

# **PLANNING LEVEL ANALYSIS (PLA) TECHNICAL MEMORANDUM**

## **Oakes Road from Davie Road to State Road 7 Crossing of Florida's Turnpike**

**Task 1: Data Collection, Preliminary Review, Establishment of Course of Action**

**Prepared for:**



**Prepared by:**



**September 2008**

RFP Contract No.: B-05-41  
Town of Davie Engineering Services Contract

C3TS Project No. 00424-002-001-04  
Task 1

**PROFESSIONAL ENGINEER CERTIFICATE**

I hereby certify that I am a registered professional engineer in the State of Florida practicing with C3TS, P.A., a corporation, authorized to operate as a an engineering business (EB 5022), FEID No. 65-0039493, by the State of Florida, Department of Professional Regulation, Board of Professional Engineers, and that I have reviewed or approved the evaluation, findings, opinions, conclusions, or technical advice hereby reported for:

**Project:** Oakes Road from Davie Road to State Road 7  
Crossing of Florida's Turnpike

**FIN:** -

**FAP:** -

**Location:** Town of Davie, Broward County Florida

**Client:** Town of Davie

This document includes a summary of data collection efforts and planning level analyses for a Feasibility Study to evaluate extending Oakes Road over Florida's Turnpike and connecting it to Davie Road. I acknowledge that the procedures and references used to develop the results contained in this report are standard to the professional practice of transportation engineering and planning as applied through professional judgment and experience.

**Name:** Robert T. Carballo, P.E.

**Signature:** \_\_\_\_\_

**P.E. Number:** 42502

**Date:** \_\_\_\_\_



## EXECUTIVE SUMMARY

The Town of Davie (the Town) in Broward County, Florida retained the firm of Corzo, Castella, Carballo, Thompson, and Salman, P.A. (C3TS) to perform a feasibility study to evaluate extending Oakes Road over Florida's Turnpike and connecting it to Davie Road. The purpose of this feasibility study is to document the Purpose and Need for the extension of the corridor. This will form the basis for further study during the Project Development & Environment (PD&E) phase of the corridor. The study corridor follows Oakes Road from Davie Road to State Road 7. It is approximately 1.72 miles long. Under present conditions, Oakes Road begins adjacent to Florida's Turnpike and runs east to connect with State Road 7. Oakes Road is non-existent west of the Florida Turnpike.

The study team reviewed pertinent planning studies near the project corridor to better understand the surrounding areas and to insure that proposed improvements recommended in this study are compatible with future development.

A preliminary analysis of roadway geometry was performed for the study corridor. The proposed typical section consists of a 4 lane urban collector (2 lanes each way) with a divided median and left turn bays, as required at the intersections. In addition, it has provisions for bicycle and pedestrian usage through a 4-ft bicycle lane adjacent to a 2-ft curb & gutter and 8-ft sidewalks along both sides of the corridor. The analysis indicates that it is possible to bridge over the Turnpike with a two span steel plate girder bridge. To reduce the required Right of Way (R/W), the bridge abutments may be supported on both ends by Mechanically Stabilized Earth (MSE) and by a pier in the middle, within the Turnpike's median. A preliminary construction cost of \$40,804,900.00 was estimated for proposed improvements to the study corridor.

There are several issues within the study corridor that need to be resolved before improvements to Oakes Road can occur. Resolution of these issues is outside the scope of this study. Issues to be resolved in future detailed studies include right-of-way, environmental analysis, utilities, drainage, and access management.

This study concludes with an Action Plan designed to move the project through the next stages of development.



**TABLE OF CONTENTS**

**PROFESSIONAL ENGINEER CERTIFICATE ..... i**

**TABLE OF CONTENTS ..... i**

**LIST OF TABLES ..... ii**

**LIST OF APPENDICES ..... ii**

**LIST OF FIGURES ..... iii**

**1.0 INTRODUCTION..... 1**

    1.1 Objective ..... 1

    1.2 Study Area Location ..... 1

**2.0 DATA COLLECTION ..... 2**

    2.1 West Segment ..... 2

    2.2 Bridge Segment ..... 7

    2.3 East Segment ..... 9

**3.0 EXISTING PLANNING STUDIES ..... 12**

    3.1 Town of Davie Comprehensive Plan..... 12

    3.2 Town of Davie Regional Activity Center (RAC) Master Plan..... 12

    3.3 Davie/Hollywood/Seminole Nation Charrette ..... 13

    3.4 City of Hollywood Comprehensive Plan ..... 13

    3.5 Florida’s Turnpike Master Plan..... 13

    3.6 Broward County Long Range Transportation Plans..... 14

    3.7 Florida Department of Transportation (FDOT) Work Program Items ..... 14

    3.8 Clean Air Act Implementation Plans ..... 14

**4.0 COORDINATION WITH LOCAL AND REGIONAL AGENCIES ..... 15**

    4.1 Metropolitan Planning Organization ..... 15

    4.2 Florida Department of Transportation District Four ..... 15

    4.3 Florida’s Turnpike Enterprise..... 15

    4.4 Coordination with Town Planning Department..... 16

    4.5 Public Awareness ..... 16

**5.0 CONCEPTUAL ROADWAY GEOMETRY ..... 16**

    5.1 Design Criteria ..... 16

    5.2 Existing Typical Section..... 17



5.3	Proposed Typical Section .....	18
5.4	Turnpike Crossing .....	27
5.5	Proposed Roadway Footprint .....	29
5.6	Connection to State Road 7 .....	30
5.7	Connection to Davie Road.....	30
<b>6.0</b>	<b>CORRIDOR ISSUES REQUIRING FURTHER STUDY.....</b>	<b>31</b>
6.1	Right-of-Way .....	31
6.2	Environmental .....	33
6.3	Utilities .....	35
6.4	Drainage .....	36
6.5	Traffic.....	37
6.6	Access Management .....	37
<b>7.0</b>	<b>ENGINEER’S OPINION OF PROBABLE COST .....</b>	<b>40</b>
7.1	Needs Assessment Summary .....	41
<b>8.0</b>	<b>RECOMMENDATIONS .....</b>	<b>42</b>
8.1	Action Plan .....	42

**LIST OF TABLES**

Table 1-1; Study Corridor Divided Segments	1
Table 5-1; Existing Typical Sections in East Segment	18
Table 5-2; Existing Right-of-Way along Study Corridor	18
Table 7-1; Preliminary Construction Cost Estimate	40

**LIST OF APPENDICES**

- Appendix A – Field Review Pictures.
- Appendix B – Preliminary Vertical Alignment Calculations.
- Appendix C – Preliminary Horizontal Alignment Calculations.
- Appendix D – Cost Estimate Supporting Data.
- Appendix E – Meeting Notes.



**LIST OF FIGURES**

Figure 1-1; Study Corridor	2
Figure 2-1; Base Map	3
Figure 2-2; Local Private Road, Oakes Road R/W on Other Side of Fence	4
Figure 2-3; Encroachment into the Town's R/W, near Davie Road	5
Figure 2-4; End of R/W Encroachment, Beginning of Shallow Ditch within R/W.	5
Figure 2-5; Typical Dry Ditch Segment within R/W.	6
Figure 2-6; CBDD/THISCD Retention Area within R/W	6
Figure 2-7; CBDD/THISCD Deep Canal within Oakes Road R/W	7
Figure 2-8; Overhead Transmission Lines at Proposed Bridge Crossing Location	8
Figure 2-9; Florida Gas Transmission Gas Valve Pit on East Side of Turnpike	8
Figure 2-10; Oakes Road: 3-Lane Roadway, 1 Each Way & Two Way Left Turn Lane	9
Figure 2-11; Peoples Gas Substation Adjacent to Study Corridor	10
Figure 2-12; Oakes Road: 4-Lane Roadway, 2 EB, 1 WB, & Two Way Left Turn Lane	10
Figure 2-13; Oakes Road: 5-Lane Roadway, 2 Each Way, & Two Way Left Turn Lane	11
Figure 2-14; Oakes Road Signalized Intersection at SR-7	11
Figure 5-1; Oakes Road Typical Section From SR 7 To Burris Road	19
Figure 5-2; Oakes Road Typical Section From Burris Road To SW 49 Way	20
Figure 5-3; Oakes Road Bridge Approach (East Side)	21
Figure 5-4; Oakes Road Bridge Over Turnpike.	22
Figure 5-5; Oakes Road Bridge Approach (West Side).	23
Figure 5-6; Oakes Road Typical Section From SW 50 Ter. To SW 52 Ave	24
Figure 5-7; Oakes Road Typical Section From SW 52 Ave To 56 Ave	25
Figure 5-8; Oakes Road Typical Section From SW 56 Ave To Davie Road	26
Figure 5-9; Profile For Oakes Road Bridge	28
Figure 5-10; Plan View, Offset Roadway Centerlines for Oakes Road	29
Figure 5-11; Plan View, Preliminary Horizontal Alignment	29
Figure 5-12; Study Corridor	30
Figure 6-1; Preliminary Right-of-Way Analysis	32
Figure 6-2; Preliminary Environmental Analysis	34
Figure 6-3; Special Drainage Districts: THISCD Area in Purple, CBDD Area in Green	36
Figure 6-4; Traffic Analysis Zones Near Study Corridor	38



## 1.0 INTRODUCTION

The Town of Davie (the Town) retained the firm of Corzo, Castella, Carballo, Thompson, and Salman, P.A. (C3TS) to perform a feasibility study to evaluate extending Oakes Road over the Florida Turnpike and connecting it to Davie Road.

### 1.1 Objective

The objective of this feasibility study is to document the Purpose and Need for the extension of the corridor. This Purpose and Need will be used to solicit the Broward County Metropolitan Planning Organization (MPO) for the inclusion of the project in the 2035 Long Range Transportation Plan (LRTP) and subsequent Project Development and Environment (PD&E) study phase. This will form the basis for further study during the PD&E phase of the corridor. The initial task, labeled as Task No.1, under the feasibility study will consist of Data Collection, Preliminary Review, and Establishment of a course of action towards the development of the project.

### 1.2 Study Area Location

The project is located in the Town of Davie, Florida. The study corridor follows Oakes Road from Davie Road to State Road 7, as shown in Figure 1-1. It is approximately 1.72 miles long. Under present conditions, Oakes Road begins adjacent to the Florida Turnpike and runs east to connect with State Road 7. Oakes Road is non-existent west of the Florida Turnpike. To simplify documentation, the study corridor was divided into three segments based on their existing stage of development. Names for the segments were determined by their location in reference to the Turnpike. They are summarized in Table 1-1, shown below.

SEGMENT	FROM	TO	LENGTH (ft)	SURROUNDING LAND USE
West	Davie Road	Turnpike West Side	5,100	Residential
Bridge	Turnpike West Side	Turnpike East Side	300	-
East	Turnpike East Side	State Road 7	3,700	Industrial

**Table 1-1; Study Corridor Divided Segments**

