

Transportation Conformity: An Overview

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Disclaimer

This presentation is for information only. It does not constitute a standard, specification, regulation, or regulatory finding.

Transportation Conformity

- Established by the Clean Air Act (EPA)
 - Requires Federal Government to conform to State air quality goals before approving or funding any activity
 - Requires that transportation plans, TIPs and projects conform to the purpose of the state implementation plan (SIP).
 - Conformity to the purpose of the SIP means that transportation activities will not cause new violations of the National Ambient Air Quality Standards (NAAQS), worsen existing violations, or delay timely attainment of the NAAQS.

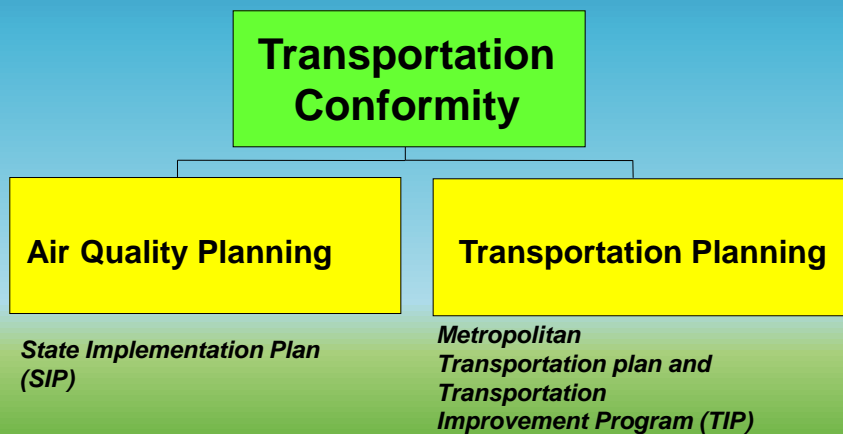
Conformity: Transportation vs. General

- Transportation conformity applies to federal highway and transit actions
 - On-road mobile sources (cars, trucks, buses)
- General conformity applies to all other federal actions (e.g. airports and railroads)

Purpose of Transportation Conformity

- Ensures that Federal funding and approval are given to activities that are consistent with air quality goals
- Ensures that transportation control measures in approved SIPs are given priority for federal funding
- Ensures that air agencies and transportation agencies communicate on a continuing basis
- Ensures that the public has the opportunity to review transportation conformity determinations prior to approval by MPO policy board.

Transportation Conformity: A Link Between Air Quality and Transportation Planning



What is a SIP?

- The SIP is an air quality plan that explains how the state will attain or maintain the National Ambient Air Quality Standards (NAAQS)
- SIPs provide for the implementation and enforcement of emission control measures from all source categories (e.g., mobile, stationary, etc.)

What is a SIP? (continued)

- SIP preparation is:
 - Required by the Clean Air Act
 - Prepared by the State (or Air Quality Management Agency)
 - Approved by the EPA
 - Prepared within a set length of time after the effective date of a nonattainment designation
- States must involve the public, through hearings and opportunities to comment, in the development of each SIP
- Legal authority must be in place to implement SIPs

Transportation-related Elements of a SIP

- Major transportation-related elements include:
 - On-road mobile source inventory
 - Motor vehicle emissions budget
 - Transportation control measures (optional)



ON-Road Mobile Source Inventory

- Inputs to the on-road emission inventory include:
 - Number and types of vehicles in the region
 - Age of vehicles
 - Rate of fleet turnover
 - Seasonal temperatures
 - Vehicle miles traveled (VMT)
 - Transportation network

Should be developed in close cooperation with State and local transportation agencies

What is a Motor Vehicle Emissions Budget (MVEB)?

A 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...

40 CFR §93.101

MVEBs

- Developed as part of the SIP
 - *should be developed in close cooperation with State and local transportation agencies*
 - Not all nonattainment/maintenance areas are required to have MVEBs (e.g., areas with limited maintenance plans)
- A regulatory ceiling or cap on emissions from on-road emissions mobile sources
- Must be approved as part of the SIP or determined “adequate” prior to SIP approval for conformity use
- Conformity is demonstrated using the MVEBs
 - Projected emissions from the MTP and TIP must be at or below the SIP budgets

Transportation Control Measures (TCMs)

A TCM is “any measure that is specifically identified and committed to in the applicable implementation plan... for the purpose of reducing emissions or concentrations of air pollutants from transportation sources by reducing vehicle use or changing traffic flow or congestion conditions.”

- TCMs not required in all nonattainment areas
- Where required, the SIP must provide for the implementation and enforcement of TCMs.
 - Priority funding
- Should be developed jointly by transportation and air agencies

Transportation Planning Process



Statewide and Metropolitan Long Range Transportation Plans

- Metropolitan Transportation Plan (MTP)
 - 20 year planning horizon
 - Multimodal (highways, transit, bike/ped, freight)
 - Update every 4 (nonattainment and maintenance areas) or 5 (attainment areas) years
 - Fiscally constrained and project specific
 - Subject to conformity in nonattainment and maintenance areas
- Statewide long-range transportation plan (SLRTP)
 - 20 year planning horizon
 - Multimodal (highways, transit, bike/ped, freight)
 - Not fiscally constrained, may be a policy plan
 - *Not subject to conformity*

Transportation Improvement Program (TIP)

- Serves as a 4-year priority list of projects for funding for the metropolitan planning area
- Must be updated at least once every 4 years
- Must
 - Include all regionally significant projects
 - Be consistent with the MTP
 - Be fiscally constrained
- Prepared by MPO
- Subject to conformity in nonattainment and maintenance areas

The STIP

- STIP – Statewide Transportation Improvement programs
- Updated once every 4 years
- 4 year program of projects to be funded with Federal Funds
- Fiscally constrained
- Must be consistent with the SLRTP, MTPs, and TIPs
- Reviewed and approved by USDOT (FHWA and FTA)
- *STIP is not subject to conformity*

Applicability of Transportation Conformity

- All nonattainment / maintenance areas for pollutants:
 - 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 ($PM_{2.5}$)
- Criteria and procedures detailed in the Transportation Conformity rule
 - For different pollutants and severity of pollution
 - For types of actions

Precursor Pollutants

- Applies to emissions from precursor pollutants
 - Ozone areas
 - VOCs and NO_x
 - NO₂ areas
 - NO_x
 - PM₁₀ areas
 - If transportation-related precursor emissions significantly contribute to PM₁₀, or
 - If the SIP has budgets for such emissions

Precursor Pollutants (continued)

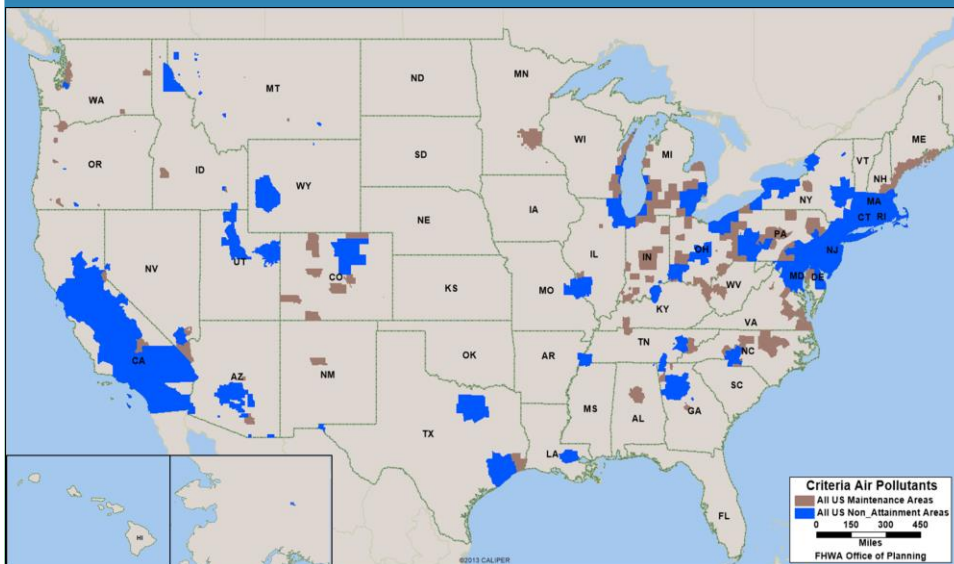
- PM_{2.5} precursors before SIPs developed
 - NO_x (unless found insignificant)
 - VOCs (if found significant)
 - sulfur oxides (SO_x) (if found significant)
 - ammonia (NH₃) (if found significant)
- PM_{2.5} precursors after SIP developed
 - If SIP has budget(s) for such emissions

Pollutants and Precursors

Direct and Precursor Emissions

Criteria pollutants		Direct Emissions	NOx	VOC	Ammonia (NH ₃)	Sulfur Dioxide (SO ₂)
	Ozone (O ₃)	—	✓	✓	—	—
	PM ₁₀	✓	✓	✓	—	—
	PM _{2.5}	✓	✓	✓	✓	✓
	NO ₂	—	✓	—	—	—
	CO	✓	—	—	—	—

Nonattainment & Maintenance Areas



Nonattainment and Maintenance Areas

Pollutant/NAAQS	Conformity Applies?
8-Hour Ozone (2015)	Yes
8-Hour Ozone (2008)	Yes
8-Hour Ozone (1997)	EPA revoked NAAQS on April 6, 2015; Conformity applies after Feb 15, 2019 per court decision)
PM2.5 (1997)	Only for nonattainment areas
PM2.5 (2006 24-hour standard)	Yes
PM2.5 (2012)	Yes
PM10	Yes
CO	Yes (all CO areas are maintenance)
NO2	Yes

Transportation Actions Subject to Conformity

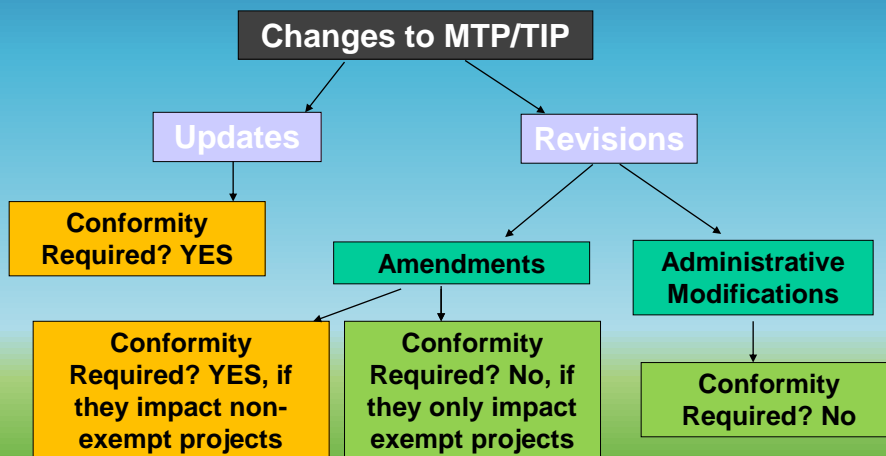
- Metropolitan transportation plans
- Metropolitan transportation improvement programs (TIP)
- Federal projects
 - projects receiving FHWA/FTA funding and/or approval
- Regionally significant non-Federal projects are partially affected

When is Conformity Required?

Conformity must be determined:

- At least every 4-years in nonattainment and maintenance areas for Plans and TIPs
- Prior to approval / acceptance of a metropolitan transportation plan, a TIP, and plan / TIP amendments
- Prior to approval of non-exempt Federal projects
 - Exempt projects such as safety projects are not subject to conformity
- 24-months after certain SIP actions
- 12-months after new nonattainment designation becomes effective

Conformity Needed for MTP or TIP?



Conformity Requirements

- Regional Emissions Analysis for Plans and TIPs
 - Latest planning assumption
 - Latest emissions model (EPA's MOVES model; EMFAC model in CA)
- Interagency consultation and public involvement
- Timely Implementation of transportation control measures (TCMs) in the SIP
- Additional hot-spot analysis for some projects
 - Localized analysis for Federal projects in carbon monoxide and particulate matter nonattainment and maintenance areas



What is a "Federal Project"?

Any highway or transit project...

- proposed to receive funding assistance and approval through the Federal-Aid Highway program or the Federal mass transit program, or
- requires FHWA or FTA approval for some aspect of the project,
 - such as connection to an interstate highway or deviation from applicable design standards on the interstate system



Project-Level Conformity

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

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 than 3 years have passed since the most recent major step to advance the 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

Who Makes the Conformity Determination?

- 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 has a consultation role, concurrence not required

Interagency Consultation

- Process for agencies to collaborate on key elements of transportation conformity
- Ensures all agencies:
 - Meet regularly
 - Share information
 - Identifies key issues early in the process
 - Enable well-coordinated schedules for TIP/Plan conformity determinations and SIP development
 - Collaboratively make key decisions such as methodologies, assumptions, conformity test selection

What Projects are Exempt from Conformity?

- There are three groups of exempt projects in the conformity rule (40 CFR 93):
 - 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)

What are the consequences of failing to conform?

- A 12-month grace period to fix any conformity problems
- Conformity lapse after end of grace period or 12 months after effective date of newly designated areas
 - Only limited number of projects can proceed during lapse (exempt projects, TCMs in an approved SIP, FHWA/FTA project phases approved before lapse, some non-Federal projects)

On-Line Training

- Air Quality Planning Course Series, National Highway Institute: 4 modules
 - Clear Air Act Overview
 - SIP and TCM Requirements and Policies
 - SIP Development Process
 - Transportation Conformity
- Transportation conformity self-directed training – 32 modules cover all aspects of transportation conformity
- What is transportation conformity – 27 min video provides a high-level overview of conformity

https://www.fhwa.dot.gov/environment/air_quality/conformity/training/



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More Information?

- FHWA air quality website:
https://www.fhwa.dot.gov/environment/air_quality/conformity/
- EPA website:
<https://www.epa.gov/state-and-local-transportation>



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