Overview of Transportation and General Conformity

Tom Ballou, VA DEQ

Conformity Overview

- CAA Section 176(c) requires that federal projects conform to a state's SIP in nonattainment and maintenance areas
  - Any projects funded by or approved, permitted, licensed, etc., by federal agencies must conform to the state's NAA or maintenance area SIP
- The federal project cannot
  - Cause or contribute to new air quality violations
  - Worsen existing violations (frequency or severity), or
  - Delay attainment of air quality standards, interim emission reductions, or other milestones
- EPA issued rules governing conformity determinations
  - **Transportation Conformity**: those dealing with transportation plans, programs, and projects
  - **General Conformity**: all other projects, e.g. projects requiring federal permits

Conformity Regulations Coverage

- Transportation
  - Federal Highway Administration (FHWA)-funded projects
  - Federal Transit Administration (FTA) projects
- General
  - Everything else
    - Army Corp of Engineers (ACOE), Federal Aviation Administration (FAA), Federal Energy Regulatory Commission (FERC)—e.g., military bases, airports, ports, etc.

Transportation v. General Conformity

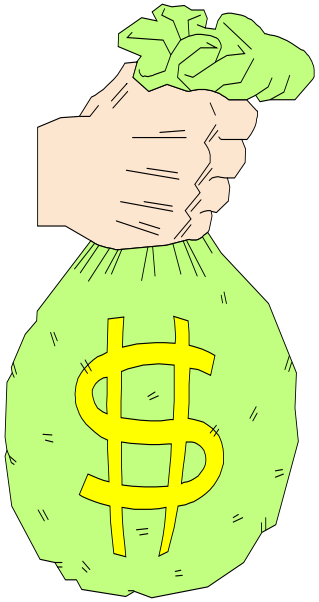
Transportation Conformity (TC)	General Conformity (GC)
Emission budgets issued in attainment demonstration and maintenance plan SIP revisions	Inclusion in SIP optional (not necessarily SIP revision)
Applies to federal highway and transit transportation projects	Applies to all other federal projects, e.g. approval of airports (FAA), DOD facilities, freight rail (FRA), ACOE, pipelines (FERC), etc.
Applies to criteria pollutants with significant contribution within transportation: ozone, PM, CO, NO_2	Applies to all criteria pollutants and precursors: Transportation conformity + SO_2, NH_3, Lead (Pb)
Applies to on-road mobile sources only	Applies to project-related emissions

Transportation Conformity is Linked to Funding

"Under the metropolitan planning requirements of Titles 23 and 49 U.S.C., projects cannot be:

- approved,
- funded,
- advanced through the planning process, or
- implemented

unless projects are in a conforming plan and TIP"



Conforming to an Implementation Plan Means . . .

- Conformity to an implementation plan's purpose of eliminating or reducing the severity and number of violations of the National Ambient Air Quality Standards and achieving expeditious attainment of such standards; and
- that such activities will not—
  - Cause or contribute to any new violation of any new standard in any area;
  - Increase the frequency or severity of any existing violation of any standard in any area; or
  - Delay timely attainment of any standard or any required interim reductions or other milestones in any area.
  - The determination of transportation conformity shall be based on the most recent estimates of emissions, and such estimates shall be determined from the most recent population, employment, travel and congestion estimates as determined by the metropolitan planning organization or other agency authorized to make such estimates. Use of the EPA regulatory emissions model is required.

Transportation Conformity Rule (1)

- EPA's first transportation conformity rule was codified November 1993
  - 40 CFR 93, subpart A
  - Revised many times over the next decade and beyond; some prompted by court decisions
- States are required to adopt three specific SIP elements
  - Consultation procedures [40 CFR §93.105]
  - Procedures for determining regional transportation-related emissions [40 CFR §93.122(a)(4)(ii)]
  - Enforceability of design concept and scope and project-level mitigation and control measures [93.125(c)]

Transportation Conformity Rule (2)

- Includes a series of MOUs detailing the responsibilities for the many entities involved in the evaluation & approval process (e.g., EPA, FHWA, FTA, state DOTs, state air agencies and various MPOs)

- States must either adopt their own conformity rules or incorporate the federal rule provisions and requirements

TC Roles and Responsibilities

US DOT (FHWA/FTA)	Determines conformity on transportation plans, TIPS, and projects
MPOs	Prepare the conformity determination for transportation plans and TIPs
State DOT and Transit Agencies	Prepare project-level conformity determination
State and Local Air Agencies	Develop the SIP budget; consult on conformity determinations
US EPA	Consults on the conformity process, conformity regulations and guidance. Reviews conformity determinations. Approves state SIP TC budgets

Transportation Planning (MPOs)

- Long Range Transportation Plans (TRTPs)
  - 20-year horizon on highway and transit investments in a region
- Transportation Improvement Plans (TIPs)
  - 4-years of projects consistent with the transportation plan
  - Updates to these plans

Transportation Planning

- Both TPs and TIPs
  - MPO must demonstrate that the plans conform to SIP before adoption
  - Must be fiscally constrained
  - Must be available for public review
- Implementation of TC Determinations (MPOs)
  - Interim Test before budgets are developed
    - Build v. Base Year Test—for a given NAAQS if no budgets in place; base year set by EPA
    - Build v. No Build Test
  - After budgets are approved or found adequate
    - Budget Test—ensures project emissions meet SIP budgets

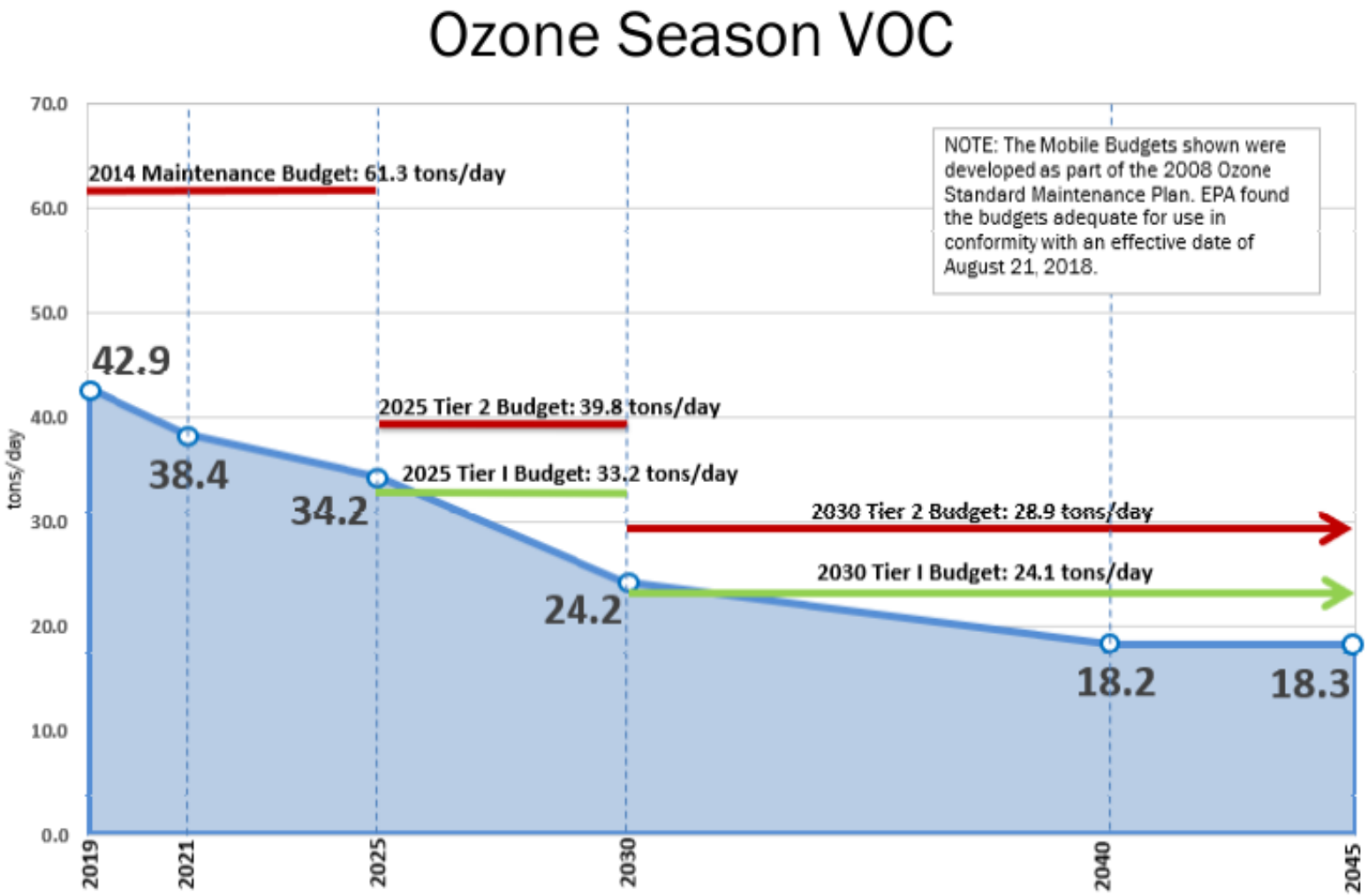
When Does Transportation Conformity Apply?

- Frequency Requirements—a new conformity determination is required
  - Before new transportation plans and TIPs are adopted, and at least every 4 years
  - Within 2 years of an adequate or approved new motor vehicle emissions budget ("SIP budget")
- SIP budgets
  - Attainment Demonstration Plan
  - ROP/RFP
  - Maintenance Plan

Transportation Conformity SIP Emissions Budget

- Conformity rule requires that the latest available emissions model and latest planning assumptions be used in a conformity determination
  - Rule provides a grace period of 3-24 months before a new model must be used in conformity
- EPA latest mobile model – Motor Vehicle Emissions Simulator (MOVES3)
- Changes in EPA emissions models can trigger the need to revise mobile emissions budgets

What Do Mobile Emissions Budgets Look Like?



Other Transportation Conformity Considerations

- Can be both controversial and contentious—many interests and groups are involved
- May have to live with established budgets for a long time—long range plans extent out far into the future
- Changes in methodologies and assumptions are important to consider (i.e., mobile models)
- Use of conformity “buffers” or “safety margins”
- Budgets cannot be arbitrarily set or used to “drive” further mobile emissions reductions
- Use of transportation emission reduction measures
- Conformity failure or lapse can have very serious consequences

Transportation v. General Conformity

Transportation Conformity	General Conformity
Emission budgets issued in attainment demonstration and maintenance plan SIP Revisions	Inclusion in SIP optional (not necessarily SIP revision)
Applies to federal highway and transit transportation projects	Applies to all other federal projects, e.g. approval of airports (FAA), DOD facilities, freight rail (FRA), ACOE, pipelines (FERC), etc.
Applies to criteria pollutants with significant contribution within transportation: ozone, PM, CO, NO_2	Applies to all criteria pollutants and precursors: Transportation conformity + SO_2, NH_3, Lead (Pb)
Applies to on-road mobile sources only	Applies to project-related emissions

Again . . . Conformity Overview

- Clean Air Act requires that federal projects conform to a state's SIP
  - Any projects funded by or approved (including permitted, licensed, etc.) by federal agencies must conform to state's NAA or maintenance area SIP

The federal project cannot

- Cause or contribute to new air quality violations
- Worsen existing violations (frequency or severity), or
- Delay attainment of air quality standards, interim emission reductions, or other milestones

GC Roles and Responsibilities

Federal Agency	Ensures projects conform to SIPs. Performs analyses and if needed, mitigates project emissions. Issues draft and final general conformity determinations. Notifies USEPA and state and local air agencies, and provides opportunity for comments
US EPA Regional Office	Provides assistance upon request by federal agency. Reviews and comments on draft determinations. Reviews and approves SIP revisions that incorporate conformity. Consults with air agencies
State and Local Air Agencies	Provide guidance upon request by federal agency. Review and comment on draft determinations. If applicable, commit to revision of SIP prior to start of federal project and develop SIP revision
Public	Review and provide comments on draft conformity determinations

General Conformity Applicability

- All federal projects in designated nonattainment or maintenance areas
- Total direct and indirect emissions (per calendar year)
- Total emissions exceed de minimis levels
- Several exceptions, for example:
  - Projects covered by the transportation conformity rule
  - Projects emissions below specified de minimis levels
  - Projects that are exempt or presumed to conform

Total Direct and Indirect Emissions

- Direct
  - Caused by the project (construction emissions)
  - At time and location of project

- Indirect
  - Removed in time or space from project
  - Reasonably foreseeable*
  - Under continuing program responsibility of agency

** A project cannot be segmented to bring emissions below de minimis levels*

Nonattainment Area De Minimis Levels

	Tons/year
Ozone (VOC's or NO_X):	
Serious NAA's	50
Severe NAA's	25
Extreme NAA's	10
Other ozone NAA's outside an ozone transport region	100
Other ozone NAA's inside an ozone transport region:	
VOC	50
NO_X	100
Carbon monoxide: All NAA's	100
SO_2 or NO_2: All NAA's	100
PM-10:	
Moderate NAA's	100
Serious NAA's	70
$PM_{2.5}$:	
Direct emissions	100
SO_2	100
NO_X (unless determined not to be significant precursors)	100
VOC or ammonia (if determined to be significant precursors)	100
Pb: All NAA's	25

General Conformity Planning

In an area with a SIP, conformity can be demonstrated in one of five ways

- Mitigation of the emissions increase
  - Total emissions must be mitigated (net emissions=0)
  - Control strategies at project or within NAA or maintenance area
- Emission increases caused by a project are in the SIP
- State agrees to include the emission increases in the SIP
- Offset projects emissions in the same or nearby area
  - Total emissions from project not an amount above de minimis threshold
- Through an air quality modeling demonstration, in some circumstances (not allowed for ozone, NO_2 and some PM2.5 areas)

General Conformity: Virginia Examples

Demonstration of conformity made by

- ✓ Net increase in emissions fully offset by other reductions
  - Fort Belvoir BRAC Expansion – construction mitigation plan implemented
- ✓ Emissions increase fits within the current area budgets
  - Naval Air Station Oceana – emissions increase determined to fit under established emissions cap
- ✓ Emissions specifically accounted for in the air quality plan
  - Fort Eustis BRAC Expansion – included in Richmond 1997 ozone maintenance plan
  - Offshore wind farm construction emissions

Resources (1)

- EPA Transportation Conformity
  - Rulemakings
  - Transportation conformity guidance documents
  - Guidance on reductions from control measures
  - Research and training

  https://www.epa.gov/state-and-local-transportation/transportation-conformity

- DOT (FHWA) Transportation Conformity
  - Basic guide, reference guide, and FAQs
  - Research and training
  - Examples

  https://www.fhwa.dot.gov/Environment/air_quality/conformity/

Resources (2)
General Conformity

- General Conformity Rules: 40 CFR 93.150 – 93.165

  https://www.epa.gov/general-conformity/general-conformity-regulatory-actions\

- USEPA Website:

  https://www.epa.gov/general-conformity

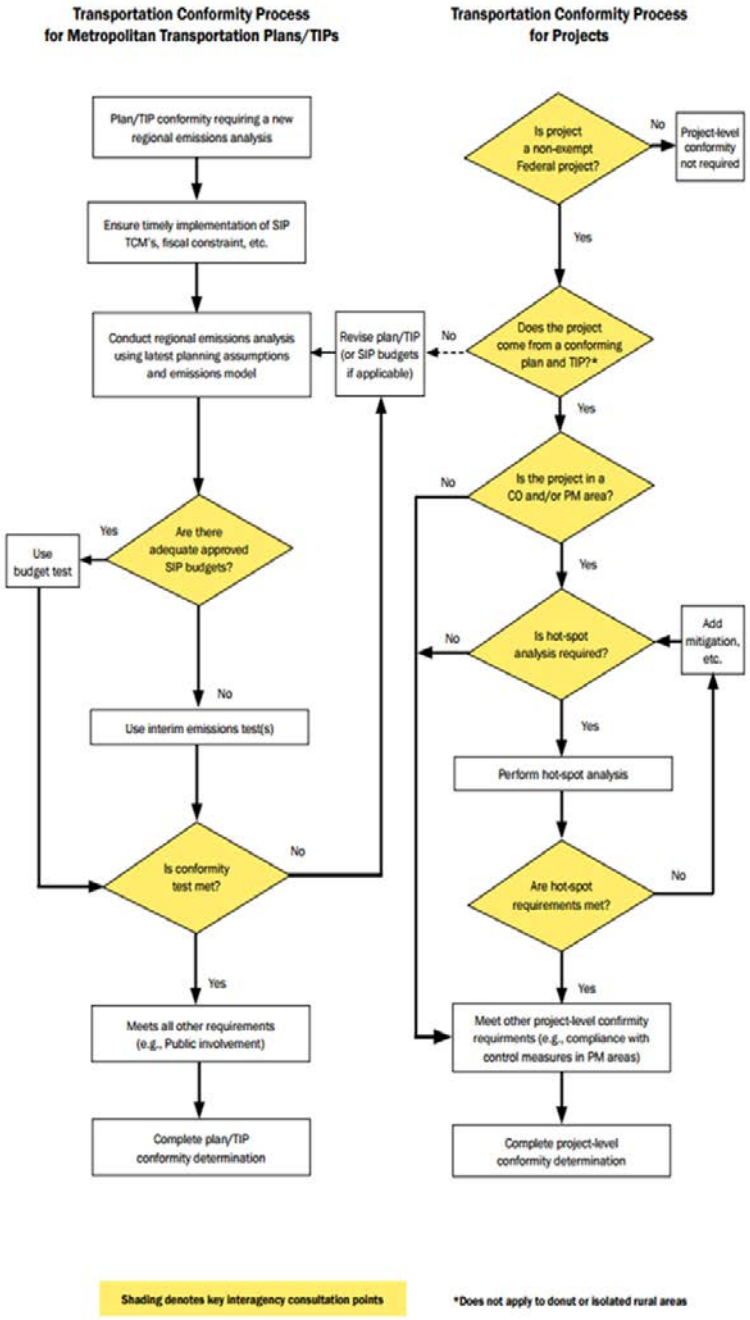
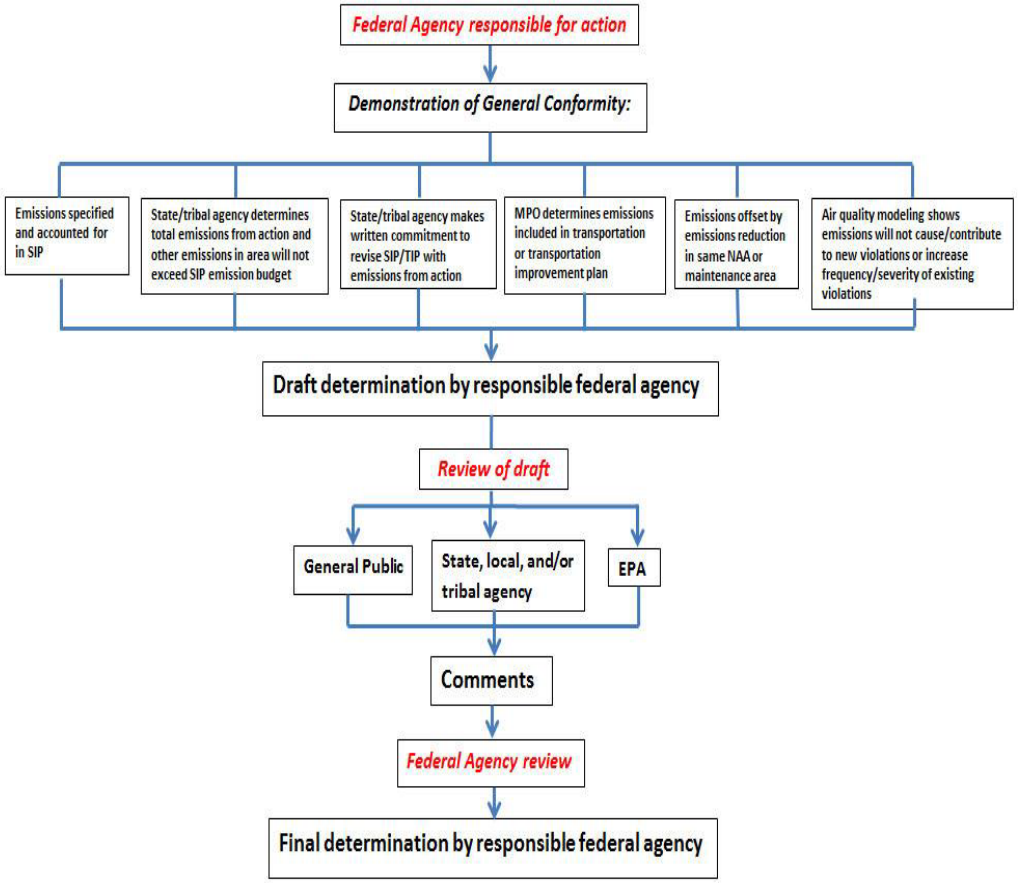
- USEPA Training Modules:

  https://www.epa.gov/general-conformity/general-conformity-training-modules

- General Conformity FAQs

  https://www.epa.gov/general-conformity/general-conformity-regulatory-actions

Cheat Sheet for TC



Cheat Sheet for GC