SELMON EXPRESSWAY

South Selmon PD&E Study

Air Quality Technical Memorandum

May 2021

-***MEMO***-

Date: November 19, 2020

To: Noemi Castillo (HDR, Inc.)

From: Wayne Arner (KB Environmental Sciences, Inc.)

Subject: **Air Quality Technical Memorandum**
South Selmon Project Development and Environment (PD&E) Study
Hillsborough County, Florida

The proposed project is located in Hillsborough County, Florida (**Figure 1**), and within an area currently designated by the U.S. Environmental Protection Agency (EPA) as being an attainment area for all of the pollutants for which there are National Ambient Air Quality Standards (NAAQS)—carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), ozone (O_3), particulate matter, and sulfur dioxide (SO_2). As such, the proposed project is not expected to create adverse impacts on air quality and a project level air quality analysis is generally not warranted. Nevertheless, a project level screening analysis was performed for CO since it is the pollutant of concern regarding motor vehicles.

The project alternatives were subjected to the Florida Department of Transportation's (FDOT's) CO screening model (CO Florida 2012) which makes various conservative worst-case assumptions related to site conditions, meteorology, and traffic. CO Florida 2012 uses the latest EPA-approved software to produce estimates of one-hour and eight-hour average CO concentrations at default air quality receptors located from 10 feet to 150 feet along the edge of an intersection approach leg(s). The one-hour and eight-hour estimates are then directly compared to the NAAQS for CO (35 and 9 parts per million [ppm], respectively).

The project alternatives (no-build and build Alternatives 2 and 6), were evaluated for the design year of the proposed project. With and without the build alternative, the intersection forecasted to have the highest approach traffic volume is the Willow Avenue and Cleveland Street intersection. The evaluation results for this intersection can also be presumed to be worst-case.

The traffic data and the CO Florida 2012 output are provided in an attachment to this memorandum. Based on the results, the highest predicted CO one- and eight-hour concentrations would not exceed the NAAQS for this pollutant regardless of alternative (**Table 1**). Therefore, the project "passes" the screening test.

This project is not expected to create adverse impacts on air quality because the project area is an attainment area for all pollutants for which there are NAAQS. Therefore, the Clean Air Act conformity requirements do not apply to the project. Additionally, with either build alternatives (Alternative

2 or 6), because the proposed project is expected to improve the Level of Service (LOS) on the mainline of the Selmon Expressway which would reduce delay and congestion, it is anticipated that the project would reduce air pollutant emissions within the study area.

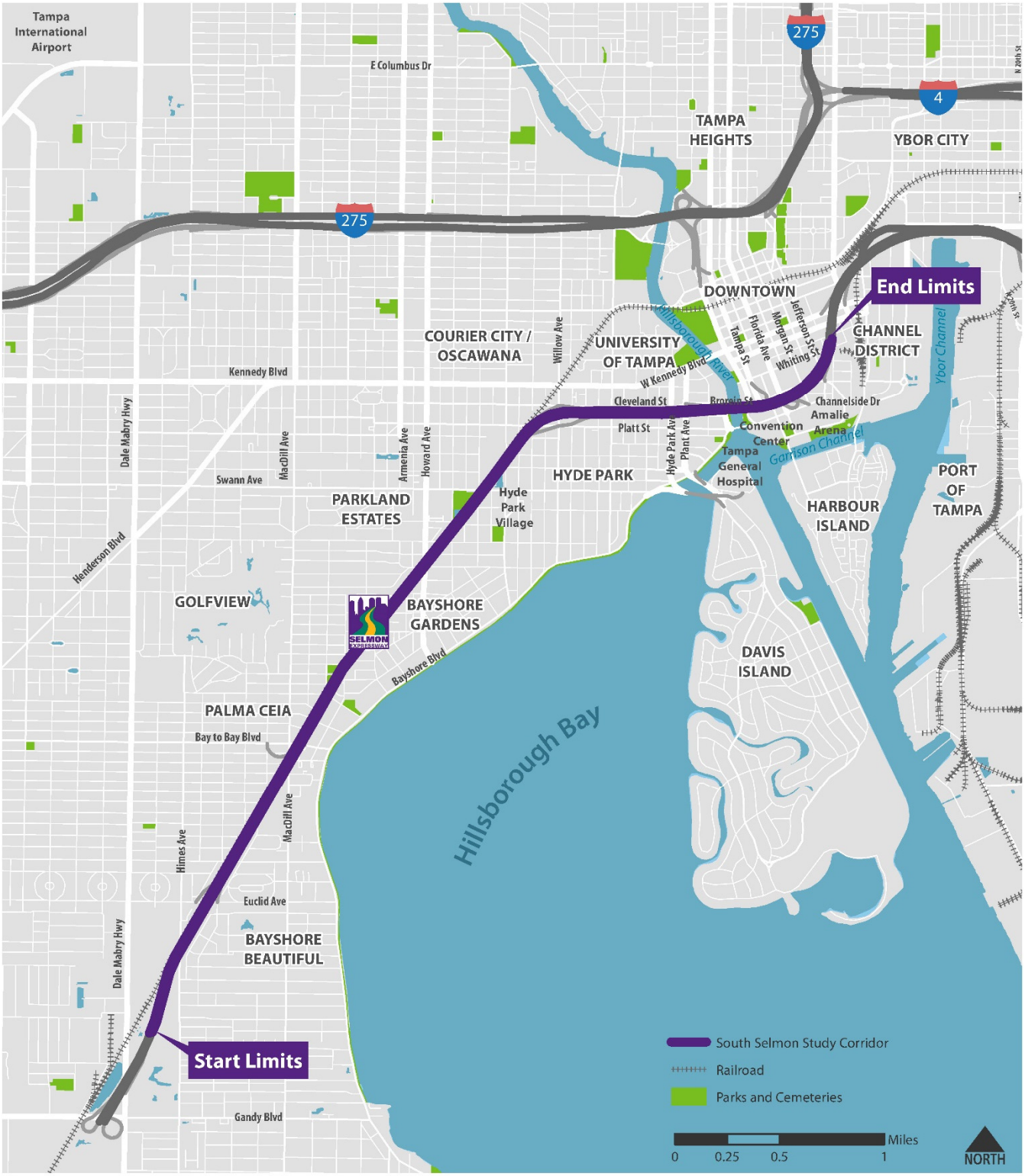
Table 1. Intersection CO Screening Results for Alternative 2 and Alternative 6 for the No-Build and Build Scenarios for the Design Year (2046)

Proposed Alternative	Scenario	Maximum CO Levels (ppm)		Passes Screening Test?
		NAAQS one-hr/ Project one-hr	NAAQS eight-hr/ Project eight-hr	
2	No-Build	35 / 8	9 / 5	Yes
	Build	35 / 8	9 / 5	Yes
6	No-Build	35 / 8	9 / 5	Yes
	Build	35 / 8	9 / 5	Yes

Construction Impacts

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

Figure 1. Project Location Map



Attachments

1. **Traffic Data for Air Quality Analysis**
2. **CO Florida 2012 Output File**

STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION

TRAFFIC DATA FOR AIR QUALITY ANALYSIS

650-050-36
Environmental Management
07/20

Date: 10/16/2020 Prepared by: HDR, Inc.

Financial Management Number(s): N/A

Federal Aid Number(s): N/A

Project Description: South Selmon Capacity PD&E Study

NOTE: Traffic data should be provided for the intersection that is forecast to have the highest total approach traffic volume. The intersection may not be the same for the Build and No-Build alternatives. The number of lanes should be the number of intersection approach through lanes. The traffic volumes should be representative of vehicles per hour (vph) and vehicle speeds should be representative of posted speeds if intersection approach speeds are unknown. This traffic data sheet was prepared to assist in obtaining appropriate traffic data for the FDOT CO Florida 2012 Intersection Screening Model. Additional traffic data is required for interchanges (see CO Florida 2012 User's Guide).

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Design Year: 2046

Intersections: Build Willow Ave/Cleveland St

No-Build Willow Ave/Cleveland St

Land Use: Urban ☒ Suburban ☐ Rural ☐

	WB Off-ramp			WB			NB			SB		
Intersection/Ramps	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed
Build	3	1389	35	3	3096	35	1	580	25	1	835	30
No-Build	3	1389	35	3	3096	35	1	580	25	1	835	30

CO Florida 2012 - Results
Thursday, October 22, 2020

Project Description

Project Title	South Selmon Expressway, Alts 2 & 6
Facility Name	Willow Ave at Cleveland St
User's Name	Wayne Arner, KBE
Run Name	Design Year - No-Build & Build
FDOT District	7
Year	2046
Intersection Type	E-W Freeway 4 X 4
Arterial Speed	25 mph
Max Approach Traffic	4485 vph

Environmental Data

Temperature	48.8 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	7.0	4.2
2	7.3	4.4
3	7.9	4.7
4	7.3	4.4
5	7.1	4.3
6	7.0	4.2
7	7.3	4.4
8	7.8	4.7
9	7.3	4.4
10	7.1	4.3
11	7.0	4.2
12	7.3	4.4
13	7.9	4.7
14	7.3	4.4
15	7.1	4.3
16	7.0	4.2
17	7.4	4.4
18	7.8	4.7
19	7.4	4.4
20	7.1	4.3

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