Date: January 7, 2022

To: Mark Easley (H.W. Lochner, Inc.)

From: Wayne Arner (Crawford, Murphy & Tilly, Inc.)

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

The proposed project is located in Hillsborough County, Florida (Figure 1) 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 (NO₂), ozone (O₃), particulate matter, and sulfur dioxide (SO₂). 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. Also, since this is not a federally funded project, the project is exempt from a Mobile Source Air Toxics (MSAT) analysis.

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 traffic data used in the analysis 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.

Because the project is in an attainment area for all pollutants for which there are NAAQS, the Clean Air Act conformity requirements are not applicable. Additionally, because the project is expected to improve traffic flow, which would reduce delay and congestion, it is anticipated that the project would reduce air pollutant emissions within the study area.

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.
Table 1. Intersection CO Screening Results for the No-Build and Build Alternatives for the Design Year (2046)

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Maximum CO Levels (ppm)</th>
<th>Passes Screening Test?</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>NAAQS one-hr/ Project one-hr</td>
<td>NAAQS eight-hr/ Project eight-hr</td>
</tr>
<tr>
<td>No-Build</td>
<td>35 / 8</td>
<td>9 / 5</td>
</tr>
<tr>
<td>Build</td>
<td>35 / 8</td>
<td>9 / 5</td>
</tr>
</tbody>
</table>
Attachments

1. Traffic Data for Air Quality Analysis
2. CO Florida 2012 Output Files
Date: 12/14/2021

Prepared by: Caleb Van Nostrand, P.E.

Financial Management Number(s): Not Available

Federal Aid Number(s): Not Available

Project Description: Whiting Street PD&E

**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).

**Design Year:** 2046

**Intersections:**
Build Kennedy Boulevard at Meridian Avenue (AM)

No-Build Kennedy Boulevard at Meridian Avenue (AM)

<table>
<thead>
<tr>
<th>Land Use: Urban ☒</th>
<th>Suburban ☐</th>
<th>Rural ☐</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Intersection/Ramps</th>
<th>EB</th>
<th>WB</th>
<th>NB</th>
<th>SB</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No. of Lanes</td>
<td>VPH</td>
<td>Speed</td>
<td>No. of Lanes</td>
</tr>
<tr>
<td>Build</td>
<td>N/A</td>
<td>0</td>
<td>N/A</td>
<td>2</td>
</tr>
<tr>
<td>No-Build</td>
<td>N/A</td>
<td>0</td>
<td>N/A</td>
<td>2</td>
</tr>
</tbody>
</table>
CO Florida 2012 - Results
Friday, January 7, 2022

Project Description
Project Title                   Whiting Street PD&E
Facility Name                   Kennedy Blvd at Meridian Ave
User's Name                     WHA
Run Name                        No-Build
FDOT District                   7
Year                            2046
Intersection Type               E-W Freeway 4 X 4
Arterial Speed                  35 mph
Max Approach Traffic            3592 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         7.4      | 4.4      |
 2         7.7      | 4.6      |
 3         8.1      | 4.9      |
 4         7.5      | 4.5      |
 5         7.1      | 4.3      |
 6         7.4      | 4.4      |
 7         7.7      | 4.6      |
 8         8.0      | 4.8      |
 9         7.5      | 4.5      |
10         7.1      | 4.3      |
11         7.4      | 4.4      |
12         7.7      | 4.6      |
13         8.1      | 4.9      |
14         7.5      | 4.5      |
15         7.1      | 4.3      |
16         7.4      | 4.4      |
17         7.8      | 4.7      |
18         8.0      | 4.8      |
19         7.6      | 4.6      |
20         7.1      | 4.3      

******************************************************************************
******************************************************************************
*PROJECT PASSES*******************
*NO EXCEEDANCES OF NAAQ STANDARDS ARE PREDICTED*
******************************************************************************
CO Florida 2012 - Results
Friday, January 7, 2022

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Run Name                        Build
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