PART 2, CHAPTER 19

AIR QUALITY

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AIR QUALITY

19.1 OVERVIEW

Pursuant to ***23 United States Code (U.S.C.) § 327*** and the implementing Memorandum of Understanding (MOU) executed on December 14, 2016, the Florida Department of Transportation (FDOT) has assumed and Federal Highway Administration (FHWA) has assigned its responsibilities under the ***National Environmental Policy Act (NEPA)*** for highway projects on the State Highway System (SHS) and Local Agency Program (LAP) projects off the SHS (***NEPA*** Assignment). In general, FDOT's assumption includes all highway projects in Florida which source of federal funding comes from FHWA or which constitute a federal action through FHWA. ***NEPA*** Assignment includes responsibility for environmental review, interagency consultation and other activities pertaining to the review or approval of ***NEPA*** actions. Consistent with law and the MOU, FDOT will be the Lead Federal Agency for highway projects with approval authority resting in the Office of Environmental Management (OEM).

19.1.1 Purpose

This chapter describes how to evaluate the air quality effects of FDOT's transportation projects, explains FDOT's process to address air quality conditions within the region where a project is located, explains how to evaluate project level (hot-spot) air quality effects and, if necessary, how to address those effects. This chapter also explains how Mobile Source Air Toxics (MSATs) are considered in the environmental review process.

Motor vehicle pollutant emissions from the combustion of fossil fuels have long been tied to Air Quality. The primary air pollutants associated with highway motor vehicles are Carbon Monoxide (CO), Nitrogen Oxides (NOX), Volatile Organic Compounds (VOC), and to a lesser degree Particulate Matter [particles with a diameter less than 10 micrometers (PM_{10}) and less than 2.5 micrometers ($PM_{2.5}$)]. In the presence of sunlight, emissions of NOX and VOC react with oxygen in the air to produce ozone (O_3). Stricter vehicle emission standards, alternative fuel vehicles, and for most pollutants, improvement in traffic flow, have reduced pollutant emissions over the past several decades.

FDOT's analysis of air quality effects is based on the local area's attainment status for each of the ***National Ambient Air Quality Standards (NAAQS)*** as detailed in ***Section 19.1.3.1***. It is generally not necessary to prepare an extensive report to document potential impacts to air quality. Rather, a brief ***Air Quality Technical Memorandum*** is prepared if warranted, and the results summarized in the Environmental Document.

19.1.2 Definitions

Attainment/Non-attainment – The designation that an area has monitored air quality that meets or does not meet the Environmental Protection Agency's (EPA) ***NAAQS*** for a particular pollutant. Areas that meet the ***NAAQS*** for a particular pollutant are designated as "attainment," and those not meeting the standard are designated "non-attainment".

Averaging Time – The time increments over which pollutant concentrations are measured and on which pollutant standards are based. Ambient air quality standards are specified based on the concentration of a pollutant over specific time periods, such as 1-hour, 8-hour, 24-hour, or one year. The different averaging times and concentrations are designed to protect against different exposure effects.

Budget – The estimated amount of air pollution that can occur in a particular area within a specific amount of time without causing a violation of the ambient air quality standards.

Mobile Source Air Toxics (MSAT) – hazardous air pollutants (known, or suspected, to cause cancer or serious health and environmental effects) emitted by mobile sources.

Project Level (Hot Spots) Analysis – Refers to a modeling analysis (using the ***CO Florida 2012*** screening model or the EPA emission rate/dispersion models) used to estimate localized concentrations of one or more criteria pollutants that may exceed the national ambient air quality standards.

Primary Standards – Ambient air pollution standards set to protect public health.

Secondary Standards – Ambient air pollution standards set to protect public welfare, such as protecting against visibility degradation and damage to animals, crops, vegetation, and buildings.

19.1.3 Clean Air Act

The ***Clean Air Act (CAA)*** as enacted in 1967, focused on technical information associated with air pollution, including research, grants, and the abatement of interstate air pollution issues. In 1970, the ***CAA*** was amended and the ***NAAQS*** were established to protect public health and welfare. The 1970 Amendments also required states to prepare and implement control plans to achieve the ***NAAQS***. In 1990, the ***CAA*** was amended to include strategies to achieve and maintain the criteria air pollutant ***NAAQS***, to reduce air pollutant and pollutant precursor emissions from mobile sources, and to provide enforcement sanctions for not achieving and maintaining the ***NAAQS***.

19.1.3.1 National Ambient Air Quality Standards

In 1970, the EPA Office of Air Quality Planning and Standards (AQPS) established the first set of primary (to protect public health) and secondary (to protect public welfare) ***NAAQS*** for six air pollutants. The six air pollutants (referred to as the **criteria air pollutants**) are: O_3, nitrogen dioxide (NO_2), PM, sulfur oxides (SO_X), CO, and lead (Pb).

The current standards are provided in ***Table 19-1***. The ***NAAQS*** show the maximum allowable concentration of a pollutant by averaging time. For example, the maximum allowable primary and secondary ambient concentration of ozone is 0.070 parts per million (ppm), averaged over an 8-hour period. The **criteria air pollutants** are described below (see ***Figure 19-1*** for more sources of information).

19.1.3.1.1 Ozone

Ozone (O_3) is not emitted directly into the air. At ground level, ozone is created by a chemical reaction between oxides of nitrogen (NOX) and volatile organic compounds (VOC) in the presence of sunlight. Motor vehicle exhaust and industrial emissions, gasoline vapors, and chemical solvents as well as natural sources emit NOX and VOCs. While elevated ozone levels typically occur at a regional level, no methodology currently exists to determine ozone emissions at the project level.

19.1.3.1.2 Nitrogen Dioxide

Nitrogen oxides (NOX) are a group of highly reactive gases. One of these gases, nitrogen dioxide (NO_2), along with particles in the air, is often seen as a reddish-brown layer over urban areas. The primary sources of NO_2 are motor vehicles, electric utilities, and other industrial, commercial, and residential sources that burn fuel. Motor vehicles emit approximately 49 percent of the national level of nitrogen oxides ***(EPA-456/F-98-005, 1998)***.

19.1.3.1.3 Particulate Matter

Particulate matter (PM) is a term used to describe particles in the air including dust, dirt, soot, smoke, and liquid droplets. Sources that directly emit particulate matter include motor vehicles, construction activities, and unpaved roads. Particles that form in the air from chemical processes involving sunlight and water vapor include fuel combustion in motor vehicles and at power plants, and industrial processes. Particulate matter from diesel engines is of interest because the EPA has identified that the pollutant is a probable carcinogen (cancer causing substance).

There are two standards for particulate matter – one for “coarse” particles (PM_{10}) and one for “fine” particles ($PM_{2.5}$). Coarse particles are typically formed by earth-based materials (brake and tire wear) that contribute to particles of this size. Fine particles are a product of combustion.

19.1.3.1.4 Sulfur Dioxide

Sulfur dioxide (SO_2) belongs to a family of Sulfur Oxide gases. Approximately 65 percent of the sulfur dioxide released in to the air comes from coal powered utilities. Locomotives, large ships, and some non-road diesel equipment currently burn high sulfur fuel and emit sulfur dioxide. Overall, on-road motor vehicles are not considered a significant source of sulfur dioxide.

19.1.3.1.5 Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless gas that is formed when carbon in fossil fuels is not burned completely. It is a component of motor vehicle exhaust, which contributes approximately 56 percent of carbon monoxide emissions nationally.

19.1.3.1.6 Lead

Although lead (Pb) is a naturally occurring metal, motor vehicles were historically the major source of lead emissions. However, due to a phase out of leaded gasoline in the 1970s, metals processing is currently the major source of lead emissions.

19.1.3.1.7 National Ambient Air Quality Standards Designations

In accordance with the ***CAA***, all areas within the United States are designated with respect to the ***NAAQS*** as being "attainment," "non-attainment," "maintenance," or "unclassifiable." Areas with air pollutant levels less than the ***NAAQS*** are designated attainment. Areas with air pollutant levels greater than the ***NAAQS*** are designated non-attainment. Maintenance areas are non-attainment areas that have been re-designated to attainment status. An area is designated as unclassifiable when the EPA is not able to determine an area's status after evaluating the available information. Current information on the status of non-attainment areas with respect to the ***NAAQS*** is available within ***EPA's Green Book (EPA, 2016)***.

Table 19-1 National Ambient Air Quality Standards (NAAQS)

Pollutant		Averaging Time	Primary[e]	Secondary[f]
Ozone (O_3)		8-hour[a]	0.070 ppm[g]	0.070 ppm
Nitrogen Dioxide (NO_2)		1-hour[b]	100 ppb[h]	NA
		Annual Arithmetic Mean	0.053 ppm	0.053 ppm
Particulate Matter	2.5 microns or less in size ($PM_{2.5}$)	24-hour[k]	35 µg/m^3	35 µg/m^3
		Annual Arithmetic Mean[c]	12.0 µg/m^3	15.0 µg/m^3
	10 microns or less in size (PM_{10})	24-hour[l]	150 µg/m^3	150 µg/m^3
Sulfur Dioxide[d] (SO_2)		1-hour	75 ppb	NA
		3-hour	NA	0.5 ppm
Carbon Monoxide (CO)		1-hour[i]	35 ppm	NA
		8-hour[i]	9 ppm	NA
Lead (Pb)		Rolling 3-Month Average[j]	0.15 µg/m^3	0.15 µg/m^3

[a] The ozone standard is attained when the fourth highest daily maximum 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard.
[b] To attain the 1-hour standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb.
[c] To attain this primary standard, the 3-year average of the annual arithmetic mean concentrations from single or multiple community-oriented monitors must not exceed 12.0 µg/m^3.
[d] To attain the 1-hour standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75ppb. To attain the 3-hour standard, it is not to be exceeded more than once per year.
[e] Primary standards are designed to establish limits to protect public health, including the health of "sensitive" individuals such as asthmatics, children, and the elderly.
[f] Secondary standards set limits to protect public welfare including protection against decreased visibility and damage to animals, crops, vegetation, and buildings.
[g] ppm = parts per million
[h] ppb = parts per billion
[i] Not to be exceeded more than once per year.
[j] To attain the lead standard, the levels during the rolling 3-month averaging period may not exceed the 0.15 µg/m^3 level over a 3-year period
[k] To attain the primary/secondary standard, the 3-year average of the annual 98th percentile concentrations from single or multiple community-oriented monitors must not exceed 35 µg/m^3
[l] To attain these standards, these levels are not to be exceeded more than once per year on average over 3 years.

NA = Not applicable
ppm = parts per million
ppb = parts per billion
µg/m^3 = microgram per cubic meter

Source: United States Environmental Protection Agency, 2018

19.1.3.2 State Implementation Plans

The control plans that States prepare to address how they will achieve the ***NAAQS*** are known as ***State Implementation Plans (SIPs)***. ***SIPs*** are prepared for all areas designated non-attainment for the ***NAAQS***. They are **not prepared** for areas **designated attainment or unclassifiable**. Attainment ***SIPs*** detail how an area will maintain ambient levels of pollutants below the ***NAAQS*** once attaining a standard. ***SIPs*** (which can include maintenance plans) for the EPA's Region 4 (in which the state of Florida is located) that

are or have been designated non-attainment for any of the ***NAAQS*** can be found on the EPA's website. A web link to these documents is provided in ***Figure 19-1***.

Pursuant to ***Section 176*** of the ***CAA (42 U.S.C. § 7506)*** no department, agency, or instrumentality of the federal government shall engage in, support in any way or provide financial assistance for, license or permit, or approve, any activity that does not conform to an approved ***SIP***.

Conformity to a ***SIP*** means conforming to a ***SIPs*** purpose of eliminating or reducing the severity and number of violations of and achieving expeditious attainment of the ***NAAQS***. FDOT complies with the ***CAA*** and ***SIPs*** by requiring that projects meet the standards described in this chapter and the EPA's transportation conformity requirements.

19.1.3.3 Transportation Conformity

In 1993, the EPA promulgated two sets of regulations to implement ***Section 176 of the CAA***. These are referred to as the ***Transportation Conformity and General Conformity Regulations***. ***The Transportation Conformity Regulations [40 Code of Federal Regulations (CFR) Part 93A]*** apply to transportation (highway) plans, programs, and projects within non-attainment or maintenance areas that are developed, funded, or approved under either ***Title 23*** or ***Title 49 U.S.C***. The ***General Conformity Regulations*** are applicable to all other federal actions ***(40 CFR Part 93B)***.

A transportation conformity determination shows that regional estimates of pollutant/precursor emissions for which an area is designated non-attainment/maintenance that are associated with highway plans or programs are within the emission budgets specified in a ***SIP***. Metropolitan Planning Organizations (MPOs) typically perform and make the initial conformity determinations in metropolitan areas while FDOT does so in areas not served by an MPO. The initial conformity determinations become final upon approval by either FHWA or the Federal Transit Administration (FTA). Under the ***NEPA Assignment MOU***, final conformity determinations continue to be the responsibility of FHWA and FTA.

Transportation conformity determinations are made at least every three years or, when Long-Range Transportation Plans (LRTPs) and Transportation Improvement Programs (TIPs) are updated. Transportation conformity determinations are made using estimates of the regional amount of an applicable pollutant/precursor emission for a TIP (the entire transportation network within a non-attainment or maintenance area) and forecast highway/transit operating conditions (volume and speed). If the projected emissions for a TIP do not exceed the emission budget for this type of activity, the TIP can be found to conform to a ***SIP***.

Project-level air quality analysis is performed as part of the ***NEPA*** process to identify project-related impacts, and to evaluate possible mitigation, if appropriate. Project-level conformity determinations are only required for federal highway and transit projects in non-attainment and maintenance areas. In non-attainment/maintenance areas, the project must come from a conforming metropolitan transportation plan and TIP.

Additionally, as part of these project-level determinations, in carbon monoxide and particulate matter nonattainment and maintenance areas, localized analysis requirements apply for certain federally-funded or approved projects. This analysis is called “hot-spot” analysis.

Pollutants of concern to be considered during the ***NEPA*** analysis are CO, $PM_{2.5}$ and PM_{10} because vehicular emissions of these pollutants affect areas proximate to the project rather than create region-wide effects.

19.2 PROCEDURE

Both the ***CAA*** and ***NEPA*** require that air quality be considered in the preparation of Environmental Documents. The ***CAA*** requires that transportation (motor vehicle-related) projects proposed in non-attainment areas that require federal participation (e.g., approval, licensing, funding) conform to a ***SIP***, if there are provisions in the ***SIP*** for transportation conformity. Project level (hot-spot) impacts should be discussed in the Environmental Document as warranted, and if applicable, mitigation measures considered.

19.2.1 ETDM Screening

Evaluation of project effects on air quality starts during the Efficient Transportation Decision Making (ETDM) screening for qualifying projects. Potential air quality effects, including attainment status of the area, should be discussed in the Preliminary Environmental Discussion (PED). During the Planning and Programming Screens of the ETDM process, the EPA, which is an Environmental Technical Advisory Team (ETAT) member, provides comments on air quality issues. The ETAT comments are appropriately summarized in the ETDM ***Planning Screen Summary Report*** and ***Programming Screen Summary Report***. These reports support the development of the scope for air quality analysis for a Project Development and Environment (PD&E) Study. For more information, refer to FDOT’s ***ETDM Manual, Topic No. 650-000-002***.

19.2.2 Air Quality Analysis

Air quality analysis during the PD&E Study involves analysis only for CO, $PM_{2.5,}$ and PM_{10} and varies according to the size of the project, existing air quality issues, and the degree of controversy regarding the project. Because the entire state of Florida is currently in attainment for CO, and because most transportation improvement projects reduce delay and congestion, the FDOT does not require project level (hot spot) analysis for CO as violations of the ***NAAQS*** are not expected to occur.

Florida is in attainment for both $PM_{2.5}$ and PM_{10} and the only issues encountered at the project level are temporary in nature during construction. No project level (hot spot) analysis is performed for $PM_{2.5}$ and PM_{10}. The following sections concentrate on the project level (hot spot) analysis for CO, when applicable, for the different types of Environmental Documents.

19.2.2.1 Categorical Exclusions and State Environmental Impact Reports

Projects evaluated as Categorical Exclusions (CEs) are projects that do not involve significant environmental impacts. These types of projects typically have no effect on area-wide air quality levels, but may provide some air quality benefits on a local basis.

For projects evaluated as Type 1 CEs, Type 2 CEs, State Environmental Impact Reports (SEIRs) or Non-Major State Actions (NMSAs), an air quality analysis for CO is not necessary given Florida's current attainment status for CO and the low likelihood of adverse air quality impacts associated with projects that reduce delay and congestion.

For projects that have a high level of community controversy (including specific concerns about air quality), a screening test may be considered as part of the PD&E Study using the ***CO Florida 2012*** model in accordance with ***Section 19.2.2.4***. An ***Air Quality Technical Memorandum*** is not required unless there is a question on whether the project would have air quality impacts and a screening test is performed using the ***CO Florida 2012*** model in accordance with ***Section 19.2.2.4***.

If the screening effort predicts CO concentrations exceeding the standard noted in ***Table 19-1*** (35 ppm for a 1-hour period or 9 ppm for an 8-hour period), a more detailed analysis using computer modeling techniques should be used. See ***Figure 19-1*** for links to latest emissions and dispersion models [Motor Vehicle Emission Simulator (MOVES) and CAL3QHC].

19.2.2.2 Environmental Assessment

Environmental Assessments (EAs) are prepared when the significance of environmental impacts associated with a project are unknown. Given Florida's current attainment status for CO and the low likelihood of adverse air quality impacts associated with projects that reduce delay and congestion, projects that require an EA are not expected to warrant a CO analysis. For projects that have a high level of community controversy (including specific concerns about air quality) a screening test may be performed using the ***CO Florida 2012*** model in accordance with ***Section 19.2.2.4*** and the results reported in an ***Air Quality Technical Memorandum***. However, if the predicted CO concentrations exceed the standard noted in ***Table 19-1***, a more detailed analysis using computer modeling techniques should be used. See ***Figure 19-1*** for links to latest emissions and dispersion models (MOVES and CAL3QHC).

19.2.2.3 Environmental Impact Statement

Given Florida's current attainment status for CO and the low likelihood of adverse air quality impacts associated with projects that reduce delay and congestion, a CO analysis is not required. For projects that have a high level of community controversy (including specific concerns about air quality) a screening test may be performed using the ***CO Florida 2012*** model in accordance with ***Section 19.2.2.4***. The air quality analysis in

an Environmental Impact Statement (EIS) should include at least the results of a screening level analysis. Each alternative, including the No-Build alternative, should be analyzed. The No-Build analysis is for the project opening year and the design year. In most circumstances, the build alternatives will indicate an improvement in carbon monoxide concentrations. The results of the screening test are reported in an ***Air Quality Technical Memorandum***.

If the screening effort predicts CO concentrations exceeding the standard noted in ***Table 19-1*** (9 ppm for a 1-hour period or 35 ppm for an 8-hour period), a more detailed analysis using computer modeling techniques should be used. See ***Figure 19-1*** for links to latest emissions and dispersion (MOVES and CAL3QHC).

The following sections describe the type of project level hot-spot analysis (if required) for attainment areas and non-attainment/maintenance areas for carbon monoxide, particulate matter criteria pollutants.

19.2.2.4 Carbon Monoxide

Non-attainment/Maintenance Areas – Levels of CO tend to be the highest adjacent to intersections. Application of a screening test is typically not required for smaller projects with no potential to result in CO hotspots.

When a project CO screening test is required, intersections within the project corridor should be reviewed to evaluate the potential for a violation of the CO ***NAAQS***. At a minimum, the intersection with a combination of the highest intersection approach volume, the highest level of delay (on specific turning movements or for the intersection as a whole) and the lowest approach speed should be screened for CO using the ***CO Florida 2012***. The screening test should be performed for future design year conditions with and without the proposed roadway improvements. For additional information on data requirements for the CO screening model, see ***User's Guide to CO Florida 2012*** for the screening methodology and the Environmental Office Software Download web page (***Section 19.3***) for a link to download the free screening model. ***Figure 19-2*** includes the ***Traffic Data for Air Quality Analysis Form, Form No. 650-050-36*** to be used for entering traffic data in the Screening Model.

CO Florida 2012 incorporates both the EPA's emission rates model, MOVES, and dispersion model, CAL3QHC. MOVES is a state-of-the-science emission modeling system that estimates emissions for mobile sources at the national, county, and project level for criteria pollutants and greenhouse gases. CAL3QHC is a steady-state software model designed to estimate air pollution concentrations at receptors downwind of highways. ***CO Florida 2012*** quickly and easily screens intersections for the ambient CO. ***CO Florida 2012*** incorporates worst case conservative assumptions including peak hour traffic, January time-frame temperatures, meteorology conditions favorable for higher concentrations of CO (wind speed, stability class, and wind 360-degree angle search), and close-in receptors. If the CO ***NAAQS*** are not exceeded during screening, using the worst-case assumptions, the intersection passes the screening test and no detailed modeling has to be performed. ***CO Florida 2012*** has built in different intersection

configurations that are analyzed by the screening model after certain specific inputs are entered by the user.

Should the project fail the screening test, a detailed microscale emissions rates and dispersion analysis should be performed on the intersection failing the test to insure there are no violations of the CO ***NAAQS***. The detailed emissions rates and microscale dispersion analysis should be performed using the latest versions of the EPA's MOVES and CAL3QHC models.

If the detailed microscale analysis shows that the intersection still violates the CO ***NAAQS***, mitigation measures should be evaluated through changes in lane configurations, signal timing, exclusive vehicle allowances per lane, or other techniques. Once this is done the analysis should be redone for the adjusted scenarios. Compliance with the ***NAAQS*** standards shall be achieved in order for the proposed project to proceed.

19.2.2.5 Particulate Matter Associated with Construction

Attainment Areas - Particulate emissions associated with construction activity (e.g. dust) should be evaluated in a project, but no hot-spot analysis is required. The following statement should be included in the Type 2 CE, EA, EIS, or SEIR:

> 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.

Non-attainment/Maintenance Areas - The EPA has developed guidance describing how to perform a quantitative hot spots analysis for PM_{10} and $PM_{2.5}$ (a link can be found in ***Figure 19-1***). The EPA guidance applies to new or expanded highway or transit projects with significant increases in diesel traffic. Consequently, if any area within the State of Florida is designated non-attainment in the future with respect to PM_{10} or $PM_{2.5}$, then the PM_{10}/$PM_{2.5}$ guidance would apply. First, a determination would need to be made as to whether a project would significantly increase diesel traffic. If it would, then a quantitative PM_{10}/$PM_{2.5}$ analysis would be required.

19.2.3 Mobile Source Air Toxics

19.2.3.1 Consideration of Mobile Source Air Toxics in Environmental Review

The EPA has identified nine compounds with significant contributions from mobile sources that are among the national and regional-scale cancer risk contributors and non-cancer hazard contributors from the ***2011 National Air Toxics Assessment (NATA)***. In the ***Updated Interim Guidance on MSAT Analysis in National Environmental Policy Act (NEPA) Documents (2016)***, FHWA considers these nine compounds priority MSAT. The nine priority MSAT are acetaldehyde, acrolein, benzene, 1,3-butadiene, diesel

particulate matter plus diesel exhaust organic gases, ethylbenzene, formaldehyde, naphthalene, and polycyclic organic matter.

MSAT are analyzed and documented depending on the following specific projects circumstances:

1. No analysis for projects with no potential for meaningful MSAT effects;

2. Qualitative analysis for projects with low potential MSAT effects; or

3. Quantitative analysis to differentiate alternatives for projects with higher potential MSAT effects.

19.2.3.2 Projects with No Potential MSAT Effects

Projects that have no potential meaningful MSAT effects are exempted from MSAT analysis. These projects include:

- Projects qualifying as a CE under ***23 CFR § 771.117***;

- Projects exempt under the ***CAA*** conformity rule under ***40 CFR § 93.126***; and

- Other projects with no meaningful impacts on traffic volumes or vehicle mix.

Analysis or discussion of MSAT is not necessary for these projects. Documentation demonstrating that the project qualifies as a CE and/or an exempt project will suffice. For other projects with no or negligible traffic impacts, regardless of the Class of Action, MSAT analysis is not recommended. However, the EA or EIS should document the basis for the determination of no meaningful potential impacts with a brief description of the factors considered.

Refer to ***Figure 19-3*** for standard MSAT language to be used in the Environmental Document.

19.2.3.3 Projects with Low Potential MSAT Effects

Projects in this category are those that improve operations of highway, transit, or freight without adding substantial new capacity or without creating a facility that is likely to meaningfully increase MSAT emissions. Examples of these types of projects are minor widening projects; new interchanges; replacing a signalized intersection; and projects where design year traffic is projected to be less than 140,000 to 150,000 annual average daily traffic (AADT).

For these projects, a qualitative assessment of emissions projections should be conducted. This qualitative assessment should compare the expected effect of the project

on traffic volumes, vehicle mix, or routing of traffic and the associated changes in MSAT for the project alternatives, including No-Build, based on vehicle miles traveled (VMT), vehicle mix, and speed. It should also discuss national trend data projecting substantial overall reductions in emissions due to stricter engine and fuel regulations issued by EPA.

Refer to ***Figure 19-3*** for standard MSAT language to be used in the environmental document.

19.2.3.4 Projects with High Potential MSAT Effects

Projects that have high potential MSAT effects include projects that:

- Create or significantly alter a major intermodal freight facility that has the potential to concentrate high levels of diesel particulate matter in a single location, involving a significant number of diesel vehicles for new projects or accommodating with a significant increase in the number of diesel vehicles for expansion projects; or

- Create new capacity or add significant capacity to urban highways such as Interstates, urban arterials, or urban collector-distributor routes with traffic volumes where the AADT is projected to be in the range of 140,000 to 150,000 or greater by the design year; and

- Are proposed in proximity to populated areas.

Projects in this category require quantitative analysis to forecast specific emission trends of MSAT for each viable alternative to use as a basis of comparison. If there are meaningful differences in MSAT levels among viable alternatives, mitigation options should be considered. See ***FDOT Mobile Source Air Toxics Quantitative Analysis Guidance and Emission Rates Look-up Tables*** for the analysis procedure and documentation requirements. Example strategies to mitigate MSAT emissions are presented in ***Figure 19-4***.

Refer to ***Figure 19-3*** for standard MSAT language to be used in the Environmental Document.

19.2.4 Documentation

19.2.4.1 Technical Memorandum

It is not necessary to prepare an extensive report to document the status of the project with respect to air quality. If a screening analysis was performed, a brief ***Air Quality Technical Memorandum*** should be prepared. When final, the memorandum should be placed in the project file. The ***Air Quality Technical Memorandum*** should include:

1. A disclosure that the review and evaluation was conducted by FDOT under ***NEPA*** assignment, see standard language included in the first paragraph of the sample ***Air Quality Technical Memorandum*** (***Figure 19-5***).

2. A brief description of the project and the area in which the project is located (e.g., is the area residential, commercial or industrial).

3. A brief description of air quality conditions within the area with respect to the ***NAAQS*** [the current EPA designation (attainment, non-attainment, maintenance, or unclassifiable) for the area (for each of the criteria air pollutants)]. It may be appropriate to cite published information regarding regional or local trend data, when such data is available and relevant to the project.

4. Confirm the project was reviewed for air quality impacts, as appropriate, and provide the results of the analysis for the project alternatives (Build and No-Build). See ***Section 19.2.2.4*** for carbon monoxide screening requirements.

5. In attainment areas: The ***Air Quality Technical Memorandum*** should include the following statements:

   > The project is located in an area which is designated attainment for all of the National Ambient Air Quality Standards under the criteria provided in the Clean Air Act. Therefore, the Clean Air Act conformity requirements do not apply to the project.

6. In unclassifiable areas: ***The Air Quality Technical Memorandum*** should include the following statements:

   > The project is located in an area which is designated unclassifiable for all of the National Ambient Air Quality Standards under the criteria provided in the Clean Air Act. Therefore, the Clean Air Act conformity requirements do not apply to the project.

7. In non-attainment/maintenance areas: The ***Air Quality Technical Memorandum*** should identify the specific LRTP/TIP in which the project is included (e.g., Fiscal Year 2015), the project identification number, and date the conformity determination for the LRTP/TIP was approved. This and other required information can be provided by inserting the following statements in to the memorandum:

   > The project is located in an area that has been designated as non-attainment/maintenance for the averaging time National Ambient Air Quality Standard for pollutant under the criteria provided in the Clean Air Act. This project is included in the urban area's current approved conforming Transportation

> Improvement Program (TIP), the area's conforming long-range plan, and the area's Conformity Determination Report. The project's design concept and scope are the same as that which were evaluated in the conforming TIP and long-range plan.

8. Text documenting MSAT analysis. Standard language provided in ***Figure 19-3*** should be used for projects with low potential MSAT effects. For quantitative analysis, guidance provided in the ***FDOT Mobile Source Air Toxics Quantitative Analysis Guidance and Emission Rates Look-up Tables*** should be used.

A sample ***Air Quality Technical Memorandum*** is provided as ***Figure 19-5***.

19.2.4.2 Environmental Document

If it is determined that there are no impacts to air quality, documentation for each Environmental Document is described below:

1. **Type 1 CE**- No impacts to air quality is documented in the general verification checkbox of the ***Type 1 Categorical Exclusion Checklist, Form No. 650-050-12*** that confirms there are no significant impacts.

2. **NMSA**- The answer to question 3. of the ***Non-Major State Action Checklist, Form No. 650-050-30*** can include this statement:

   > 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 (NAAQS) and because the project is expected to [improve/not change] the Level of Service (LOS) and [reduce/not change] delay and congestion on all facilities within the study area.

3. **Type 2 CE, EA, EIS and SEIR**- The Air Quality section of the Environmental Document can state as follows:

   > 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 (NAAQS) and because the project is expected to [improve/not change] the Level of Service (LOS) and [reduce/not change] delay and congestion on all facilities within the study area.

The results documented in the ***Air Quality Technical Memorandum*** are documented in the Environmental Document as described below:

1. **Type 2 CE** - Air quality assessment is summarized in the Air Quality section of the ***Type 2 Categorical Exclusion Determination Form, Form No. 650-000-01***. In the event that an optional screening analysis was performed, supporting

information is documented in the referenced ***Air Quality Technical Memorandum***.

2. **EA** – Air quality assessment is summarized in the EA. In the event that a screening analysis was performed, results documented in the ***Air Quality Technical Memorandum*** are summarized under the Environmental Analysis section of the EA. Also, the results of the appropriate MSAT analysis should be included.

3. **EIS** - The Environmental Analysis section includes a brief summary statement on air quality related issues, including a statement that indicates that there will not be any violations of the ***NAAQS*** for carbon monoxide. This section should summarize results of the air quality analysis documented in the ***Air Quality Technical Memorandum***. Also, the results of the appropriate MSAT analysis should be included.

4. **SEIR** – If an analysis is performed, the results are included in the Environmental Analysis section of the ***State Environmental Impact Report Form, Form No. 650-050-43***. See ***Part 1, Chapter 10, State, Local and Privately Funded Project Delivery*** for more detail on how to prepare a SEIR.

19.3 REFERENCES

Chapter 62-204, F.S., Air Pollution Control – General Provisions.
https://www.flrules.org/gateway/ChapterHome.asp?Chapter=62-204

EPA, 1998. NOx, How Nitrogen Oxides Affect the Way We Live and Breathe. EPA – 456/F-98-005.

EPA, 2016. The Green Book Nonattainment Areas for Criteria Pollutants.
https://www.epa.gov/green-book

EPA, 2014. National Emissions Inventory.
https://epa.gov/air-emissions-inventories/national-emissions-inventory-nei

FDOT, CO FDOT Florida 2012 User's Guide and Screening Model.
https://www.fdot.gov/environment/software/software.shtm

EPA, 2011 National Air Toxics Assessment Results.
https://www.epa.gov/national-air-toxics-assessment/2011-nata-assessment-results

FDOT, MSAT Look-up Tables and Quantitative Analysis Guidance February 2018
http://www.fdot.gov/environment/pubs/MSAT.shtm

FHWA, Advisory T6640.8A, Guidance for Preparing

and Processing Environmental and Section 4(F) Documents, October 30, 1987; available from the FHWA Environmental Guidebook. https://www.environment.fhwa.dot.gov/projdev/impta6640.asp

FHWA, Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents. https://www.fhwa.dot.gov/environment/air_quality/air_toxics/policy_and_guidance/msat/

FHWA, A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives. https://www.fhwa.dot.gov/environment/air_quality/air_toxics/research_and_analysis/mobile_source_air_toxics/msatemissions.cfm

Memorandum of Understanding Between FHWA and FDOT Concerning the State of Florida's Participation in the Surface Transportation Project Delivery Program Pursuant to 23 U.S.C. 327, December 14, 2016. http://www.fdot.gov/environment/pubs/Executed-FDOT-NEPA-Assignment-MOU-2016-1214.pdf

Title 40 CFR Part 93, Determining Conformity of Federal Actions to State or Federal Implementation Plans. http://www.ecfr.gov/cgi-bin/text-idx?tpl=/ecfrbrowse/Title40/40cfr93_main_02.tpl

Title 42 U.S.C. § 85, Subchapter I (Programs and Activities), Part A (Air Quality and Emission Limitations). http://uscode.house.gov/browse/prelim@title42/chapter85/subchapter1/partA&edition=prelim

19.4 FORMS

Non-Major State Action Checklist, Form No. 650-050-30*

State Environmental Impact Report Form, Form No. 650-050-43*

Traffic Data for Air Quality Analysis Form, Form No. 650-050-36

Type 1 Categorical Exclusion Checklist, Form No. 650-050-12*

Type 2 Categorical Exclusion Determination Form, Form No. 650-000-01*

*To be completed in the StateWide Environmental Project Tracker

19.5 HISTORY

8/18/1999, 9/13/2006, 8/24/2016, 6/14/2017: NEPA Assignment and re-numbered from Part 2, Chapter 16

Federal Highway Administration

Policies and Guidance Papers - http://www.fhwa.dot.gov/environment/air_quality/conformity/policy_and_guidance

Air Quality - http://www.fhwa.dot.gov/environment/air_quality/

Transportation conformity - http://www.fhwa.dot.gov/environment/conform.htm

Florida Department of Environmental Protection

Current air quality rules (Chapter 62-4, F.A.C.) –.
http://www.dep.state.fl.us/air/rules/current.htm

General Air Quality Publications.
http://www.dep.state.fl.us/air/publication/general.htm

U.S. Environmental Protection Agency

Tier 3 Vehicle Emission and Fuel Standards Program.
http://www3.epa.gov/otaq/tier3.htm

What Are the Six Common Air Pollutants?
https://www.epa.gov/criteria-air-pollutants

National Ambient Air Quality Standards (NAAQS). https://www.epa.gov/criteria-air-pollutants/naaqs-table

CAL3QHC Model.
https://www.epa.gov/scram/air-quality-dispersion-modeling-preferred-and-recommended-models#cal3qhcx

Guidance on Hot Spots Analysis for PM_{10} and $PM_{2.5}$.
http://www.epa.gov/otaq/stateresources/transconf/projectlevel-hotspot.htm

Motor Vehicle Emission Simulator (MOVES) Model.
http://www.epa.gov/otaq/models/moves/

State Implementation Plans (Region 4).
https://www.epa.gov/sips-fl

2011 NATA: Assessment Results
https://www.epa.gov/national-air-toxics-assessment/2011-nata-assessment-results

Figure 19-1 Air Quality Information Sources

TRAFFIC DATA FOR AIR QUALITY ANALYSIS

Date: _____ Prepared by: _____

Financial Management Number(s): _____

Federal Aid Number(s): _____

Project Description: _____

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).

==========

Opening Year: _____

Intersections: Build_____ No-Build_____

Land Use: Urban_____, Suburban_____, or Rural _____

Build/ No-Build	EB			WB			NB			SB		
	No. of Lanes	VPH	Spd	No. of Lanes	VPH	Spd	No. of Lanes	VPH	Spd	No. of Lanes	VPH	Spd
Build												
No-Build												

==========

Design Year: _____

Intersections: Build_____ No-Build_____

Land Use: Urban_____, Suburban_____, or Rural _____

Build/ No-Build	EB			WB			NB			SB		
	No. of Lanes	VPH	Spd	No. of Lanes	VPH	Spd	No. of Lanes	VPH	Spd	No. of Lanes	VPH	Spd
Build												
No-Build												

Figure 19-2 Sample Traffic Data for Air Quality Analysis Form

MSAT Standard Language

[USE THIS LANGUAGE FOR EAs OR EISs THAT ARE EXEMPT FROM MSAT ANALYSIS]

The purpose of this project is to (*insert major deficiency that the project is meant to address*) by constructing (*insert major elements of the project*). This project has been determined to generate minimal air quality impacts for Clean Air Act criteria pollutants and has not been linked with any special mobile source air toxic (MSAT) concerns. As such, this project will not result in changes in traffic volumes, vehicle mix, basic project location, or any other factor that would cause a meaningful increase in MSAT impacts of the project from that of the No-Build alternative.

Moreover, Environmental Protection Agency (EPA) regulations for vehicle engines and fuels will cause overall MSAT emissions to decline significantly over the next several decades. Based on regulations now in effect, an analysis of national trends with EPA's MOVES2014 model forecasts a combined reduction of over 90 percent in the total annual emissions rate for the priority MSAT from 2010 to 2050 while vehicle-miles of travel are projected to increase by over 45 percent (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, October 12, 2016). This will both reduce the background level of MSAT as well as the possibility of even minor MSAT emissions from this project.

[USE THIS LANGUAGE FOR EAs OR EISs THAT REQUIRE QUALITATIVE MSAT ANALYSIS]

Introduction

A qualitative analysis provides a basis for identifying and comparing the potential differences among MSAT emissions, if any, from the various alternatives. The qualitative assessment presented below is derived in part from a study conducted by FHWA entitled A Methodology for Evaluating Mobile Source Air Toxic Emissions Among Transportation Project Alternatives.

MSAT Effects Consideration

[Select the appropriate language based on the purpose of the project (widening, interchanges or freight focus projects). Modify the language to meet the project context.]

A. Widening Projects and Interchange Projects

For each alternative analyzed in this EA/EIS (*specify*), 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 each of the Build Alternatives is slightly higher than that for the No-Build Alternative, because the additional capacity increases the efficiency of the roadway and may attract some trips from elsewhere in the transportation network. Refer to Table ___ (*specify*).

Figure 19-3 Mobile Source Air Toxics (MSAT) Standard Language

This increase in VMT would lead to higher MSAT emissions for the recommended alternative along the highway corridor, along with a corresponding decrease in MSAT emissions along the parallel routes. The emissions increase is offset somewhat by lower MSAT emission rates due to increased speeds; according to the Environmental Protection Agency's (EPA) MOVES2014 model, emissions of all priority MSAT decrease as speed increases. Because the estimated VMT under each of the Alternatives are nearly the same, varying by less than ___ (*specify*) percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions 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 (Refer to Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, October 12, 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 so great (even after accounting for VMT growth) that MSAT emissions in the project area are likely to be lower in the future in nearly all cases.

[Include the following paragraph if the project will construct travel lanes closer to populated areas, such as residences, schools and businesses.]

The proposed improvements may have the effect of moving some traffic closer to nearby populated areas; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT could be higher under certain 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.

B. Improvements or Expansions to Intermodal Centers or Other Projects that Affect Truck Traffic

For each alternative in this EIS/EA (*specify*), the amount of mobile source air toxics (MSAT) emitted would be proportional to the amount of truck vehicle miles traveled (VMT) and rail activity, if other variables (*such as travel not associated with the intermodal center*) are the same for each alternative. The truck VMT and rail activity estimated for each of the Build Alternatives are higher than that for the No-Build

Figure 19-3 Mobile Source Air Toxics (MSAT) Standard Language (Page 2 of 4)

Alternative, because of the additional activity associated with the expanded intermodal center. Refer to Table ___ (specify). This increase in truck VMT and rail activity associated with the Build Alternatives would lead to higher MSAT emissions (particularly diesel particulate matter) near the intermodal center. The higher emissions could be offset somewhat by two factors: 1) the decrease in regional truck traffic due to increased use of rail for inbound and outbound freight; and 2) increased speeds on area highways due to the decrease in truck traffic. The extent to which these emissions decreases will offset intermodal center-related emissions increases is not known.

Because the estimated truck VMT and rail activity under each of the Build Alternatives are nearly the same, varying by less than ___ (specify) percent, it is expected there would be no appreciable difference in overall MSAT emissions among the various alternatives. Also, regardless of the alternative chosen, emissions will likely be lower than present levels in the design year because of the Environmental Protection Agency's (EPA) national control programs that are projected to reduce annual MSAT emissions by over 90 percent from 2010 to 2050 (Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, October 12, 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 EPA-projected reductions are so significant (even after accounting for VMT growth) that MSAT emissions in the study area are likely to be lower in the future as well.

[*The following discussion may apply if the intermodal center is close to other development.]*

The additional freight activity contemplated as part of the project alternatives will have the effect of increasing diesel emissions near nearby homes, schools, and businesses; therefore, under each alternative there may be localized areas where ambient concentrations of MSAT would be higher than under the No-Build alternative. The localized differences in MSAT concentrations would likely be most pronounced under Alternatives _____ (specify). However, as discussed above, the magnitude and the duration of these potential differences cannot be reliably quantified due to incomplete or unavailable information in forecasting project-specific health impacts. Even though there may be differences among the Alternatives, on a region-wide basis, EPA's vehicle and fuel regulations, coupled with fleet turnover, will cause substantial reductions over time that in almost all cases the MSAT levels in the future will be significantly lower than today.

[Insert a description of any emissions-reduction activities that are associated with the project, such as truck and train idling limitations or technologies, such as auxiliary power units; alternative fuels or engine retrofits for container-handling equipment, etc.]

Figure 19-3 Mobile Source Air Toxics (MSAT) Standard Language (Page 3 of 4)

Overall, the Build Alternatives in the design year could be associated with higher levels of MSAT emissions in the study area, relative to the No-Build Alternative, along with some benefit from improvements in speeds and reductions in region-wide truck traffic. There also could be slightly higher differences in MSAT levels among Alternatives in a few localized areas where freight activity occurs closer to homes, schools, and businesses. Under all alternatives, MSAT levels are likely to decrease over time due to nationally mandated cleaner vehicles and fuels.

Incomplete or Unavailable Information for MSAT Effects Analysis

Documentation of qualitative analysis in the Air Quality Technical Memo should be concluded by a 40 CFR Part 1502 assessment of incomplete or unavailable information. Refer to Appendix C of the Updated Interim Guidance on Mobile Source Air Toxic Analysis in NEPA Documents, Federal Highway Administration, October 12, 2016 for details.

Figure 19-3 Mobile Source Air Toxics (MSAT) Standard Language (Page 4 of 4)

MSAT Mitigation Strategies

Lessening the effects of mobile source air toxics should be considered for projects with substantial construction-related MSAT emissions that are likely to occur over an extended building period, and for post-construction scenarios where the NEPA analysis indicates potentially meaningful MSAT levels. Such mitigation efforts should be evaluated based on the circumstances associated with individual projects, and they may not be appropriate in all cases. However, there are a number of available mitigation strategies and solutions for countering the effects of MSAT emissions.

Mitigating for Construction MSAT Emissions

Construction activity may generate a temporary increase in MSAT emissions. Project-level assessments that render a decision to pursue construction emission mitigation will benefit from a number of technologies and operational practices that should help lower short-term MSAT. In addition, the Federal Highway Administration has supported a host of diesel retrofit technologies in the Congestion Mitigation and Air Quality Improvement (CMAQ) Program provisions – technologies that are designed to lessen a number of MSATs

Construction mitigation includes strategies that reduce engine activity or reduce emissions per unit of operating time, such as reducing the numbers of trips and extended idling. Operational agreements that reduce or redirect work or shift times to avoid community exposures can have positive benefits when sites are near populated areas. For example, agreements that stress work activity outside normal hours of an adjacent school campus would be operations-oriented mitigation. Verified emissions control technology retrofits or fleet modernization of engines for construction equipment could be appropriate mitigation strategies. Technology retrofits could include particulate matter traps, oxidation catalysts, and other devices that provide an after-treatment of exhaust emissions. Implementing maintenance programs per manufacturers' specifications to ensure engines perform at EPA certification levels, as applicable, and to ensure retrofit technologies perform at verified standards, as applicable, could also be deemed appropriate. The use of clean fuels, such as ultra-low sulfur diesel, biodiesel, or natural gas also can be a very cost-beneficial strategy.

Post-Construction Mitigation for Projects with Potentially Significant MSAT Levels

Travel demand management strategies and techniques that reduce overall vehicle-mile of travel; reduce a particular type of travel, such as long-haul freight or commuter travel; or improve the transportation system's efficiency will mitigate MSAT emissions. Examples of such strategies include congestion pricing, commuter incentive programs, and increases in truck weight or length limits. Operational strategies that focus on speed limit enforcement or traffic management policies may help reduce MSAT emissions even

Figure 19-4 Examples of Mitigation Strategies for MSAT Emissions

beyond the benefits of fleet turnover. Well-traveled highways with high proportions of heavy-duty diesel truck activity may benefit from active Intelligent Transportation System programs, such as traffic management centers or incident management systems. Similarly, anti-idling strategies, such as truck-stop electrification can complement projects that focus on new or increased freight activity.

Planners also may want to consider the benefits of establishing buffer zones between new or expanded highway alignments and populated areas. Modifications of local zoning or the development of guidelines that are more protective also may be useful in separating emissions and receptors.

The initial decision to pursue MSAT emissions mitigation should be the result of interagency consultation at the earliest juncture. Options available to project sponsors should be identified through careful information gathering and the required level of deliberation to assure an effective course of action. Such options may include local programs, whether voluntary or with incentives, to replace or rebuild older diesel engines with updated emissions controls. Information on EPA clean diesel programs can be found at https://www.epa.gov/cleandiesel.

Figure 19-4 Examples of Mitigation Strategies for MSAT Emissions (Page 2 of 2)

Date:

To: Name, Title

From: Name, Title

Subject: Financial Management Number(s)_____
Air Quality Screening Test
Project Description,
_____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 FDOT pursuant to 23 U.S.C. § 327 and a Memorandum of Understanding dated December 14, 2016 and executed by FHWA and FDOT.

The proposed project is located in _____ County, an area currently designated as being *attainment/non-attainment/maintenance* for the following criteria air pollutant(s) *ozone/nitrogen dioxide/particulate matter (2.5 microns in size and 10 microns in size)/sulfur dioxide/carbon monoxide/lead*.

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 Florida Department of Transportation's (FDOT's) screening model for CO uses the latest 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-and eight-hour **National Ambient Air Quality Standards** (**NAAQS**) for CO.

The roadway intersection forecast to have the highest total approach traffic volume was *name of intersection*. The Build and No-Build scenarios for both the opening year (*year*) and the design year (*year*) were evaluated. The traffic data input used in the evaluation is attached to this memorandum.

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- or eight-hour **National Ambient Air Quality Standards** (**NAAQS**) for this pollutant with either the No-Build or Build alternatives. As such, the project "passes" the screening model. The results of the screening model are attached to this memorandum.

[For projects in non-attainment or maintenance areas also include the following paragraph]
The project is located in an area that has been designated as non-attainment/maintenance for the averaging time **National Ambient Air Quality Standard** for pollutant under the criteria provided in the Clean Air Act. This project is included in the urban area's current approved conforming **Transportation Improvement Program (TIP),** the area's conforming long-range plan, and the area's **Conformity Determination Report**. The project's design concept and scope are the same as that which were evaluated in the conforming **TIP** and long-range plan. A copy of FDOT's memorandum documenting conformity for the project is attached.

Figure 19-5 Sample Air Quality Technical Memorandum