

# Overpass Road PD&E Study

From Old Pasco Road to US 301  
FPID No: 432734-1



# Air Quality Technical Memorandum

March 2014





Date: February 17, 2014

To: Domingo Noriega, URS Corporation

From: Wayne Arner, KB Environmental Sciences, Inc.

**Subject: Air Quality Memorandum  
Overpass Road Project Development & Environment Study  
From Old Pasco Road to US 301  
Pasco County, Florida  
Financial Project ID No: 432734-1**

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**National Ambient Air Quality Standards**

The referenced proposed improvement is located in Pasco County, Florida, an area currently designated by the US Environmental Protection Agency (EPA) as being in attainment for all of the criteria air pollutants. Because the project is in an attainment area and the project would reduce congestion, it is not likely that the proposed improvements will have an impact on local or regional air pollutant/pollutant precursor emissions or concentrations.

The project Build and No-Build alternatives were analyzed for both the opening year and design year of the project using the Florida Department of Transportation's (FDOT's) air quality screening model, CO Florida 2012 (approved by the Federal Highway Administration (FHWA) on April 12, 2013). CO Florida 2012 uses the EPA's MOVES and CAL3QHC emission rate and dispersion models to produce estimates of one- and eight-hour concentrations of carbon monoxide (CO) at default receptor locations. These concentrations can be directly compared to the one- and eight-hour National Ambient Air Quality Standards (NAAQS) for CO (35 and 9 parts per million [ppm], respectively).

The intersections forecasted to have the highest approach traffic volume for the No-Build Alternative is the Overpass Road/Boyette Road intersection for the opening year (2022) and the Overpass Road/Old Pasco Road intersection for the design year (2040). The intersection forecasted to have the highest approach traffic volume for the Build Alternative is the I-75 Northbound Ramps/Overpass Road intersection for both the opening and design year.

Estimates of CO concentrations were predicted at default receptor locations along each leg of the intersection. Based on the results from the screening model, the highest predicted CO one- and eight-hour concentrations would not exceed the NAAQS for this pollutant regardless of intersection, alternative, or year of analysis. Therefore, the project "passes" the screening test. The CO Florida 2012 output files are attached to this memorandum.

**TABLE 1  
INTERSECTION CO SCREENING RESULTS FOR THE  
NO-BUILD (OVERPASS ROAD/BOYETTE ROAD 2022 AND OVERPASS ROAD/OLD PASCO  
ROAD 2040) AND BUILD (I-75 NORTHBOUND RAMPS/OVERPASS ROAD) ALTERNATIVES**

Year	Alternative	Maximum CO Levels (ppm)		Passes Screening Test?
		NAAQS one-hr/ Project one-hr	NAAQS eight-hr/ Project eight-hr	
2022	No-Build	35 / 4.4	9 / 2.6	Yes
	Build	35 / 7.4	9 / 4.4	Yes
2040	No-Build	35 / 4.6	9 / 2.8	Yes
	Build	35 / 9.1	9 / 5.5	Yes

Notably, because the Overpass Road project is in an area that is designated attainment for all the NAAQS, the conformity requirements of the Clean Air Act do not apply.

**Green House Gas Emissions**

Green House Gasses (GHG) cause a global phenomenon in which heat is trapped in the earth’s atmosphere. Because the atmospheric concentration of GHGs continues to climb, our planet will continue to experience climate-related phenomena. For example, warmer global temperatures can cause changes in precipitation and sea levels. The burning of fossil fuels and other human activities are adding to the concentration of GHGs in the atmosphere. Many GHGs remain in the atmosphere for time periods ranging from decades to centuries.

To date, no national standards have been established for GHGs, nor has EPA established criteria or thresholds for ambient GHG emissions pursuant to its authority to establish motor vehicle emission standards for carbon dioxide (CO<sub>2</sub>) under the Clean Air Act. GHGs are different from other air pollutants evaluated in the Federal environmental reviews because their impacts are not localized or regional due to their rapid dispersion into the global atmosphere, which is characteristic of these gases. The affected environment for CO<sub>2</sub> and other GHG emissions is the entire planet. In addition, from a quantitative perspective, global climate change is the cumulative result of numerous and varied emissions sources (in terms of both absolute numbers and types), each of which makes a relatively small addition to global atmospheric GHG concentrations. In contrast to broad scale actions such as actions involving an entire industry sector or very large geographic areas, it is difficult to isolate and understand the GHG emissions impacts for a particular transportation project. Furthermore, presently there is no scientific methodology for attributing specific climatological changes to a particular transportation project’s emissions.

Under NEPA, detailed environmental analysis should be focused on issues that are significant and meaningful to decision-making (40 CFR 1500.1(b), 1500.2(b), 1500.4(g), and 1501.7). FHWA has concluded, based on the nature of GHG emissions and the exceedingly small potential GHG impacts of the proposed action that the GHG emissions from the proposed action will not result in “reasonably foreseeable significant adverse impacts on the human environment” (40 CFR 1502.22(b)). The GHG emission from the project build alternatives will be insignificant, and will not play a meaningful role in a determination of the environmentally preferable alternative or the selection of the preferred alternative. More detailed information on GHG emissions “is not essential to a reasoned choice among reasonable alternatives” (40 CFR 1502.22(a)) or to making a decision in the best overall public interest based on a balanced consideration of transportation, economic, social, and environmental needs and impacts (23 CFR 771.105(b)).

### **GHG Summary**

This document does not incorporate an analysis of the GHG emissions or climate change effects of each of the alternatives because the potential change in GHG emissions is very small in the context of the affected environment. Because of the insignificance of the GHG impacts, those local impacts will not be meaningful to a decision on the environmentally preferable alternative or to a choice among alternatives. For these reasons, no alternatives-level GHG analysis has been performed for this project.

## **Attachments**

- 1. Traffic Data for Air Study Screening Test**
- 2. Carbon Monoxide Screening Test Results**

**PD&E**  
**TRAFFIC DATA FOR AIR STUDY SCREENING TEST**

DATE: 12-Feb-2014  
PREPARED BY: URS

Financial Project Number(s): 432734-1  
Work Program Item No.: \_\_\_\_\_  
Federal Aid Numbers (s): \_\_\_\_\_  
Project Description: Overpass Road Project Development and Environment Study

NOTE: The most congested intersection is the intersection with the highest total volume and lowest departure speeds and it could be two different intersections based on the "Build" vs. "No-Build" alternatives. The traffic volumes are to be the vph of the most congested leg approaching the intersection. The speeds are to be the cruise speed, also known as mid-block speed, for the most congested leg. If cruise speed is unknown, use the speed limit.

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OPENING YEAR: 2022

**"Build"**

Most Congested Intersection:  
I-75 Northbound Ramps at Overpass Road  
Peak Hour Traffic  
for most congested leg: 2,350 vph  
Specify leg: East  
Cruise Speed: 45 mph  
Freeway Peak Hour: 6,875 vph  
Cruise Speed: 65 mph  
Ramp Peak Hour: 1,835 vph

**"No-Build"**

Most Congested Intersection:  
Overpass Road at Boyette Road  
Peak Hour Traffic  
for most congested leg: 1,020 vph  
Specify leg: West  
Cruise Speed: 30 mph

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DESIGN YEAR: 2040

**"Build"**

Most Congested Intersection:  
I-75 Northbound Ramps at Overpass Road  
Peak Hour Traffic  
for most congested leg: 3,640 vph  
Specify leg: East  
Cruise Speed: 45 mph  
Freeway Peak Hour: 10,565 vph  
Cruise Speed: 65 mph  
Ramp Peak Hour: 2,995 vph

**"No-Build"**

Most Congested Intersection:  
Overpass Road at Old Pasco Road  
Peak Hour Traffic  
for most congested leg: 1,850 vph  
Specify leg: East  
Cruise Speed: 30 mph

CO Florida 2012 - Results  
 Friday, February 14, 2014

Project Description

Project Title Overpass Road at Boyette Road  
 Facility Name Overpass Road  
 User's Name Wayne Arner, KBE  
 Run Name No-Build, Opening Year (2022)  
 FDOT District 7  
 Year 2022  
 Intersection Type E-W Freeway 4 X 4  
 Arterial Speed 30 mph  
 Max Approach Traffic 1020 vph

Environmental Data

Temperature 48.8 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	4.0	2.4
2	4.2	2.5
3	4.4	2.6
4	4.2	2.5
5	4.0	2.4
6	4.0	2.4
7	4.2	2.5
8	4.3	2.6
9	4.3	2.6
10	4.0	2.4
11	4.0	2.4
12	4.2	2.5
13	4.4	2.6
14	4.2	2.5
15	4.0	2.4
16	4.0	2.4
17	4.3	2.6
18	4.4	2.6
19	4.2	2.5
20	4.0	2.4

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 \*\*\*\*\*PROJECT PASSES\*\*\*\*\*  
 \*NO EXCEEDANCES OF NAAQ STANDARDS ARE PREDICTED\*  
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CO Florida 2012 - Results  
 Friday, February 14, 2014

Project Description

Project Title I-75 Northbound Ramps at Overpass Road  
 Facility Name Overpass Road  
 User's Name Wayne Arner, KBE  
 Run Name Build, Opening Year (2022)  
 FDOT District 7  
 Year 2022  
 Intersection Type E-W Freeway N-S Diamond  
 Speed Arterial 45 mph Freeway 65 mph  
 Approach Traffic Arterial 2350 vph Freeway 6875 vph

Environmental Data

Temperature 48.8 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	7.4	4.4
2	5.7	3.4
3	6.4	3.8
4	6.0	3.6
5	5.8	3.5
6	6.1	3.7
7	6.4	3.8
8	6.0	3.6
9	4.9	2.9
10	6.8	4.1
11	7.4	4.4
12	5.7	3.4
13	6.3	3.8
14	6.0	3.6
15	5.8	3.5
16	6.2	3.7
17	6.4	3.8
18	6.0	3.6
19	4.9	2.9
20	6.9	4.1

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 \*\*\*\*\*PROJECT PASSES\*\*\*\*\*  
 \*NO EXCEEDANCES OF NAAQ STANDARDS ARE PREDICTED\*  
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CO Florida 2012 - Results  
 Friday, February 14, 2014

Project Description

Project Title Overpass Road at Old Pasco Road  
 Facility Name Overpass Road  
 User's Name Wayne Arner, KBE  
 Run Name No-Build, Design Year (2040)  
 FDOT District 7  
 Year 2040  
 Intersection Type E-W Freeway East Tee  
 Arterial Speed 30 mph  
 Max Approach Traffic 1850 vph

Environmental Data

Temperature 48.8 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	4.5	2.7
2	4.6	2.8
3	4.6	2.8
4	4.2	2.5
5	4.1	2.5
6	4.0	2.4
7	4.1	2.5
8	4.4	2.6
9	4.3	2.6
10	4.2	2.5
11	4.5	2.7
12	4.4	2.6
13	4.5	2.7
14	4.5	2.7
15	4.4	2.6
16	4.4	2.6
17	4.4	2.6

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 \*\*\*\*\*PROJECT PASSES\*\*\*\*\*  
 \*NO EXCEEDANCES OF NAAQ STANDARDS ARE PREDICTED\*  
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CO Florida 2012 - Results  
 Friday, February 14, 2014

Project Description

Project Title I-75 Northbound Ramps at Overpass Road  
 Facility Name Overpass Road  
 User's Name Wayne Arner, KBE  
 Run Name Build, Design Year (2040)  
 FDOT District 7  
 Year 2040  
 Intersection Type E-W Freeway N-S Diamond  
 Speed Arterial 45 mph Freeway 65 mph  
 Approach Traffic Arterial 3640 vph Freeway 10565 vph

Environmental Data

Temperature 48.8 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	9.1	5.5
2	6.8	4.1
3	7.3	4.4
4	6.8	4.1
5	6.2	3.7
6	6.7	4.0
7	7.4	4.4
8	6.9	4.1
9	5.3	3.2
10	8.0	4.8
11	9.1	5.5
12	6.8	4.1
13	7.2	4.3
14	6.7	4.0
15	6.1	3.7
16	6.7	4.0
17	7.4	4.4
18	7.0	4.2
19	5.3	3.2
20	8.0	4.8

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