



South Carolina Ozone Outreach Session

Columbia, South Carolina
September 14, 2010

Meeting Purpose

- Gather critical partners that are necessary to continue dialogue for implementing transportation conformity for South Carolina Areas **should it be required**.
- Develop a road map for approval of successful conformity determination by U.S. Department of Transportation on/or before due date **(which is still to be determined)**.
 - All partners need to understand:
 - Who would do what;
 - When/how should it be done; and
 - How should all efforts be coordinated with the necessary Interagency Consultation Partners.



Meeting Logistics/Format

- Informal dialogue to encourage the greatest amount of discussion.
- Sessions will be tee'd up just to provide focus but everyone is encouraged to provide input for discussion.
- Decision-making and consultation will be continued through regularly scheduled Interagency Consultation Calls.



Outline of Session

September 14, 2010

- Overview of Air Quality for the Area – SCDHEC
- Overview of Designation Process/Schedule – EPA Region 4
- Break-out Session – Transportation Planning Process(es) – MPOs
- Overview of Transportation Conformity Requirements – EPA Region 4 and FHWA
- Open Discussion/Next Steps - All



Status of Ozone/ Air Quality for South Carolina

Nelson Roberts, SC DHEC



Quick Primer on the National Ambient Air Quality Standards (NAAQS)

Zuri Farngalo, U.S. EPA Region 4

The Clean Air Framework

- **EPA sets NAAQS for pollutants harmful to public health & environment**
 - **Ozone**
 - **Particulate matter**
 - **Lead**
 - **Carbon monoxide**
 - **Nitrogen Dioxide**
 - **Sulfur Dioxide**
- **EPA must review NAAQS every 5 years after advice from Clean Air Science Advisory Committee**

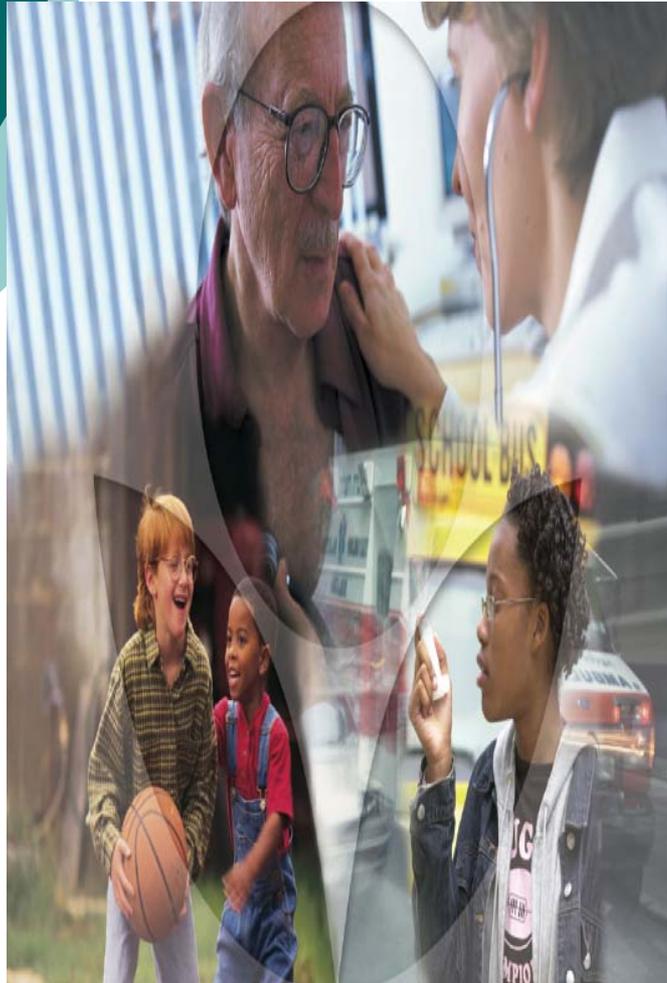


Considerations for NAAQS

- Setting NAAQS: scientific information on health and/or environmental effects (not cost)
- Achieving NAAQS: account for cost, technical feasibility, time needed to attain

<http://www.epa.gov/ttn/naaqs/>

Health Impacts for NAAQS



- **Lead** - Can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems & the cardiovascular system.
- **PM_{2.5}** - Small particles less than 2.5 micrometers in diameter pose the greatest problems, because they can get deep into lungs & some may even get into the bloodstream affecting lungs & heart health.
- **NO₂** - Current scientific evidence links short-term exposures, ranging from 30 min. to 24 hrs, with adverse respiratory effects including airway inflammation in healthy people & increased respiratory symptoms in people with asthma.
- **SO₂** - Current scientific evidence links short-term exposures ranging from 5 min. to 24 hrs, with an array of adverse respiratory effects including bronchoconstriction & increased asthma symptoms.
- **O₃** - Current scientific evidence links exposure to lung function decrement, asthma attacks and even death.

Primary vs. Secondary

- Primary: Health-based at level judge to be “requisite to protect public health with an adequate margin of safety.”
- Secondary: “requisite” to protect public welfare from “any known or anticipated adverse effects associated with the pollutants in ambient air” including effects on vegetations, soils, water, wildlife, buildings, national monuments and visibility.

Sources of Pollution

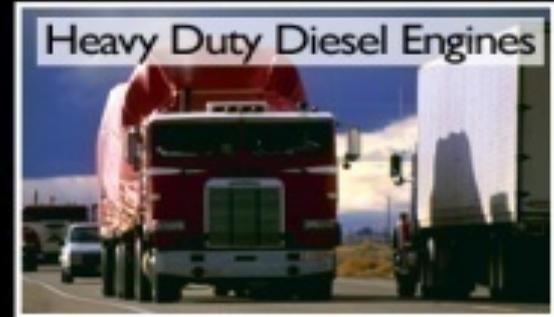
Wood-Burning Stoves



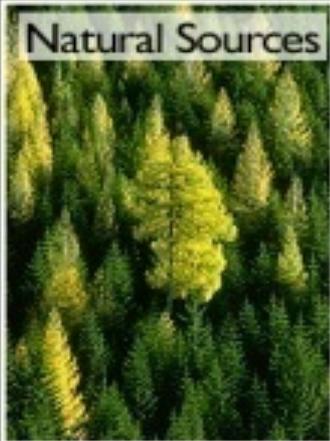
Power Plants



Heavy Duty Diesel Engines

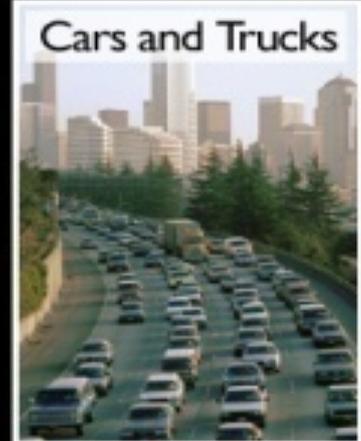


Natural Sources



**Multiple
Sources of
Pollution**

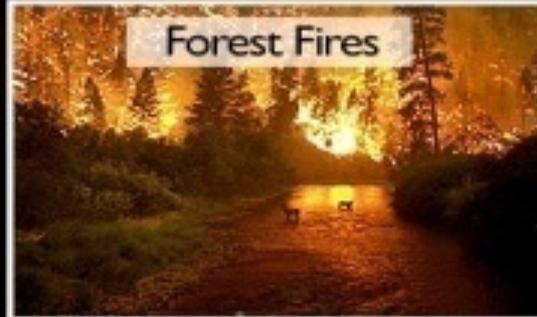
Cars and Trucks



Non-Road Vehicles



Forest Fires



Industrial Sources



Glossary

- Attainment – area that is in compliance with the NAAQS.
- Nonattainment – area that is out of compliance with the NAAQS.
 - = area that has violating monitor or that contributes to an area with a violating monitor.
- Unclassifiable – area that has incomplete data or monitoring data issues.
- Designations – process whereby EPA makes an official determination on whether areas are in compliance or out of compliance with the NAAQS.

Glossary Continued

- State implementation plan (SIP) – plan that demonstrates how state will attain and/or maintain NAAQS.
- Attainment demonstration – SIP to demonstrate how violating area will come into compliance and when.
- Reasonable further progress plan – SIP to demonstrate how violating area will show progress towards meeting attainment date.
- Maintenance plan – SIP to demonstrate how area will maintain the NAAQS. Generally, for areas that previously violated but are later redesignated to attainment.
- Early progress plan – voluntary SIP strictly to establish motor vehicle emission budgets (MVEBs) for ease of implementing transportation conformity requirements.

Questions?



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Overview of Designation Process/Schedule

Jane Spann, U.S. EPA Region 4

8-Hour Ozone Standards

- 3/12/08 – EPA Revised Ozone primary & secondary standards
 - Lowered both standards from 0.08 ppm to 0.075 ppm
- 9/16/09 - EPA Administrator announced reconsideration of 0.075 ppm standards.
- 1/6/10 - EPA signed proposed reconsidered **primary & secondary** standards (published on 1/19/10)

2010 Reconsidered 8-Hour Ozone Standards

- 1/6/10 - EPA signed proposed reconsidered **primary & secondary** standards (published 1/19/10)
 - Primary – a level within range of 0.060 ppm to 0.070 ppm (3rd decimal place no rounding)
 - Secondary – W126 cumulative seasonal standard – a level within range of 7 to 15 ppm-hours
 - 60 day comment period ended 3/22/10
 - Public hearings held
 - 2/2/10 – Arlington, VA & Houston, TX
 - 2/3/10 – Sacramento, CA
 - 8/31/10 - Final standard expected to be signed
- 8/20/10 – EPA announced date extension for standards
- 10/31/10 – Final standard expected to be signed
- <http://www.epa.gov/ozonedesignations/>

Proposed Accelerated Designation Process

- EPA has 1 year from promulgation of final standard to complete designation process
- States have 4 months from promulgation of final standards to make designation recommendations to EPA
- EPA Administrator can modify the state designations recommendation
 - Administrator notifies state no later than 120 days before designation
 - Gives state opportunity to provide additional information

Timeline for Accelerated Ozone Designation Process – Unknown Timeframe

Milestones	2010 8-Hour Ozone NAAQS Dates
Final decision on level of NAAQS changed to ???? ppm	October 31, 2010
State/Tribal Recommendations Due	???
EPA Response	No later than 120 days prior to final designation
State and Tribes provide additional information	Prior to final designations
Final Designations	???

Timeline for Accelerated Ozone Designation Process – Keeping a 1 year Timeframe

Milestones	2010 8-Hour Ozone NAAQS Dates
Final decision on level of NAAQS changed to ???? ppm	October 31, 2010
State/Tribal Recommendations Due	March 2011 ??
EPA Response	May 2011 (No later than 120 days prior to final designation)
State and Tribes provide additional information	Prior to final designations
Final Designations	August 31, 2011 - October 31, 2011 ???

Ozone Designation Process – No Accelerated Schedule

Milestones	2010 8-Hour Ozone NAAQS Dates
Final decision on level of NAAQS changed to ???? ppm	October 31, 2010
State/Tribal Recommendations Due	October 31, 2011 ??
EPA Response	January 2012 to May 2012 ?? (No later than 120 days prior to final designation)
State and Tribes provide additional information	Prior to final designations
Final Designations	June 30, 2012 to October 31, 2012 ??

Factors...

- **Air quality data**
- Emissions data (location of sources and contribution to ozone concentrations)
- Population density and degree of urbanization (including commercial development)
- **Traffic and commuting patterns**
- Growth rates and patterns
- Meteorology
- Geography/topography
- **Jurisdictional boundaries**
- Level of control of emission sources



2010 Reconsidered 8-Hour Ozone Standards (cont.)



- Long-range Next Steps
 - Designations (will include 08-10 data, may include 09-11 data if longer designation schedule is used)
 - Nonattainment new source review (Applies on the effective date of designations)
 - Transportation conformity (Applies 1 year after the effective date of designations)
 - Development of Attainment Plans (Due approximately 28 months after designation)

Questions?



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Breakout Sessions



Logistics for Breakout Session

Breakout groups will be formed on basis of CBSA/CSA boundaries for areas*.

- SC DOT/FHWA SC/SC DHEC to be split among the groups.
- Each breakout group should assign a note taker and a representative to report out.
- Twenty minutes for duration of deliberation.

*** This should not be assumed as a predetermination on any boundary decision.**



Ground Rules for Deliberation

- For illustration purposes (only), look at CBSA/CSA jurisdiction even if this results in multi-state area (see handout).*
- To simplify the exercise, assume no split or partial county areas within the CBSA/CSA jurisdiction.

* This is not a predetermination of EPA's final boundary determination.

Topics of Discussion for Breakout Groups

- What geographical area does the MPOs cover in the area? Does this leave an area uncovered by a MPO?
- What are the transportation planning documents for the MPOs in the area? Are the years for the Plans/TIPs consistent for all MPOs in the area?
- Are travel demand models (TDM) used in the area and is there a part of the area that is not covered by a TDM?
- How often are the Plans/TIPs updated? When was the last update and what is the next planned update?
- What is the procedure for amendments to the Plans/TIPs?
- What are the public involvement procedures for the Plans/TIPs updates? Include timeframes.
- How are individual projects that go through the NEPA process evaluated for final design concept and scope?



Overview of Transportation Conformity Requirements

- Roles
- Regional Emissions Analysis
- Distribution of Report & Coordination
- Next Steps



Roles

Amanetta Somerville, U.S. EPA Region 4

Transportation Conformity

Connects air quality & transportation planning.

The SIP

(State Air
Quality
Plan)

conformity

Transportation
Plan,
Transportation
Improvement
Program (TIP),
and Projects.



Transportation Conformity Rule Interagency Consultation

93.105 (2) reads “Before EPA approves the conformity implementation plan revision required by 51.390 of this chapter, MPOs and State department of transportation must provide reasonable opportunity for consultation with State air agencies, local air quality and transportation agencies, DOT and EPA, including consultation on the issues described in paragraph c (1) of this section, before making conformity determinations.”

93.105 (2)(c)(1)

- Requires a consultation process involving the MPO, State and local air quality planning agencies, State and local transportation agencies, EPA, and DOT for the following:
 - (i) Evaluating/choosing a model (or models) and associated methods/ assumptions to be used in regional emissions analyses;
 - (ii) Determining which minor arterials and other transportation projects should be considered “regional significant;”
 - (iii) Evaluating whether projects exempt/nonexempt;
 - (iv) Implementation of Transportation Control Measures;
 - (v) Notification of plan or TIP revisions or amendments which merely add or delete exempt projects listed in 93.126 or 93.127; and
 - (vii) Choosing conformity tests and methodologies

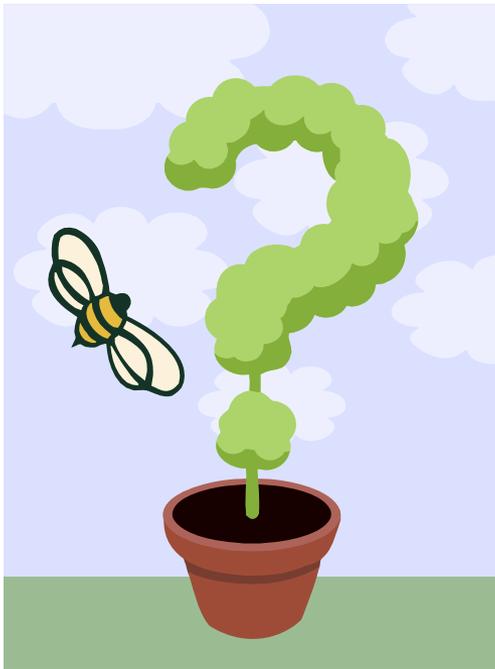
General Roles

- U.S. EPA
 - Technical support for interpretation of rule and use of emissions model;
 - Approve motor vehicle emission budgets;
 - Reviewer/commenter for conformity determination reports.
- U.S. Department of Transportation (FHWA/FTA)
 - Additional technical support for interpretation of rule and use of emissions model;
 - Reviewer/commenter for conformity determination reports;
 - Approve conformity determination.
- State and local air quality agencies
 - Technical support for emissions factors development --- may even generate factors for use for conformity determination;
 - Develop motor vehicle emission budgets;
 - Reviewer/commenter for conformity determination reports.
- State and local transportation agencies, including metropolitan planning organizations
 - Generate vehicle miles traveled data for conformity determination report;
 - Prepare conformity determination report and supporting technical documentation, including regional emissions analysis for entire nonattainment area.

Things to keep in mind:

- Boundary will determine which partners must be engaged;
- For the purposes of implementing conformity the entire area designated nonattainment must be considered (no splitting of the area except where pre-existing budgets exist);
- Assumptions must be developed through interagency consultation in advance – some areas have good examples of pre-concensus plans;
- TDM must be used in area that it is currently being used in; &
- Vehicle miles travel methodology in areas without TDM must be made available for review and discussion with interagency partners.
- **We need to know how your individual agency will be involved given the federal requirements.**

Questions?



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Quick Primer on Transportation Conformity Terms

Lynora Benjamin, U.S. EPA Region 4



Glossary of Terms

- Adequacy – process by which EPA can make MVEBs available prior to approval of the SIP.
- Donut area – area within nonattainment boundary but outside any MPO boundary.
- Isolated rural area – nonattainment area without a MPO within the nonattainment boundary.
- Lapse – only transportation control measures (TCMs) and exempt projects can be implemented.
- Lapse grace period - one year period during which areas can implement projects in TIP.



Glossary of Terms Continued

- Ozone precursors – volatile organic compounds and nitrogen oxides.
- Regional emissions analysis – technical demonstration that requires run of the mobile emissions model and travel demand model for certain years.
- TCMs – projects in the SIP consistent with CAA 108(f) that reduce emissions.



What we are looking at

- Most areas have an end year for the LRTP of 2035, except one area which has an end year of 2030.
- All areas are on same time frame for TIPs.
- Most areas have 15 day public comment period for TIP and 30 day public comment period for LRTP.
- All areas have process in place to discuss projects going through NEPA process.

Questions?



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Regional Emissions Analysis/ Planning Assumptions

Dianna Smith, EPA Region 4

Conformity Test Overview

- EPA's Restructured Conformity Rule will determine this for current and future NAAQS.
 - Proposal- public comment period ends 9/13/10
 - Proposing baseline year is aligned with recent AERR SIP on-road mobile source inventory (2008)
- For the 1997 8-hour standard, areas had choice to decide through interagency.
 - Baseline 2002 test; or
 - Build no greater than or equal to no build
- Until SIP with budgets that EPA finds adequate/or approved area must use interim test.
- Possibility to have advance budgets through a voluntary SIP known as the Early Progress Plan.

Analysis Years

- EPA's Restructured Conformity Rule will determine this for current and future NAAQS.
 - Proposing areas choose a year 1-5 years in the future-when attainment date has passed or is unknown
- For the 1997 8-hour ozone standard, area must use interim emission test unless budgets found adequate or approved prior to U.S. DOT's conformity approval, so required analysis years are...
 - A near-term year (can choose a year 1-5 years in the future);
 - The last year of the plan; &
 - An intermediate year or years, so that years are no more than 10 years apart.

Example Required Regional Emissions Analysis Years

- 1-5 years in to the future from the date of the conformity determination = 2015
- Interim year (no more than 10 years apart) = 2025
- Last year of the transportation plan = 2035* (* area with mix of 2030 & 2035 LRTPs will have to do both years)

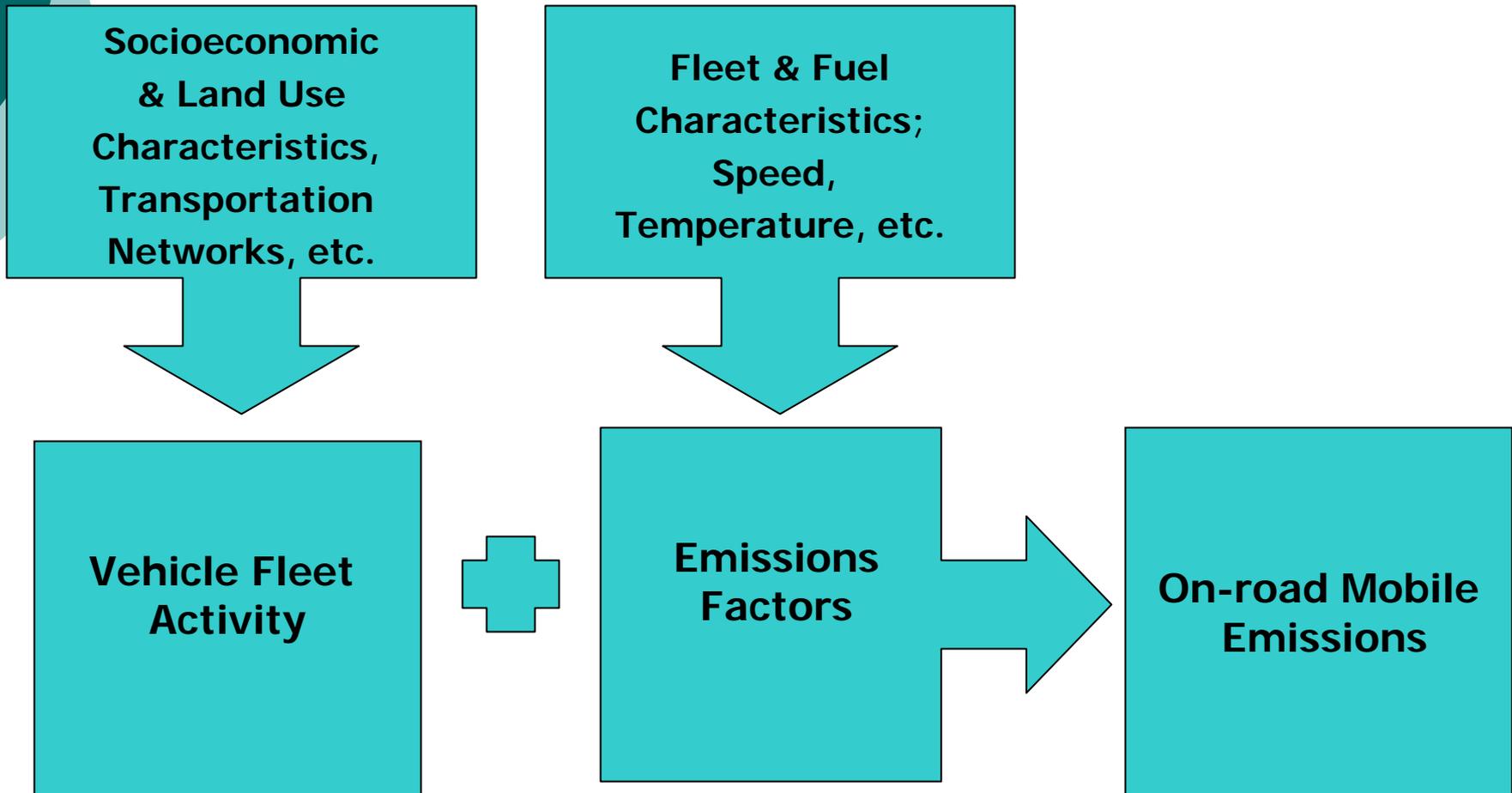
* Additionally, model runs will be necessary for the base year to use for comparison to years above.



Regional Emissions Analysis

- Requires use of the latest planning assumptions.
- Use of latest EPA-approved mobile emissions model for development of emissions factors (MOVES2010 must be used after March 2, 2012).
- Must demonstrate emission from transportation plan, TIP, and projects consistent with air quality goals (I.e., meeting interim emission tests).
- TIP conformity demonstrated if the TIP is a subset of the long range transportation plan (LRTP). Subset implies consistency for the project scope, timing, and description in the LRTP and TIP.

Simplified Flowchart for Development of Regional Emissions Analysis



“Regionally Significant”

- *93.101 Definitions....Regionally significant project* means a transportation project (other than an exempt project) that is on a facility which serves regional transportation needs (such as access to and from the area outside of the region, major activity centers in the region, major planned developments such as new retail malls, sports complexes, etc., or transportation terminals as well as most terminals themselves) and would normally be included in the modeling of a metropolitan area's transportation network, including at a minimum all principal arterial highways and all fixed guideway transit facilities that offer an alternative to regional highway travel.



Exempt/Non-exempt Projects

- Consultation per conformity rule for exempt projects. (citation: conformity rule 93.126, 93.127, and 93.128).
- Beneficial to have projects identified/ highlighted in the event that project schedule slips – it may not be necessary to redo regional emissions analysis.
- Only exempt projects or TCMs can be advanced during a transportation conformity lapse.

Examples and Resources

- Pre-Consensus Plan
- Project List
- Expanded Definition of Regional Significance
- Transportation Conformity Rule

<http://www.epa.gov/otaq/stateresources/transconf/index.htm>



What's going to happen in the South Carolina Areas?

- What will be the interim conformity test used for this area?
- What will be the analysis years? Keep in mind there are some required years.
- How will MOVES2010 assumptions be coordinated for entire area, and how will this information be shared with consultation partners?
- What about vehicle miles traveled methodology (if necessary), and information for travel demand model in the South Carolina Areas?
- How will consultation be achieved for planning assumptions, in general?
- How/when will project listing for MPO and donut areas (if any) be distributed to conformity partners to determine exempt/nonexempt?

Questions?



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Distribution of Report & Coordination

Amanetta Somerville, U.S. EPA Region 4
Shane Belcher, FHWA-SC

Consultation for Reports

- FHWA-SC is lead U.S. DOT agency for these areas.
- Draft reports can be sent directly to interagency consultation group for review and comment. Agencies are:
 - U.S. EPA; FHWA-SC; FTA-Region 4; SCDOT; SCDHEC; and others as determined...
 - Informal comments provided to MPO and State DOT (whoever is lead for the project) for report documentation.
 - Complete drafts with at least 30 days to review is always welcomed & may help avoid last minute showstoppers.
- Final, formal report should be sent for distribution to interagency consultation partners.*
 - 30 day review period for IAC for final reports.
 - Partners send formal comments and finding recommendation to FHWA-SC

*see conformity SIP requirements

Necessary Documents

L RTP with supporting documentation (i.e., supporting documentation for regional emissions analysis, latest planning assumptions– including source of information, public involvement procedures and so forth)

- TIP
- Approved board resolution for L RTP/TIP and associated conformity determination
- Discussion on progress of transportation control measures
- Discussion on fiscal constraint
- MOVES Input/Output files
- Documentation of vehicle miles travel methodology and planning assumptions used for mobile model and to determine vehicle miles traveled.
- Documentation of interagency consultation efforts and public involvement process.



Additional Information on Report Documentation

- General air quality discussion;
- Written documentation on MOVES assumptions for entire area;
- Written documentation on vehicle miles travel methodology for entire area;
- Categorizing projects as exempt/nonexempt & regionally significant for MPO & donut areas (if any);
- Documentation of interagency consultation & public participation for LRTP/TIP & associated conformity determination.



Facilitating Interagency Review

- Clear, sufficiently detailed project descriptions including cross-reference labeling for projects in LRTP & TIP. Also ability to identify phased projects.
- Advance 'final' draft documents, with associated technical documentation, for review.
- Interagency consultation discussions either through calls or emails to:
 - Come to agreement on assumptions;
 - Gain awareness of time schedules; &
 - Get concurrence on exempt versus nonexempt project status.



Next Steps

All

Federal Partners for South Carolina

- U.S. EPA Region 4
 - Regional Transportation Conformity Contact: Dianna Smith; (404) 562-9207; smith.dianna@epa.gov
 - Mobile Modeler: Dale Aspy; (404) 562-9041; aspy.dale@epa.gov & Amanetta Somerville; (404) 562-9025; somerville.amanetta@epa.gov
- U.S. DOT
 - FHWA-SC Contact: Shane Belcher
 - Region 4 FTA Contact: Holly Peterson