

Introduction to Transportation Conformity

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Environment

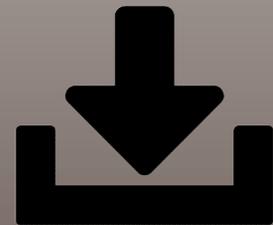
Jeff Houk, FHWA Resource Center

June 12, 2018
National Webinar



Housekeeping Items

- All participants are in listen only mode
- Questions will be taken through the chat pod
- Slides are available for download in the web room



Topics

- **Conformity Basics**
 - where and when does conformity apply?
 - develop schedules and timelines
- **Major Requirements**
 - what should be covered in Plan/TIP conformity determination?
- **Interagency Consultation**
 - who does what?
- **Documenting Plan/TIP Conformity**
 - good practices
- **Project-level Conformity**



Focus of Today's Webinar

- Today's webinar is focused on implementation of transportation conformity in ozone areas
- We will focus on the basic conformity requirements for the ozone standard
 - We will not be addressing any issues specific to the South Coast vs. EPA court case



CONFORMITY BASICS



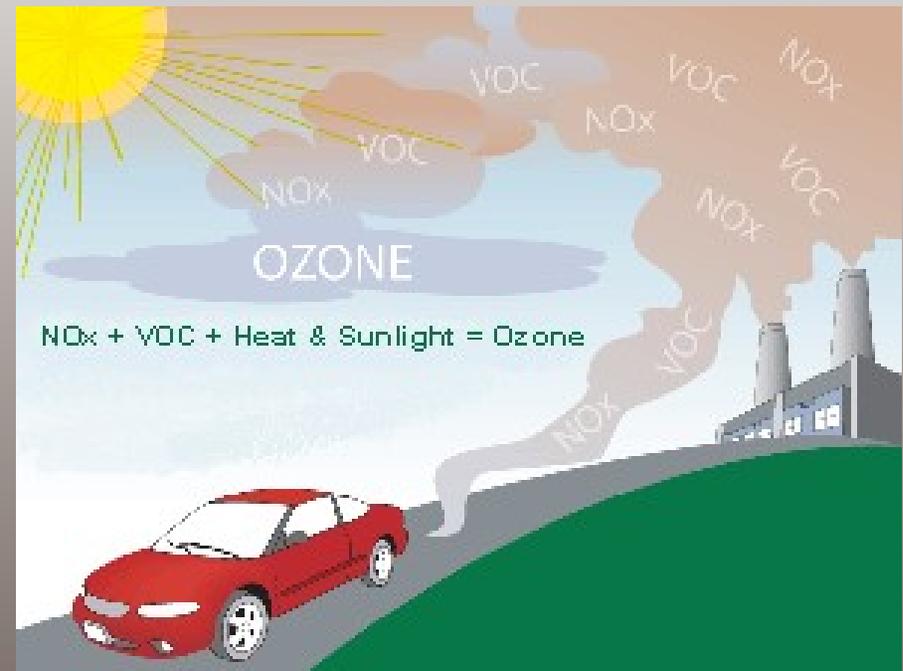
Clean Air Act Requirement

- The Clean Air Act Section 176(c) requires that transportation plans, transportation improvement programs (TIPs) and projects must conform to the purpose of the SIP.
- Conformity to the purpose of the SIP means that such activities will not:
 - Create or contribute to any new violations of the NAAQS
 - Increase the frequency or severity of NAAQS violations
 - Delay timely attainment of the NAAQS



Applicability of Transportation Conformity

- All nonattainment / maintenance areas for:
 - Ozone (O_3)
 - Carbon monoxide (CO)
 - Nitrogen dioxide (NO_2)
 - Particulate matter less than 10 micrometers (PM_{10})
 - Particulate matter less than 2.5 micrometers ($PM_{2.5}$)



Transportation Actions Subject to Conformity

- Metropolitan transportation plans
- Metropolitan transportation improvement programs (TIP)
- Federal projects
 - projects receiving FHWA/FTA funding
 - projects receiving FHWA/FTA approval



What are Exempt Projects?

- There are three groups of exempt projects in the conformity rule:
 - Projects exempt from all conformity requirements (§93.126) (e.g., safety, mass transit (with limitations), air quality projects)
 - Projects exempt from regional emissions analysis (§93.127) (e.g., Intersection channelization, Interchange reconfiguration)
 - Traffic Signal Synchronization projects (§93.128)

Table 2—Exempt Projects
Safety

Railroad/highway crossing.
 Projects that correct, improve, or eliminate a hazardous location or feature.
 Safer non-Federal-aid system roads.
 Shoulder improvements.
 Increasing sight distance.
 Highway Safety Improvement Program implementation.
 Traffic control devices and operating assistance other than signalization projects.
 Railroad/highway crossing warning devices.
 Guardrails, median barriers, crash cushions.
 Pavement resurfacing and/or rehabilitation.
 Pavement marking.
 Emergency relief (23 U.S.C. 125).
 Fencing.
 Skid treatments.
 Safety roadside rest areas.
 Adding medians.
 Truck climbing lanes outside the urbanized area.
 Lighting improvements.
 Widening narrow pavements or reconstructing bridges (no additional travel lanes).
 Emergency truck pullovers.

Mass Transit

Operating assistance to transit agencies.
 Purchase of support vehicles.
 Rehabilitation of transit vehicles¹.
 Purchase of office, shop, and operating equipment for existing facilities.
 Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts, etc.).
 Construction or renovation of power, signal, and communication systems.
 Construction of small passenger shelters and information kiosks.
 Reconstruction or renovation of transit buildings and structures (e.g., rail or bus buildings, storage and maintenance facilities, stations, terminals, and ancillary structures).
 Rehabilitation or reconstruction of track structures, track, and trackbed in existing rights-of-way.
 Purchase of new buses and rail cars to replace existing vehicles or for minor expansions of the fleet¹.
 Construction of new bus or rail storage/maintenance facilities categorically excluded in 23 CFR part 771.

Air Quality

Continuation of ride-sharing and van-pooling promotion activities at current levels.
 Bicycle and pedestrian facilities.

Other

Specific activities which do not involve or lead directly to construction, such as:
 Planning and technical studies.
 Grants for training and research programs.
 Planning activities conducted pursuant to titles 23 and 49 U.S.C.
 Federal-aid systems revisions.
 Engineering to assess social, economic, and environmental effects of the proposed action or alternatives to that action.
 Noise attenuation.
 Emergency or hardship advance land acquisitions (23 CFR 710.503).
 Acquisition of scenic easements.
 Plantings, landscaping, etc.
 Sign removal.
 Directional and informational signs.
 Transportation enhancement activities (except rehabilitation and operation of historic transportation buildings, structures, or facilities).
 Repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial functional, locational or capacity changes.

Note: ¹ In PM₁₀ and PM_{2.5} nonattainment or maintenance areas, such projects are exempt only if they are in compliance with control measures in the applicable implementation plan.



Who Is Responsible for Conformity?

- U.S. DOT (FHWA and FTA)
- Metropolitan Planning Organizations
- State DOT
 - Projects outside MPO boundaries
- State Air Agency
 - Consultation role or otherwise defined in conformity SIP
- EPA - consultation role



When is Conformity Required?

Conformity must be determined:

- At least every 4-years in nonattainment and maintenance areas
- Prior to approval / acceptance of a metropolitan transportation plan, a TIP, and plan / TIP amendments
- Prior to approval of federal projects
 - Federal projects involving FHWA/FTA approval or funding
 - Projects must be included in a conforming plan and TIP
- 24-months after certain SIP actions
- 12-months after new nonattainment designation becomes effective



Develop schedules & timelines for Plan/TIP conformity

- For all nonattainment/ maintenance areas...
 - Identify date of current conformity determination on Plan and/or TIP
 - Determine regular update deadlines
 - Any new designations?
 - Any new SIP budgets?



Conformity Basics – Reminders

- Conformity requirements apply in nonattainment and maintenance areas for NO₂, CO, PM, and O₃
- Metropolitan transportation plans, TIPs, and projects are subject to conformity requirements
- Conformity of the plan and TIP must be determined at least every 4 years, the same update cycle as for transportation plans and TIPs
- US DOT (FHWA and FTA) are responsible for making conformity determinations
- Some projects are exempt from conformity.



MAJOR REQUIREMENTS



Transportation Conformity Major Requirements

- Regional emissions analysis
 - Conformity tests
- Latest planning assumptions and emissions model
- Timely implementation of transportation control measures (TCMs) in an approved SIP



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



Regional Emissions Analysis – Requirements

- Emissions must be estimated from the existing and planned transportation system
- Regional emissions analysis must include:
 - FHWA/FTA projects proposed in plan and TIP (needing federal approval or funding)
 - All regionally significant projects that are not from a conforming plan and TIP
- Specific network-based modeling requirements apply in some CO and ozone areas
 - Non-regionally significant projects not required to be explicitly modeled but VMT must be estimated using reasonable professional practice
 - Areas not subject to network-based modeling requirements must use reasonable methods
- Analysis must cover the transportation plan horizon



Types of SIPs

- There are several types of SIPs:
 - Infrastructure SIPs (monitoring, emergency episode provisions, other administrative provisions)
 - Control strategy SIPs
 - Attainment
 - Rate of Progress/Reasonable Further Progress
 - Maintenance Plans
 - Control Measure SIPs
 - Such as I/M SIPs and Conformity SIPs
- Control strategy SIPs and maintenance plans may contain MVEBs (Conformity SIPs do not)
- Requirements depend on pollutant and classification



Regional Emissions Analysis – Conformity Tests

- The motor vehicle emissions budget is the portion of the total allowable emissions in the area allocated to highway and transit vehicle use and emissions, as defined in the SIP
 - establishes a cap on emissions
 - set for a certain date(s) to meet a milestone or demonstrate attainment or maintenance of the NAAQS
 - Regional emissions must be \leq the budget in all analysis years

- Interim emissions tests are used when there are no adequate or approved budget
 - Build/no-build test

Emissions from
implementing
plan & TIP

\leq

Emissions
without plan &
TIP
implementation

- Baseline test
 - compares emissions from a baseline year to emissions resulting from implementing plan and TIP



Conformity Tests – Selection

- Based on SIP budget status...
 - If there is no SIP (past or current)
 - ➔ Interim emission test(s) if no existing, adequate or approved budget
 - If SIP budgets have 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 is approved or emissions budget is found adequate
 - ➔ Budget test



Conformity Tests – Selection Sample Scenarios

New nonattainment area...

- Never been designated nonattainment for ozone before.
 - Use interim emissions tests (these depend on classification)
- Previously nonattainment for an ozone standard and has approved budgets
 - Use older budgets until new ozone budgets available
- Area now has adequate/approved budgets for the revised ozone standard.
 - Use adequate/approved budgets for revised ozone standard



Isolated Rural Areas

- “Isolated Rural Areas” in conformity are nonattainment/maintenance areas that have no MPO, and thus, no plan or TIP
 - Not part of the “donut area” that’s part of a nonattainment/ maintenance area with an MPO
- The regional emissions analysis has to cover at least 20 years and include all projects contained in the STIP for that area
- No regular conformity “cycle;” regional emissions analysis triggered by the need to meet project-level conformity for a new project in the area



What is a multi-jurisdictional area?

- A single jurisdiction area (the basic case) is:
 - one MPO, no donut area,
 - in one nonattainment area within one state
- Multi-jurisdictional area = A nonattainment or maintenance area that involves:
 - multiple MPOs,
 - donut areas, and/or
 - multiple states
- Guidance is available addressing the complexities involved in these areas



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
- Note: Latest planning assumptions and emissions model for conformity may be different than what was used in the SIP



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.

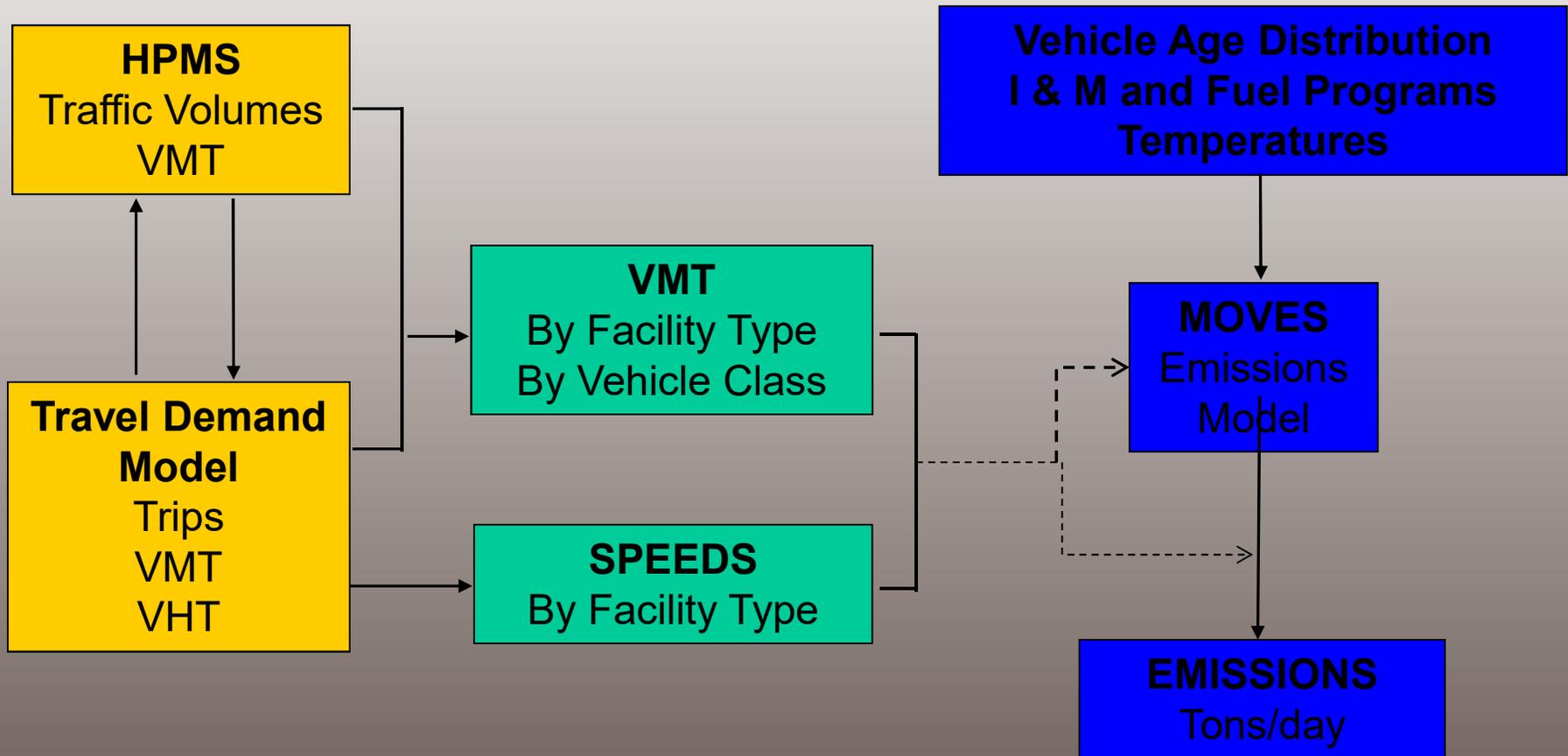


Latest Emissions Model Requirement

- Latest EPA-approved emissions factor model used for conformity may be different than the model used in the SIP
- Current Model:
 - MOVES2014a
 - For SIPs and regional emissions analyses
 - California – EMFAC2014 is the emissions factor model



Emissions Estimation Process: On-Road Mobile Sources

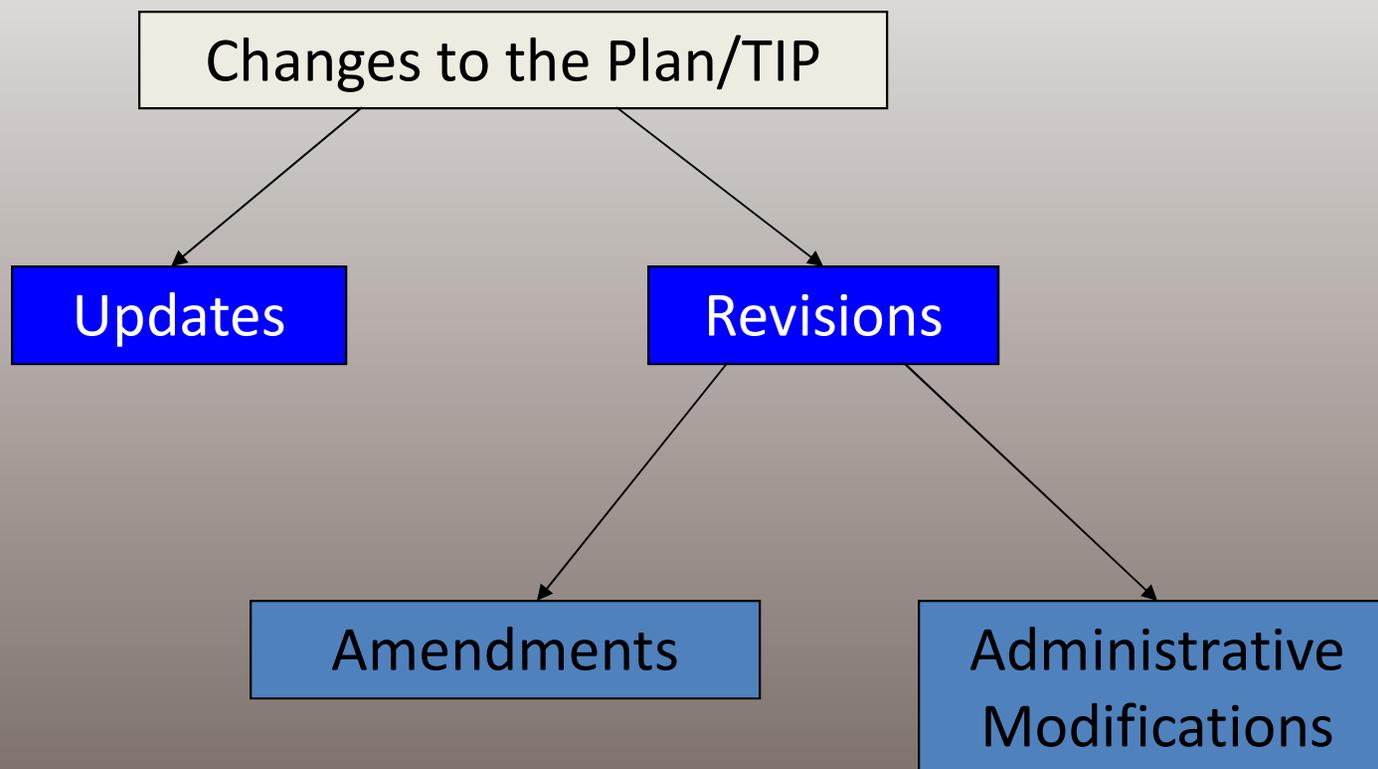


Timely Implementation of TCMs in an approved SIP

- 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
 - TCM Substitution Guidance available



Changes to the Plan/TIP



Changes to the Plan/TIP and Conformity

- Updates
 - New conformity determination
- Revisions – Administrative modifications
 - No conformity determination
- Revisions – Amendments
 - Impact on exempt projects ~ No conformity determination
 - Impact on non-exempt project ~ New conformity determinations
- If TIP is an exact subset of plan, a separate regional emissions analysis not required on TIP but conformity determination for TIP required



Moving Projects within the TIP

- Projects in an approved TIP are not required to go through an amendment if the scheduled implementation is changed within the 4-year period of the TIP
 - Administrative modification sufficient
 - No conformity determination
- If interagency consultation decides the change to a non-exempt project requires an amendment, then a new conformity determination is required



Relationship Between the TIP and the STIP

- All TIPs incorporated into the STIP
 - Federal conformity finding is required before nonattainment or maintenance area TIP can be included in the STIP
- TIP expires when STIP approval expires
- Projects in a “donut” area must be included in the regional emissions analysis that support the TIP conformity determination before added to the STIP
- The STIP itself is not subject to conformity



Major Requirements: Summary

- Regional emissions analysis is a key component of conformity; applicable requirements depend on the status of the SIP
- Latest planning assumptions and emissions model required
- Timely implementation of transportation control measures (TCMs) in an approved SIP must be demonstrated
- Changes to the plan and TIP may or may not trigger the need for a conformity determination



CONSULTATION



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 (called “Conformity SIP”) and legally enforceable by a state court



Interagency Consultation – Roles and Responsibilities

- Regulations require the participation of all relevant agencies in interagency consultation
- Typical key participants include:
 - MPO(s)
 - State transportation agency
 - State air quality / environmental agency
 - US DOT (FHWA/FTA)
 - US EPA



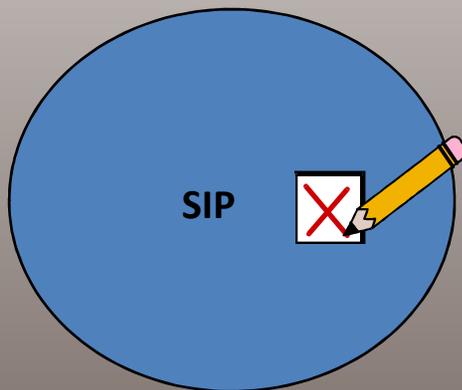
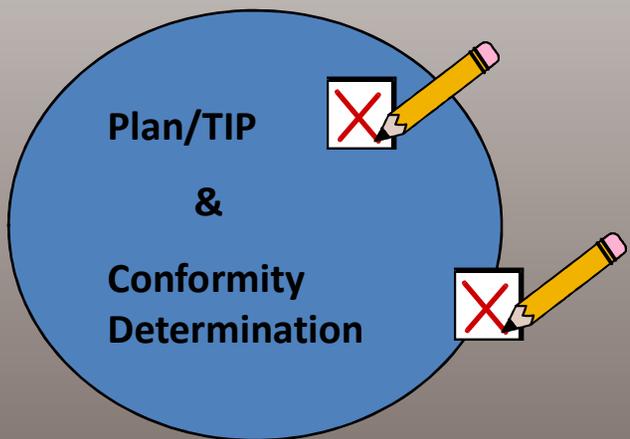
Interagency Consultation Procedures Describe How...

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.

Major Interagency Consultation Activities

Establish procedures to:

- ✓ 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



Public Involvement Requirements

- Consistent with requirements in 23 CFR 450.316(a)
- Establish a proactive public involvement process
- Providing reasonable public access to technical and policy information at the beginning of the public comment period
- Public involvement must occur prior to taking formal action on a conformity determination



CONFORMITY DOCUMENTATION



Typical Conformity Information

- Nonattainment and maintenance area(s)
- Pollutants and applicable precursors
- Conformity tests and methodologies
 - Applicable motor vehicle emissions budgets (and effective date)
- Model or model(s) chosen, associated methods and assumptions
- Any regionally significant non-federal projects
- Any exempt projects being treated as nonexempt
- Timely implementation of TCMs (or identified obstacles)
- Interagency and public consultation



Typical Plan and TIP Information to Support Conformity

- Quantify and document demographic and employment factors
 - Including land use forecasts
- Financial resources
- Analysis years
- Project descriptions
 - Including all regionally significant projects
- Project cost estimates
- Financial resources
- Project schedules
- Analysis years
- Priority funding for TCMs



PROJECT-LEVEL CONFORMITY



Project Level Conformity

- FHWA/FTA projects must be found to conform before they are adopted, accepted, approved, or funded.
 - Not required for exempt projects
 - Not required for state- or locally-approved projects (e.g., no Federal action)



Project Level Conformity

- Conformity must be redetermined for any FHWA/FTA project if one of the following occurs:
 - a significant change in the project's design concept and scope;
 - three years elapse since the most recent major step to advance the project;
 - Major steps include NEPA process completion; start of final design; acquisition of a significant portion of the right-of-way; and, construction (including Federal approval of plans, specifications and estimates).
 - or initiation of a supplemental environmental document for air quality purposes.



General Project-Level Conformity Requirements

- The project comes from a conforming plan and TIP
 - Including any necessary written commitments for project-level emissions mitigation or control measures (any included in TIP project design concept and scope)

Projects are considered to be from a currently conforming MTP/TIP if the design concept and scope:

- Has not changed from what was originally included in the regional emissions analysis
- Was adequate to determine the contribution of a project to regional emissions in the MTP and TIP



General Project-Level Conformity Requirements

- Includes a hot-spot analysis in CO and PM nonattainment and maintenance areas, if required
 - No hot-spot analysis required for ozone
- Analyses use latest planning assumptions and latest emissions model
- Compliance with control measures in PM SIP



Projects not from a conforming MTP and TIP (i.e., projects in isolated rural areas)

- Similar to projects in the MTP and TIP
 - CO, PM_{2.5}, PM₁₀ hot-spot analysis, if applicable
 - PM₁₀, PM_{2.5} control measures, if applicable
 - Must not interfere with TCMs in SIP
 - Included in the regional emissions analysis



Conformity and NEPA

- Typically, project-level conformity, including any hot-spot analysis, is completed as part of the NEPA process (prior to issuance of CE, FONSI, ROD)
 - If an area is designated nonattainment after NEPA is completed, a conformity determination is required for any subject federal approvals needed prior to project construction
- If the preferred alternative identified in NEPA is different than the project included in the regional conformity determination, USDOT cannot make a project-level conformity determination until the plan and TIP are revised to incorporate the revised project and found to conform.



For More Information

- For questions, please contact:
 - **FHWA Division Offices:** www.fhwa.dot.gov/about/field.cfm
 - **FTA Regional Offices:** www.transit.dot.gov/about/regional-offices/regional-offices
 - **EPA Regions:** www.epa.gov/state-and-local-transportation/epa-regional-contacts-regarding-state-and-local-transportation



FHWA Resources

- Transportation Conformity Rule
 - <https://nepis.epa.gov/Exe/ZyPDF.cgi/P100E7CS.PDF?Dockey=P100E7CS.PDF>
- Basic Guide for State and Local Officials
 - http://www.fhwa.dot.gov/environment/air_quality/conformity/2017_guide
- Transportation Conformity Brochure
 - Limited hard copies available
 - http://www.fhwa.dot.gov/environment/air_quality/conformity/con_broc.cfm
- Air Quality and Sustainability Highlights
 - http://www.fhwa.dot.gov/environment/air_quality/conformity/highlights/



Training

- FHWA

(http://www.fhwa.dot.gov/environment/air_quality/conformity/training/)

- Transportation Conformity Self-directed Training (32 modules)
- What is Transportation Conformity? (27 minutes)

- EPA

- MOVES training

<http://www.epa.gov/otaq/models/moves/training.htm>



Main Websites

- FHWA
 - Conformity website:
 - http://fhwa.dot.gov/environment/air_quality/conformity
- EPA
 - Conformity website:
 - <https://www.epa.gov/state-and-local-transportation>
 - EPA Green Book (nonattainment and maintenance area listing):
 - <https://www.epa.gov/green-book>

