

**PROJECT DEVELOPMENT &  
ENVIRONMENT**

**AIR QUALITY SCREENING ANALYSIS**

**TECHNICAL MEMORANDUM**

**POINCIANA PARKWAY EXTENSION (CR 538)**

**from POINCIANA PARKWAY TO CR 532**

**Osceola and Polk Counties, Florida**

CFX Project Number: 599-224

Prepared For:

**CENTRAL FLORIDA EXPRESSWAY AUTHORITY**



**CENTRAL  
FLORIDA  
EXPRESSWAY  
AUTHORITY**

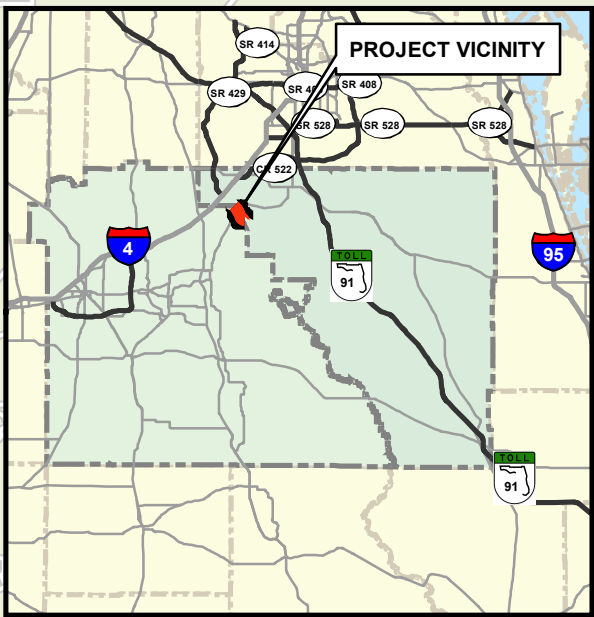
The logo for the Central Florida Expressway Authority features the organization's name in a stacked, sans-serif font. The word "EXPRESSWAY" is highlighted in orange, while the other words are in black. The text is centered between two horizontal orange bars.

July 2019

The Poinciana Parkway Extension is a proposed tolled expressway improvement project that includes extending Poinciana Parkway (SR 538), from the northern end of the existing bridge over the Reedy Creek Mitigation Bank to CR 532 (Osceola Polk Line Road). The study area of this Project Development and Environment (PD&E) Study includes portions of Osceola County and Polk County, Florida. A project location map is provided on **Figure 1**. The Poinciana Parkway Extension is approximately 3 miles in length.

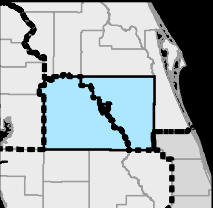
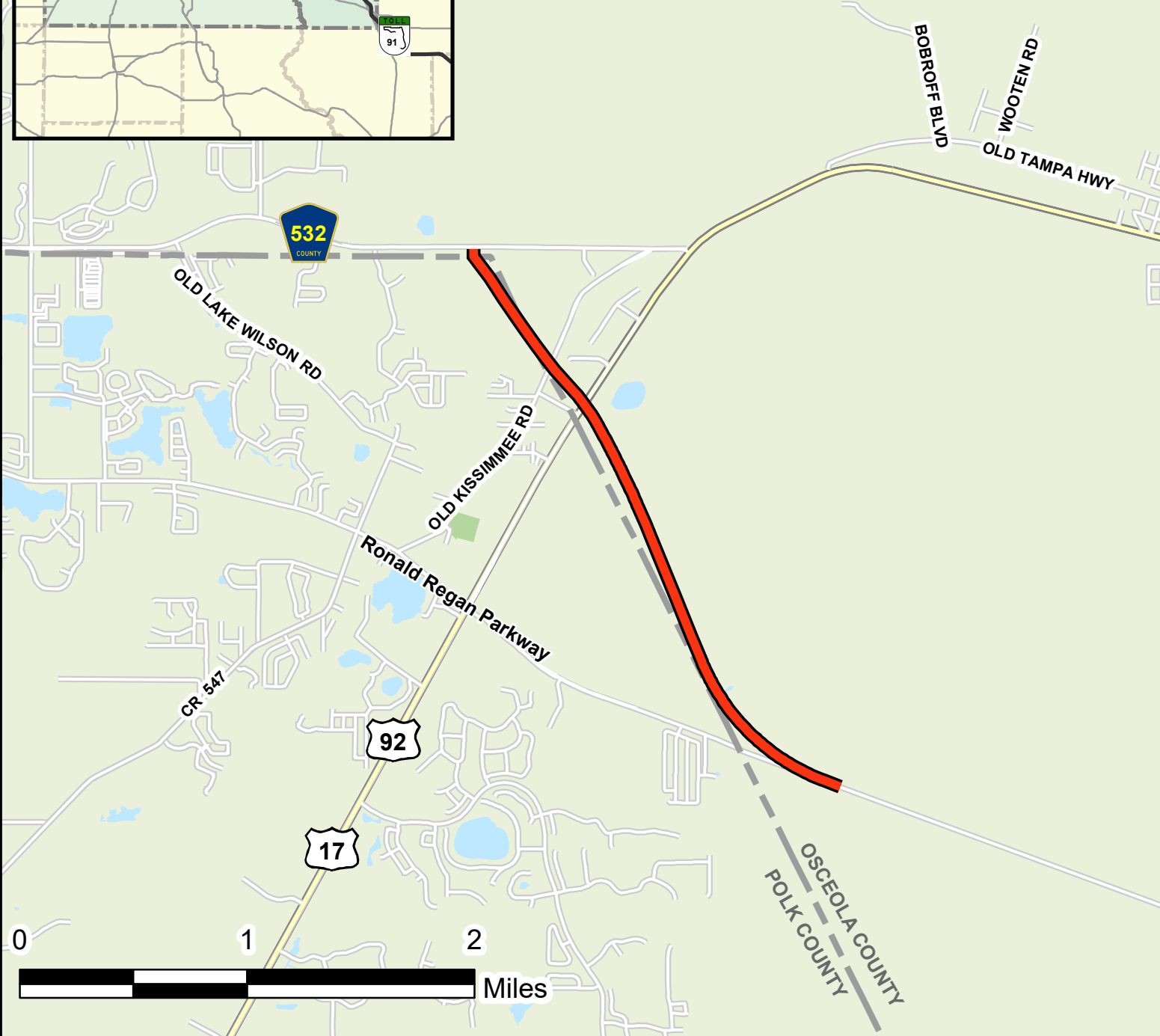
An air quality review of the subject project was conducted following standard Florida Department of Transportation (FDOT) procedures. This project is located in Osceola and Polk Counties, which have been designated as attainment for all the air quality standards under the criteria provided in the Clean Air Act Amendments of 1990, and as such, conformity does not apply.

To ensure that no air quality standard violations will result from the construction and operation of this project, the FDOT Air Quality Screening Model, CO Florida 2012, was used to evaluate a representative interchange location. The CO Florida 2012 Screening Model uses information from the U.S. Environmental Protection Agency's (EPA) Motor Vehicle Emission Simulator (MOVES) version 2010a and CAL3QHC to produce an estimate of the carbon monoxide (CO) levels that might result from the operation of the project. The interchange of Poinciana Parkway and US 17/92 was utilized as a representative site based on the high traffic volumes associated with US 17/92. Based on the input values shown in **Table 1**, receptors placed in close proximity to the interchange of the proposed Poinciana Parkway and US 17/92 were modeled to evaluate maximum one- and eight-hour CO concentrations. The results are provided in **Table 2**.



**Legend**

 PROJECT\_LIMITS



**Poinciana Parkway Extension**  
**Air Quality Technical Memo**  
 Poinciana Parkway to CR 532  
 Osceola & Polk Counties, Florida  
 CFX Project Number: 599-224

**PROJECT  
 LOCATION MAP**

**Figure  
 1**

**Table 1 - CO Florida 2012 Input Data \***

Year	Facility	Peak Hour Approach Traffic Volumes				Approach Speed (mph)
		Eastbound	Westbound	Northbound	Southbound	
2045	Mainline	1190	1850	NA	NA	55
	Ramps	85	85	745	745	45
	US 17/92	NA	NA	1910	1910	45

\* Source: Project Traffic Projections, Prepared by CFX Traffic Consultant, July 2019

**Table 2 - Predicted Maximum One- and Eight-Hour CO Concentrations**

Year	Scenario	Maximum CO Concentration (ppm)*	
		1-Hour	8-Hour
	Build	5.6	3.4

\* Parts per Million

As shown in Table 2, the operations of the proposed facility are anticipated to result in maximum one-hour CO concentrations of 5.6 ppm and maximum eight-hour CO concentrations of 3.4 ppm. Since these values do not exceed the National Ambient Air Quality Standards (NAAQS) established by the EPA of 35 ppm for a one-hour concentration and 9 ppm for an eight-hour concentration, no adverse air quality impact is predicted from the operation of this project. The CO Florida 2012 Screening Model output files are attached as **Appendix A**.

Construction activities may cause minor short-term air quality impacts in the form of dust from earthwork and unpaved roads. These impacts can be minimized by adherence to all applicable State regulations and application of appropriate construction specifications.

**Appendix A**  
**CO Florida 2012 Data**

CO Florida 2012 - Results  
 Wednesday, June 5, 2019

Project Description

Project Title Poinciana Parkway Extension PD&E Study  
 Facility Name Poinciana Parkway  
 User's Name Jeff Jones  
 Run Name 17-92 Screening  
 FDOT District 5  
 Year 2019  
 Intersection Type E-W Diamond  
 Speed Arterial 45 mph Freeway 55 mph  
 Approach Traffic Arterial 1910 vph Freeway 1850 vph

Environmental Data

Temperature 47.8 °F  
 Reid Vapor Pressure 13.3 psi  
 Land Use Suburban  
 Stability Class D  
 Surface Roughness 108 cm  
 1 Hr. Background Concentration 3.3 ppm  
 8 Hr. Background Concentration 2.0 ppm

Results

(ppm, including background CO)

Receptor	Max 1-Hr	Max 8-Hr
1	5.0	3.0
2	5.1	3.1
3	5.1	3.1
4	4.1	2.5
5	4.4	2.6
6	5.1	3.1
7	4.5	2.7
8	5.6	3.4
9	5.2	3.1
10	5.1	3.1
11	5.2	3.1
12	5.2	3.1
13	5.1	3.1
14	4.0	2.4
15	4.4	2.6
16	5.1	3.1
17	4.5	2.7
18	5.3	3.2
19	5.4	3.2
20	5.0	3.0

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 \*\*\*\*\*PROJECT PASSES\*\*\*\*\*  
 \*NO EXCEEDANCES OF NAAQ STANDARDS ARE PREDICTED\*  
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