U.S. Department of Transportation
Federal Highway Administration

Federal Highway Administration
RESOURCE CENTER

FHWA Workshop on Transportation Conformity

Day 1 – Conformity 101

Jeff Houk
Michael Claggett
FHWA Resource Center

July 6 – 7, 2006

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity 101

Session I: Course Overview

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Course Description

This course is designed to provide transportation and air quality planners and other stakeholders with <u>an introduction to Transportation Conformity</u>.

- An overview of the transportation and air quality planning processes, and their relationship
- A review of the major requirements of transportation conformity
- Highlights of certain aspects of the conformity process, such as interagency coordination and public participation

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Introductions

- **Instructor(s)**
- **Participant introductions**
  - ❖ What is your name?
  - ❖ For what agency/organization do you work?
  - ❖ What level of experience do you have with conformity?
  - ❖ What are your main questions or concerns, if any?

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Course Learning Outcomes

Upon completion of this course, you should be able to:

1. Identify and explain the different components of transportation conformity.

2. Identify the frequency requirements and triggers for transportation conformity determinations.

3. Describe the roles of various agencies in planning and conformity.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Course Learning Outcomes (continued)

4. Gain an appreciation for the different analytical modeling techniques and data requirements that are needed to support a conformity determination.

5. Explain the consequences of an area's inability to achieve conformity.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Course Overview

Part A: Introduction

- Section I: Course Overview

Part B: Transportation Conformity

- Section II: Conformity Overview
- Section III: Conformity Applicability/Frequency
- Section IV: Major Conformity Requirements
- Section V: Conformity Requirements: Other

Part C: Special Topics

- Section VI: Consequences of SIP Failures and Conformity Lapses
- Section VII: Emissions Estimation and Modeling Basics
- Section VIII: Project-level Conformity
- Section IX: Rural Area Conformity
- Section X: Resources

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Course Logistics

- **Class Time**
- **Breaks and lunch**
- **Location of restrooms**
- **Pre-assessment Tool**

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Questions or Comments?

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity 101

Session II: Conformity Overview

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity – Objectives

- Define transportation conformity
- List three parts of the "heart" of transportation conformity
- Identify roles/responsibilities in the transportation conformity process

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Conformity Overview

Transportation conformity is a process where…

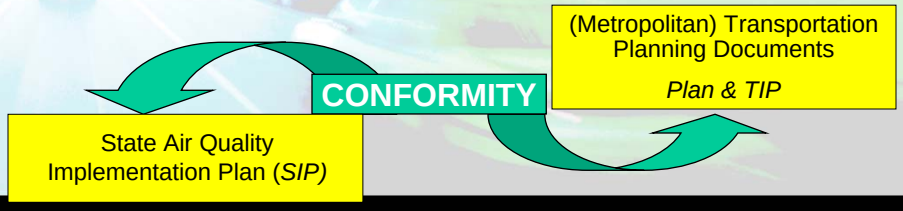
- Transportation plans, programs, and projects are demonstrated to be consistent with the transportation-related elements of a SIP
  - Ensures that Federal funding and approval are given to activities that are consistent with air quality goals

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity: The Link Between Air Quality and Transportation Planning

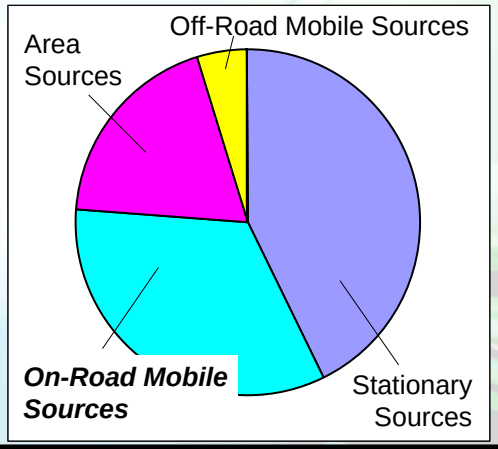
- 1990 CAA amendments added specificity to the relationship between air quality planning and transportation planning
- *Reason:* Controlling mobile sources is critically important to meeting the NAAQS
- Transportation conformity is intended to help the SIP achieve its goal which is to attain the NAAQS



RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity: Address One Piece of the Emissions Pie



- Transportation conformity addresses emissions from on-road mobile sources.
- On-road mobile sources are emissions created by cars, trucks, buses, etc...
- Transportation conformity covers just one piece of the emissions pie...

RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What is Transportation Conformity?

- Requires evaluation of emissions from transportation plans, programs, and projects BEFORE any element may be implemented
- Applies in geographic areas where transportation-related pollutants:
  - Violate national air quality standards
  - Have violated national air quality standards in the past
- **Method to meet Clean Air Act requirements:**
  - Transportation plans, programs and projects do not:
    1. Create new violations of the NAAQS
    2. Increase the frequency or severity of NAAQS violations
    3. Delay timely attainment of the NAAQS

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Who is responsible for conformity?

Numerous agencies are involved in the conformity process, such as:

- ☒ Metropolitan Planning Organizations (MPOs)
- State Departments of Transportation (DOTs)
- State Air Quality Agencies
- ☒ US DOT (Federal Transit Administration (FTA)/Federal Highway Administration (FHWA))*
- US Environmental Protection Agency (EPA)

☒ MPOs and US DOT are responsible for making conformity determinations.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity 101

Session III: Applicability and Frequency Requirements

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Session Overview

- General
  - Applicability of conformity requirements
  - Frequency of conformity determinations
- Specific
  - New nonattainment areas (8-hour ozone and PM2.5)
  - Early Action Compacts

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Applicability of Conformity Requirements

- Conformity only applies in nonattainment and maintenance areas for O_3, CO, NO2, and PM (PM10 and PM2.5)
  - Estimate emissions of a pollutant (and/or its precursors)
- Conformity applies to:
  - Metropolitan plans
  - Metropolitan TIPs
  - Projects
- No conformity requirement on a statewide plan or STIP

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Applicability of Conformity Requirements – *Exceptions*

- A **conformity determination** is not required for exempted projects (40 CFR 93.126), such as:
  - Safety: hazard elimination, guardrails, lighting
  - Transit: vehicle rehabilitation, shelters, maintenance buildings
  - Air Quality: bicycle/pedestrian facilities, continuation of rideshare programs
  - Other: planning studies, noise attenuation, sign removal
- **Project level** conformity determinations are not required for non-federal projects (funding or approval)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Frequency – When is Conformity Required?

Conformity must be determined:

- No less frequently than every 4-years ("*4-year conformity clock*")
- Prior to approval/acceptance of a transportation plan, a TIP, and plan/TIP amendment(s) for non-exempt projects

SAFETEA-LU

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Frequency – When is Conformity Required? (con't)

Conformity must be determined:

- Prior to approval of federal projects (*project-level conformity*)
  - Federal projects involving FHWA/FTA approval/funding
  - Projects must be included in a conforming plan and TIP
- 24 months after certain SIP actions
  - Adequacy finding on the budget in an initial SIP submission
  - Approval of a SIP that creates or revises a budget (*unless the budget was already found adequate and previously used*)
  - EPA promulgates a Federal Implementation Plan which creates or revises a budget

SAFETEA-LU

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

SAFETEA-LU

Frequency – Four Year Conformity Clock

- When does the four year clock start?
  - When FHWA/FTA makes a conformity determination
  - Not when an MPO submits a plan to FHWA/FTA
- The 4-year plan update clock and the 4-year conformity clock are aligned and run on the same schedule
  - Plans can be updated in the interim, but conformity applies to all amendments
- Existing conformity determination will lapse if:
  - More than four years pass after the last transportation conformity determination, *and*
  - There is no new conformity determination.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Frequency – When is Conformity Required for Projects?

- A project level conformity determination is required for all non-exempt federal projects <u>before federal approval</u>
- <u>Redetermination</u> required for:
  - Non-exempt federal projects that have not advanced in three years
  - If a project's design concept and scope have changed significantly

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Conformity in New Nonattainment Areas

- A one year grace period was allowed for newly designated nonattainment areas
  - **8-hour ozone conformity applied June 15, 2005**
  - **PM2.5 conformity applied April 5, 2006**
- At the end of the grace period:
  - FHWA/FTA conformity determination for plan and TIP must be completed
  - Area is subject to conformity frequency requirements
  - The conformity lapse grace period allowed by SAFETEA-LU does not apply to newly designated areas

SAFETEA-LU

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

The 1-hour Ozone Standard

- Revoked June 15, 2005 for most areas
  - Conformity for the 1-hour standard no longer applies
  - 1-Hour SIP commitments still apply (*e.g.*, TCMs)
- Coordinated with date conformity for the 8-hour standard applies
  - To ensure conformity not required for both ozone standards at the same time

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Early Action Compact Areas and Conformity

- 8-hour conformity will not apply in EAC areas, unless an EAC milestone is missed and the nonattainment designation is no longer deferred
- 1-hour conformity applies in 1-hour maintenance areas with EACs until one year after effective date of 8-hour designation, which will be either when:
  - They attain the 8-hour standard, or
  - They miss an EAC milestone (and 8-hour nonattainment designation becomes effective)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Review

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity 101

Session IV: Major Requirements –
Regional Emissions Analysis & Assumptions/Data

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Session Overview

Section A – Regional Emissions Analysis

- Budget Test
- Interim Emissions Tests
- *Highlight*: New Standards (8-hour ozone & PM2.5)
- Exceptions

Section B – Assumptions and Data

- Latest Planning Assumptions
- Latest Emissions Model

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Section A
Regional Emissions Analysis

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Section A Objectives

- Describe the basic requirements of regional emissions analysis.
- Define the tests needed as part of the regional emissions analysis.
- Assess what projects must be included in the regional emissions analysis and how exceptions fit into the process.

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Regional Emissions Analysis: What is it?

- Assessment of regional transportation-related emissions
- Determines the estimated emissions impacts of existing and proposed transportation projects
- Demonstrates that emissions from implementing the transportation plan and TIP are consistent with the SIP

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Regional Emissions Analysis – Requirements

- ✓ Emissions must be estimated from the existing and planned transportation system
- ✓ Must include emissions from:
  - ⌦ FHWA/FTA projects proposed in plan and TIP (needing federal approval or funding)
  - ⌦ All regionally significant projects
- ✓ Must include emissions from all other projects (*all VMT*)
  - ⌦ Non-regionally significant projects do not have specific analysis requirements and are estimated using reasonable professional practice

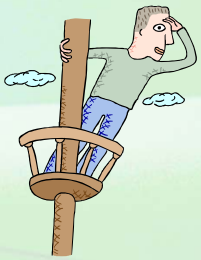
Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

SAFETEA-LU

Conformity Horizon

- **Final year of plan OR**
- **At the election of the MPO and after consultation with air agency and public comment, the longest of:**
  - The first 10-year period of the plan
  - The latest year the SIP has a budget
  - The year after completion of a regionally-significant project if in the TIP, or project requires approval before subsequent determination



Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

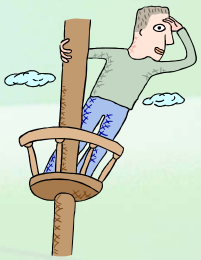
SAFETEA-LU

Conformity Horizon (con't)

Conformity determination must be accompanied by a regional emissions analysis for:

- The last year of the transportation plan
- Any year shown to exceed emission budgets by a prior analysis

This analysis is for informational purposes only.



Federal Highway Administration RESOURCE CENTER

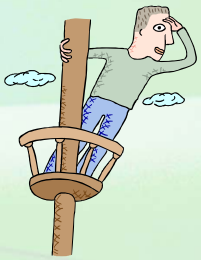
U.S. Department of Transportation
Federal Highway Administration

SAFETEA-LU

Conformity Horizon (con't)

Conformity determination is required to extend only through the last year of the maintenance period when:

- Budgets are found adequate or approved for the second 10-year maintenance plan
- At the election of the MPO after consultation with the air agency and consideration of public comment.



Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Conformity Tests - Overview

- Conformity is determined by applying the applicable test in conducting the regional emissions analysis
  - Budget test
  - Interim emissions test(s)
  - Both the budget and interim emissions test(s)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Conformity Tests – Selection

Based on SIP budget status:

- If SIP is approved or emissions budget is found adequate
  - ➔ Budget test
- If SIP has been submitted but not approved or found adequate
  - ➔ Budget test using an existing, adequate budget if one exists
  - ➔ Interim emissions test(s) for areas without adequate or approved budget
- If SIP has not been submitted
  - ➔ Interim emission test(s) if no existing, adequate or approved budget

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Budget Test

- Conformity is demonstrated using the motor vehicle emissions budgets from the SIP
- Projected emissions from the transportation plan and TIP must be at or below the SIP budgets
- Budgets for conformity can be found in different SIPs:
  - Reasonable Further Progress or Attainment SIPs (*aka*, control strategy SIPs)
  - Maintenance Plans

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Budget Test: Which Years?

- A comparison of the estimated transportation emissions with the budget must be made for:
  - ✓ The attainment year, if in the timeframe of the transportation plan
  - ✓ Any years where a budget is established in the SIP
  - ✓ The last year of the transportation plan
  - ✓ An intermediate year so that analysis years are no more than 10 years apart

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Conformity Tests – Interim Emissions Tests

1. Build/No-build Test
2. Baseline Test
   - For 8-hour ozone and PM2.5, 2002 is the baseline year
   - For all other pollutants, including 1-hour ozone, 1990 is the baseline year

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Interim Emissions Tests – by Pollutant

- Ozone (moderate and above), and CO (moderate* and serious):
  - **Build < no-build test <u>AND</u>**
  - **Less-than baseline test**
- PM10, NO2, PM2.5, other ozone and CO areas:
  - **Build ≤ no-build, <u>OR</u>**
  - **No-greater-than-2002 test**

- The above tests only apply until budgets are found adequate or approved by EPA

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Interim Emission Tests: Which Years?

Emissions from the planned transportation system must be estimated for:

- ✓ A year no more than 5 years in the future from the date of the conformity determination
- ✓ The last year of the transportation plan
- ✓ Intermediate years so that analysis years are no more than 10 years apart

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Regional Emissions Analysis – PM2.5 areas

Direct Emissions
- Exhaust
- Brake and tire wear
- Re-entrained road dust
- Construction dust (highway/transit construction)

Precursors
- NOx
- VOCs
- SOx
- Ammonia (NH3)

RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

PM2.5 Conformity – before and after budgets

Direct Emissions	Before Budgets	After Budgets
Exhaust (tailpipe)	⇨ ☑	⇨ ☑
Brake and tire wear	⇨ ☑	⇨ ☑
Re-entrained road dust	⇨ Not unless SC*	⇨If included
Construction dust	⇨ Not included	⇨If significant/included
Precursors		
NOx	⇨Included, unless not SC	ALL: Required once budget found adequate, if SIP contains a budget for that precursor
VOCs	⇨Not unless SC	
SOx	⇨Not unless SC	
Ammonia (NH3)	⇨Not unless SC	

SC = Significant Contributor

RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Exceptions:
Relying on a Previous Regional Emissions Analysis

Areas can rely on the previous regional emissions analysis if:

- ☑ No regionally significant projects are added or deleted
- ☑ Projects are consistent with the plan
- ☑ The previous 20-year analysis is less than 4 years old
- ☑ No additional years are being added to the plan
- ☑ The previous regional emissions analysis passes all the existing budget(s) (i.e., no new budgets since last determination)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Exceptions to the Regional Emissions Analysis Requirements

- No emissions analysis is required for a pollutant/precursor in the following circumstances:
  - Adequate or approved limited maintenance plan
  - Adequate or approved SIP that demonstrates insignificance of transportation sector emissions
  - Ozone areas with a NOx waiver…
- Note: Even when a regional emissions analysis is not required, a conformity determination is still required.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Section B
Assumptions and Data

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Section B Objective

- Define the latest planning assumptions and emissions model requirements.

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Latest Planning Assumptions / Latest Emissions Model: Requirements

- Conformity determinations must be based on:
  - The latest planning assumptions *in force at the time the conformity analysis begins*, and
  - The latest EPA-approved emissions factor model
- Ensures that conformity determinations are based upon current and best available information
- Latest planning assumptions and emissions model for conformity may be different than what was used in the SIP

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Latest Planning Assumptions

- MPOs must use the most recent information available for planning assumptions
  - Population
  - Employment
  - Vehicle registration
  - Fleet assumptions
  - Speed data, etc.
- Interagency consultation should be used to decide when updates are necessary
- Requirements for latest planning assumptions (40 CFR 93.110) and guidance are available.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Latest Emissions Model Requirement

- Latest EPA-approved emissions factor model used for conformity may be different than the model used in the SIP
- Current Model:
  - MOBILE6.2 in all states EXCEPT
    - California, where EMFAC2002 is the emissions factor model
  - AP-42 for dust, except where otherwise approved by EPA

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

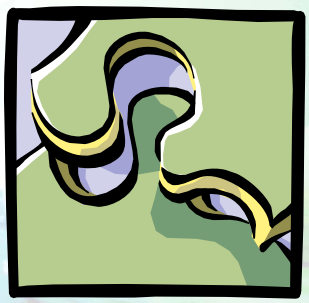
Latest Emissions Model (con't)

- Conformity rule provides a 3 to 24 month grace period before a new model must be used
- The requirement to use a new model for conformity does not trigger a requirement to update the motor vehicle emissions budget which may have been developed with another model
  - States can choose to do so (e.g., during the grace period)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Review



Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity 101

Session V: Other Major Requirements

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Session Overview and Objectives

Section A – Interagency Consultation & Public Involvement

- Describe requirements
- Identify key participants

Section B – Transportation Control Measures

- Define TCM
- Identify types of TCMs

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Section A
Interagency Consultation & Public Involvement

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Interagency Consultation - Overview

- **A collaborative process between organizations on key elements of transportation and air quality planning is:**
  - Required in all nonattainment and maintenance areas
  - Formally integrated into a SIP and legally enforceable by a state court

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Interagency Consultation – Roles and Responsibilities

- **Regulations require the participation of all relevant agencies in interagency consultation**
  - Not all agencies are required to participate in every activity covered by interagency consultation
- **Typical key participants include:**
  - MPO(s)
  - State transportation agency
  - State air quality / environmental agency
  - US DOT (FHWA/FTA)
  - US EPA

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Interagency Consultation Procedures

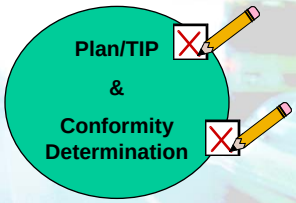
- **Formally included in the Conformity SIP**
- **Required within:**
  - 12 months of an area's designation from attainment to nonattainment
  - 12 months of the date rule amendments are published in the Federal Register
- **SIP must be enforceable in a state court. Possible formats include:**
  - State rulemaking
  - A memorandum of understanding
  - Environmental board resolutions (In some cases)
  - Air agency administrative orders (In some cases)

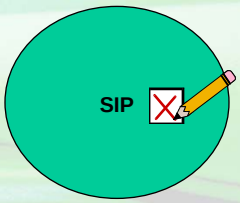
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Interagency Consultation Procedures Describe How…

MPOs, state DOTs, and US DOT **will work with:** State/local air agencies and US EPA





Consultation is required on the development of these plans/documents.

RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Major Interagency Consultation Activities

- ✓ Evaluate and choose models
- ✓ Evaluate and choose methods and assumptions for regional and hot-spot analyses
- ✓ Determine which projects are regionally significant
- ✓ Determine whether exempts projects should be deemed non-exempt
- ✓ Address implementation issues for TCMs
- ✓ Evaluate events which trigger new conformity determinations
- ✓ Assure notification of regionally significant non-federal projects
- ✓ Discuss location, design concept and scope of projects

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Public Involvement

- **Conformity rule requires a "proactive public involvement process"**
  - Relies upon transportation planning process/requirements
  - Public should be involved in the development process

⌦ **Provide opportunity for public review and comment**

- At a minimum…
  - Provide reasonable public access to technical and policy information at the beginning of the comment period and prior to taking formal action

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Section B
Transportation Control Measures (TCMs)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What is a TCM?

- Conformity rule defines TCMs as:
  - Emissions control measures listed in Clean Air Act Section 108
  - Any measure focused on reducing vehicle use or traffic/congestion
- Conformity rule excludes vehicle or fuel technologies (e.g., inspection and maintenance programs, reformulated gasoline) from the definition of TCMs

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Control Measures

Please see HANDOUT

CAA Section 108(f) measures

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

TCM Basics

- TCMs can be included as a SIP control measure or contingency measure
- CMAQ funding is available for TCMs (except vehicle retiring program)
- <u>Timely implementation of TCMs in approved SIPs must be shown as part of conformity determination</u>

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Timely Implementation of TCMs: Requirement

- Implementation of TCMs in plans and TIPs must match the schedule in SIP
- If TCMs fall off schedule, areas must show:
  - Past obstacles have been identified and remedied
  - State & local agencies with funding authority are giving implementation of TCMs priority
- If TCMs fall off schedule and area no longer wants to implement the TCM:
  - Substitute TCMs can replace or be added to existing TCMs in approved SIPs, under certain conditions

SAFETEA-LU

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

TCM Substitution

SAFETEA-LU

- Substitute TCMs must…
  - Achieve equal/greater reductions
  - Have a schedule consistent with existing TCM
  - Include adequate personnel, funding, and enforcement
  - Have a collaborative process
  - Have concurrence by MPO, state air agency, and EPA

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

TCM Substitution (con't)

SAFETEA-LU

- Concurrence by MPO, state air agency, and EPA constitutes adoption and substitute TCM becomes part of SIP
- State air agency submits substitute TCM to EPA within 90 days to codify in SIP
- No substitution mechanism is needed in SIP
- No new conformity determination or SIP revision needed
- Substitute adoption rescinds previous TCM

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Other Transportation Measures

- Other measures can be used to reduce emissions
  - Enhanced inspection & maintenance programs
  - Reformulated gasoline
- These are not TCMs for the purpose of conformity
- Legal requirement to implement if in the SIP
- Shortfall in projected emissions reductions can cause conformity issues

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Control Measures in the Plan / TIP

- Transportation control measures which reduce emissions can be implemented in Plan/TIP <u>without being in the SIP</u>
- Credit should be taken in regional emissions analysis
  - Off-model analysis may be required to estimate the benefits of control measures

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Review

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity 101

Session VI: Consequences of SIP Failures and Conformity Lapses

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Section Overview and Objectives

- **Conformity Lapse**
  - Define conformity lapse
  - Identify lapse triggers
  - List types of projects that may proceed in a lapse
- **Conformity Freeze**
  - Define conformity freeze
- **SIP Issues/Failures**
  - Identify SIP issues and consequences

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Definition of a Conformity Lapse

"...Lapse means that the conformity determination for a transportation plan or TIP has expired, and thus <u>there is no currently conforming transportation plan / TIP</u>."

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What Causes a Conformity Lapse?

A conformity lapse may be caused by:

- Failure to meet the 4-year frequency requirement for conformity redetermination
- Failure to redetermine conformity within 24-months when required by SIP changes or a FIP
- SIP failures
- Failure to meet the planning regulations frequency requirements

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Lapse Timing – 12 Month Grace Period

SAFETEA-LU

- SAFETEA-LU provides that a lapse will not occur until 12 months after an applicable deadline is missed.
  - Such as 4-year frequency clock or 24-month SIP budget clock
- This provision took effect on August 5, 2005, when SAFETEA-LU was signed into law.
- This provision does not apply to newly designated areas.
  - Such as new PM2.5 nonattainment areas
- Grace periods can not accumulate. Only one 12 month grace period is allowed, based on the first missed deadline.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Consequences of a Conformity Lapse

- Only certain types of projects can proceed during a conformity lapse
- During conformity lapse, no new plans, TIPs, or non-exempt projects can be approved until:
  - The plan and TIP are found to conform; either
    - » The plan and TIP are changed, or
    - » The SIP is changed, or
    - » Both.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Projects and Funding During a Lapse

- States do not lose transportation funding during a lapse
- Only some types of transportation projects may proceed for purposes of funding and implementation:
  - ✓ **All exempt projects:**
    - exempt projects (e.g., safety projects) (93.126)
    - projects exempt from regional analyses (93.127)
    - traffic signal synchronization (93.128)
  - ✓ **Transportation control measures (TCMs) in an approved SIP**
  - ✓ **Any FHWA/FTA project phase approved prior to the lapse**
  - ✓ **Any regionally significant non-federal project that had received all approvals prior to the lapse**
  - ✓ **Non-regionally significant non-federal projects**

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Interim Plan and TIP

- If a lapse is expected to be lengthy, an MPO can prepare an Interim Plan and TIP in order to proceed with eligible projects
- State and local agencies should determine:
  - If the lapse may last longer than six months
  - If resources are better spent on redetermining conformity by correcting deficiencies

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

SIP Disapprovals

- Some SIP disapprovals can have problematic conformity consequences
  - 15%, RFP SIPs
  - Attainment SIPs
  - NOT maintenance plans

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

SIP Disapproval Consequences

- If a SIP is disapproved with a protective finding:
  - Lapse may still occur
  - Lapse begins when highway sanctions are imposed
  - Effective 2-years after the date of the EPA disapproval

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

SIP Disapproval Consequences (con't)

- A SIP disapproval <u>without</u> a protective finding results in a **conformity freeze** on the effective date of EPA's final disapproval
  - A freeze precludes any new plan or TIP conformity findings from being made until:
    - » The state submits a new SIP
    - » EPA finds the motor vehicle emissions budgets adequate or approves the budgets for conformity purposes

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Conformity Freeze

- During a freeze all new transportation plans / TIPs or projects are affected
  - Only projects that are included in the first three years of the transportation plan / TIP may go forward
  - No new projects (or project phases) not in the first three years of the plan / TIP may be found to conform
  - No new plans, TIPs, or plan / TIP amendments may be found to conform
- Exempt projects can proceed at any time as long as all planning requirements are met.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Conformity Freeze (con't)

- The freeze will turn into a lapse in conjunction with the imposition of highway sanctions
- Normally occurs two years after the effective date of EPA's SIP disapproval without a protective finding
- A lapse could also occur if the current plan or TIP expires during the freeze since no new plans / TIPs can be adopted

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

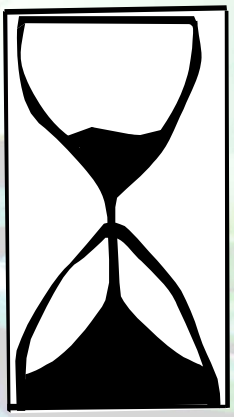
Conformity Consequences: Other SIP Failures

- For failure to submit a SIP and for a SIP that has been found incomplete:
  - Lapse occurs when highway sanctions are applied
  - Occurs 2 years after effective date of EPA's action
- Applies to 15%, ROP and attainment SIPs not maintenance plans

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Review



Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity 101

Session VII: Emissions Estimation & Modeling Basics

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Session Objective

⌦ Describe emissions estimation process and requirements.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What is the Requirement?

- All nonattainment and maintenance areas must estimate all vehicle miles of travel (VMT) for the regional emissions analysis
- VMT is estimated based upon the existing system and any new projects
  - Some elements must be modeled
  - Other elements are estimated without modeling
    - Non regionally significant projects and TCMs
    - Use reasonable professional practice

  ⌦ No projects are exempt from VMT estimates

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Relationship of VMT to Conformity

- VMT and speeds are the important variables for determining transportation conformity
- VMT estimating and forecasting procedures are important topics for interagency coordination.
- VMT estimates are used in each:
  - Emissions inventory
  - Emissions budget
  - Regional emissions analysis

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Methods of VMT Estimation

- Travel demand modeling
- Traffic count programs
- HPMS data (Highway Performance Monitoring System)
  - Interstate system
  - Arterials, collectors, and rural areas (more limited data)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

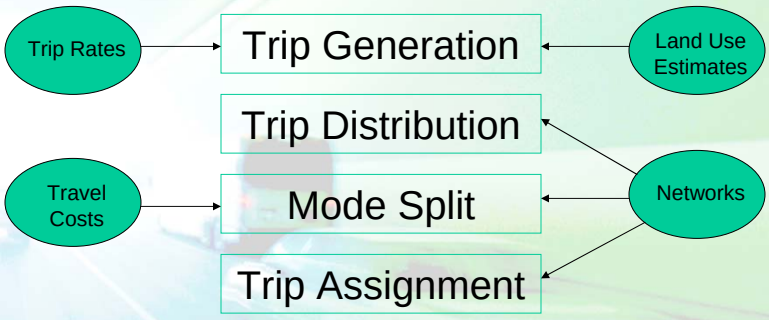
Travel Demand Model: What is it?

- Series of mathematical equations, parameters, and data that are used to represent how choices are made when people travel
  - How, when, and where?
  - Travel characteristics
  - Transportation system characteristics
- Transportation Network: a mathematical representation of an area's transportation facilities

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Travel Demand Model (con't)



Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Non-modeling VMT Estimation

- Traffic Count Programs
  - County government
  - ITS programs
  - Traffic control centers
  - State DOT
- HPMS
  - Nationally-collected
  - Statewide accuracy
  - All facilities except local

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Emissions Estimation: Requirement

- <u>Conformity determinations (and SIPs) must use the latest emissions model</u>
  - **MOBILE6.2**
    - Ozone, CO, PM2.5, and PM10 areas
  - **AP- 42** (December 2003 version)
    - PM2.5 and PM10 areas that include fugitive dust (construction-related or road) in conformity analyses
  - **EMFAC2002**
    - California

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What is MOBILE6.2?

- Computer model developed by U.S. EPA
- Predicts emissions rates from on-road motor vehicles (grams per mile – g/mile)
- Does NOT calculate absolute emissions
  - Calculates emission factors for different vehicle types (Cars, trucks buses, motorcycles, etc.)
  - Combines with regional activity data (VMT) from the travel model to produce absolute emissions
- MOBILE6.2 allows user to input variables that reflect local conditions, fuels, and emissions control programs, etc.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What is MOBILE6.2? (con't)

- Uses 5 types of information to estimate motor vehicle emissions:
  - Local environmental conditions (temperature, humidity, altitude, month and year of analysis)
  - Vehicle fleet characteristics (vehicle age distribution, fraction of diesel vehicles, etc.)
  - Vehicle activity (fraction of VMT traveled by type of vehicle, type of roadway, speed distribution, etc.)
  - Vehicle fuel specifications
  - Types of national/local emission control programs

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Uses of MOBILE6.2

MOBILE6.2 may be used to develop:

- SIP inventories and budgets
- Conformity determinations
- Environmental impact statements
- Inputs for hot-spot analyses
- Determine air quality policies based on motor vehicle use

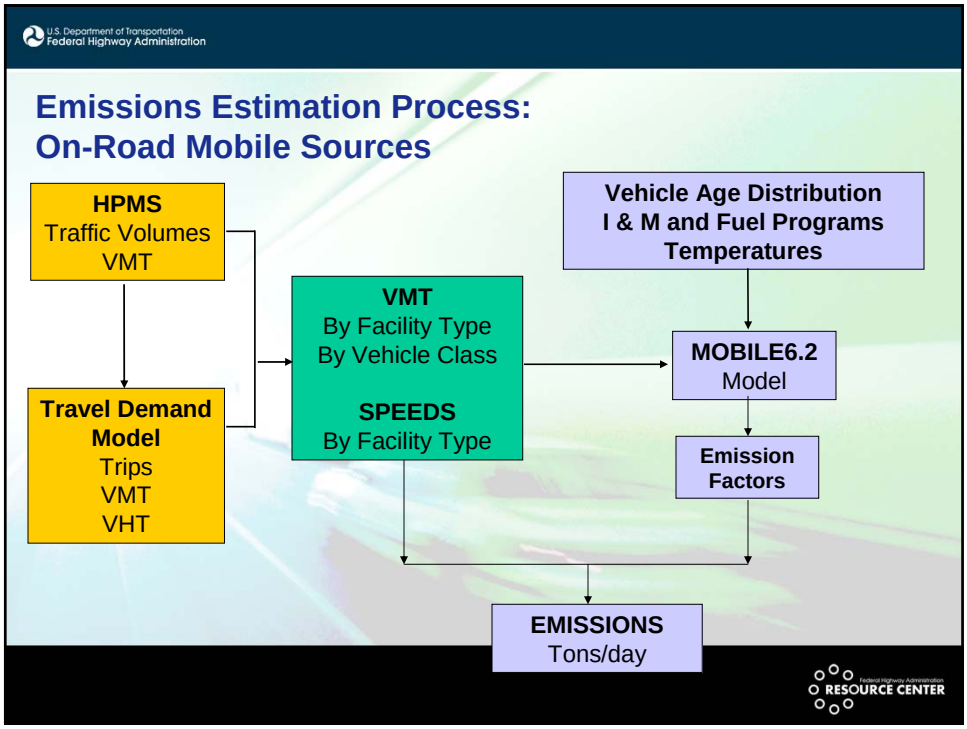
Federal Highway Administration RESOURCE CENTER

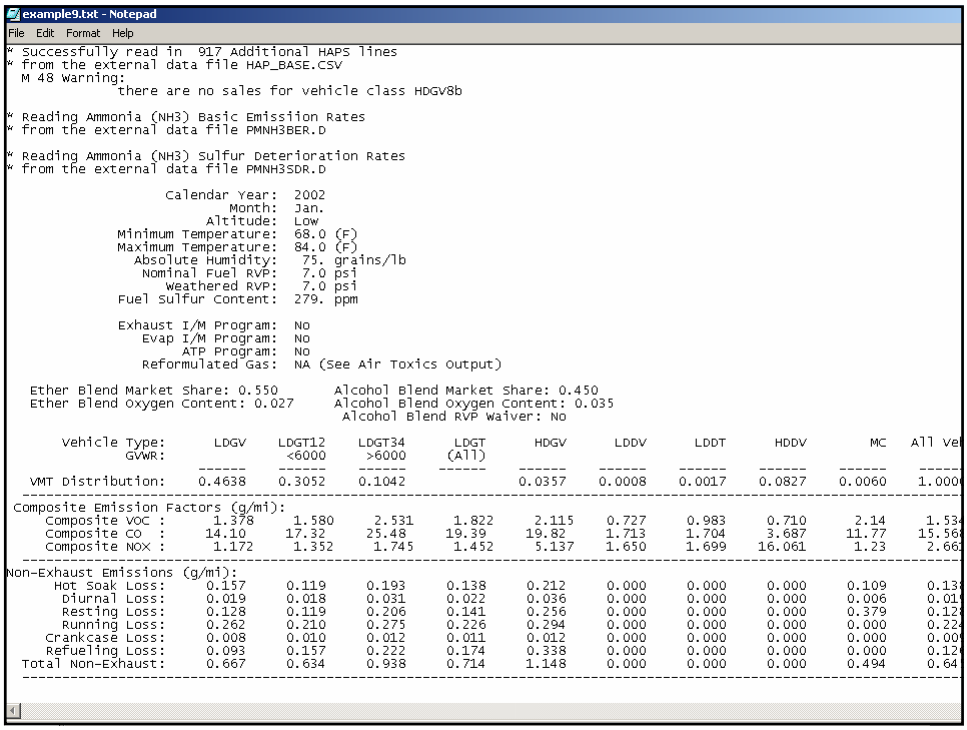
U.S. Department of Transportation
Federal Highway Administration

Key Transportation Data Affecting MOBILE6.2 Emissions Estimates

- Vehicle registration data (age)
- Vehicle classification (mix)
- Vehicle speeds
- Trip starts per day (not required)
- Roadway type

Federal Highway Administration RESOURCE CENTER





example9.txt - Notepad

File Edit Format Help

```
* Successfully read in  917 Additional HAPS lines
* from the external data file HAP_BASE.CSV
  M 48 Warning:
              there are no sales for vehicle class HDGV8b

* Reading Ammonia (NH3) Basic Emissiion Rates
* from the external data file PMNH3BER.D

* Reading Ammonia (NH3) Sulfur Deterioration Rates
* from the external data file PMNH3SDR.D

                    Calendar Year:  2002
                            Month:  Jan.
                         Altitude:  Low
             Minimum Temperature:  68.0 (F)
             Maximum Temperature:  84.0 (F)
               Absolute Humidity:   75. grains/lb
                Nominal Fuel RVP:   7.0 psi
                   Weathered RVP:   7.0 psi
             Fuel Sulfur Content:  279. ppm

             Exhaust I/M Program:  No
                Evap I/M Program:  No
                    ATP Program:  No
               Reformulated Gas:  NA (See Air Toxics Output)

   Ether Blend Market Share: 0.550       Alcohol Blend Market Share: 0.450
   Ether Blend Oxygen Content: 0.027     Alcohol Blend Oxygen Content: 0.035
                                          Alcohol Blend RVP Waiver: No

       Vehicle Type:      LDGV    LDGT12    LDGT34      LDGT      HDGV      LDDV      LDDT      HDDV        MC   All Vel
              GVWR:                <6000     >6000     (All)
                        ------    ------    ------    ------    ------    ------    ------    ------    ------    -----
   VMT Distribution:    0.4638    0.3052    0.1042              0.0357    0.0008    0.0017    0.0827    0.0060    1.000
  ---------------------------------------------------------------------------------------------------------------------
 Composite Emission Factors (g/mi):
     Composite VOC :     1.378     1.580     2.531     1.822     2.115     0.727     0.983     0.710      2.14     1.53
     Composite CO  :     14.10     17.32     25.48     19.39     19.82     1.713     1.704     3.687     11.77    15.56
     Composite NOX :     1.172     1.352     1.745     1.452     5.137     1.650     1.699    16.061      1.23     2.66
  ---------------------------------------------------------------------------------------------------------------------
Non-Exhaust Emissions (g/mi):
       Hot Soak Loss:    0.157     0.119     0.193     0.138     0.212     0.000     0.000     0.000     0.109     0.13
        Diurnal Loss:    0.019     0.018     0.031     0.022     0.036     0.000     0.000     0.000     0.006     0.01
        Resting Loss:    0.128     0.119     0.206     0.141     0.256     0.000     0.000     0.000     0.379     0.12
        Running Loss:    0.262     0.210     0.275     0.226     0.294     0.000     0.000     0.000     0.000     0.22
      Crankcase Loss:    0.008     0.010     0.012     0.011     0.012     0.000     0.000     0.000     0.000     0.00
      Refueling Loss:    0.093     0.157     0.222     0.174     0.338     0.000     0.000     0.000     0.000     0.12
   Total Non-Exhaust:    0.667     0.634     0.938     0.714     1.148     0.000     0.000     0.000     0.494     0.64
  ---------------------------------------------------------------------------------------------------------------------
```

U.S. Department of Transportation
Federal Highway Administration

Advanced Training

National Highway Institute, ***Estimating Regional Mobile Source Emissions***, visit www.nhi.fhwa.dot.gov.

Four-day course, how to…

- Develop estimates of Vehicle Miles Traveled (VMT) by speed
- Develop MOBILE6 emissions factors
- Develop regional emissions estimates
- Describe techniques to estimate emission benefits of selected transportation control measures (TCMs)

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity 101

Session VIII: Project-Level Transportation Conformity Requirements

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Topics

- **General Project Level Requirements**
- **Hot-Spot Analysis**

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Project Level Conformity – General

- The Clean Air Act prohibits the Federal government from providing financial assistance to any activity which does not conformity to an implementation plan.

- Therefore, that transportation projects may only be approved, accepted, or funded by US DOT if the project meets certain requirements.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

When Are Project-Level Conformity Determinations Required?

- Prior to the first time a Federal project is adopted, accepted, approved, or funded
  - Examples include:
    - NEPA Decision Document (CE, FONSI, ROD)
    - Right-of-Way Acquisition
    - Construction Authorization
- Typically, project-level conformity is completed as part of the NEPA process (prior to adoption of CE, FONSI, ROD)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Is Project-level Conformity Ever Redetermined?

Yes.

Project-level conformity must be redetermined if any of the following occur:

- There is a significant change in design concept/scope
- More that 3 years have passed since the most recent major step to advance project

  e.g., NEPA process completion, start of final design, acquisition of significant portion of right-of-way, and construction (including Federal approval of PS&E)
- Initiation of supplemental environmental document for air quality purposes

40 CFR 93.104(d)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

General Requirements for Project-level Conformity Determinations

- Use latest planning assumptions
- Use latest emissions model
- Include consultation
- Be part of a currently conforming long-range plan and TIP
- Include a hotspot analysis for any applicable pollutants (CO, PM)
- Comply with PM control measures in the applicable state implementation plan

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

General Requirements for Project-level Conformity Determinations

For isolated rural areas, also:

- Project does not interfere with timely implementation of any transportation control measures in the applicable implementation plan
- Part of regional emissions analysis
  - Regional emissions analysis required including the project in question and all other regionally significant project planned over the next 20 years
  - This is also required for non-federal projects by recipients of federal funds, although these projects do not require a conformity determination

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What Do We Mean By "Project"

- All phases necessary for implementation
- Entire project as defined by NEPA:
  - Logical termini
  - Independent utility
  - Not restrict alternatives

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Conformity Scenarios

Metropolitan area

- Area within a MPO

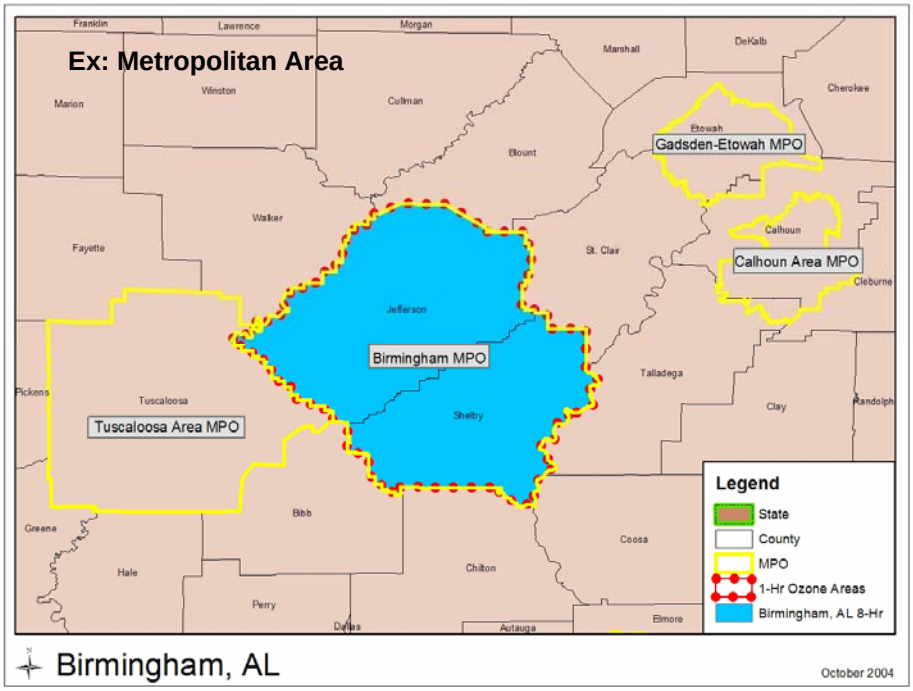
Donut area

- Area outside a MPO, but within a nonattainment or maintenance area that contains an MPO

Isolated rural area

- Nonattainment or maintenance area that does not contain any part of an MPO

Federal Highway Administration RESOURCE CENTER



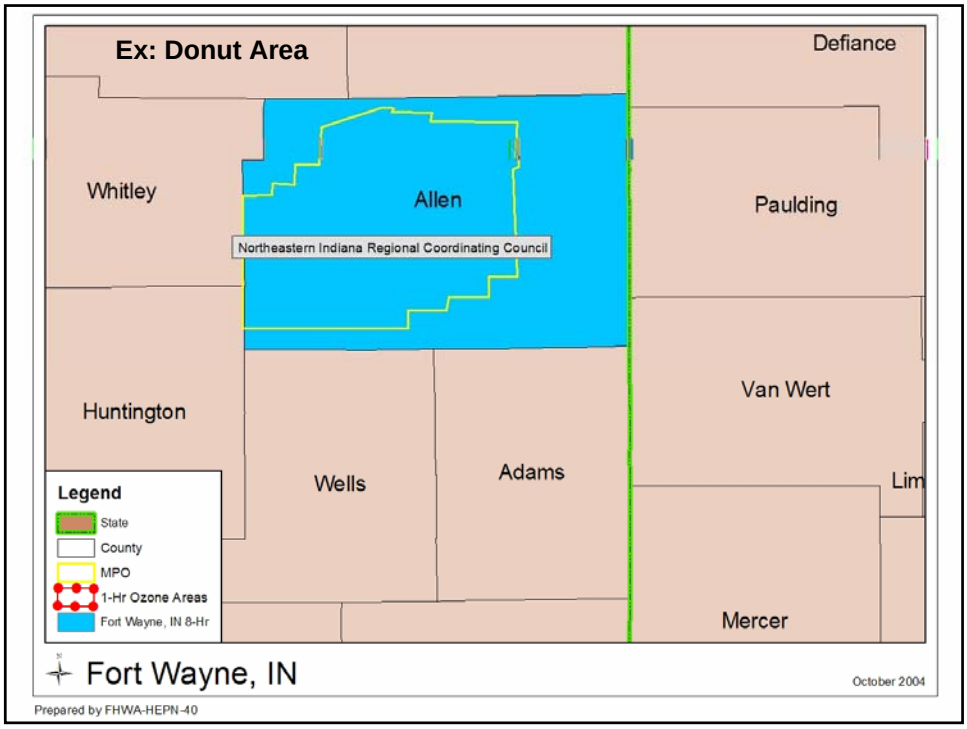
U.S. Department of Transportation
Federal Highway Administration

Metropolitan Areas

Project from currently conforming plan and TIP

- Project is included in regional emissions analysis
- Project is included in transportation plan
- Phases necessary to meet completion schedule included in TIP

RESOURCE CENTER

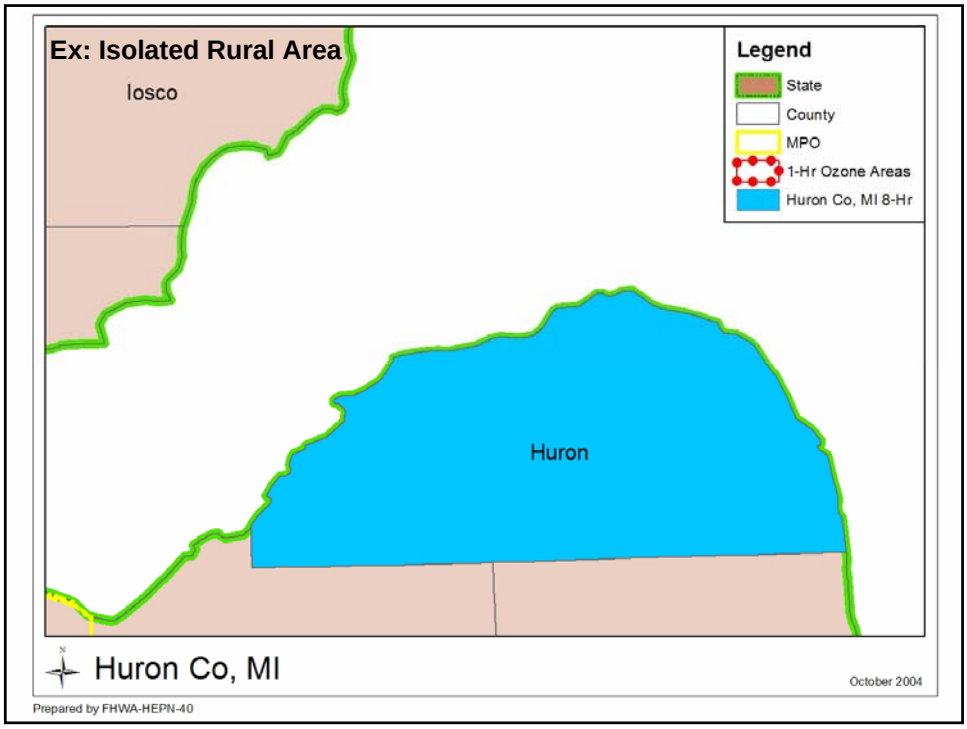


U.S. Department of Transportation
Federal Highway Administration

Donut Areas

- Associated MPO has currently conforming plan and TIP
- Project is included in regional emissions analysis reflecting associated MPOs plan and TIP
  - Included in MPO plan/TIP,
  - Included in regional emissions analysis, or
  - New regional emissions analysis
- If not included in MPO plan/TIP, project does not interfere with the implementation of any TCM in the SIP

Federal Highway Administration
RESOURCE CENTER



U.S. Department of Transportation
Federal Highway Administration

Isolated Rural Areas

Project is included in regional emissions analysis

- Analysis should reflect portions of STIP in the nonattainment/maintenance area

Project does not interfere with the implementation of any TCM in the SIP

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Exempt Projects

Projects exempt from conformity

- 40 CFR 93.126

Projects exempt from regional emissions analysis

- 40 CFR 93.127

Traffic signal synchronization projects

- 40 CFR 93.128

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Hot-Spot Analysis

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Hot-Spot Analysis

Localized pollutant concentrations

- Smaller scale than regional analysis
  - Congested intersections and roadways
  - Transit terminals

Compares concentrations to air quality standards CO and PM

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Hot-Spot Analysis

Required for all Federal nonexempt projects in CO, PM2.5 and PM10 nonattainment and maintenance areas

Supplemental rulemaking for PM2.5 and PM10 hot-spots

- **Published on March 10, 2006**
- **Creates new PM2.5 hotspot analysis requirements, and revises existing PM10 requirements**

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Localized Violations

In CO and PM nonattainment and maintenance areas, must demonstrate:

- No new local violations
- Severity/number of existing violations not increased

In CO nonattainment areas also must demonstrate:

- Existing violations will be eliminated or reduced as a result of the project

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Horizons for Hot-spot Analyses

Hot-spot analyses must consider the full time frame of regional analysis

Areas should examine the year(s) within the plan or regional analysis during which:

- peak emissions from project expected, and
- a new or worsened violation would most likely occur due to impact of project emissions and background emissions in project area

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Modeling (for CO only)

Concentration based

Emissions factor – Latest approved model for conformity (MOBILE6.2, or EMFAC2002 in California)

Dispersion modeling – EPA approved model (e.g., CAL3QHC or CALINE)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

CO Hot-Spot Analysis

Quantitative analysis required for:

- Locations or categories of sites identified in SIP
- Intersections at LOS D, E, or F
- Top 3 intersections with highest volumes
- Top 3 intersections with worst LOS

Other projects need qualitative analysis

Alternative procedures, if approved by EPA

- CO protocols (have been approved for several states)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Other Requirements

- Concentrations based on project and background
- Includes entire project and major design features which will impact concentrations
- Assumptions consistent with regional analysis
- Mitigation must have written commitments
- Do not have to consider temporary construction-related emissions (i.e., less than 5 years at a site)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Projects & NEPA

Interactions between NEPA and the conformity process:

- Project-level conformity is completed as part of the NEPA process
- Project details assumed in the plan and TIP conformity modeling process do not preclude the consideration of other alternatives in the NEPA process
- If the NEPA process significantly changes a project, the project must meet certain conformity rule criteria prior to NEPA process completion (e.g., regional conformity might have to be redone)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

NEPA and Conformity Lapses

- During conformity lapse, no CEs, FONSIs, or RODs can be issued, except for:
  - Exempt projects
  - TCMs in approved SIPs
- Draft documents can be approved
- Final EISs can be approved
  - See May 20, 2003 Guidance

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Project Documentation Recap

- Document if project is exempt
- In currently conforming plan/TIP and/or regional emissions analysis
  - Reference MPO analysis, plan, TIP, and dates
- In isolated rural areas, document regional emissions analysis
- Hot-spot analysis in CO and PM areas
- Written mitigation commitments, if any

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

PM Hotspot Analysis

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Final Rule & Guidance

- On March 10, 2006, EPA amended the Conformity Rule to address hotspot analysis requirements in PM nonattainment and maintenance areas.
- On March 29, 2006, EPA and FHWA released Qualitative PM Hotspot Analysis Guidance.
- This training presents information found in the guidance on how to implement the final rule.
- It does not in itself present new requirements. Please refer to the final rule as necessary.

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

EPA & FHWA Qualitative PM Hotspot Guidance

Issued March 2006; available at
http://www.fhwa.dot.gov/environment/conformity/pmhotspotguidmemo.htm

Contents of Guidance:

Chapter 1: Introduction
Chapter 2: Overview of Transportation Conformity Requirements
Chapter 3: Analytical Requirements
Chapter 4: Developing a Qualitative PM2.5 or PM10 Hot-spot Analysis

Appendix A: Examples of Projects of Air Quality Concern
Appendix B: Examples of Qualitative PM2.5 or PM10 Hot-spot Analyses
Appendix C: Potential Mitigation Measures

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Conformity Requirements for PM Hotspot Analysis

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What projects are subject to a PM hotspot analysis?

Federal Projects…

- ✓ Within a PM nonattainment or maintenance area
- ✓ Not exempt under either 40 CFR 93.126 or 93.128
- ✓ Fit criteria under 40 CFR 93.123(b)(1) – projects of air quality concern…

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What projects are subject to PM hotspot analysis? (con't)

Projects of Air Quality Concern are…

(i) New or expanded highway projects that have a significant number of or significant increase in diesel vehicles;

(ii) Projects affecting LOS D, E, or F with a significant number of diesel vehicles, or those that will change to LOS D, E, or F because of increased traffic volume from a significant number of diesel vehicles related to the project;

(iii) New bus and rail terminals and transfer points that have a significant number of diesel vehicles congregating at a single location;

(iv) Expanded bus and rail terminals and transfer points that significantly increase the number of diesel vehicles congregating at a single location; and

(v) Projects in or affecting locations, areas, or categories of sites which are identified in the PM10 or PM2.5 applicable implementation plan or implementation plan submission as appropriate, as sites of violation or possible violation

40 CFR 93.123(b)(1)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What projects are subject to PM hotspot analysis? (con't)

- The final rule and the March 2006 guidance provide examples of projects of air quality concern…
  - A project on a new highway that serves a significant volume of diesel truck traffic such as >125,000 AADT and 8% or more diesel truck traffic
  - New exit ramps to connect a highway to a major freight terminal
  - A new major bus terminal
  - And more
- And, projects that are **not** an air quality concern…
  - A new highway project that primarily serves gasoline vehicles
  - Intersection channelization or interchange reconfiguration project involving turn lanes or other operational improvements
  - A new compressed natural gas bus terminal
  - And more

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What projects are subject to PM hotspot analysis? (con't)

- **Projects not listed under 40 CFR 93.123(b)(1) as projects of concern are NOT required to have a hotspot analysis.**
  - These projects are presumed to meet Clean Air Act requirements without explicit hotspot analysis.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Summary: Three Types of Projects

- Exempt projects and non-federal projects:
  - no project-level conformity determination required
- Projects of air quality concern:
  - project-level conformity determination required, including hotspot analysis
- Nonexempt projects not of air quality concern:
  - project-level conformity determination still required, but no hotspot analysis needed
    - Should document that project is not of type in 40 CFR 93.123(b)(1)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

When is a PM hotspot analysis required?

PM2.5 Areas:

• For a project level conformity determination that is made on or after April 5, 2006

PM10 Areas*:

• Prior to April 5, 2006, project-level conformity determinations must meet the previous rule's requirements

• On or after April 5, 2006, project-level conformity determinations would follow the amended rule (in areas without approved conformity SIPs)

***PM10 areas with approved conformity SIPs must continue to follow the procedures in the SIP until it is amended.**

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What are the requirements for assessing impacts?

- ✓ Hotspot analyses must demonstrate that:
  - No new local PM violations will be created
  - The frequency or severity of existing violations will not be increased as a result of the project
- ✓ Project-level conformity determinations must address both the annual and 24-hour PM2.5 and/or PM10 standards, regardless of which form of the standard the area has violated.

(40 CFR 93.116)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What are the requirements for assessing impacts? (con't)

Until EPA releases modeling guidance for a quantitative analysis, the demonstration to meet 40 CFR 93.116 must be based on <u>qualitative consideration of local factors</u>.

[40 CFR 93.123(b)(2) and (b)(4)]

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What are the requirements for interagency consultation?

The interagency consultation process is an important tool in completing project-level conformity determinations and hotspot analyses, as required by 40 CFR 93.105, such as

- evaluate and choose method(s) and assumptions used in the qualitative analysis.

The consultation process may be used to:

- determine if a project meets requirements for a project of air quality concern (40 CFR 93.123(b)(1))
- determine whether new violations or increases in frequency or severity of existing violations is anticipated.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What are the requirements for public participation?

Affected agencies making project level conformity determinations need to establish a proactive public involvement process.

✓ **Public review & comment**

Since hotspot analyses are often conducted as part of NEPA, the NEPA public involvement process can often be used to satisfy this requirement.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Analytical Requirements for PM Hotspot Analysis

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What emissions are considered in the PM hotspot analysis?

PM2.5 and PM10 : Directly emitted PM emissions must be considered in all analyses

- ✓ Tailpipe
- ✓ Brake wear
- ✓ Tire wear

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What are the requirements for considering reentrained road dust?

PM2.5: Only considered in any PM2.5 analysis (including hotspot) if it has been found to be a significant contributor (40 CFR 93.102(b)(3).

PM10: Must be considered in all analyses

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What are the requirements for considering construction dust?

(40 CFR 93.123(c)(5))

PM2.5 and PM10: Not required to be assessed if considered temporary (only during construction, and lasts five years or less at any individual site)

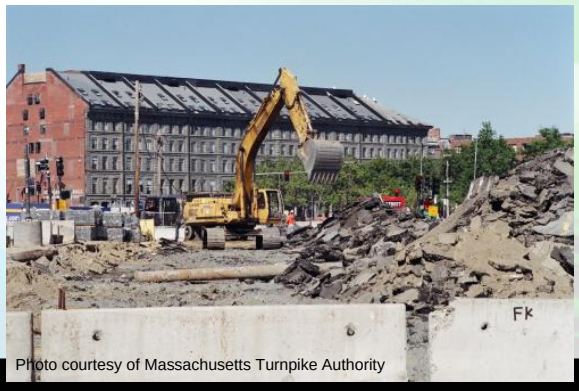


Photo courtesy of Massachusetts Turnpike Authority

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What time frame and analysis years should be used?

- **Consider the full time frame of an area's transportation plan (or regional emissions analysis for isolated rural areas)***
- **Examine the year(s) which peak emissions are expected**
  - This is the year(s) a new violation or worsening of an existing violation would most likely occur.
  - Both the project's emissions as well as the background emission are considered when selected which year(s) to examine.
  - If no hotspot impacts are expected for the year of highest emissions, then no adverse impacts would be expected in any other years within the timeframe of the plan/regional emissions analysis

* Not affected by SAFETEA-LU allowance to elect a change in time horizons for plan/TIP conformity determinations

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Sample Factors for Peak Year Emissions

PM2.5

A near-term year when the project is open to traffic, when diesel dominates emissions with declining trends. Other factors:

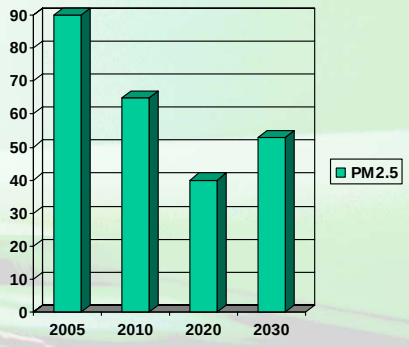
- fleet characteristics
- VMT trends

PM10

The year of highest VMT, when reentrained road dust dominates emissions. Other factors:

- diesel truck fractions

Sample Direct PM2.5 Trend



These are only examples of the considerations when selecting year(s) of peak emissions.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Techniques for Developing a PM Hotspot Analysis

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Qualitative Estimation Techniques

- ✓ **Comparison to another location with similar characteristics**
- ✓ **Air quality study approach**

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Qualitative Estimation Techniques

Comparison to another location with similar characteristics

- Review existing highway/transit facilities built in location similar to proposed project
    - If possible, near an air quality monitor
- Should discuss similarities and differences between "surrogate" and proposed project location
- Document reasons for selecting "surrogate"
- Use interagency consultation to determine appropriate "surrogate" and air quality monitor(s)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Qualitative Estimation Techniques

Air quality study approach

- Use available air quality information/studies (state/local air agencies, universities, etc.)
- Use information in SIP (PM10) or preliminary data (PM2.5) for the area that may be relevant
- Document air quality information used, and its appropriateness
- Use interagency consultation to determine appropriate air quality information for assessing air quality impacts of proposed project

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What should be included in a PM hotspot analysis?

- Project description, including location, scope, and opening date
- Applicable part of 40 CFR 93.123(b)(1)
- Description of hotspot analysis method chosen
- Description of emissions considered
- Factors that would influence emissions and concentrations from the project, including current conditions and how they would change in the future
- Analysis year(s) considered
- Mitigation strategies, if any, and expected effects
- Conclusion (how project meets 40 CFR 93.116 and 93.123)

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Factors that may be considered in qualitative analysis for existing and future scenarios

- ✓ **Air quality**
- ✓ **Transportation and traffic conditions**
- ✓ **Built and natural environment**
- ✓ **Meteorological, climate, and seasonal data**
- ✓ **Retrofit, anti-idling or other adopted emission control measures**

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Mitigation Strategies

- Consider where the proposed project may lead to potential new PM violation or increase in frequency or severity of an existing violation
- Written commitments must be obtained for project-level mitigation before the project-level conformity determination. (40 CFR 93.125(a))
- Appendix C of the EPA/DOT guidance gives examples.

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Examples

- **Appendix B**
  - New major bus terminal
  - New highway interchange
- **Real-life**
  - Legacy Parkway in Utah
  - I-25/E470 Interchange in Colorado

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Comparison of a New Bus Terminal to Another Site Based on Monitoring Data

- **Proposed Project:**
  - New major bus terminal along public transit route in PM2.5 nonattainment area
  - Rapidly growing suburban area
- **Air Quality Concern:**
  - Significant increase diesel bus traffic (40 CFR 93.123(b)(1)(iii)
- **Data Considerations:**
  - Road dust not considered; no significance finding by EPA/state
  - Nearby monitor: Significantly below 24-hr standard (50 ug/m3); close to annual standard (14.5 ug/m3)
  - Monitor near existing bus terminal with similar traffic characteristics to proposed project: Near 24-hr standard (60 ug/m3); violation of annual standard (15.1 ug/m3)
  - Project includes anti-idling policy and older bus retrofit program

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Comparison of a New Bus Terminal to Another Site Based on Monitoring Data (con't)

✓ **Conclusion:**

- Interagency consultation process concludes that mitigation measures should allow PM concentrations to be lower than standards.
- Mitigation measures allow the project to meet conformity hotspot requirements in 40 CFR 93.116 and 123.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Real-life Example: Legacy Parkway in Utah

- Volumes on proposed Legacy Parkway compared to volumes on I-15 at a point ~ 100 yards from a PM10 monitor
- Volumes on I-15 ranged from 99,700 to 121,600 vehicles per day, with no violations at the nearby monitor (this is documented with data in the EIS)
- Volumes on Legacy Parkway are expected to be around 20,000 vehicles per day; since the higher volumes on I-15 don't cause a violation, Legacy wouldn't be expected to cause a violation either.
- Note: this probably wouldn't be a "project of air quality concern" under the revised regulations

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Comparison of New Highway Project to Similar Project Location in the SIP

- **Proposed Project:**
  - New interchange on 6-lane freeway; at border of urban area
  - Located in PM10 maintenance area
  - Significant increase in diesel traffic from new connecting road and commercial/industrial development planning for vicinity
- **Air Quality Concern:**
  - New or expanded highway project that has a significant number or significant increase in diesel vehicles (40 CFR 93.123(b)(1)(i))

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Comparison of New Highway Project to Similar Project Location in the SIP (con't)

- **Data Considerations:**
  - PM10 SIP shows annual PM10 standard met as long as 24-hour PM10 standard is met
  - New interchange is compared to existing interchange within SIP's modeling domain. Existing interchange…
    - Is located near urban edge
    - Has similar meteorological conditions
    - Has higher diesel traffic volumes
    - Has more intensive surrounding development
  - Modeling grid for existing interchange is predicted to experience concentrations of about 110 ug/m3 (current standard is 150 ug/m3).

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Comparison of New Highway Project to Similar Project Location in the SIP (con't)

✓ **Conclusion**
- New interchange would see lower traffic volumes and less development than existing, modeled interchange which is not predicted to experience any new or worsened violations of the 24-hour and annual PM10 standards.
- The project meets the requirements in 40 CFR 93.116 and 123.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Real-life Example: I-25/E470 Interchange (Denver area)

- New interchange connecting I-25 and a new beltway; major retail/residential development planned
- Proposed project compared to Denver PM10 SIP modeling for a location with similar traffic patterns and development
- Since the comparison location was safely below the PM10 NAAQS in the SIP modeling, it was concluded that the proposed project would also be below the NAAQS

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Technical Support Document
Particulate Matter (PM_{10}) Request and Maintenance Plan for the Denver Metropolitan Area

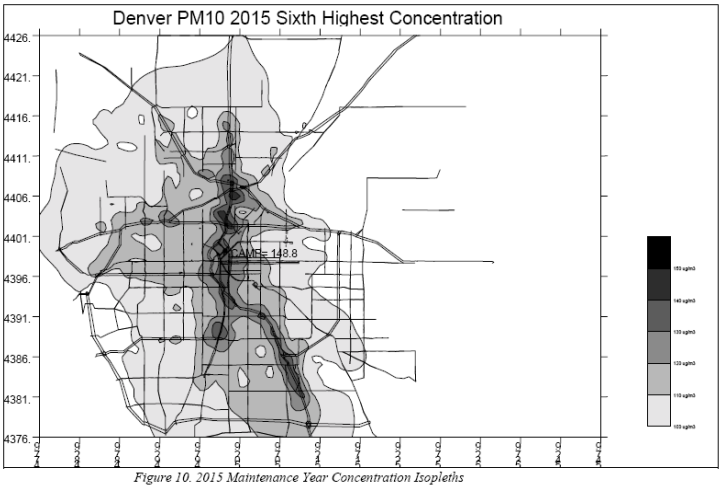


Figure 10. 2015 Maintenance Year Concentration Isopleths

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity 101

Session IX: Rural Area Conformity

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Definition of an Isolated Rural Area

- ✓ Rural area with a population of less than 50,000
- ✓ Does not have a metropolitan plan or TIP
- ✓ Regionally significant projects are not part of the regional emissions analysis of an MPO's plan or TIP (e.g. not a donut area)
- ✓ Rural area projects are incorporated into the STIP prior to Federal action

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Test Requirements for Isolated Rural Areas

40 CFR 93.110	Latest planning assumptions
40 CFR 93.111	Latest emissions model
40 CFR 93.112	Interagency consultation
40 CFR 93.113(d)	Timely implementation of TCMs
40 CFR 93.116	Hot spots*
40 CFR 93.117	PM-10 control measures
40 CFR 93.118	Budget Test
40 CFR 93.119	Emissions Reduction Test

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Regional Emissions Analysis

Prepared by the State DOT

Analysis must include:

- Projects funded or approved by FHWA/FTA
- All other regionally significant projects expected in the area

Projects are grouped and analyzed together

Analysis covers

- Statewide transportation plan timeframe
- At least 20 years

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Frequency Requirements for Rural Areas

- Rural areas only need to make conformity determinations when a new project is federally funded or approved
  - State projects and other projects by recipients of federal funds must be part of a conforming regional emissions analysis before approval (93.121(b)), so these projects can also trigger conformity in rural areas.
- The frequency requirements for metropolitan plans and TIPs (e.g., 3-year conformity requirements) do not apply

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Tests for Years Beyond SIP Timeframes

Isolated Rural Areas have a choice of how to determine conformity in the years beyond those covered by the SIP

- Budget test
- Interim emissions test or test(s) depending on the area classification
- Air quality modeling used in an attainment demonstration or maintenance plan

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Emissions Modeling for Quantitative Analysis

MOBILE6.2 for tailpipe, brake and tire wear

AP-42 for road dust (if road dust is considered significant for SIP and conformity purposes)

Construction dust does not need to be considered for project-level analysis, as long as dust-producing activities do not occur for more than 5 years at any particular site; construction dust does need to be considered for regional analysis if the SIP identifies it as significant

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Example (for PM10): US93 in Ronan

Ronan is a rural PM10 nonattainment area, so a rural area conformity determination was required

The emissions analysis needed to consider VMT on US93, all existing roads in the area, and any other new regionally-significant roadways planned for the area in the next 20 years (in this case, there weren't any)

VMT on US93 (current and future) was known from the project documents; VMT on other roads was estimated using standard engineering techniques

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Case Study: US93 in Ronan

The analysis needs to cover at least a 20-year timeframe; since growth estimates specific to Ronan were not available, VMT and population growth rates for other communities in Montana were used to project US93 and local road travel into the future

The project documents included road dust emission factors specific to US93; emissions rates for local roads in Missoula were used to calculate emissions on the other roadways, including unpaved roads

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Case Study: US93 in Ronan

Build/no-build approach was used (Ronan does not have a SIP with an emissions budget)

Total emissions for US93 and all other roads were calculated for both build and no-build

Since the US93 project includes improvements that reduce dirt carryout onto the highway, build was lower than no-build, satisfying the conformity test

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Case Study: US93 in Ronan

Since this is a PM10 area, a PM10 qualitative hotspot analysis was also required. (Under the revised rule, however, this probably would not have been a project of AQ concern.)

Projected traffic counts on US93 were compared to existing locations near PM10 monitors in Columbia Falls and Missoula. Both of these monitors are near roadways that have higher traffic counts than US93, and both monitors are demonstrating attainment of the PM10 NAAQS. Thus, the US93 project would not be expected to cause a violation of the PM10 NAAQS.

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Case Study: US93 in Ronan

All conformity requirements have been met:

40 CFR 93.110	Latest planning assumptions:	YES
40 CFR 93.111	Latest emissions model	YES
40 CFR 93.112	Interagency consultation	YES
40 CFR 93.113(d)	Timely implementation of TCMs	N/A (none)
40 CFR 93.116	Hot spots*	YES
40 CFR 93.117	PM-10 control measures	N/A (none)
40 CFR 93.118	Budget Test	N/A (none)
40 CFR 93.119	Emissions Reduction Test	PASSED

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What about analysis for a whole county?

Use EMIT or a similar inventory approach

Determine VMT for all existing roadways in the county (also need lane miles if analysis of precursors is necessary, to calculate speeds)

Use population/VMT trends to estimate future VMT by facility type (for at least a 20-year period, including interim years)

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

What about analysis for a whole county?

Use lane miles from existing roadways for no-build; add lane miles from proposed project and all other future reasonably significant projects to estimate future capacity for build (this step needed only for precursors, not direct PM or road dust)

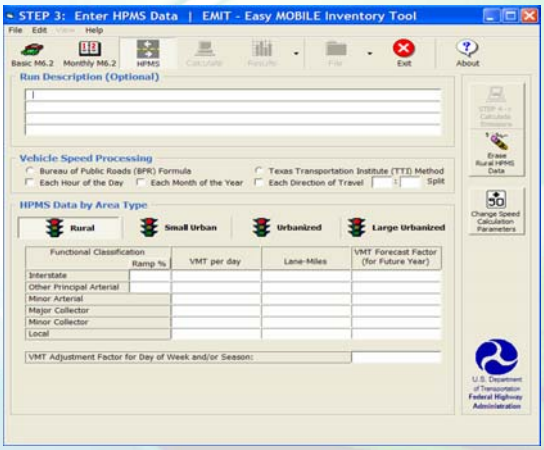
Use EMIT or some other methodology to estimate future build and no-build speeds for use in MOBILE6 (this step needed only for precursors)

Helpful FHWA report on methodologies in rural areas: www.fhwa.dot.gov/environment/conformity/emission /methodologies.pdf

Federal Highway Administration
RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Using EMIT for Rural Area Conformity



RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Final Thoughts on Rural Area Conformity

Statewide travel models can help determine changes in VMT between future build and no-build

Don't forget unpaved roads if road dust is significant; should be safe to assume that speeds don't change over time, but VMT probably does

Once the SIP is complete, use inventory approach consistent with the SIP

Since AQ modeling for PM2.5 is complex, most areas probably won't want to use the "air quality modeling" option for conformity after the SIP, but it is possible

RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Transportation Conformity 101

Session X: Resources

Federal Highway Administration
RESOURCE CENTER

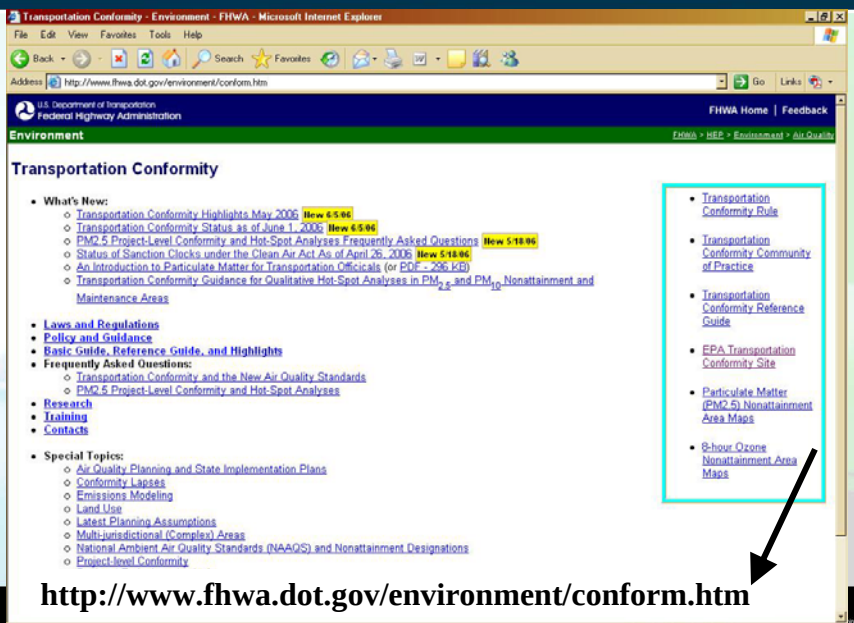
U.S. Department of Transportation
Federal Highway Administration

Resources/References

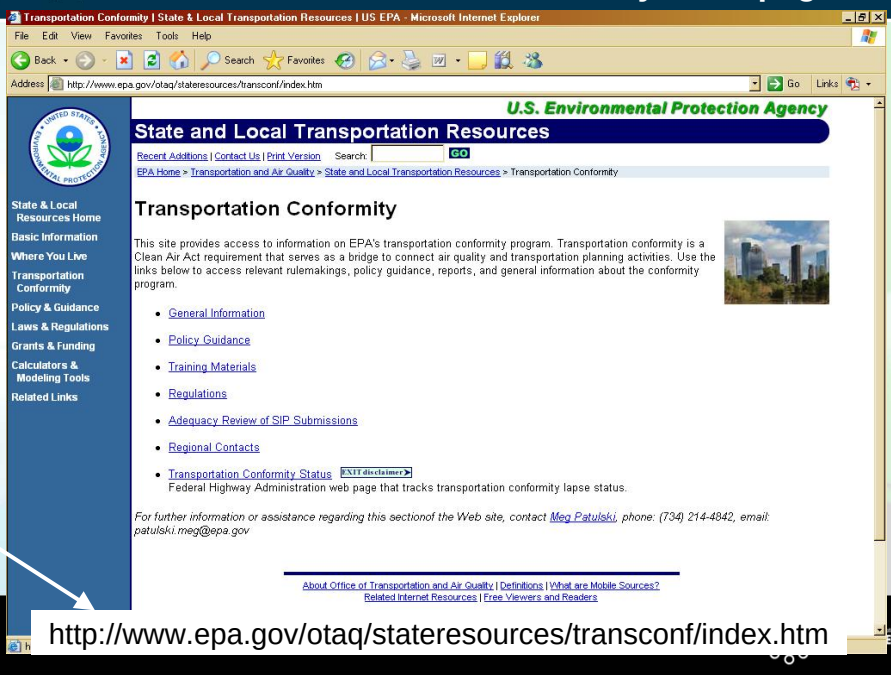
- FHWA & EPA Transportation Conformity Homepages
- Rules
- Guidance Documents
- References
- Outreach
- Other Relevant Websites
- Training Opportunities
- Contacts

Federal Highway Administration
RESOURCE CENTER

FHWA Conformity Homepage



EPA Conformity Homepage



U.S. Department of Transportation
Federal Highway Administration

Rules

- ☑ **Transportation Conformity Rule that address project-level requirements for PM areas:**
  - ☑ http://www.epa.gov/otaq/stateresources/transconf/conf-regs-PMhotspot.htm
- ☑ **2004 Transportation Conformity Final Rule – addresses requirements for 8-hour ozone and PM2.5**
  - ☑ http://www.epa.gov/otaq/stateresources/transconf/conf-regs-a.htm
- ☑ **Compilation of Conformity Rule and Amendments:**
  - ☑ FHWA (March 2006) http://www.fhwa.dot.gov/environment/conformity/rule.pdf
  - ☑ EPA (May 2005) http://www.epa.gov/otaq/stateresources/transconf/regs/420b05003.pdf
- ☑ **Interim Guidance on Conformity Provisions of SAFETEA-LU**
  - ☑ http://www.fhwa.dot.gov/environment/conformity/sec6011guid.htm

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Guidance Documents

- ☑ **Complete Listing:**
  - http://www.fhwa.dot.gov/environment/conformity/con_pol.htm
- ☑ **Transportation Conformity Guidance for Qualitative Hot-spot Analysis in PM2.5 and PM10 Nonattainment and Maintenance Areas (March 2006)**
  - http://www.fhwa.dot.gov/environment/conformity/pmhotspotguidmemo.htm
- ☑ **Diesel Retrofits: Quantifying and Using their Benefits for SIPs and Conformity**
  - http://www.epa.gov/otaq/stateresources/transconf/policy/420b06005.pdf
- ☑ **EPA's Companion Guidance for the July 1, 2004, Final Transportation Conformity Rule: <u>Conformity Implementation in Multi-jurisdictional Nonattainment and Maintenance Areas</u> for Existing and New Air Quality Standards**
  - http://www.epa.gov/otaq/stateresources/transconf/policy/420b04012.pdf

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

References

- ☑ **EPA's Greenbook for Nonattainment Areas**
  - http://www.epa.gov/air/oaqps/greenbk/
- ☑ **PM2.5 Project-level Conformity and Hot-spot Analysis Frequently Asked Questions**
  - http://www.fhwa.dot.gov/environment/conformity/pm25faqs.htm
- ☑ **FHWA's Transportation Conformity Reference Guide**
  - http://www.fhwa.dot.gov/environment/conformity/ref_guid/index.htm
- ☑ **Air Quality Planning for Transportation Officials**
  - http://www.fhwa.dot.gov/environment/aqplan/index.htm
- ☑ **EPA & FHWA conformity workshop materials**
  - http://www.fhwa.dot.gov/environment/conformity/outreach.htm
- ☑ **Transportation Conformity Practices in Complex Areas**
  - www.fhwa.dot.gov/environment/conformity/complex/index.htm

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Outreach

- ☑ **An Introduction to Particulate Matter for Transportation Officials**
  - ☑ http://www.fhwa.dot.gov/resourcecenter/teams/airquality/brochure/index.htm
- ☑ **Transportation Conformity (brochure) & Transportation Conformity: A Basic Guide for State and Local Officials**
  - ☑ http://www.fhwa.dot.gov/environment/conformity/con_bas.htm
- ☑ **It all adds up (clean air campaign)**
  - ☑ http://www.fhwa.dot.gov/environment/addsup.htm

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

More Websites

- ☑ **Transportation and Toxic Air Pollutants:**
  - http://www.fhwa.dot.gov/environment/airtoxic/index.htm
- ☑ **CMAQ**
  - http://www.fhwa.dot.gov/environment/cmaqpgs/index.htm
- ☑ **PM2.5 Designations**
  - http://www.epa.gov/pmdesignations/
- ☑ **Q&A on Conformity & PM2.5:**
  - http://www.fhwa.dot.gov/environment/conformity/epaguidepm25des.htm
- ☑ **8-hour Ozone Designations**
  - http://www.epa.gov/air/oaqps/glo/designations/index.htm

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Training Opportunities

- National Transit Institute
  - **Introduction to Transportation/Air Quality Conformity**
  - 3 days, http://www.ntionline.com
- National Highway Institute http://www.nhi.fhwa.dot.gov/home.aspx
  - **CMAQ Program: Purpose and Practice**
  - **Implications of Air Quality Planning for Transportation**
  - **Estimating Regional Mobile Source Emissions**
- FHWA Resource Center Training Opportunities
  - http://www.fhwa.dot.gov/resourcecenter/teams/airquality/courses.cfm

Federal Highway Administration RESOURCE CENTER

U.S. Department of Transportation
Federal Highway Administration

Contacts

Transportation Conformity Contact Listings

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

FHWA Division Offices

- http://www.fhwa.dot.gov/field.html#fieldsites

EPA Regional Conformity Representatives

- http://www.epa.gov/otaq/stateresources/transconf/contacts.htm

FHWA Resource Center Air Quality Technical Services Team

- http://www.fhwa.dot.gov/resourcecenter/teams/airquality/index.cfm

Federal Highway Administration
RESOURCE CENTER