

# **Air Quality Technical Memorandum**

## **Turnpike (SR 91) Widening Project Development and Environment (PD&E) Study**

from South of SR 408 to SR 50 (MP 263 to 273)

Orange County, Florida

Financial Project ID (FPID) No. 444007-1-22-01

ETDM No.: 14378



Draft – June 2022

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated May 26, 2022 and executed by FHWA and FDOT.

Date: September 29, 2021

Revised: June 7, 2022, per Electronic Review Comments (ERC) Review

To: Jazlyn Heywood (FTE)

From: Robyn Hartz, Senior Transportation Specialist

Subject: Financial Management Numbers 444007-1  
Air Quality Technical Memorandum  
Widening Florida's Turnpike from S.R. 408 to S.R. 50  
Orange County

The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by Florida Department of Transportation (FDOT) pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by Federal Highway Administration (FHWA) and FDOT.

The proposed project is located in Orange County, an area currently designated as being in attainment for particulate matter (2.5 microns in size and 10 microns in size) and carbon monoxide (CO). This project is not expected to create adverse impacts on air quality because the project area is in attainment for all National Ambient Air Quality Standards. Therefore, the Clean Air Act conformity requirements do not apply to the project. Additionally, the project is expected to improve the Level of Service (LOS) and reduce delay and congestion on all facilities within the study area. Therefore, per Part 2 Chapter 19 Section 19.2.2.1 of the PD&E Manual (July 2020), a CO screening test using CO Florida 2012 is not necessary.

For the preferred alternative analyzed in the State Environmental Impact Report (SEIR) for this PD&E Study, the amount of mobile source air toxics (MSAT) emitted would be proportional to the vehicle miles traveled (VMT), if other variables such as fleet mix are the same for each alternative. The VMT estimated for the Build Alternative is slightly higher than that for the No-Build Alternative because the additional capacity increases the efficiency of the roadway and may attract traffic from other facilities in the transportation network. Refer to Table 1 Average Annual Daily Traffic (AADT) and VMT.

**Table 1: Average Annual Daily Traffic (AADT) and VMT along Florida's Turnpike**

Location	No-Build	Build	Length (miles)*	No-Build	Build	% Change
	2045 AADT**			VMT		
279 – Minneola to 272 – Winter Garden / Clermont (SR 50)	138,400	142,600	6.2	858,080	884,120	3.0%
272 – Winter Garden / Clermont (SR 50) to 267A – SR 429	184,900	192,600	4.9	906,010	943,740	4.2%
267A – SR 429 to 265 – SR 408	259,300	268,600	2.1	544,530	564,060	3.6%
265 – SR 408 to 263 – Turkey Lake Service Plaza	188,800	196,600	2.2	415,360	432,520	4.1%

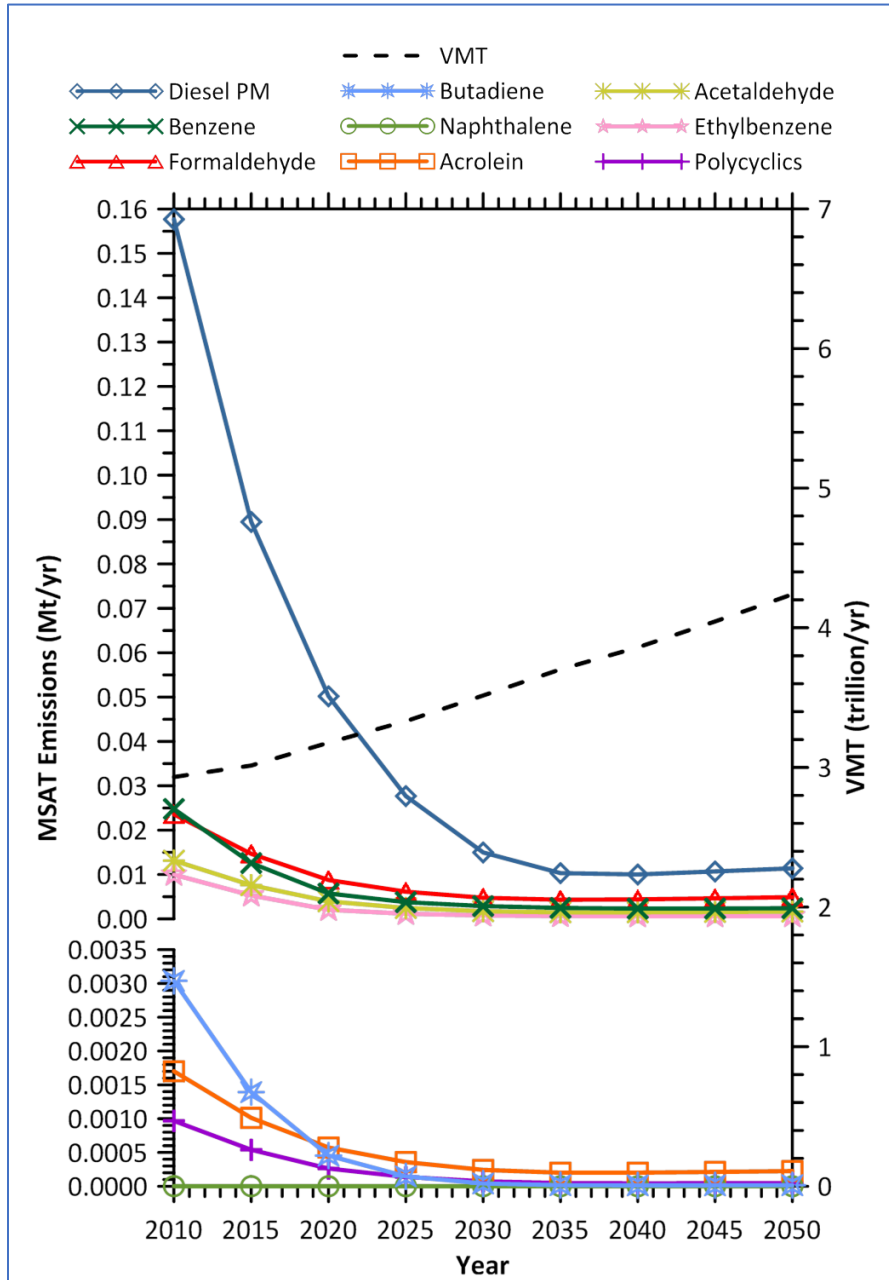
\*Lengths were measured from the center of interchange to interchange / location

\*\*2045 AADT from Table 5.1 of the Preliminary Traffic Forecasting Memo dated October 2019

This increase in VMT would lead to higher MSAT emissions for the preferred alternative along the Turnpike corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset by lower MSAT emission rates due to increased speeds; according to the Environmental Protection Agency's (EPA) MOVES2014a model, emissions of all priority MSAT decrease as speed

increases. Also, emissions for the preferred build alternative will likely be lower than present levels in the design year because of EPA's national control programs that are projected to reduce annual MSAT emissions by over 90 percent between 2010 and 2050, as shown in Figure 1.

**Figure 1: FHWA Projected National MSAT Emission Trends 2010-2050 for Vehicles Operating on Roadways using EPA's MOVES2014a Model**



**Source:** EPA MOVES2014a model runs conducted by FHWA, September 2016.

Local conditions may differ from these national projections in terms of fleet mix and turnover, VMT growth rates, and local control measures. However, the magnitude of the EPA-projected reductions is

substantial (even after accounting for VMT growth) and should result in MSAT emissions in the project area to be lower in the future in nearly all cases.

The proposed improvements may have the effect of moving some traffic closer to nearby populated areas; therefore, there may be localized areas where ambient concentrations of MSAT could be higher under the Build Alternatives than the No-Build Alternative. However, the magnitude and the duration of these potential increases compared to the No-Build Alternative cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific MSAT health impacts. In sum, when a highway is widened, the localized level of MSAT emissions for the Build Alternative could be higher relative to the No-Build Alternative, but this could be offset due to increases in speeds and reductions in congestion (which are associated with lower MSAT emissions). Also, MSAT will be lower in other locations when traffic shifts away from them. However, on a regional basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will over time cause substantial reductions that, in almost all cases, will cause region wide MSAT levels to be significantly lower than today.