

# Final Air Quality Report

## Florida Department of Transportation - District VII

### County Line Road (C.R. 578) Project Development and Environment Study From U.S. 19 (S.R. 55) to U.S. 41 (S.R. 45)

*Work Program Item Segment Number: 257298 1  
Federal-Aid Program Number: 7822 001 S  
Pasco and Hernando Counties, Florida*

*The proposed project involves improving County Line Road (C.R. 578) to a multi-lane facility from U.S. 19 (S.R. 55) to east of U.S. 41 (S.R. 45) in Pasco and Hernando Counties, a distance of approximately 12.0 miles (19.3 kilometers). The project includes a segment of roadway along a new alignment. This segment is referred to as the Ayers Road Extension and extends from the interchange of C.R. 578 and the Suncoast Parkway to east of U.S. 41, a distance of approximately 3.5 miles (5.6 kilometers).*



**August 2002  
Revised May 2003**

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# ***Section 1.0***

## ***INTRODUCTION***

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The Florida Department of Transportation (FDOT), in partnership with Pasco and Hernando Counties, has conducted a Project Development and Environment (PD&E) Study to evaluate capacity improvement alternatives for County Line Road (C.R. 578) in Pasco and Hernando Counties, as shown in Figure 2-1.

The objective of the PD&E Study is to provide documented environmental and engineering analyses that will assist the FDOT and the Florida Highway Administration (FHWA) in reaching a decision on the location and conceptual design for improvements to C.R. 578. This Study also complies with the requirements of the National Environmental Policy Act (NEPA) and other Federal laws to qualify the proposed project for Federal-aid funding.

The objective of this Air Quality Analysis is to determine whether project-related motor vehicle emissions will cause, or contribute to, a violation of the National Ambient Air Quality Standards (NAAQS) for carbon monoxide (CO), the most prevalent air pollutant emission from motor vehicles.

# Section 2.0

## PROJECT DESCRIPTION

The recommended project involves improving C.R. 578 from a primarily two-lane roadway to a multi-lane facility from the vicinity of U.S. 19 (S.R. 55) to the vicinity of U.S. 41 (S.R. 45), a distance of approximately 12.0 miles (mi) (19.3 kilometers (km)). A segment of roadway on new alignment, referred to as the Ayers Road Extension, is being proposed from the C.R. 578/Suncoast Parkway interchange to the vicinity of U.S. 41 and Ayers Road (C.R. 576), a distance of approximately 3.5 mi (5.6 km). The Ayers Road Extension would provide a continuous travel route between U.S. 19 and C.R. 581 and would also improve access to the Hernando County Airport with a new connection to the airport. See Figure 2-1.

**FIGURE 2-1  
PROJECT LOCATION MAP**



## 2.1 EXISTING CONDITIONS

The C.R. 578 corridor is an east/west facility with a functional classification of a major collector. The recommended project extends from the vicinity of U.S. 19 (S.R. 55) to the vicinity of U.S. 41 (S.R. 45). C.R. 578 is currently a two-lane rural roadway from U.S. 19 to Callaway Avenue, from Hallow Avenue to west of the Suncoast Parkway, and from east of the Suncoast Parkway to U.S. 41. From Callaway Avenue to Hallow Avenue, C.R. 578 is a four-lane divided suburban facility with an open drainage system. In addition, for 0.5 mi (0.8 km) west and east of the interchange at the Suncoast Parkway, C.R. 578 has been improved to a four-lane divided rural facility. The existing posted speed limit along C.R. 578 ranges from 40 to 55 miles per hour (mph) (60 to 90 kilometers per hour (kph)). The existing right-of-way (ROW) width ranges from 50 to 170 feet

(ft) (15.0 to 52.0 meters (m)) except at the Suncoast Parkway interchange where the ROW width is 254 ft (77.4 m). Additionally, a segment of roadway on new alignment, referred to as the Ayers Road Extension, is being proposed from the C.R. 578/Suncoast Parkway interchange to the vicinity of U.S. 41 and Ayers Road (C.R. 576).

Primary land uses along C.R. 578 include numerous residential subdivisions, individual residences, commercial development, the Spring Hill Regional Hospital, the Suncoast Elementary School, and numerous religious facilities. Land uses along the Ayers Road Extension include the Hernando County Airport, residential subdivisions, individual residences, and agricultural and pasture lands.

## **2.2 RECOMMENDED ROADWAY IMPROVEMENTS**

The recommended project involves improving C.R. 578 to a four-lane suburban facility from the vicinity of U.S. 19 to the vicinity of U.S. 41, a distance of approximately 12.0 mi (19.3 km). A segment of roadway on new alignment, referred to as the Ayers Road Extension, is also recommended from the C.R. 578/Suncoast Parkway interchange north then east to the vicinity of U.S. 41 and Ayers Road (C.R. 576). The recommended route extends northward through mostly undeveloped pasture then east for a distance of approximately 3.5 mi (5.6 km) terminating at the U.S. 41/Ayers Road intersection north of Masaryktown. Based on the design speed, level of service, and access requirements, the improved facility will be functionally classified as an arterial roadway.

The portion of the project from East Road to the Suncoast Parkway is included in the Pasco County Metropolitan Planning Organization's (MPO's) *2025 Long Range Transportation Plan (LRTP)* as a four-lane divided facility. The portion of the project from U.S. 19 to the Suncoast Parkway is included in the Hernando County MPO's *2025 LRTP* and is recommended to be improved to a four-lane divided facility.

The recommended new roadway alignment (S-5), the Ayers Road Extension, from the C.R. 578/Suncoast Parkway interchange to the vicinity of the U.S. 41/Ayers Road intersection, is also identified in the Hernando County *2025 LRTP* as a four-lane facility.

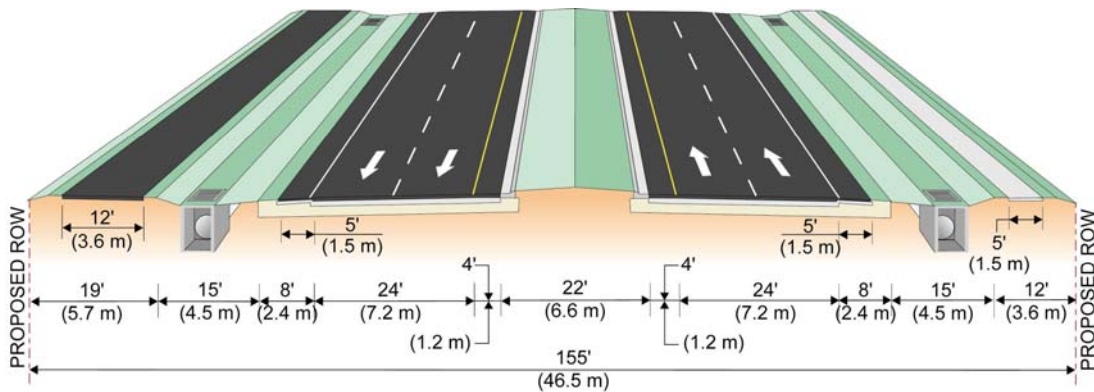
For the Ayers Road Extension, it was determined that because of the potentially adverse effects Alignment S-5 had on the Alexsuk Site (Site – 8HE426), further coordination with FHWA and SHPO was needed. Consequently, a new alignment, S-8, was developed. This alternative was developed in an effort to minimize or eliminate effects to the Alexsuk Site. Both alignments were presented at the Public Hearing. Alignment S-5 was the preferred alternative. The Ayers Road Extension will provide a continuous east-west travel route from U.S. 19 to west of I-75 and facilitate new access to the Hernando County Airport in accordance with the *Hernando County Airport Master Plan*. Both alignments are shown in Figure 2-2.

**FIGURE 2-2  
AYERS ROAD EXTENSION ALIGNMENTS**



The typical section recommended in this study and approved by Pasco and Hernando Counties, is a four-lane divided suburban facility with a 30 ft (9.0 m) median of which 22 ft (6.6 m) is raised, two 12 ft (3.6 m) travel lanes in each direction, 8 ft (2.4 m) outside shoulders with 5 ft (1.5 m) of the shoulder paved, and 15 ft (4.5 m) drainage swales. A 12 ft (3.6 m) multi-use facility on the north side of the roadway and a 5 ft (1.5 m) sidewalk on the south side of the roadway are recommended. The recommended design speed for this typical section is 55 mph (90 km/h). (See Figure 2-3).

**FIGURE 2-3  
SUBURBAN TYPICAL SECTION**



# *Section 3.0*

## ***METHODOLOGY***

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### ***3.1 BACKGROUND INFORMATION***

The project study area is situated in Pasco and Hernando Counties between U.S. 19 and U.S. 41. Hernando and Pasco Counties, the U.S. Environmental Protection Agency (EPA), and the Florida Department of Environmental Protection (FDEP) share the responsibility of protecting air quality within this airshed. Currently, this area is designated as attainment for all pollutants for which there are National Ambient air Quality Standards (NAAQS).

### ***3.2 METHODOLOGY***

In accordance with the FDOT, PD&E Manual (Part 2, Chapter 16 - Air Quality Analysis add date of latest update), the project alternatives were subjected to a Screening Test. The computerized version of the Screening Test (COSCREEN98R) contains conservative, worst-case assumptions about meteorology, traffic, and other site conditions. COSCREEN98R uses the worst-case assumptions in the MOBILE emission and CALINE3 model to produce maximum concentrations at the receptors near a roadway intersection. Those results are then compared to the maximum one- and eight-hour concentrations for CO in the NAAQS. The premise of this approach is that CO concentrations elsewhere along the project corridor will be lower than these worst-case screening values.

A receptor site is defined as a place where people can reasonably be expected to spend a significant amount of time, such as the back yard of a residence. Especially sensitive receptor sites include hospitals, nursing homes, schools, or day care centers. A roadway project passes the Screening Test if the CO concentration at all reasonable receptors is less than NAAQS.

The intersection chosen for the Screening Test is the one with the combination of highest traffic volumes, lowest vehicular speeds, and closest receptors. Traffic data were obtained from the project's Traffic Technical Memorandum for the opening year (2005) and the design year (2025). Traffic data input sheets are included in Appendix A.

Based on these criteria and information, the intersection selected for the Screening Test for this project was C.R. 578 and U.S. 19. The northbound leg is the worst-case leg of the intersection for both the opening year and the design year. The screening test for Suburban Areas was used.



# Section 4.0

## RESULTS

COSCREEN98R calculates the maximum 8-hour and 1-hour CO concentration in parts per million (ppm). The NAAQS are 9 ppm for the 8-hour and 35 ppm for the 1-hour. The input data and analysis results are summarized in Table 4-1.

Figure 4-1 shows the receptor location at the C.R. 578/U.S. 19 intersection. Receptor R1 is a single-family mobile home located in the southwest quadrant of the intersection, and is the receptor nearest to the intersection.

**TABLE 4-1**  
**C.R. 578/U.S. 19 COSCREEN98R RESULTS**

Alternative	Year	Average Link Speed (mph)	Peak Hour Traffic Volume (vph)	CO Levels (ppm)*		Passes Screening Test?
				NAAQS 1-hr/Project 1-hr	NAAQS 8-hour/Project 8-hr	
Build	2005	45	2482	35/10.8	9/6.5	Yes
No-Build	2005	45	2482	35/10.6	9/6.4	Yes
Build	2025	45	3460	35/11.4	9/6.9	Yes
No-Build	2025	45	3460	35/11.0	9/6.6	Yes

\* Includes background levels of 3.3 and 2.0 ppm, respectively.  
Source: URS, 2001.

These results indicate that the project passes the screening process and no further analysis is required. Appendix B contains the COSCREEN98R computer printouts supporting these findings.

All State and local agencies were provided with an opportunity to comment on this project. There were no adverse comments regarding air quality.

## ***Section 5.0***

# ***ATTAINMENT STATUS***

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The C.R. 578 PD&E project is in an area that has been designated as attainment for all the air quality standards under the criteria provided in the Clean Air Act Amendments of 1990, therefore, conformity does not apply. This project is in conformance with the State Implementation Plan (SIP) and is in the current FHWA approved Pasco and Hernando County Urban Area Metropolitan Planning Organization's (MPO) Transportation Improvement Plan (TIP) Fiscal Year 2002/03 through 2006/07. The FDOT memorandum documenting conformity is provided in the appendices of this report.

***APPENDIX A***

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***Traffic Data Input Form***

***APPENDIX B***

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***COSCREEN98R Computer Printouts***

***APPENDIX C***

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***FDOT Conformity Memorandum***