

Date: September 17, 2012

To: Pinellas County Department of Environment and Infrastructure

From: Carrol Fowler

Subject: Draft Air Quality Technical Memorandum
Beckett Bridge (Riverside Drive)
From Chesapeake Drive to Forest Avenue
Pinellas County Project ID: PID 2161
Efficient Transportation Decision Making (ETDM) No. 13040
Florida Department of Transportation (FDOT) Financial Project ID:
424385-1-28-01

Pinellas County, in coordination with the FDOT District Seven, is conducting a Project Development and Environment (PD&E) Study to evaluate alternatives to remove, rehabilitate or replace the existing Beckett Bridge (Bridge no. 154000) in Tarpon Springs, Pinellas County, Florida. The existing bridge is a 360-foot long bascule bridge consisting of two ten-foot wide travel lanes with two-foot, two inch sidewalks on either side. The project corridor also contains Riverside Drive/North Spring Boulevard from Chesapeake Drive to Forest Avenue. These existing roadways are predominately rural and comprise ten- to 11-foot wide travel lanes.

The project limits extend along Riverside Drive from Chesapeake Drive across Whitcomb Bayou to Forest Avenue, a distance of approximately 0.3 miles. The proposed bridge typical section for all replacement alternatives has a total out-to-out width of 47 feet one inch. The typical section includes two, 11-foot wide travel lanes with 5.5-foot shoulders that can function as undesignated bicycle lanes. Sidewalks, 5.5 feet wide, are proposed on both sides of the bridge. Proposed sections on the roadway approaches were developed to avoid acquisition of additional right-of-way.

Pinellas County is currently designated to be an attainment area for all of the National Ambient Air Quality Standards (NAAQS). Therefore, the transportation conformity requirements of the Clean Air Act are not applicable 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, CO Florida 2004 (Version 2.0.5) uses United States Environmental Protection Agency (USEPA)-developed software (MOBILE6 and CAL3QHC) 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 one-and eight-hour NAAQS for CO. The NAAQS are 35 and 9 parts per million (ppm), respectively.

The roadway intersection forecast to have the highest total approach traffic volume during both the opening (2018) and design year (2038) of the project is the Alternate US 19 intersection with Meres Boulevard. The traffic data input used in the screening model are provided in Attachment A to this Memorandum. Of note, it was only necessary to evaluate the No-Build alternative in the project's design year as the intersection approach volumes for both the Build and No-Build alternatives during the project's opening year and the approach volumes for the Build alternative during the design year are less than the volume for which the screening model is required (i.e., none of the intersection approach volumes are forecast to be greater than 999).

For the evaluated facility and the evaluated scenario (i.e., 2038 No-Build), estimates of CO were predicted for ten default receptors which were, in the screening analysis, assumed to be located 10 and 50 feet from the edge of the roadway and 50 and 150 feet away from the intersection cross street. Additionally, although two of the intersection approaches do and would provide three through lanes, the intersection was conservatively evaluated as if all four approaches provided only two through lanes.

The results of the screening analysis indicate that the greatest one- and eight-hour CO concentrations would be 6.1 and 3.7 ppm, respectively—levels that would not meet or exceed the NAAQS for this pollutant. As such, the project “passes” the screening model.

The output from the screening model is provided in Attachment B to this memorandum

ATTACHMENT A

Traffic Data

TRAFFIC DATA FOR AIR QUALITY ANALYSIS

Date: 7/11/2012 (rev) Prepared by: URS Corporation

Financial Project ID Number(s): 424385-1-28-01

Federal Aid Number(s): _____

Project Description: Beckett Bridge PD&E Study

NOTE: Traffic data should be provided for the intersection that is forecast to have the highest total approach traffic volume. Notably, 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 cruise approach speeds are unknown. This traffic data sheet was prepared to assist in obtaining appropriate traffic data for the FDOT CO Florida 2004 Intersection Screening Model. Notably, additional traffic data is required for diamond interchanges (see User's Guide).

Opening Year: 2018

Intersections: Build: Alt US 19/Meres Boulevard No-Build: Alt US 19/Meres Boulevard

Land Use: Urban: X Suburban: _____ Rural: _____

Build/ No-Build	EB			WB			NB			SB		
	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed
Build ¹	2	427	30	3	144	30	2	644	30	3	843	30
No-Build ²	2	667	30	3	144	30	2	644	30	3	937	30

¹ Build condition reflects Scenario 1 (two-lane bridge connects Riverside Drive with Spring Boulevard across Whitcomb Bayou) in the Design Traffic Technical Memorandum

² No-Build condition reflects Scenario 2 (no bridge connection across Whitcomb Bayou) in the Design Traffic Technical Memorandum

Design Year: 2038

Intersections: Build: Alt US 19/Meres Boulevard No-Build: Alt US 19/Meres Boulevard

Land Use: Urban: X Suburban: _____ Rural: _____

Build/ No-Build	EB			WB			NB			SB		
	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed	No. of Lanes	VPH	Speed
Build ¹	2	508	30	3	158	30	2	841	30	3	995	30
No-Build ²	2	806	30	3	158	30	2	841	30	3	1114	30

¹ Build condition reflects Scenario 1 (two-lane bridge connects Riverside Drive with Spring Boulevard across Whitcomb Bayou) in the Design Traffic Technical Memorandum

² No-Build condition reflects Scenario 2 (no bridge connection across Whitcomb Bayou) in the Design Traffic Technical Memorandum

ATTACHMENT B

Output from the CO Florida 2004 Screening Model

09-17-2012

CO Florida 2004

Project: Design Year - 2038 No Build
Facility: Beckett Bridge
Analyst: KB Environmental Sciences - Carrol Fowler

Environmental Data:

Temperature: 50 F
Reid Vapor Pressure: 11.5 psi
Land Use: Suburban
Stability Class: D
Surface Roughness: 108
Background Concentration: 1-hr = 3.3 ppm 8-hr = 2.0 ppm

Project Data:

Region: 4: Hillsborough / Pinellas
Year: 2038
Intersection Type: 4 x 4 Intersection
Max Approach Traffic Volume: 1114 veh/hour
Speed: 30

Receptor Data (all distances are in feet):

Receptor Name	East-West Distance from Intersection	North-South Distance from Intersection	Receptor Height
Default Rec 1	10	150	6
Default Rec 2	10	50	6
Default Rec 3	50	10	6
Default Rec 4	150	10	6
Default Rec 5	50	50	6
Default Rec 6	10	-150	6
Default Rec 7	10	-50	6
Default Rec 8	50	-10	6
Default Rec 9	150	-10	6
Default Rec 10	50	-50	6

RESULTS (including background CO):

Receptor Name	Max 1-Hr Conc (ppm)	Max 8-Hr Conc (ppm)
Default Rec 1	5.4	3.3
Default Rec 2	5.8	3.5
Default Rec 3	6.0	3.6
Default Rec 4	6.1	3.7
Default Rec 5	5.3	3.2
Default Rec 6	6.1	3.7
Default Rec 7	6.0	3.6
Default Rec 8	5.8	3.5
Default Rec 9	5.4	3.3
Default Rec 10	5.3	3.2

PROJECT PASSES - NO EXCEEDANCES OF NAAQ CO STANDARDS ARE PREDICTED
