasibility when truck volumes exceed 30% of the total vehicle mix, peak hour volumes exceed 1800 vehicles per lane-hour, and off-peak volumes exceed 1200 vehicles per lane hour

### Rail

Rail lines operating within the interstate highway is a proposal to utilize existing right of way on the interstate system for high capacity, passenger and freight rail service. Freight traffic may shift from trucks to trains as energy constraints effect the nation. Not only will energy constraints effect rail service but also the commodity's suitability to rail haul. Converting median right of way and inside lanes have been proposed to provide needed right of way. Current rail initiatives include:

- Federal Policies and initiatives are moving away from truck and focusing on alternative methods to meet demand and air quality standards such as freight rail movement.

- CSX has taken freight mobility initiatives such as selling rail lines. The rail company has recently sold its A Line and will be moving the majority of its freight to their S Line. The S Line parallels

[3] Reich, S, Davis, J, Catala, M, Ferraro, A, and Concas, S. *The Potential for Reserved Truck Lanes and Truckways in Florida*. Tampa, FL: Center for Urban Transportation Research. 2002.

US 301, which is a major truck route. The primary regional transfer station is to be located in Polk County. This further strengthens the diversion occurring between truck and rail. From FDOT's perspective, further insight may facilitate better integration between Truck/Freight Rail to reduce impacts to the state and interstate highway system.

**Cited Example**

The Florida High Speed Rail is a proposed high-speed rail network in Florida. Funding for the project was authorized by a 2000 referendum of Florida voters but repealed by 64% of Florida Voters in a 2004 referendum. However, Federal funding has recently become available the project is moving forward with a planned completion date of 2015. The first phase will connect Orlando to Tampa, with later phases extending to Miami and Jacksonville.

Rail lines would interconnect cities that are within distances not feasible for airlines. Such examples are the goals of Florida High Speed Rail. They would be operated in a similar fashion as airlines using similar forms of ticket allocation and terminal transfers.

## Intelligent Transportation Systems

Intelligent transportation systems (ITS) encompass a broad range of wireless and wire line communications-based information and electronics technologies. When integrated into the transportation system's infrastructure, and in vehicles themselves, these technologies relieve congestion, improve safety and enhance productivity. ITS attempts to manage factors that typically are at odds with each other; such as vehicles, loads, and routes to improve safety and reduce vehicle wear, transportation times, and fuel consumption.

The application of technology to goods and people movement to reduce delay and improve safety. The main applications of ITS in place today involve the monitoring of real-time traffic flows and weather conditions and then transmitting this information to the appropriate authorities and the motoring public. The authorities use this information to send the response teams to the scene of an accident, whether it is an emergency medical team or a hazardous material team. The motoring public is alerted to potential hazards or delays on roadways through the use of highway advisory radio, variable message signs, or broadcast radio traffic reports.

**Electronic Toll Collection (ETC)** – ETC allows for vehicles to remain in motion as they pass through toll plazas and electronically debits the accounts of registered car owners without requiring them to stop. This system is currently in use by the Florida Turnpike's SunPass. A transponder is registered by a gantry system with no need of the passing vehicle to reduce speed. Recent innovations have used ETC to enforce congestion pricing through cordon zones in city centers and special use lanes.

Open road tolling (ORT) is a method to collect tolls without the use of a toll facility. ORT allows drivers the ability to maintain their current speeds while a gantry network electronically debits the toll. Currently, the Florida Turnpike is outfitting many of its existing toll facilities with ORT in aims of reducing congestion and increase efficiency of the network.

Electronic toll collection operates efficiently with joint venture projects similar to the Florida Turnpike. However, I-75 is a publicly owned facility and operated by the government. Tolling public facilities is a hot debate that raises public and political interests.

**Cordon Zones with Congestion Pricing** – The objective of congestion pricing is to reduce congestion within urbanized areas by offering drivers a choice of whether to use free general purpose lanes or special use lanes with congestion pricing. Drivers would pay a higher fee to use these lanes during peak hour times.

The concepts identified and analyzed within this report provide an overview of improvements that would alleviate many of these concerns not only facing the interstate currently but also under future conditions. Results provide a snapshot of their ultimate capabilities and impact to the network. Further studies must be completed to more accurately gauge the reasonableness and application of these mobility concepts.

## Summary

The corridor management opportunities listed provided insight into potential future improvements that may handle the capacity needs of the I-75 Sketch Plan corridor other than conventional expansion. The following improvements and concepts were outlined within this section.

- No Build
- General Purpose Lanes
- Auxiliary Lanes
- Managed Lanes
- Truck Only Lanes
- Beltways
- Rail
- Intelligent Transportation Systems

Detailed analysis for each of these concepts was not provided but rather the general characteristics and background knowledge outlined. The *Sketch Plan Summary Report* provides further guidelines, policy initiatives, and next steps that will be examined in more detail in a later planning phase.

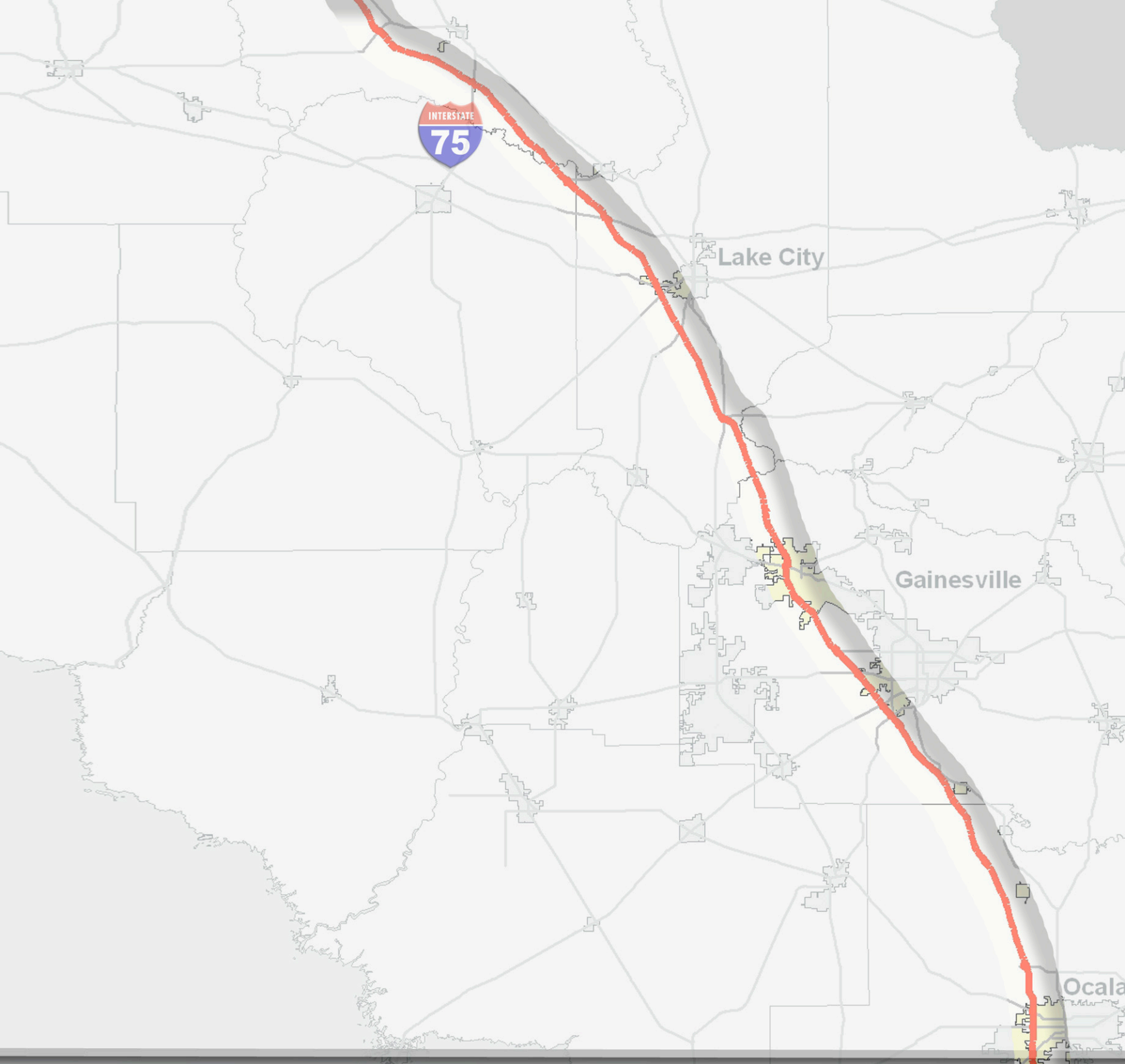
## Conclusions

The purpose of this Technical Memorandum was to catalogue and analyze existing conditions of structures along the corridor and outline any improvements being considered by both the Florida Department of Transportation and local transportation plans. The transportation plans reviewed have alluded to the idea of creating other means to reduce congestion such as parallel facilities on the interstate. Local traffic using the interstate for short trips between interchanges has continually posed a problem. However, local governments and planning organizations are now realizing the impact localized traffic pose to the interstates. These impacts have been shown in the form of high demand in urbanized sections of interstate, deterioration of the pavement conditions, and safety concerns.

Using this information, the Project Team developed both conventional capacity improvements and conceptual improvements with the goal of providing capacity support and improving operations. Conceptual improvements outlined have state and national recognition; however, are currently not being considered as capacity improvements along I-75. Findings include the following:

- It has been found that there are no improvements currently planned by the Florida Department of Transportation for the I-75 corridor that address capacity needs outside of traditional lane expansion.
- LRTPs are addressing local traffic on the interstate by planning for parallel facilities and overpasses for you use by motorists in order to reduce localized congestion on I-75.
- The concepts discussed offer capacity enhancements at generally less cost than widening and improve safety conditions.
- Auxiliary lanes would provide not only congestion support within Gainesville and Ocala, but reduce the occurrences of traffic incidents.
- Further study into other means of congestions support is needed to address the applicability of concepts outlined.

The purpose of the Sketch Interstate Plan is not only to catalogue and present existing and future planning improvements but also to utilize that information when developing conceptual improvements. The data provided within this report represents all major improvements, both funded and unfunded, the I-75 corridor has planned. It should be noted that the major improvements currently being considered are capacity expansion projects, which add additional directional lanes to alleviate congestion. The Department of Transportation is continually analyzing and developing transportation initiatives to help shape the multimodal network necessary for the efficient movement of both freight and people. With current budget constraints, other means of congestion support have proven effective from both an operational standpoint and costs.

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