Memo

To:	File Planning and Environmental Management Office FDOT - District 6 1000 NW 111th Avenue Miami, FL 33172	From:	Timothy W. A. Ogle, MSEnv 901 Ponce de Leon Boulevard, Suite 900, Coral Gables FL 33134-3070
File:	N/A	Date:	February 6, 2018

Reference: Air Quality Technical Memorandum – Venetian Causeway from North Bayshore Drive to Purdy Avenue (FM: 422713-2-22-01; ETDM: 12756)

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.

The Florida Department of Transportation (FDOT) District Six has conducted a Project Development & Environment (PD&E) Study to address identified structural and functional deficiencies of the 12 existing bridges that comprise the Venetian Causeway, which is owned by Miami-Dade County. Potential build alternatives included replacement or rehabilitation of the bridges. 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 limits of this PD&E Study extend along the Venetian Causeway from North Bayshore Drive in the City of Miami to Purdy Avenue in the City of Miami Beach, a distance of approximately 2.5 miles. The focus of this project is to address the identified deficiencies of the existing bridges through their rehabilitation or replacement. No improvements to the roadway segments on the islands and no substantial operational improvements are planned.

The majority of land on the islands adjacent to the causeway is urban and built-up. Dense single-family home communities line the corridor on the islands; though large condominium complexes are found on the westernmost and easternmost islands (Biscayne Island and Belle Isle, respectively). Three parks; Venetian Causeway Park, Belle Isle Park and Maurice Gibb Park are also located along the corridor. Project improvements are only planned on the bridges and causeways, no substantial work is planned for the roadway segments on the islands where the residences and parks are located.

Reference: Air Quality Technical Memorandum – Venetian Causeway

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 the Venetian Way/Purdy Avenue intersection. The No-Action and Build alternatives for both the opening year (2024) and the design year (2044) were evaluated. The traffic data input used in the evaluation is shown below.

VENETIAN CAUSEWAY PEAK HOUR TRAFFIC VOLUMES

Year	Location	Peak Hour Volume	Peak Hour Directional Volume
Opening (2024)	Venetian Way/Purdy Avenue	1,600	850
Design (2044)	Venetian Way/Purdy Avenue	1,900	1,000

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.

No national standards have been established for Greenhouse Gases (GHGs). Similarly, the United States Environmental Protection Agency has not established criteria or thresholds for ambient GHG emissions pursuant to its authority to establish motor vehicle emission standards for carbon dioxide (CO_2) under the Clean Air Act. GHGs are different from other air pollutants evaluated in federal environmental reviews because impacts are not localized or regional due to their rapid dispersion into the global atmosphere. In addition, climate change is the cumulative result of numerous and varied emissions sources, each of which makes a relatively small contribution to atmospheric GHG concentrations. It is difficult to isolate and understand the GHG emissions impacts for a particular

transportation project given there is no scientific methodology for attributing specific climatological changes to that transportation project's emissions.

FDOT concluded, based on the nature of GHG emissions and the exceedingly small potential for GHG impacts from the proposed project, that the GHG emissions from the proposed action will not play a meaningful role in a determination of an environmentally preferable alternative or the selection of the preferred alternative.

No alternatives-level GHG analysis has been performed for this project since GHG emissions is very small in the context of the affected environment.

Agency coordination to obtain air quality related information occurred through the Efficient Transportation Decision Making (ETDM) Planning and Programming Screens (ETDM #12756) and the Advance Notification (AN) process. The ETDM review occurred between August 03, 2010 and September 17, 2010, and the most recent ETDM Programming Screen Summary Report was published on November 28, 2016. The U.S. Environmental Protection Agency reviewed the project and listed a degree of effect of 'None' for air quality for all build alternatives. The summary degree of effect for air quality for all build alternatives was also listed as 'None' 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: Venetian Causeway Traffic Data

CO Florida 2012 - Results
Wednesday, August 30, 2017

Project Description

Project Title	Venetian CW PD&E(FM 422713-2-22-01)
Facility Name	Venetian Causeway
User's Name	Stantec
Run Name	Opening Year
FDOT District	6
Year	2024
Intersection Type	E-W Freeway 4 X 4
Arterial Speed	30 mph
Max Approach Traffic	850 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	5.5	3.3
2	5.7	3.4
3	5.8	3.5
4	5.7	3.4
5	5.5	3.3
6	5.5	3.3
7	5.7	3.4
8	5.7	3.4
9	5.6	3.4
10	5.5	3.3
11	5.5	3.3
12	5.7	3.4
13	5.7	3.4
14	5.7	3.4
15	5.5	3.3
16	5.5	3.3
17	5.8	3.5
18	5.8	3.5
19	5.6	3.4
20	5.4	3.2

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

CO Florida 2012 - Results
Wednesday, August 30, 2017

Project Description

Project Title	Venetian CW PD&E(FM 422713-2-22-01)
Facility Name	Venetian Causeway
User's Name	Stantec
Run Name	Design Year
FDOT District	6
Year	2044
Intersection Type	E-W Freeway 4 X 4
Arterial Speed	30 mph
Max Approach Traffic	1000 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	5.5	3.3
2	5.6	3.4
3	5.8	3.5
4	5.5	3.3
5	5.6	3.4
6	5.5	3.3
7	5.6	3.4
8	5.8	3.5
9	5.5	3.3
10	5.6	3.4
11	5.5	3.3
12	5.7	3.4
13	5.7	3.4
14	5.6	3.4
15	5.6	3.4
16	5.5	3.3
17	5.7	3.4
18	5.8	3.5
19	5.6	3.4
20	5.6	3.4

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