

## **7.0 Transportation Conformity Process and Motor Vehicle Emission Budgets**

The CAA requires states to submit State Implementation Plans (SIPs) to the United States Environmental Protection Agency (EPA) within three years after nonattainment designations to demonstrate how they will improve air quality and attain the relevant national ambient air quality standards (NAAQS).

Transportation conformity is a CAA requirement that serves as a bridge to connect air quality and transportation planning activities. Transportation conformity is required under the CAA to ensure that highway and transit project activities receiving federal funds are consistent with (“conform to”) the purpose of the SIP. Conformity to a SIP is achieved if transportation programs or transit project activities do not cause or contribute to any new air quality violations, do not worsen existing violations, and do not delay timely attainment of the relevant NAAQS.

Transportation conformity currently applies to areas that are designated nonattainment for the following transportation-related criteria pollutants: ozone, particulate matter (PM<sub>2.5</sub> and PM<sub>10</sub>), carbon monoxide (CO), and nitrogen oxides (NO<sub>x</sub>). Transportation conformity also applies to “maintenance areas”, that is areas that have been redesignated to attainment after 1990.

Figure 7.0.1 is a flowchart depicting the transportation conformity process and how the elements of a conformity determination interact.

### **7.1 Overview of Transportation Conformity**

Transportation conformity addresses air pollution from on-road mobile sources such as cars, trucks, motorcycles, and buses. For this reason, transportation conformity budgets are often referred to as motor vehicle emission budgets (MVEB). There are also significant emissions from off-road mobile sources, area sources, and stationary sources that are not addressed by transportation conformity.

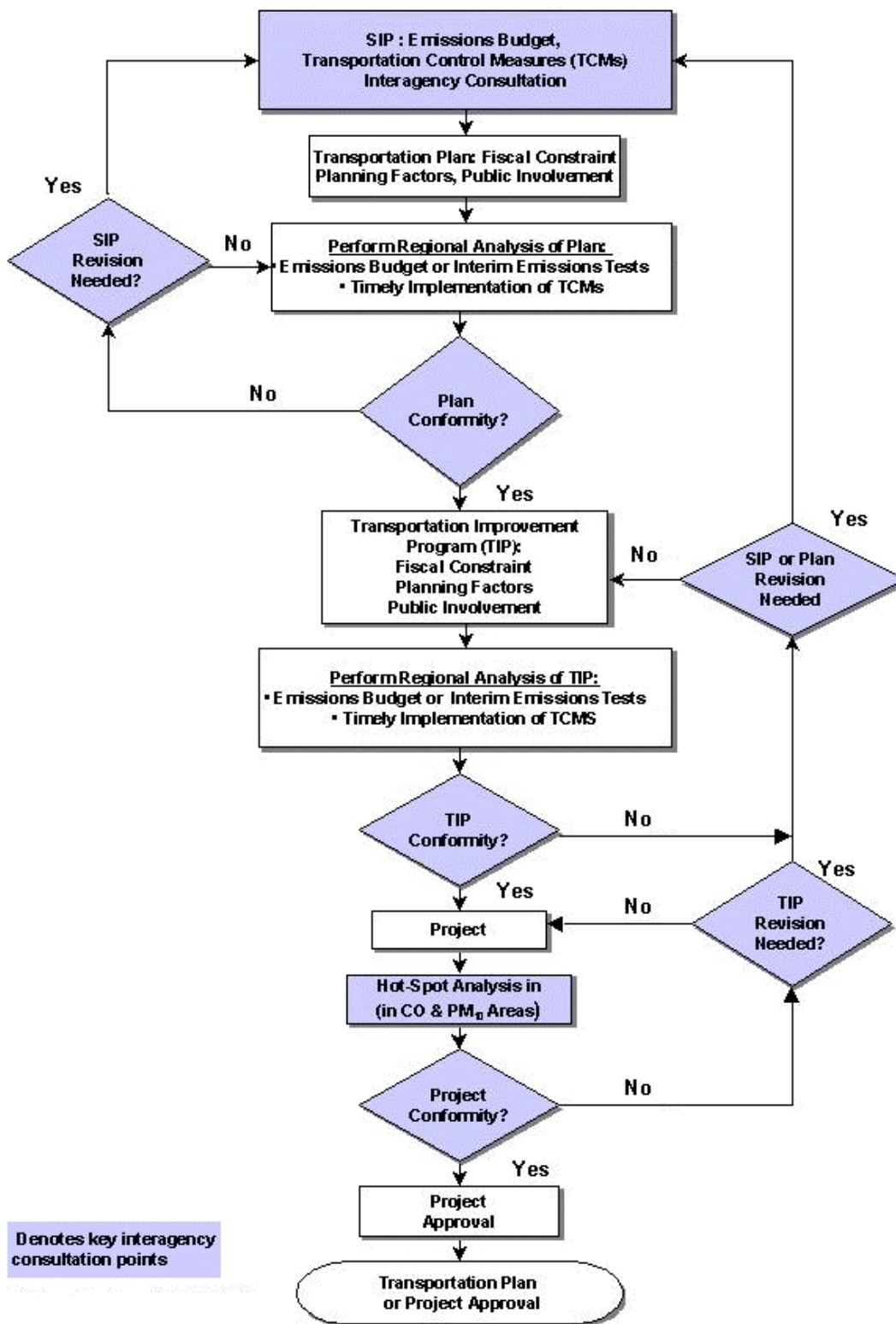
The State of Connecticut Department of Transportation (CTDOT) and the metropolitan planning organizations (MPOs) in Connecticut must determine conformity for any transportation plans, transportation improvement programs (TIPs), or any federally supported highway and transit projects.

Conformity determinations are developed by CTDOT in consultation with CTDEP and EPA. The Federal Transit Administration (FTA) and the Federal Highway Administration (FHWA) agencies of the United States Department of Transportation (US DOT) review CTDOT’s and the Connecticut MPO’s submittals and makes a conformity determination. It is customary that EPA’s regional office provides US DOT with a letter of support for the Connecticut air quality conformity report submittal.

Conformity determinations consist of the following components:

- Regional emissions analysis;
- Transportation modeling requirements;

Figure 7.0.1: Transportation Conformity Process<sup>1</sup>



<sup>1</sup> Source: Federal Highway Administration, [http://www.fhwa.dot.gov/environment/conformity/ref\\_guid/sectiona.htm](http://www.fhwa.dot.gov/environment/conformity/ref_guid/sectiona.htm)

- Latest planning assumptions and emissions model;
- Timely implementation of transportation control measures (TCMs);
- Interagency consultation;
- Public participation (consistent with U.S. DOT regulations); and
- Fiscal constraint (consistent with U.S. DOT regulations)

The regional emissions analysis is the primary component, which incorporates either a “budget” test for areas or states with approved SIP budgets, or an interim emissions test for areas with no adequate or approved SIP budgets. Budgets are developed using various transportation and emissions models. Local modeling inputs are cooperatively developed by CTDEP and CTDOT, using EPA recommended methods where applicable. Generally, CTDOT’s estimated air emissions from transportation plans and TIPs must not exceed an emissions limit, or budget, established by the CTDEP’s Bureau of Air Management.

### **7.1.1 Requirements**

The federal CAA and federal transportation reauthorization legislation passed in the 1990s established an interrelationship of clean air and transportation planning. In order to receive federal transportation funds, CTDOT and the MPOs in Connecticut must cooperatively work to develop and endorse an Air Quality Conformity Statement, which certifies to the federal government that the Statewide Transportation Improvement Program (STIP), which incorporates all TIPs, conforms to the requirements of the CAAA.

On August 15, 1997, the United States Environmental Protection Agency (EPA) published the Final Conformity Rule.<sup>2</sup>

The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)<sup>3</sup> revised the CAA conformity SIP requirements in order to use state and local resources more efficiently.

CTDOT produces a STIP in accordance with the terms and provisions of the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU)<sup>4</sup> and the CAA and all regulations issued pursuant thereto. As part of the STIP development, CTDOT conducts air quality assessments and prepares conformity reports. CTDEP evaluates the STIP and conformity reports.

The eight-hour ozone standard designations became effective on June 15, 2004. Conformity to the eight-hour ozone standard was required one year from the effective date of designation, on June 15, 2005. Conformity for the one-hour ozone standard was revoked one year after the effective date of designation of the eight-hour ozone standard. Since June 15, 2005 the one-hour ozone standard no longer applies. The one-hour ozone standard timeframe was coordinated with the date of conformity for the eight-hour ozone standard to ensure conformity is not required for both ozone standards at the same time.

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<sup>2</sup> 62 FR 43780.

<sup>3</sup> PL 109-59, August 10, 2005; (Section 6011).

<sup>4</sup> 70 FR 71949, Nov. 30, 2005.

### 7.1.2 Previous 1-Hour Ozone Budgets

The one-hour standard specified an ozone level no greater than 0.12 parts per million (ppm) for one hour. The entire State of Connecticut was designated nonattainment under the one-hour standard, with two nonattainment areas established on the basis of pollution severity. One was Fairfield County, minus the towns of Shelton, plus New Milford and Bridgewater, which was classified as a severe nonattainment area. The other area consisted of the rest of the state, which was classified as serious nonattainment.

Conformity is required for the ozone precursors, volatile organic compounds (VOCs) and oxides of nitrogen (NO<sub>x</sub>). The approved 2007 motor vehicle emission budgets (MVEBs) for the one-hour ozone standard, which were used up to the June 15, 2005 date, are listed in Table 7.1.2.

**Table 7.1.2: Previous 1-Hour Ozone Nonattainment MVEBs for 2007**  
(Based on MOBILE6.2)<sup>5</sup>

Area	VOC (tons per summer day)	NO <sub>x</sub> (tons per summer day)
SWCT Portion of NY-NJ-LI	16.4	29.7
Greater Connecticut	51.9	98.4
Statewide Total	68.3	128.1

### 7.2 Current Interim Transportation Conformity Budgets for the 8-Hour Ozone Standard

In July 1997, EPA promulgated a new eight-hour standard for ambient ozone concentrations. The eight-hour standard is more stringent than the previous one-hour standard, requiring that the average eight-hour ozone level be no greater than 0.08 ppm.

On June 15, 2004, EPA designated and classified two separate “moderate” nonattainment areas in the State of Connecticut for the eight-hour ozone standard. Fairfield, New Haven and Middlesex counties are included in the Southwest Connecticut portion of the New York-Northern New Jersey-Long Island, NY/NJ/CT eight-hour ozone non-attainment area. The Greater Connecticut eight-hour ozone non-attainment area consists of Hartford, Litchfield, New London, Tolland and Windham counties. In July 2004,<sup>6</sup> EPA finalized eight-hour conformity rules for ozone non-attainment areas, which required demonstrations of conformity to the eight-hour standard to be made starting one year from the date of nonattainment designation. Thus, the initial demonstration of conformity to the eight-hour standard was required as of June 15, 2005.

EPA issued guidance<sup>7</sup> specifying conformity procedures to be followed during the interim period between revocation of the 1-hour ozone NAAQS in June 2005 and the establishment of new 8-hour ozone budgets as part of the current 8-hour ozone planning process. In areas, such as

<sup>5</sup> 69 FR 5286, February 4, 2004. The 1-hour ozone budgets were no longer applicable, as of June 15, 2005.

<sup>6</sup> 69 FR 40004; July 1, 2004.

<sup>7</sup> Memo from Donald Cooke (EPA New England Region) to Paul Bodner (CTDEP); “What Scenarios Apply in Connecticut and What 8-hour Conformity Test(s) Will Be Used ?”; December 6, 2004.

Connecticut, that were classified with statewide nonattainment for both the 1-hour and 8-hour NAAQS, EPA's guidance requires that existing SIP-approved 1-hour ozone conformity budget levels be reallocated to follow the new boundaries of the 8-hour nonattainment areas. Table 7.2.1 shows the resulting 1-hour interim budgets for Connecticut, which will continue to be used by CTDOT and the MPOs to determine conformity until EPA determines the 8-hour budgets listed in Section 7.3 adequate or approved into the Connecticut SIP.

**Table 7.2: Reallocated 1-Hour Ozone Nonattainment MVEBs for 2007**

Area	VOC (tons per summer day)	NO <sub>x</sub> (tons per summer day)
SWCT Portion of NY/NJ/CT	34.6	66.5
Greater Connecticut	33.7	61.6
Reallocated Statewide Total	68.3	128.1

### 7.3 New Transportation Conformity Budgets for the 8-Hour Ozone Standard

As described in Section 4, this attainment plan includes numerous emission control programs designed to sufficiently reduce ozone precursor emissions in Connecticut to achieve compliance with the 8-hour ozone NAAQS. Emission control strategies are targeted at all types of emission sources, including large power plants and industries, smaller area sources such as lawn and garden equipment and gasoline stations, and on-road sources such as cars and diesel trucks (see Table 4.2 and 4.3.2).

Projected future emission levels in Connecticut resulting from these control strategies were previously summarized in Tables 4.4.1 and 4.4.2. The on-road portion of these emission estimates will serve as final transportation conformity emission budgets for the 8-hour ozone NAAQS, as listed in Table 7.3. Emission budgets are being established for the RFP milestone year of 2008, the required attainment year of 2009 and a future year of 2012. The 2012 budgets, although not required by the CAA or EPA regulation, provide an enforceable mechanism to ensure continued reduction in on-road emissions beyond the required attainment year. These new budgets will be applicable to conformity determinations when EPA determines them to be adequate or approves them into the Connecticut SIP.

**Table 7.3: Final Eight-Hour Ozone Nonattainment MVEBs  
(tons per summer day)**

Area	2008		2009		2012	
	VOC	NO <sub>x</sub>	VOC	NO <sub>x</sub>	VOC	NO <sub>x</sub>
SWCT Portion NY/NJ/CT	29.7	60.5	27.4	54.6	20.6	38.2
Greater Connecticut	28.5	54.3	26.3	49.2	19.8	34.8
Statewide Total	58.1	114.8	53.7	103.8	40.4	73.0