# Environment Assessment and Environmental Impact Statements

Project Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Air Quality Specialist \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Senior Reviewer \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_

ODOT Air Quality Reviewer\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

[ ]  All tasks included in the SOW for Air Quality were completed

## Table of Contents

### Summary

[ ]  Concise description of the project and alternatives

[ ]  A summary of the regulatory setting

[ ]  A list of the methods used – generally that EPA-approved models and normally accepted methods were used

[ ]  A brief statement of the characteristics of the affected environment

[ ]  A comparison and discussion of the impacts of all alternatives, including the no build

[ ]  A statement of any special issues such as ISCP, unusual construction conditions, or special emissions issues

[ ]  A statement of findings for MSAT, GHG if applicable, regional, and hot spot conformity.

[ ]  The conformity statement must include a specific reference to the conforming Regional Transportation Plan/Transportation Improvement Program (RTP/TIP) and a statement that the project described in the conforming RTP/TIP is the same in design and scope as the project described in the proposed alternatives analysis.

### Introduction

[ ]  Purpose of the report

[ ]  Project purpose and need

### Alternatives

[ ]  Project description by alternative

[ ]  Figures showing project alternatives. Figures should include existing and proposed lane configurations (or describe clearly in narrative).

### Regulatory Setting

[ ]  Federal (NEPA, NAAQs, transportation conformity, MSAT)

[ ]  State (OAQS, Oregon State Toxic Benchmarks)

[ ]  Local (Indirect Source Construction Permit)

[ ]  Table of State and Federal standards for criteria pollutants.

### Methodology

[ ]  Area of potential effect (include on a figure)

[ ]  For quantitative MSAT or GHG MOVES analysis, explain how traffic data was used to select project links for analysis

[ ]  Include figure showing selected links.

Traffic Data (differs by pollutant analyzed)

[ ]  Include traffic data sources (e.g. City of Portland, May XX, 2019)

[ ]  Document guidance documents used to process traffic data for air quality modeling

[ ]  Selection of signalized intersections for CO hot spot, OR [ ]  not applicable

[ ]  Table of LOS data by study year for all scenarios for CO hot spot, OR [ ]  not applicable

[ ]  Tables AADT traffic data, link speeds, and % diesel vehicles for existing year, opening year and future years for all scenarios for MSAT, PM10, or PM2.5 qualitative analysis

[ ]  Document Consultation Meeting with FHWA, ODOT, and others to discuss MOVES input for quantitative MSAT, PM or GHG analysis OR [ ]  not applicable

[ ]  For a quantitative MSAT, PM or GHG MOVES analysis discuss what type of traffic data was requested including details such as, VMT, volumes, % allocation to vehicle type, time period, months and years analyzed, how growth factors may have been applied, and any subcategories in project area OR [ ]  not applicable

[ ]  Discuss traffic speed data allocation to selected links for quantitative MSAT, PM or GHG MOVES analysis OR [ ]  not applicable

**Note: Emission Modeling and Dispersion Models checklist under Environmental consequences**

### Affected Environment

[ ]  Existing land use discussion (proximity to air sensitive populations)

[ ]  General climatic and meteorological conditions in the study area

Include prevailing winds, valley effects, inland/coastal influences, etc.

[ ]  Existing air quality characteristics of local air shed and project area, including:

[ ]  NAAQS status of area (nonattainment, attainment, or maintenance status of each criteria pollutant)

[ ]  Monitoring data and map showing proximity to project area. (if available)

[ ]  Include last time a standard was violated in the project area

[ ]  Air quality trends

[ ]  MSAT trend figure from FHWA interim guidance

[ ]  Current health effects information for Criteria Pollutants

[ ]  Current health effects information for MSATs should be taken directly from the FHWA MSAT guidance cited in the body of this manual.

### Environmental Consequences

[ ]  The proposed project must match the design concept and scope of the project as described in the most recent Transportation Improvement Program (TIP) and STIP by the time the Record of Decision is signed.

[ ]  In Portland, which was previously a CO maintenance area, summarize CO concentrations from the last few CO hot spots conducted. Contact ODOT AQPC for information. OR [ ]  not applicable

[ ]  In attainment areas for regionally significant projects provide comparative discussion of traffic data OR [ ]  not applicable

1. CO Quantitative Hot-Spot (CO maintenance areas include Salem, Medford *UGB, Grants Pass CBD and Klamath Falls UGB.)* (NOTE: CONTACT ODOT FOR CO EMISSION FACTORS)

[ ]  applicable [ ]  not applicable because:

[ ]  Discuss MOVES2014b or newer methodology

[ ]  Table of MOVES inputs (runspec and databases) and outputs (CO concentrations by speed and analysis year) (ODOT Air Quality Specialist will provide CO emission rates and tables summarizing MOVES model inputs)

[ ]  Discuss CAL3QHC modeling methodology.

[ ]  Table of CAL3QHC inputs (See Table 5.3 in AQ Manual)

[ ]  Table of CO concentrations, by intersection and alternative, year, LOS, averaging period to tenths of a ppm. (Include background concentrations and persistence factors if applicable)

[ ]  Figures of receptor locations (or describe clearly in narrative).

[ ]  Prediction site location where the highest CO concentration is expected (in figure or in the narrative) and comparison to all other receptors.

[ ]  Identify exceedances of the CO standard and exceeding intersections.

[ ]  Reference traffic data including signal information in whatever format provided

[ ]  Reference emission and dispersion modeling files

1. CO Qualitative Hot-Spot (If quantitative hotspot analysis not required, e.g. LOS of A, B, or C or other non-intersection project) *(CO maintenance areas include Salem, Medford UGB, Grants Pass CBD and Klamath Falls UGB.)*

[ ]  applicable [ ]  not applicable because:

[ ]  Discuss applicability

[ ]  Discuss changes in traffic volumes, speeds, LOS, delay and V/C between analysis year and scenarios

[ ]  State ‘LOS A, B, or C’ operates well and that no CO impacts are likely to occur.

1. FHWA CO Categorical Hot Spot Finding. *(CO maintenance areas include Salem, Medford UGB, Grants Pass CBD and Klamath Falls UGB.)*

[ ]  applicable [ ]  not applicable because:

[ ]  Discuss applicability

[ ]  Table or web printout showing how project’s parameters fall within the acceptable range of modeled parameters.

1. PM POAQC Evaluation (required only if project located in PM10 and/or PM2.5 area*(PM10 maintenance areas of Medford/Ashland (AQMA), Eugene/Springfield (UGB), Grants Pass (UGB), Lakeview (UGB), La Grande (UGB), Oakridge (UGB) or Klamath Falls (UGB) or EPA designed PM2.5 nonattainment area of Klamath Falls and Oakridge.)*

[ ]  applicable [ ]  not applicable because:

[ ]  Compare AADT volumes, percent diesel vehicles and speeds for each alternative;

[ ]  Compare project AADT and % diesel vehicles to thresholds presented in Appendix B of PM10 and PM2.5guidance document.

[ ]  Determine if the project can be classified as a POAQC? (Refer to 40CFR93.123 (b) (1) and EPA’s Transportation Conformity Guidance for Quantitative Hot-spot Analysis in PM10 and PM2.5Nonattainment and maintenance areas dated November 2015[[1]](#footnote-1).

[ ]  If applicable make the statement, “This project is not a local air quality project of concern and the requirements of the CAAA and 40 CFR 93.116 are met without requiring a hot-spot analysis.”

[ ]  If project is a POAQC, provide same types of documentation as for CO quantitative analysis for the PM10 or PM2.5 quantitative analysis in addition to emission model bullets included below for the MSAT quantitative analysis. Additional bullets would be needed if the AERMOD or CAL3QHCR model were used for dispersion model which should be determined in consultation with ODOT Air Quality Specialist.

## For Analyses I through IV- Report must include ‘Air Quality Conformity Finding’

[ ]  Provide a regional conformity and project level conformity statement unless the project is exempt (see 40 CFR 93.126 - 93.128) or is located in an attainment area.

[ ]  Conformity determination statement should answer following questions:

* + Is the project in a conforming STIP/RTP/TIP (include dates of planning period)?
	+ Does the project cause or contribute to any new hot spot violations of the NAAQS?
	+ Does the project increase the severity and frequency of an existing NAAQS violation or standard?
	+ Does the project delay timely attainment of NAASs, TCM, or a regulation?
1. **MSAT Analysis**

For Exempt and Qualitative MSAT Analysis

[ ]  applicable [ ]  not applicable because:

[ ]  Follow FHWA MSAT interim guidance date October 18, 2016 (or more recent) for exempt and qualitative analysis.

[ ]  Tables summarizing and comparing traffic data for qualitative analysis

[ ]  Include exempt or qualitative MSAT Discussion using prototype language in FHWA MSAT guidance and adjust language for project. The qualitative discussion should include potential effects of alternatives, including no build, on traffic volumes, vehicles mix, and traffic routing.

For Quantitative MSAT Analysis

[ ]  applicable [ ]  not applicable because:

[ ]  Follow FHWA “Frequently Asked Questions (FAQ) for Conducting Quantitative MSAT Analysis” for FHWA NEPA documents for Quantitative MSAT

[ ]  Document interagency coordination of modeling methodology

[ ]  Include all traffic information used in tables and if too big electronically (VMT, roadway length, speed, AADT, % diesel vehicles for existing, no build and build scenarios) (See Section 5.2.3.4)

[ ]  Figure showing roadway links selected for analysis if not previously included

Emission Model

[ ]  applicable [ ]  not applicable because:

[ ]  Model version used

[ ]  Table of MOVES runspec input and database managers

[ ]  Discuss the general analysis approach used and the analysis years considered for the project

[ ]  Discuss geographic area considered in the analysis and any sensitive land use

[ ]  Discuss the project specific data used in the analysis.

[ ]  Include assumptions and data sources

[ ]  List MSAT emission processes that were modeled in MOVES (e.g. running exhaust, crankcase running exhaust, etc.)

[ ]  Describe preprocessing and post processing methodology.

[ ]  Describe quality control methodology

[ ]  Results

[ ]  Tables and/or figures that compare the differences in total MSAT emission for each priority MSAT between the base year, opening year no-build/build, and design year no-build/build scenarios.

## iV. GHG Analysis Typically for EIS Projects Only

Note: Operational GHG emission analysis can use the same methodology for quantitative MSAT analysis if it is being conducted. If traffic volumes and speeds between build and no build are unchanged, operational GHG emissions may not need to be calculated if comparing build and no build. Outside of EIS, the project team may decide to conduct a GHG Analysis for EA.

[ ]  applicable [ ]  not applicable because:

[ ]  State if a quantitative analysis is available at the planning level that could be referenced at the project level

[ ]  Explain why a quantitative GHG analysis is warranted and what emissions will be included (operational, fuel factor, construction and maintenance)

[ ]  Explain modeling boundary for a GHG analysis

[ ]  MOVES model version used

[ ]  Discuss modeling methodology used and model

[ ]  Table of MOVES runspec and database manager inputs

[ ]  Assumptions and data sources and what model defaults were used

[ ]  Discuss the project specific data inputs used in the analysis (traffic volumes, speeds etc).

[ ]  List GHG emission processes that were modeled in MOVES

[ ]  Describe preprocessing and post processing steps for MOVES inputs and outputs

[ ]  Result Tables and/or figures that compare the differences in GHG operational; emission between the base year, opening year no-build/build, and design year no-build/build scenarios in tons per year

[ ]  Construction emissions in tons per year averaged over years of construction only

[ ]  Discuss methodology for construction and maintenance GHG emission if calculated (FHWA ICE model can be used for construction and maintenance emission within the limitations of the guidance document)

[ ]  Describe other construction emission methodology if ICE not used

### Short-Term (Construction) Effects

[ ]  Discuss air pollutant emissions from construction and any construction mitigation measures.

[ ]  Reference ODOT Standard Specifications

### Indirect Effects

[ ]  Is appropriate indirect effects language included?

### Cumulative Effects

[ ]  Is appropriate cumulative effects language included?

Indirect Source Construction Permit Requirements (only if project is located in Lane County)

[ ]  applicable [ ]  not applicable because:

[ ]  Address requirement and schedule for obtaining an ISCP if needed.

[ ]  State whether an ISCP is required for the project and provide supporting data.

**Mitigation**

[ ]  Include any mitigation considerations for the project and if short-term or long-term.

[ ]  **Contacts and Coordination** (Record of interagency meetings and email exchanges)

[ ]  **References**

[ ]  **List of Preparers**

**Appendices** (Not all are applicable)

[ ]  Regional conformity documentation showing that project is included in TIP or STIP.

[ ]  Tables of traffic data used for the analysis if feasible (for example county level traffic data is too large to provide in appendix as tables).

[ ]  Modeling methodology interagency documentation

[ ]  Tables summarizing MOVES2014b or more recent and CAL3QHC input assumptions, output files, and traffic data.

[ ]  List of all input and output modeling files for MOVES and CAL3QHC if quantitative

[ ]  Electronic copies of all files used for the analysis if quantitative. For MOVES, this includes the database, the runspec files, the excel inputs into the data manager for MOVES tables listed in Table 5-2, output data and spreadsheets used to calculate the end product. The reviewer should be able to recreate the results with the data provided.

[ ]  MSAT Health Effects- include incomplete and/or unavailable information regarding the human and environmental health impacts from MSAT exposure found in the MSAT interim guidance under 40CFR1502.22.

[ ]  MSAT Mitigation Strategies – include applicable information from Appendix E of the interim guidance.

### Modeling Review for Quantitative Analysis

[ ]  applicable [ ]  not applicable because:

[ ]  Dispersion Model- CAL3QHC

[ ]  Traffic data provided by traffic engineer used in modeling for appropriate year and scenario

[ ]  Verify cycle length, red time, volumes, saturated time, emission rate etc.

[ ]  Verify receptor, links and queue coordinates

[ ]  Verify meteorological, surface roughness, land use, settling velocity etc

[ ]  Ensure modeling concentrations include background concentrations and persistence factor

[ ]  MOVES Model

[ ]  Include table of data source for each input.

[ ]  Were the most recent moves input files obtained from DEQ or MPO or ODOT

[ ]  Which input databases were default and is it acceptable

[ ]  FHWA CO Categorical Hot Spot Finding

[ ]  Traffic data provided by traffic engineer used

### Project File

[ ]  Raw and processed traffic data used in MSAT, GHG or hot-spot analyses

[ ]  Emission model inputs and outputs, along with the version of the emissions model used

[ ]  Dispersion model inputs and outputs, along with the version of the dispersion model used

[ ]  Spreadsheets used to summarize model inputs and outputs and/or to prepare tables and graphs for the NEPA

[ ]  Air quality technical report

[ ]  QA/QC records

1. [EPA State and Local Transportation Resources](https://www.epa.gov/state-and-local-transportation) [↑](#footnote-ref-1)