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MEMORANDUM

To: Brandon Bruner, PE
Project Manager, Florida Department of Transportation

From: Greg Garrett, PBS&J

Re: Air Quality Analysis for the County Road 388 (West Bay Parkway) Segment Two PD&E Study
FP ID# 424464-3 -22-01

Date: September 29, 2010

The following air quality analysis was completed for the evaluation of widening County Road 388 (West Bay Parkway) from State Road 79 to State Road 77 in Bay County. The opening year (2015) conditions and design year (2035) build and no-build conditions were analyzed for comparison. None of the predicted concentrations for either conditions exceeded the CO National Ambient Air Quality Standards (NAAQS) of 35 parts per million (ppm) for a 1-hour averaging time and 9 ppm for an 8-hour averaging time.

CO concentrations are typically highest where vehicles incur delay caused by traffic signals. Along facilities such as County Road 388, delay usually occurs at the intersections. Therefore, one intersection within the project limits (CR 388 West/Edwards Road at SR 77 intersection) was evaluated for the existing year and design build (four lane improved intersection) and no-build conditions (two lane non-improved intersection) using the FDOT CO screening model, CO Florida 2004. Meteorological conditions for north Florida and default (i.e., worst-case) receptor locations were used in the analysis.

Results for the opening year (2015) build and no-build conditions are provided in Tables 1 and 2. For the 2015 opening year build scenario, the highest predicted CO concentrations of 7.2 ppm for a 1-hour averaging time and 4.3 ppm for an 8-hour averaging time occur at the CR 388 West/Edwards Road at SR 77 intersection. For the 2015 opening year no-build scenario, the highest predicted CO concentrations of 6.7 ppm for a 1-hour averaging time and 4.0 ppm for an 8-hour averaging time occur at the CR 388 West/Edwards Road at SR 77 intersection. All predicted CO concentrations for the existing year build conditions are below the NAAQS of 35 ppm for a 1-hour averaging time and 9 ppm for an 8-hour averaging time.

Results for the design year (2035) build and no-build conditions are provided in Tables 3 and 4. For the 2035 design year build scenario, the highest predicted CO concentrations of 8.3 ppm for a 1-hour averaging time and 5.0 ppm for an 8-hour averaging time occur at the CR 388 West/Edwards Road at SR 77 intersection. For the 2035 design year no-build scenario, the highest predicted CO concentrations of 7.7 ppm for a 1-hour averaging time and 4.6 ppm for an 8-hour averaging time occur at the CR 388 West/Edwards Road at SR 77 intersection. All predicted CO concentrations for the design year build



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conditions are below the NAAQS of 35 ppm for a 1-hour averaging time and 9 ppm for an 8-hour averaging time.

For both of the build scenarios (opening year and design year) a decreased distance of 10 ft was noted from the intersection to the air quality receiver. Therefore, an increase in predicted CO concentrations was experienced compared to the no-build scenarios of corresponding years.

Construction activities will cause minor short-term air quality impacts in the form of dust from earthwork and unpaved roads, and smoke from open burning. These impacts will be minimized by adherence to all State and local regulations and to the FDOT Standard Specifications for Road and Bridge Construction.

This project is in an area which has been designated as attainment for all the air quality standards under the criteria provided in the Clean Air Act Amendments of 1990, therefore, conformity does not apply.

Table 1: 2015 CR 388 West/Edwards Road at SR 77 Intersection Opening Year Build Conditions

Receptor	Peak Hour Traffic Volume	Average Speed (MPH)	East/West Distance from Intersection	North/South Distance from Intersection	1-hr ppm	8-hr ppm
Default Rec 1	1204	55	10	150	6.4	3.9
Default Rec 2	1204	55	10	50	6.7	4.0
Default Rec 3	1204	55	50	10	7.2	4.3
Default Rec 4	1204	55	150	10	7.1	4.3
Default Rec 5	1204	55	50	50	6.2	3.7
Default Rec 6	1204	55	10	-150	7.1	4.3
Default Rec 7	1204	55	10	-50	7.2	4.3
Default Rec 8	1204	55	50	-10	6.7	4.0
Default Rec 9	1204	55	150	-10	6.4	3.9
Default Rec 10	1204	55	50	-50	6.2	3.7

Table 2: 2015 CR 388 West/Edwards Road at SR 77 Intersection Opening Year No-Build Conditions

Receptor	Peak Hour Traffic Volume	Average Speed (MPH)	East/West Distance from Intersection	North/South Distance from Intersection	1-hr ppm	8-hr ppm
Default Rec 1	1204	55	20	150	5.5	3.3
Default Rec 2	1204	55	20	50	6.7	4.0
Default Rec 3	1204	55	50	20	6.2	3.7
Default Rec 4	1204	55	150	20	6.0	3.6
Default Rec 5	1204	55	50	50	5.7	3.4
Default Rec 6	1204	55	20	-150	6.0	3.6
Default Rec 7	1204	55	20	-50	6.2	3.7
Default Rec 8	1204	55	50	-20	6.7	4.0
Default Rec 9	1204	55	150	-20	5.5	3.3
Default Rec 10	1204	55	50	-50	5.7	3.4

Table 3: 2035 CR 388 West/Edwards Road at SR 77 Intersection Design Year Build Conditions

Receptor	Peak Hour Traffic Volume	Average Speed (MPH)	East/West Distance from Intersection	North/South Distance from Intersection	1-hr ppm	8-hr ppm
Default Rec 1	2194	55	10	150	7.6	4.6
Default Rec 2	2194	55	10	50	8.1	4.9
Default Rec 3	2194	55	50	10	8.3	5.0
Default Rec 4	2194	55	150	10	8.0	4.8
Default Rec 5	2194	55	50	50	7.2	4.3
Default Rec 6	2194	55	10	-150	8.0	4.8
Default Rec 7	2194	55	10	-50	8.3	5.0
Default Rec 8	2194	55	50	-10	8.1	4.9
Default Rec 9	2194	55	150	-10	7.6	4.6
Default Rec 10	2194	55	50	-50	7.2	4.3

Table 4: 2035 CR 388 West/Edwards Road at SR 77 Intersection Design Year No-Build Conditions

Receptor	Peak Hour Traffic Volume	Average Speed (MPH)	East/West Distance from Intersection	North/South Distance from Intersection	1-hr ppm	8-hr ppm
Default Rec 1	2194	55	20	150	6.9	4.2
Default Rec 2	2194	55	20	50	7.6	4.6
Default Rec 3	2194	55	50	20	7.7	4.6
Default Rec 4	2194	55	150	20	7.1	4.3
Default Rec 5	2194	55	50	50	7.2	4.3
Default Rec 6	2194	55	20	-150	7.1	4.3
Default Rec 7	2194	55	20	-50	7.7	4.6
Default Rec 8	2194	55	50	-20	7.6	4.6
Default Rec 9	2194	55	150	-20	6.9	4.2
Default Rec 10	2194	55	50	-50	7.2	4.3