STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

TECHNICAL REPORT COVERSHEET

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ENVIRONMENTAL
MANAGEMENT
06/17

Draft Air Quality Technical Memorandum

Florida Department of Transportation

District Four

SR 9/I-95

Limits of Project: FROM SOUTH OF SR 870/COMMERCIAL BOULEVARD TO NORTH OF CYPRESS CREEK ROAD

Broward County, Florida

Financial Management Number: 435808-1-22-02

ETDM Number: 14222

July 31, 2018

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

Stantec

Memo

To:	File Planning and Environmental Management Office FDOT - District 4 3400 West Commercial Boulevard Fort Lauderdale, FL 33309	From:	Timothy W. A. Ogle, MSEnv 901 Ponce de Leon Boulevard, Suite 900, Coral Gables FL 33134-3070
File:	N/A	Date:	March 23, 2018

Reference: FM: 435808-1-22-02
Air Quality Technical Memorandum
Project: SR 9/I-95 PD&E Study
Limits: from South of SR 870 Commercial Boulevard to North of Cypress Creek Road
Broward County (Milepost 14.5 to Milepost 17.0)
ETDM: 14222

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by the Federal Highway Administration (FHWA) and FDOT.

The Florida Department of Transportation (FDOT) District Four is conducting a Project Development and Environment (PD&E) Study for improvements to SR 9/I-95 from south of SR 870/Commercial Boulevard to north of Cypress Creek Road in Broward County, Florida (Milepost 14.5 to Milepost 17.0). This Air Quality Technical Memorandum has been prepared in accordance with Chapter 19 *Air Quality* of Part 2 of the FDOT PD&E Manual (dated June 14, 2017).

The primary need for this project is to increase capacity and improve traffic operations on I-95 and at the Cypress Creek Road/I-95 and (SR 870) Commercial Boulevard/I-95 interchanges. The project is also intended to improve safety within the vicinity, including access to I-95 and the arterial intersections. The limits of this PD&E Study extend along I-95 from just south of Prospect Road to north of Cypress Creek Road, a distance of approximately 2 miles along I-95 (not including the lengths of the ramps). In addition to improvements along the mainline of I-95 and both interchanges, there are also improvements proposed along SR 870/Commercial Boulevard, North Andrews Avenue, and Cypress Creek Road.

Much of the land use along the east side of I-95 is residential neighborhoods; commercial/industrial use occupies most of the land west of I-95. Several hotels and places of worship are found along I-95. Also, two parks; the North Andrews Gardens Volunteer Park and the North Andrews Neighborhood Park are also located along I-95. The south sides of Commercial Boulevard and Cypress Creek Road are lined with single-family homes east of I-95. Other land uses along these corridors are primarily commercial.

Reference: Air Quality Technical Memorandum – SR 9/I-95 PD&E Study

The project is located in an area which is designated attainment for all of the National Ambient Air Quality Standards (NAAQS) under the criteria provided in the Clean Air Act (CAA). Therefore, the CAA conformity requirements do not apply to the project.

The project alternatives were subjected to a carbon monoxide (CO) screening model that makes various conservative worst-case assumptions related to site conditions, meteorology and traffic. The FDOT's screening model for CO uses the latest United States Environmental Protection Agency (EPA)-approved software to produce estimates of one-hour and eight-hour CO at default air quality receptor locations. The one-hour and eight-hour estimates can be directly compared to the current one-hour and eight-hour NAAQS for CO.

The roadway intersection forecast to have the highest total approach traffic volume was at the I-95/Commercial Boulevard interchange. The No-Build and Build Alternatives for both the opening year (2020) and the design year (2040) were evaluated. The traffic data input used in the evaluation is shown below.

I-95/COMMERCIAL BOULEVARD INTERCHANGE PEAK HOUR TRAFFIC VOLUMES

Year	Location	Direction	Peak Hour Directional Volume
Opening (2020)	I-95	SB	9,740
		NB	9,360
	Commercial Boulevard	EB	2,025
		WB	1,175
Design (2040)	I-95	SB	14,595
		NB	12,395
	Commercial Boulevard	EB	2,830
		WB	1,430

Estimates of CO were predicted for the default receptors which are located 10 feet to 150 feet from the edge of the roadway. Based on the results from the screening model, the highest project-related CO one-hour and eight-hour levels are not predicted to meet or exceed the one-hour or eight-hour NAAQS for this pollutant with either the No-Build or Build alternatives. As such, the project "passes" the screening model. The results of the screening model are attached to this memorandum.

The project is expected to improve traffic flow by improving the operation of the I-95 Interchanges and arterial roadways. The planned improvements are expected to improve overall traffic operations, thereby relieving congestion, within the project study area, which should reduce operational greenhouse gas emissions.

Reference: Air Quality Technical Memorandum – SR 9/I-95 PD&E Study

Agency coordination to obtain air quality related information occurred through the Efficient Transportation Decision Making (ETDM) Planning and Programming Screens (ETDM #14222) and the Advance Notification (AN) process. The ETDM review occurred between April 10, 2015 and May 25, 2015, and the most recent ETDM Programming Screen Summary Report was published on February 22, 2016. The U.S. Environmental Protection Agency reviewed the project and listed a degree of effect of 'Minimal' for air quality for all build alternatives. Their comment was as follows: "*FHWA noted that the project is not located within a USEPA-designated Air Quality Maintenance or Non-Attainment Area specified by the USEPA in National Ambient Air Quality Standards. Therefore, the Clean Air Act conformity requirements do not apply to this project at this time. While temporary impacts to air quality could occur during project construction as a result of fugitive dust and exhaust emissions, no permanent effects to air quality are anticipated. Overall, minor air quality improvement could result due to reduced emissions from idling traffic with the expansion of operational capacity. Based on the foregoing, a Summary DOE of Minimal has been assigned to the Air Quality issue*." The summary degree of effect for air quality for all build alternatives was also listed as 'Minimal' in the ETDM Programming Screen Summary Report.

Construction activities will cause short-term air quality impacts in the form of dust from earthwork and unpaved roads. These impacts will be minimized by adherence to all applicable State and local regulations and to the FDOT's *Standard Specifications for Road and Bridge Construction*.

Attachment: COFlorida 2012 Screening Model Data

COFlorida 2012 Screening Model Output

CO Florida 2012 - Results
Tuesday, February 6, 2018

Project Description

Project Title	I-95/Commercial PD&E I-95/Comm Ichg			
Facility Name	FM: 435808-1-22-02			
User's Name	Stantec Miami			
Run Name	Opening Year			
FDOT District	4			
Year	2020			
Intersection Type	E-W Freeway N-S Diamond			
Speed	Arterial	45 mph	Freeway	65 mph
Approach Traffic	Arterial	2025 vph	Freeway	9740 vph

Environmental Data

Temperature	53.9 F
Reid Vapor Pressure	13.3 psi
Land Use	Urban
Stability Class	D
Surface Roughness	175 cm
1 Hr. Background Concentration	5.0 ppm
8 Hr. Background Concentration	3.0 ppm

Results
(ppm, including background CO)

Receptor	Max 1-Hr	Max 8-Hr
1	9.9	5.9
2	7.7	4.6
3	7.9	4.7
4	7.8	4.7
5	7.7	4.6
6	7.8	4.7
7	8.0	4.8
8	7.8	4.7
9	6.9	4.1
10	9.4	5.6
11	9.9	5.9
12	7.7	4.6
13	7.8	4.7
14	7.9	4.7
15	7.7	4.6
16	7.9	4.7
17	8.0	4.8
18	7.8	4.7
19	6.9	4.1
20	9.5	5.7

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**********PROJECT PASSES**********
NO EXCEEDANCES OF NAAQ STANDARDS ARE PREDICTED
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CO Florida 2012 - Results
Tuesday, February 6, 2018

Project Description

Project Title	I-95/Commercial PD&E I-95/Comm Ichg			
Facility Name	FM: 435808-1-22-02			
User's Name	Stantec Miami			
Run Name	Design Year			
FDOT District	4			
Year	2040			
Intersection Type	E-W Freeway N-S Diamond			
Speed	Arterial	45 mph	Freeway	65 mph
Approach Traffic	Arterial	2830 vph	Freeway	14595 vph

Environmental Data

Temperature	53.9 F
Reid Vapor Pressure	13.3 psi
Land Use	Urban
Stability Class	D
Surface Roughness	175 cm
1 Hr. Background Concentration	5.0 ppm
8 Hr. Background Concentration	3.0 ppm

Results
(ppm, including background CO)

Receptor	Max 1-Hr	Max 8-Hr
1	10.8	6.5
2	8.0	4.8
3	8.1	4.9
4	7.8	4.7
5	7.7	4.6
6	8.1	4.9
7	8.4	5.0
8	8.2	4.9
9	7.1	4.3
10	10.3	6.2
11	10.8	6.5
12	8.0	4.8
13	8.1	4.9
14	7.8	4.7
15	7.7	4.6
16	8.1	4.9
17	8.4	5.0
18	8.2	4.9
19	7.2	4.3
20	10.3	6.2

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