Central Polk Parkway
Project Development & Environment Study
Air Quality Technical Memorandum

Florida Department of Transportation
Florida's Turnpike Enterprise

Central Polk Parkway from US 17 (SR 35) to SR 60
Project Development and Environment Study

Polk County, Florida
Financial Project ID: 440897-4-22-01

August 2020

Date: August 16, 2020

To: Philip Stein, Florida Department of Transportation (FDOT)

From: Nicole Selly, Kisinger Campo and Associates, Corp.

Subject: Financial Management Number: 440879-4-22-01
Air Quality Technical Memorandum
Central Polk Parkway from US 17 to SR 60
Polk County

The Central Polk Parkway project is a 2.75-mile new multi-lane limited access facility located in Polk County, Florida. The proposed Central Polk Parkway corridor extends from US 17, approximately one half mile west of 91 Mine Road, south to State Road (SR) 60 in the vicinity of Connersville Road. The proposed project is a tolled four-lane divided roadway.

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

The project alternatives were subjected to a carbon monoxide (CO) screening model (CO Florida 2012) that includes various conservative worst-case assumptions related to site conditions, meteorology and traffic. The Florida Department of Transportation's screening model for CO uses the 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 (35 ppm) and eight-hour (9 ppm) NAAQS for CO.

The roadway intersection forecasts were evaluated for the Build scenarios of Central Polk Parkway at US 17 and Central Polk Parkway at SR 60. The Build scenarios for the design year 2045 were evaluated as a worst case against the No Build scenario for Central Polk Parkway at US 17. The No Build scenario was not evaluated for Central Polk Parkway at SR 60 because it is not currently an intersection. The traffic data input used in the evaluation is attached to this memorandum (Attachment 1).

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- 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 test. The results of the screening model are summarized in Table 1 and the datasheets are attached to this memorandum (Attachment 2).

Table 1: Screening Model Results

Intersection	Alternative	Maximum CO Levels (ppm)		Passes Screening Test?
		NAAQS one-hr/ Project one-hr	NAAQS eight-hr/ Project eight-hr	
CPP and US 17	Build 2045	35/4.4	9/2.6	Yes
CPP and US 17	No Build 2045	35/3.3	9/2.0	Yes
CPP and SR 60	Build 2045	35/3.3	9/2.0	Yes

TRAFFIC DATA FOR AIR QUALITY ANALYSIS

Date: _11/1/19_ Prepared by: _Nicole Selly___
Financial Management Number(s): _440897-4-22-01__
Federal Aid Number(s): _____NA_____
Project Description: _Central Polk Parkway from US 17 to SR 60___

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Design Year:
2045

Intersection: Build: CPP and US 17 No Build: CPP and US 17

Land Use: Rural

Build/No Build	EB			WB		
	# of Lanes	VPH	Spd	# of Lanes	VPH	Spd
Build	2	1900	55	2	1900	55
No Build	2	1900	55	2	1900	55
	NB			SB		
	# of Lanes	VPH	Spd	# of Lanes	VPH	Spd
Build	2	1540	65	2	1540	65
No Build	0	0	0	2	1540	65

Ramp Volume: 560 VPH

Design Year:
2045

Intersection: Build: CPP and SR 60 No Build: SR 60

Land Use: Rural

Build/No Build	EB			WB		
	# of Lanes	VPH	Spd	# of Lanes	VPH	Spd
Build	2	1870	55	2	1870	55
No Build	2	1870	55	2	1870	55
	NB			SB		
	# of Lanes	VPH	Speed	# of Lanes	VPH	Spd
Build	2	560	65	NA	NA	NA
No Build	NA	NA	NA	0	0	0

Attachment 1: Traffic Data for Air Quality Analysis

Attachment 2: Carbon Monoxide Screening Test Results

CO Florida 2012 - Results
Thursday, January 9, 2020

Project Description

Project Title	Central Polk Parkway from US 17 to SR 60			
Facility Name	Central Polk Parkway			
User's Name	Nicole Selly			
Run Name	CPP and US 17 Build 2045			
FDOT District	1			
Year	2045			
Intersection Type	N-S Diamond			
Speed	Arterial	55 mph	Freeway	65 mph
Approach Traffic	Arterial	1900 vph	Freeway	1540 vph

Environmental Data

Temperature	48.3 °F
Reid Vapor Pressure	13.3 psi
Land Use	Rural
Stability Class	E
Surface Roughness	10 cm
1 Hr. Background Concentration	1.7 ppm
8 Hr. Background Concentration	1.0 ppm

Results
(ppm, including background CO)

Receptor	Max 1-Hr	Max 8-Hr
1	3.2	1.9
2	2.6	1.6
3	4.2	2.5
4	3.9	2.3
5	3.9	2.3
6	4.3	2.6
7	4.4	2.6
8	4.3	2.6
9	2.5	1.5
10	2.7	1.6
11	3.2	1.9
12	2.6	1.6
13	4.0	2.4
14	3.8	2.3
15	3.7	2.2
16	4.2	2.5
17	4.3	2.6
18	4.3	2.6
19	2.5	1.5
20	2.8	1.7

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

CO Florida 2012 - Results
Friday, November 1, 2019

Project Description

Project Title	Central Polk Parkway from US 17 to SR 60
Facility Name	Central Polk Parkway
User's Name	Nicole
Run Name	CPP and US 17 No Build 2045
FDOT District	1
Year	2045
Intersection Type	North Tee
Speed	Arterial 65 mph[1]
Approach Traffic	Arterial 1900 vph

Environmental Data

Temperature	48.3 °F
Reid Vapor Pressure	13.3 psi
Land Use	Rural
Stability Class	E
Surface Roughness	10 cm
1 Hr. Background Concentration	1.7 ppm
8 Hr. Background Concentration	1.0 ppm

Results

(ppm, including background CO)

Receptor	Max 1-Hr	Max 8-Hr
1	2.6	1.6
2	2.7	1.6
3	3.2	1.9
4	3.1	1.9
5	2.9	1.7
6	3.0	1.8
7	3.1	1.9
8	3.1	1.9
9	3.3	2.0
10	3.1	1.9
11	3.1	1.9
12	3.1	1.9
13	3.0	1.8
14	3.0	1.8
15	3.2	1.9
16	2.8	1.7
17	2.8	1.7

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

[1] 55 mph was entered into the model for arterial speed and 65 mph for highway speed. The result data sheet template output for a north tee intersection is not correct.

CO Florida 2012 - Results
Friday, November 1, 2019

Project Description

Project Title	Central Polk Parkway from US 17 to SR 60
Facility Name	Central Polk Parkway
User's Name	Nicole
Run Name	CPP and SR 60 Build 2045
FDOT District	1
Year	2045
Intersection Type	North Tee
Speed	Arterial 65 mph[1]
Approach Traffic	Arterial 1870 vph

Environmental Data

Temperature	48.3 °F
Reid Vapor Pressure	13.3 psi
Land Use	Rural
Stability Class	E
Surface Roughness	10 cm
1 Hr. Background Concentration	1.7 ppm
8 Hr. Background Concentration	1.0 ppm

Results

(ppm, including background CO)

Receptor	Max 1-Hr	Max 8-Hr
1	2.5	1.5
2	2.7	1.6
3	3.1	1.9
4	3.1	1.9
5	2.9	1.7
6	3.0	1.8
7	3.0	1.8
8	3.1	1.9
9	3.3	2.0
10	3.1	1.9
11	3.1	1.9
12	3.1	1.9
13	3.0	1.8
14	3.0	1.8
15	3.2	1.9
16	2.8	1.7
17	2.8	1.7

****
**********PROJECT PASSES**********
NO EXCEEDANCES OF NAAQ STANDARDS ARE PREDICTED
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[1] 55 mph was entered into the model for arterial speed and 65 mph for highway speed. The result data sheet template output for a north tee intersection is not correct.