DELAWARE VALLEY
dvrpc
REGIONAL
PLANNING COMMISSION

Transportation Conformity Demonstration: FY 2013 Pennsylvania TIP, FY 2014 New Jersey TIP, and *Connections 2040* Long-Range Plan

July 2013

The Delaware Valley Regional Planning Commission is dedicated to uniting the region's elected officials, planning professionals, and the public with a common vision of making a great region even greater. Shaping the way we live, work, and play, DVRPC builds consensus on improving transportation, promoting smart growth, protecting the environment, and enhancing the economy. We serve a diverse region of nine counties: Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey. DVRPC is the federally designated Metropolitan Planning Organization for the Greater Philadelphia Region — leading the way to a better future.

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The symbol in our logo is adapted from the official DVRPC seal and is designed as a stylized image of the Delaware Valley. The outer ring symbolizes the region as a whole while the diagonal bar signifies the Delaware River. The two adjoining crescents represent the Commonwealth of Pennsylvania and the State of New Jersey.

DVRPC is funded by a variety of funding sources including federal grants from the U.S. Department of Transportation's Federal Highway Administration (FHWA) and Federal Transit Administration (FTA), the Pennsylvania and New Jersey departments of transportation, as well as by DVRPC's state and local member governments. The authors, however, are solely responsible for the findings and conclusions herein, which may not represent the official views or policies of the funding agencies.

DVRPC fully complies with Title VI of the Civil Rights Act of 1964 and related statutes and regulations in all programs and activities. DVRPC's website (www.dvrpc.org) may be translated into multiple languages. Publications and other public documents can be made available in alternative languages and formats, if requested. For more information, please call (215) 238-2871.

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Figures and Tables

Glossary of Acronyms and Terms

AQ Air Quality

CAA Clean Air Act (as amended)

CFR Code of Federal Regulations

CO Carbon Monoxide

DVRPC Delaware Valley Regional Planning Commission

FHWA Federal Highway Administration

Final Rule Current conformity guidance under CAA

FR *Federal Register*

FTA Federal Transit Administration

FY Fiscal Year

Maintenance Area Area that previously did not meet NAAQS

MOVES Motor Vehicle Emissions Simulator: the most recent emissions estimation model approved by the US EPA

MPO Metropolitan Planning Organization

MVEB Motor Vehicle Emissions Budget

NAAQS National Ambient Air Quality Standards

NH_3 Ammonia

NJ DOT New Jersey Department of Transportation

NJ Transit New Jersey Transit

NJAQ-ONE New Jersey Air Quality Off-Network Estimator

Nonattainment Area Area currently not meeting the NAAQS

NOx Nitrogen Oxides

PAQ-ONE Pennsylvania Air Quality Off-Network Estimator

PennDOT Pennsylvania Department of Transportation

Plan DVRPC's Long-Range Plan

PM Particulate Matter

$PM_{2.5}$ Fine Particulate Matter

ppm Parts per Million

SEPTA Southeastern Pennsylvania Transportation Authority

SIP State Implementation Plan

SOx Sulfur Oxides

State DEPs State Departments of Environmental Protection

State DOTs State Departments of Transportation

TAZ Traffic Analysis Zone

TCICG Transportation Conformity Interagency Consultation Group

TCM Transportation Control Measure

TDM Travel Demand Model

TIP Transportation Improvement Program

U.S.C. United States Code

US DOT United States Department of Transportation

US EPA United States Environmental Protection Agency

VMT Vehicle Miles Traveled

VOCs Volatile Organic Compounds

Executive Summary

Overview

Transportation conformity is the process by which Metropolitan Planning Organizations (MPOs) or departments of transportation (DOTs) demonstrate that transportation projects included in a region's Long-Range Plan (Plan) or Transportation Improvement Programs (TIPs) do not cause new air quality violations, worsen existing violations, or delay timely attainment of the National Ambient Air Quality Standards (NAAQS). Transportation conformity is a requirement of the Clean Air Act (CAA) in areas that do not meet the NAAQS or have previously been in violation of the NAAQS. Areas currently not meeting the NAAQS are known as nonattainment areas. Once a previously nonattaining area meets the NAAQS and submits plans to demonstrate how the area will continue to meet federal air quality standards, the United States Environmental Protection Agency (US EPA) can re-designate that area as either an attainment area or a maintenance area. The transportation conformity requirements are still applicable for up to 20 years after a nonattainment area is re-designated to ensure that the region continues to meet the NAAQS.

A transportation conformity demonstration is required at least once every four years or when an MPO: (1) adopts a new Plan or TIP; or (2) amends, adds, or deletes a regionally significant, nonexempt project to a Plan or TIP. This conformity demonstration is required due to the new *Connections 2040* Long-Range Plan, addition of regionally significant and nonexempt projects being amended to the Fiscal Year (FY) 2013 Pennsylvania TIP and a new FY 2014 New Jersey TIP. This transportation conformity demonstration shows that the region's TIPs and *Connections 2040* Long-Range Plan are following or "conforming to" the respective State Implementation Plans (SIPs) to meet the NAAQS.

The Delaware Valley Regional Planning Commission (DVRPC) region is in nonattainment for two of the NAAQS (ozone and fine particulate matter [$PM_{2.5}$]).[1] Portions of the region are maintenance areas for a third NAAQS (carbon monoxide [CO]).

Since ozone is not directly emitted but is formed by the combination of volatile organic compounds (VOCs) and nitrogen oxides (NOx) in the presence of sunlight, conformity is demonstrated by analysis of the component pollutants. $PM_{2.5}$ is directly emitted, and precursor pollutants—in this case NOx—are also analyzed to demonstrate transportation conformity.

[1] The US EPA has published "Clean Data Determinations" in the *Federal Register* for the DVRPC Region for the 1997 Eight-Hour Ozone Standard and the 1997 Annual $PM_{2.5}$ Standard and has proposed a Clean Data Determination for the 2008 24-Hour $PM_{2.5}$ Standard. The region will remain designated as nonattainment areas until the states submit, and the US EPA approves, plans to re-designate the region as either attainment or maintenance areas for each of these pollutants.

This Executive Summary highlights DVRPC's conformity demonstration for:

- **VOCs and NOx meeting the 1997 and 2008 Eight-Hour Ozone NAAQS requirements in:**
  - the DVRPC portion of the Philadelphia–Wilmington–Atlantic City Ozone Nonattainment Area.
- **Direct $PM_{2.5}$ and Precursor NOx meeting the $PM_{2.5}$ NAAQS requirements in:**
  - the DVRPC portion of the Philadelphia–Wilmington, Pennsylvania–New Jersey–Delaware (PA–NJ–DE) Annual $PM_{2.5}$ Nonattainment Area;
  - the DVRPC portion of the Philadelphia–Wilmington, PA–NJ–DE 24-Hour $PM_{2.5}$ Nonattainment Area;
  - the DVRPC portion of the New York–Northern New Jersey–Long Island, New York–New Jersey–Connecticut (NY–NJ–CT) Annual $PM_{2.5}$ Nonattainment Area; and
  - the DVRPC portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT 24-Hour $PM_{2.5}$ Nonattainment Area.
- **CO meeting the CO NAAQS requirements in:**
  - the Philadelphia–Camden CO Maintenance Area;
  - the City of Burlington in Burlington County, New Jersey CO Maintenance Area; and
  - the City of Trenton in Mercer County, New Jersey CO Maintenance Area.

This summary serves as an inclusive document that demonstrates the transportation conformity of the DVRPC Plan and TIPs with all applicable SIPs and NAAQS requirements for the above pollutants within the noted areas. The full conformity determination document is available at www.dvrpc.org.

Analysis Approach

Plan and TIP Projects

There are three categories of projects in the Plan and TIPs*:*

- *REGIONALLY SIGNIFICANT PROJECT*: a nonexempt highway or transit project on a facility that, regardless of its length, serves regional needs and is normally included in the regional travel simulation model;
- *EXEMPT PROJECT*: a project listed in Table 2 or 3 of the Final Conformity Guidance (Final Rule; 40 CFR 93), that primarily enhances safety or aesthetics, maintains mass transit, continues current levels of ridesharing, or builds bicycle and pedestrian facilities; and
- *NOT REGIONALLY SIGNIFICANT PROJECT/NONEXEMPT*: a highway or transit project on a facility that does not serve regional needs or is not normally included in the regional travel

simulation model and does not fit into an exempt project category in Table 2 or 3 of the Final Rule (40 CFR 93).

Regional Emissions Analysis

Conformity Test

The Final Rule stipulates that the emissions analysis of transportation plans and programs must model all regionally significant, nonexempt projects. Each project has an associated alphanumeric air quality code for the conformity determination and exempt eligibility identification purposes.

For an area with an implemented SIP, the motor vehicle emissions budget (MVEB) prescribed in the SIP sets a regional emissions amount that functions as a threshold against which conformity is tested. This process is commonly known as the "budget" test. The Final Rule stipulates that each SIP is sovereign and that, for a multi-state MPO such as DVRPC, conformity applies separately to individual state portions of its planning area under respective SIPs.

Beginning in March 2013, MPOs and state DOTs are required to use the Motor Vehicle Emissions Simulator (MOVES) emissions model to demonstrate transportation conformity by the US EPA. The MOVES model replaces the MOBILE 6.2 emissions model. This change of model reflects a significant shift from vehicle emission rates based on aggregate driving cycles to an operational mode that accounts for different driving patterns and emission profiles from various vehicle types. The expanded capabilities of the MOVES model result in substantially different results in emissions analysis from the MOBILE 6.2 model, particularly for NO_x and Direct $PM_{2.5}$.

The DVRPC region has implemented SIP budgets for the 1997 Eight-Hour Ozone Standard in Pennsylvania and New Jersey. The Final Rule requires that for regions with existing MVEBs for a standard of the same pollutant (i.e., 1997 Eight-Hour Ozone and 2008 Eight-Hour Ozone), the approved budget test is required to demonstrate conformity for the new standard. Therefore, DVRPC will utilize the 1997 Eight-Hour Ozone MVEBs in Pennsylvania and New Jersey to demonstrate conformity to the 2008 Eight-Hour Ozone Standard.

On April 30, 2012, the US EPA published guidance for implementing the 2008 Eight-Hour Ozone Standard. In that guidance (77 FR 30160), the US EPA stated that the 1997 Ozone Standard will be revoked for transportation conformity purposes beginning in July 2013. Because of the concurrence of this finding and that revocation, this finding demonstrates transportation conformity to both the 1997 and 2008 Eight-Hour Ozone NAAQS.

In December 2012, the New Jersey Department of Environment Protection (NJ DEP) submitted a Maintenance Plan SIP to demonstrate attainment for both the Annual and 24-Hour $PM_{2.5}$ standards. The Maintenance Plan contained MOVES emissions-model-based MVEBs to replace the MOBILE 6.2-based budgets that had previously been found adequate for conformity purposes. Due to the differing results between the two models for NO_x and $PM_{2.5}$, these revised budgets are necessary for the region to demonstrate transportation conformity. The MOVES-based MVEBs contained in New Jersey's Maintenance Plan were found adequate for conformity

purposes by the US EPA in May 2013 and the final approval of that finding became effective in July 2013 (78 FR 37717).[2]

The US EPA published a proposal to approve Pennsylvania's $PM_{2.5}$ Attainment SIP for the Annual $PM_{2.5}$ Standard in August 2012 (77 FR 51930) and also published an adequacy finding of MOVES-based $PM_{2.5}$ MVEBs for the Annual $PM_{2.5}$ Standard in February 2013 (78 FR 11122).

Current conformity guidance states that nonattainment areas with Annual $PM_{2.5}$ SIP budgets must use those budgets to demonstrate conformity for the 24-Hour $PM_{2.5}$ Standard. In practice, this means that the budget test for the Annual $PM_{2.5}$ Standard is a surrogate that demonstrates conformity to the 24-Hour $PM_{2.5}$ Standard. Therefore, DVRPC's Pennsylvania counties will use the Annual $PM_{2.5}$ Standard Budget Test to demonstrate conformity for both $PM_{2.5}$ standards. In New Jersey, the MVEBs are identical for both the Annual and 24-Hour $PM_{2.5}$ Standards in the SIP.

Analysis Years

For this conformity demonstration, the mobile source ozone emissions analysis years for VOCs and NOx, in the Philadelphia–Wilmington–Atlantic City Ozone Nonattainment Area are 2015 (the attainment date for the 2008 Eight-Hour Ozone Standard), 2025 (an interim year selected to keep all analysis years no more than 10 years apart), 2035 (a second interim year selected to keep all analysis years no more than 10 years apart), and 2040 (the horizon year of the DVRPC Plan). VOCs and NOx, which are heat-sensitive ozone precursors, are estimated for a July day. To demonstrate conformity, projected ozone emissions in all analysis years must not exceed the established MVEBs in prior years.

In the New York–Northern New Jersey–Long Island, NY–NJ–CT $PM_{2.5}$, and Philadelphia–Wilmington, PA–NJ–DE $PM_{2.5}$ Nonattainment Areas, the analysis years are 2015 (a near-term year within the four-year TIP), 2025 (a SIP budget year in New Jersey and interim year selected to keep all analysis years no more than 10 years apart), 2035 (a second interim year selected to keep all analysis years no more than 10 years apart), and 2040 (the horizon year of the DVRPC Plan.

To demonstrate conformity, projected $PM_{2.5}$ emissions in analysis years must not exceed the 2009 (for analysis years before 2025) and 2025 (for analysis years 2025 and later) budgeted emissions in the New Jersey portion of the Philadelphia–Wilmington, PA–NJ–DE $PM_{2.5}$ Nonattainment Area and Mercer County in the New York–Northern New Jersey–Long Island, NY–NJ–CT $PM_{2.5}$ Nonattainment Area; and the 2009 budgeted emissions in the Pennsylvania portion of the Philadelphia–Wilmington, PA–NJ–DE $PM_{2.5}$ Nonattainment Area.

Both New Jersey and Pennsylvania have approved limited maintenance plans for CO, and regional emissions analysis for CO is no longer required to demonstrate conformity.

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[2] An "Adequacy Finding" is an official action of the US EPA that confirms that MVEBs contained in SIPs are adequate for transportation conformity purposes. MVEBs can be found adequate without full approval of the Attainment or Maintenance Plan SIP.

Findings

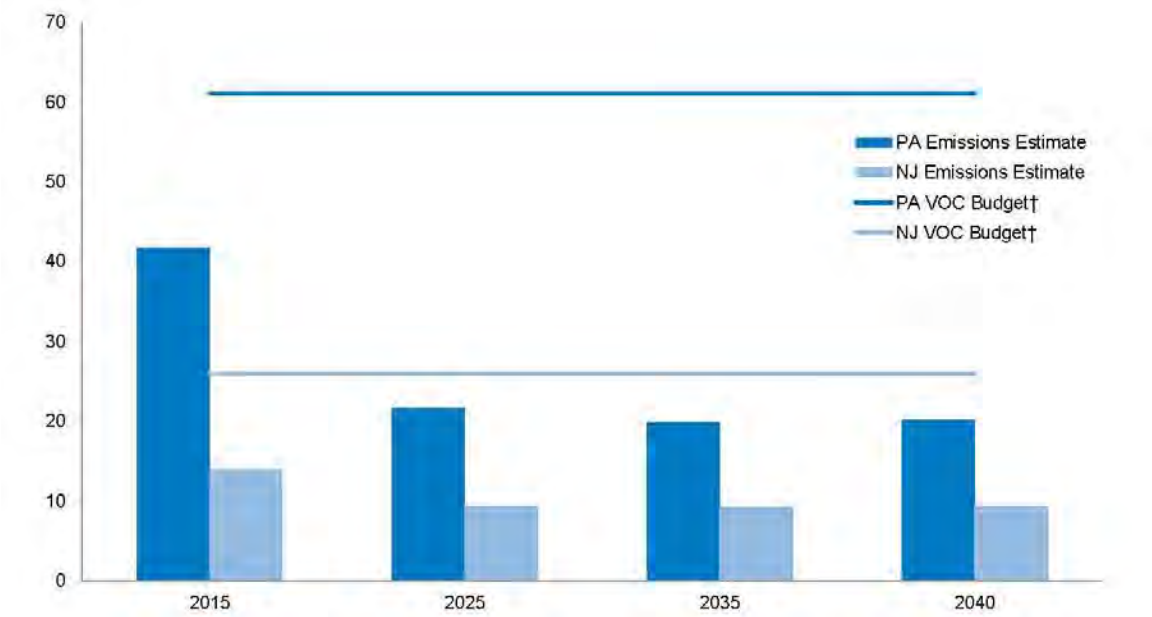
The DVRPC Plan and the TIPs are found to be in conformity with the current Pennsylvania and New Jersey SIPs under the CAA. The forecasted emissions levels of VOCs, NOx, and $PM_{2.5}$ do not exceed the respective budgets established by the state departments of environmental protection (state DEPs) in accordance with the Final Rule under the current NAAQS governing applicable pollutants.

The transportation conformity analysis meets all applicable conformity criteria, including, but not limited to, the following:

- that the Plan and the TIPs are fiscally constrained [40 CFR 93.108];
- that this determination is based on the latest planning assumptions [40 CFR 93.110];
- that this determination is based on the latest emissions estimation model available [40 CFR 93.111];
- that DVRPC has made the determination according to the applicable consultation procedures [40 CFR 93.112];
- that the Plan and the TIPs do not interfere with the timely implementation of transportation control measures (TCMs) [40 CFR 93.113]; and
- that the Plan and the TIPs are consistent with the MVEBs in the applicable implementation plans [40 CFR 93.118].

Figures 1 through 4 detail the emissions analysis results for transportation projects included in the Plan and TIPs for Pennsylvania and New Jersey. The data for these figures is detailed in Tables 6 through 8, found on pages 34 and 35. These estimates of emissions results confirm that the transportation projects in the Plan and TIPs conform to the respective SIP and Final Rule conformity requirements.

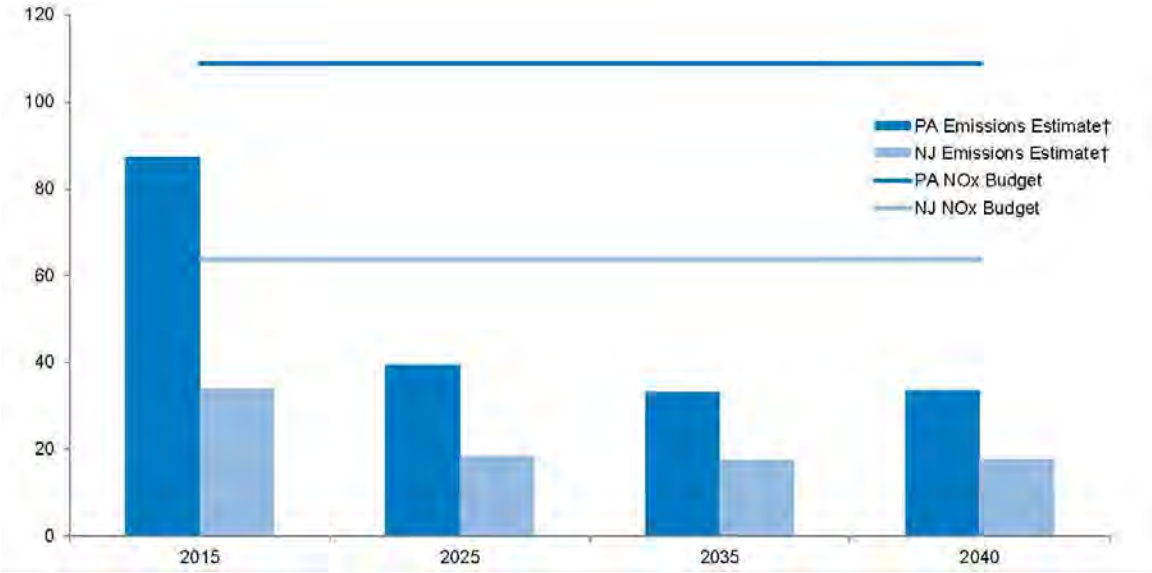
Figure 1. Volatile Organic Compounds Emissions Analysis Results (Tons/July Day)



Source: Delaware Valley Regional Planning Commission, 2013.

Note : † The most recent Eight-Hour Ozone SIP MVEBs (2008 in Pennsylvania or 2009 in New Jersey) will apply to all future analysis years.

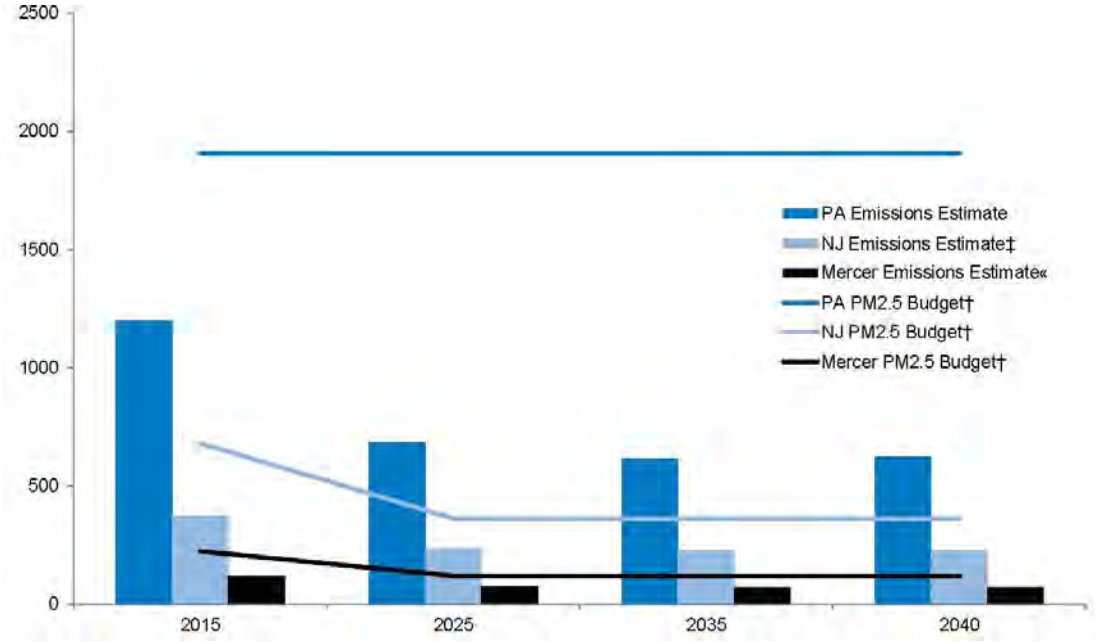
Figure 2. Nitrogen Oxides Emissions Analysis Results (Tons/July Day)



Source: Delaware Valley Regional Planning Commission, 2013.

Note : † The most recent Eight-Hour Ozone SIP MVEBs (2008 in Pennsylvania or 2009 in New Jersey) will apply to all future analysis years.

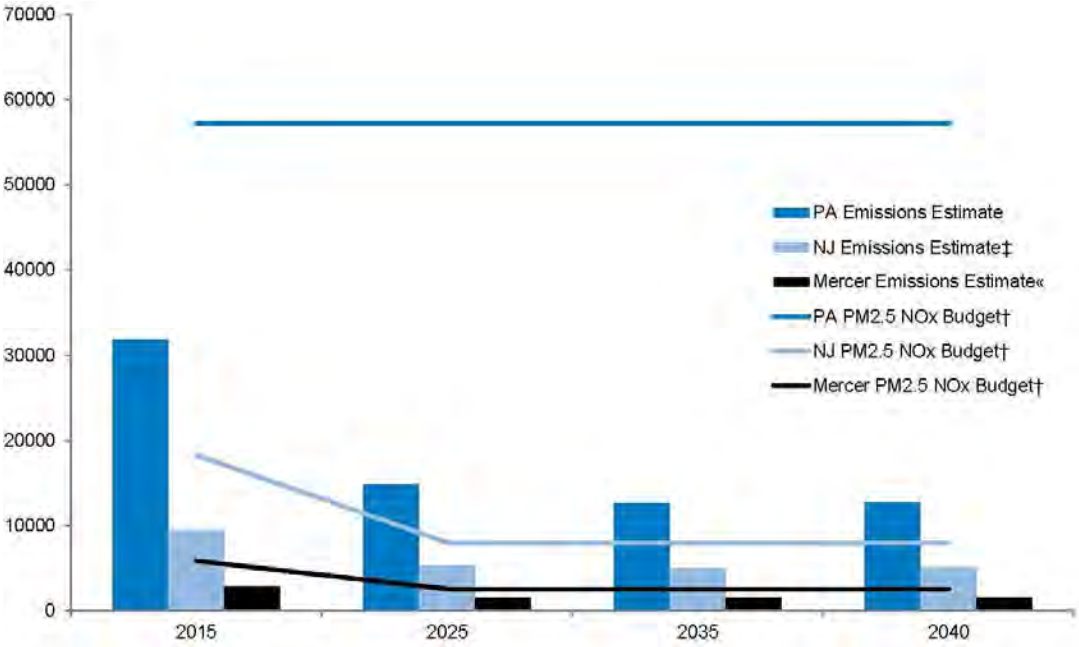
Figure 3. Annual and 24-Hour Direct Fine Particulate Matter Emissions Analysis Results (Tons/Year)



Source: Delaware Valley Regional Planning Commission, 2013.

Note: † Associated 2009 and 2025 (in New Jersey only) MVEBs apply to all future analysis years.
‡ Results are only for Burlington, Camden, and Gloucester counties, which are the New Jersey portion of the Philadelphia–Wilmington, PA–NJ–DE $PM_{2.5}$ Nonattainment Area
« Results are only for Mercer County, which is the DVRPC New Jersey portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT $PM_{2.5}$ Nonattainment Area.

Figure 4. Annual and 24-Hour NOx Precursor Emissions Analysis Results (Tons/Year)



Source: Delaware Valley Regional Planning Commission, 2013.

Note: † Associated 2009 and 2025 (in New Jersey only) MVEBs apply to all future analysis years.

‡ Results are only for Burlington, Camden, and Gloucester counties, which are the New Jersey portion of the Philadelphia–Wilmington, PA–NJ–DE $PM_{2.5}$ Nonattainment Area
« Results are only for Mercer County, which is the DVRPC New Jersey portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT $PM_{2.5}$ Nonattainment Area.

These findings demonstrate transportation conformity of the FY 2013 Pennsylvania TIP, the FY 2014 New Jersey TIP, and the DVRPC *Connections 2040* Long-Range Plan with the corresponding state SIPs and the Final Rule requirements under CAA, including:

- the 1997 and 2008 Eight-Hour Ozone NAAQS in the Philadelphia–Wilmington–Atlantic City Ozone Nonattainment Area;
- the Annual and 24-Hour $PM_{2.5}$ NAAQS in the Philadelphia–Wilmington, PA–NJ–DE $PM_{2.5}$ Nonattainment Area;
- the Annual and 24-Hour $PM_{2.5}$ NAAQS in the DVRPC portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT $PM_{2.5}$ Nonattainment Area; and
- the Eight-Hour CO NAAQS in the Philadelphia–Camden CO Maintenance Area; in the City of Burlington in Burlington County, New Jersey; and in the City of Trenton in Mercer County, New Jersey.

CHAPTER 1

Introduction

Overview

This report documents the demonstration of transportation conformity of the DVRPC FY 2013 Pennsylvania and FY 2014 New Jersey TIPs, and *Connections 2040* Long-Range Plan with the respective SIPs and applicable NAAQS requirements under the CAA as amended.

This report documents transportation conformity for the following specific pollutants within the stated designation areas. Those pollutants are:

- **VOCs and NOx meeting the 1997 and 2008 Eight-Hour Ozone NAAQS requirements in:**
  - the DVRPC portion of the Philadelphia–Wilmington–Atlantic City Ozone Nonattainment Area.
- **Direct $PM_{2.5}$ and Precursor NOx meeting the $PM_{2.5}$ NAAQS requirements in:**
  - the DVRPC portion of the Philadelphia–Wilmington, PA–NJ–DE Annual $PM_{2.5}$ Nonattainment Area;
  - the DVRPC portion of the Philadelphia–Wilmington, PA–NJ–DE 24-Hour $PM_{2.5}$ Nonattainment Area;
  - the DVRPC portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT Annual $PM_{2.5}$ Nonattainment Area; and
  - the DVRPC portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT 24-Hour $PM_{2.5}$ Nonattainment Area.

CO meeting the CO NAAQS requirements in:

- the Philadelphia–Camden CO Maintenance Area;
- the City of Burlington in Burlington County, New Jersey CO Maintenance Area; and
- the City of Trenton in Mercer County, New Jersey CO Maintenance Area.

Transportation Conformity

CAA section 176(c) (42 U.S.C. 7506(c)) requires that federally funded highway and transit project activities must "conform to" state air quality goals found in SIPs. The procedure that is followed to fulfill this requirement is called *transportation conformity*. This process ensures that transportation and air quality agencies are consulting with one another to look for strategies to relieve traffic congestion, improve air quality, and provide communities with a safe and efficient transportation system.

The transportation conformity process is required in areas that have been designated by the US EPA as not having met one or more of the NAAQS. These areas are called "nonattainment areas" if they currently do not meet air quality standards, or "maintenance areas" if they have previously violated air quality standards but currently meet them and have an approved CAA section 175(a) maintenance plan. A transportation conformity demonstration is required at least once every four years or when an MPO adopts a new Plan or TIP or amends, adds, or deletes a regionally significant, nonexempt project in a Plan or TIP. This conformity demonstration is required due to amendments of regionally significant, nonexempt projects in the FY 2013 Pennsylvania TIP, a new FY 2014 New Jersey TIP, and a new *Connections 2040* Long-Range Plan.

The Final Rule also requires that the latest approved emissions model be used to demonstrate transportation conformity. The US EPA requires that all conformity demonstrations begun after March 3, 2013, must use the MOVES emissions model to demonstrate transportation conformity. The MOVES model replaces the MOBILE 6.2 emissions model. This change of model reflects a significant shift from vehicle emission rates based on aggregate driving cycles to an operational mode that accounts for different driving patterns and emission profiles from various vehicle types. The expanded capabilities of the MOVES model result in substantially different results in emissions analysis, particularly for NO_x and $PM_{2.5}$.

Transportation conformity is demonstrated when federally funded highway and transit activities are determined not to cause new air quality violations, worsen existing violations, or delay timely attainment of the NAAQS. The Federal Highway Administration (FHWA) and the Federal Transit Administration (FTA) jointly make conformity determinations within air quality nonattainment and maintenance areas to ensure that federal actions are consistent with corresponding SIPs. The US DOT cannot fund, authorize, or approve federal actions to support programs or projects that are not found to conform to the CAA requirements governing the current NAAQS for transportation conformity.

This conformity demonstration is based on the current Final Rule under the CAA, including 40 CFR Part 93 as revised, and applies to ozone, CO, and $PM_{2.5}$. The Final Rule dictates that conformity findings within the DVRPC planning area must be based on the applicable SIP budgets in all target analysis years. For those pollutants with no existing SIP budgets, specific interim testing procedures are followed. The demonstration process estimates emissions that will result from the region's transportation system and determines whether those emissions are within the limits outlined in respective SIPs and other applicable NAAQS requirements.

This demonstration also represents DVRPC's firm commitment to adhere to the statutory requirements for planning and environmental reviews prescribed in the most current transportation funding legislation.

National Ambient Air Quality Standards

The CAA, first enacted in 1963 and last amended in 1990, currently mandates the US EPA to set national air quality standards for air pollutants that are considered harmful to public health and the environment. The CAA also requires the agency to periodically review the standards to ensure that they provide adequate health and environmental protection and to update those standards as necessary. These standards are set at the level required to provide an ample margin of safety to protect public health and welfare.

The US EPA has set NAAQS for several principal air pollutants, which are called "criteria" pollutants. The NAAQS criteria pollutants include ozone, CO, coarse and fine particulate matter (PM_{10} and $PM_{2.5}$, respectively), sulfur dioxide, and lead.

At the state level, the SIP represents the state's roadmap to meet or "attain" air quality goals. Implemented SIPs contain an MVEB. Regional emissions estimates are compared against these budgets to determine progress toward meeting air quality goals. The Final Rule stipulates that each SIP is sovereign and that, for a multi-state MPO such as DVRPC, conformity applies separately to individual state portions of its planning area under respective SIPs.

The DVRPC region must demonstrate transportation conformity for ozone, $PM_{2.5}$, and CO.

Ozone is a photochemical oxidant and a major component of smog. Ozone is not emitted directly into the air but is formed through complex chemical reactions between precursor emissions of VOCs and NOx in the presence of sunlight. Although ozone in the upper atmosphere shields and protects the earth from harmful radiation from the sun, high concentrations of ozone at ground level are a serious health and environmental concern. Even at low levels, ozone can damage lung tissue, reduce lung function, and sensitize the respiratory system to other irritants. Additionally, scientific evidence has indicated that ambient levels of ozone not only affect people with pulmonary conditions, such as asthma, but also normal, healthy adults and children as well.

In March 2008, the US EPA revised the NAAQS for the Eight-Hour Ozone Standard from 0.08 parts per million (ppm) to 0.075 ppm. Designation of the nonattainment areas for this standard was published in the *Federal Register* on May 21, 2012 (77 FR 30088), and became effective in July 2012. The DVRPC region was classified as a marginal nonattainment area for the 2008 Eight-Hour Ozone Standard. This designated area is geographically identical to the Philadelphia–Wilmington–Atlantic City Ozone Nonattainment Area for the 1997 Eight-Hour Ozone Standard with the exceptions of Kent and Sussex counties in Delaware. The federal guidance on implementing the 2008 Ozone Standard states that the 1997 Ozone Standard will be revoked for transportation conformity purposes in July 2013.

Figure 1 details the current ozone nonattainment area that covers the DVRPC region.

Particulate matter (PM) includes both solid particles and liquid droplets found in air. Many man-made and natural sources emit PM directly or emit other pollutants that react in the atmosphere to form PM. These solid and liquid particles come in a wide range of sizes. The "coarse" particles, less than 10 micrometers (μm) in diameter (PM_{10}), pose a health concern since they can be inhaled into and accumulate in the respiratory system. The "fine" particles, less than 2.5

μm in diameter ($PM_{2.5}$), are believed to pose even greater health risks. Because of their small size, these fine particles can lodge deeply into the lungs. Individuals particularly sensitive to $PM_{2.5}$ exposure include older adults, people with heart and lung disease, and children. Health studies have shown a significant association between exposure to $PM_{2.5}$ and premature mortality.

Additionally, $PM_{2.5}$ can be emitted directly from combustion engines or chemically formed in the atmosphere when certain gases are present. Direct $PM_{2.5}$ emissions can result from particles in exhaust fumes, from brake and tire wear, from road dust kicked up by vehicles, and from highway and transit construction. Indirect $PM_{2.5}$ emissions can result from one or more of several exhaust components, including VOCs, NOx, sulfur oxides (SOx), and ammonia (NH_3).

The $PM_{2.5}$ NAAQS include an annual standard set at 15 $\mu g/m^3$, based on a three-year average of the annual mean $PM_{2.5}$ concentrations; and a 24-hour standard of 35 $\mu g/m^3$, based on a three-year average of the 98th percentile of 24-hour concentrations. Areas need to meet both standards to be considered in attainment of $PM_{2.5}$ NAAQS.

On April 5, 2005, US EPA designations under the 1997 $PM_{2.5}$ Standards became effective, under which the area consisting of Bucks, Chester, Delaware, Montgomery, and Philadelphia counties in Pennsylvania; Burlington, Camden, and Gloucester counties in New Jersey; and New Castle County in Delaware are collectively designated as a nonattainment area. This geographic area, termed as the Philadelphia–Wilmington, PA–NJ–DE $PM_{2.5}$ Nonattainment Area, covers three states, two MPOs, and nine counties. Mercer County is part of another nonattainment area titled the New York–Northern New Jersey–Long Island, NY–NJ–CT $PM_{2.5}$ Nonattainment Area, which covers three states, nine MPOs, and 21 counties. Largely due to the current Metropolitan Statistical Area definitions in the US Census 2000, the DVRPC planning area is split between the two nonattainment areas for $PM_{2.5}$, both of which are shown in Figure 2. DVRPC must demonstrate conformity for each nonattainment area separately. The US EPA has published a clean data finding, and determination of attainment of the 1997 $PM_{2.5}$ standard for the New York–Northern New Jersey–Long Island, NY–NJ–CT $PM_{2.5}$ Nonattainment Area in November 2010, and the Philadelphia–Wilmington, PA–NJ–DE Annual $PM_{2.5}$ nonattainment area in May 2012.

In December 2006, the US EPA revised the 24-Hour $PM_{2.5}$ standard from 65 $\mu g/m^3$ to 35 $\mu g/m^3$. The two nonattainment areas in the DVRPC region satisfied previous 24-hour standards, but the DVRPC region violated the revised 24-hour standard. In December 2009, the US EPA designated the 24-Hour $PM_{2.5}$ Standard nonattainment areas. In the DVRPC region, the designated 24-Hour $PM_{2.5}$ nonattainment areas are geographically identical to the Annual $PM_{2.5}$ Standard Nonattainment Areas. The US EPA has published proposals for a clean data finding, and determination of attainment for the New York–Northern New Jersey–Long Island, NY–NJ–CT $PM_{2.5}$ Nonattainment Area in August 2012 and the Philadelphia–Wilmington, PA–NJ–DE Annual $PM_{2.5}$ nonattainment area on October 2012.

CO is a colorless, odorless, but poisonous gas produced by incomplete burning of carbon in fuels. When CO enters the bloodstream, it reduces the delivery of oxygen to the body's organs and tissues. Health threats are most serious for those who suffer from cardiovascular disease. Exposure to elevated CO levels can cause impairment of visual perception, manual dexterity, learning ability, and performance of complex tasks.

In 1996, the DVRPC planning area met the CO standard and attained the CO NAAQS. Following the attainment status, portions of four counties in the region were designated as separate CO maintenance areas. The Philadelphia–Camden CO Maintenance Area comprises the cities of Camden and Philadelphia. Portions of Burlington (City of Burlington) and Mercer (City of Trenton) counties are also part of individual CO maintenance areas within the region.

In 2006, the US EPA approved revisions to the New Jersey SIP that included limited maintenance plans for CO in Burlington, Camden, and Mercer counties. In 2007, the US EPA approved revisions to the Pennsylvania SIP that included a limited maintenance plan for Philadelphia. Due to the US EPA's approval of these CO limited maintenance plans, mobile emissions budgets and emissions analyses are no longer required to demonstrate conformity for CO in those counties.

The attainment status for each of the criteria pollutants can be viewed at: http://www.epa.gov/oar/oaqps/greenbk/index.html.

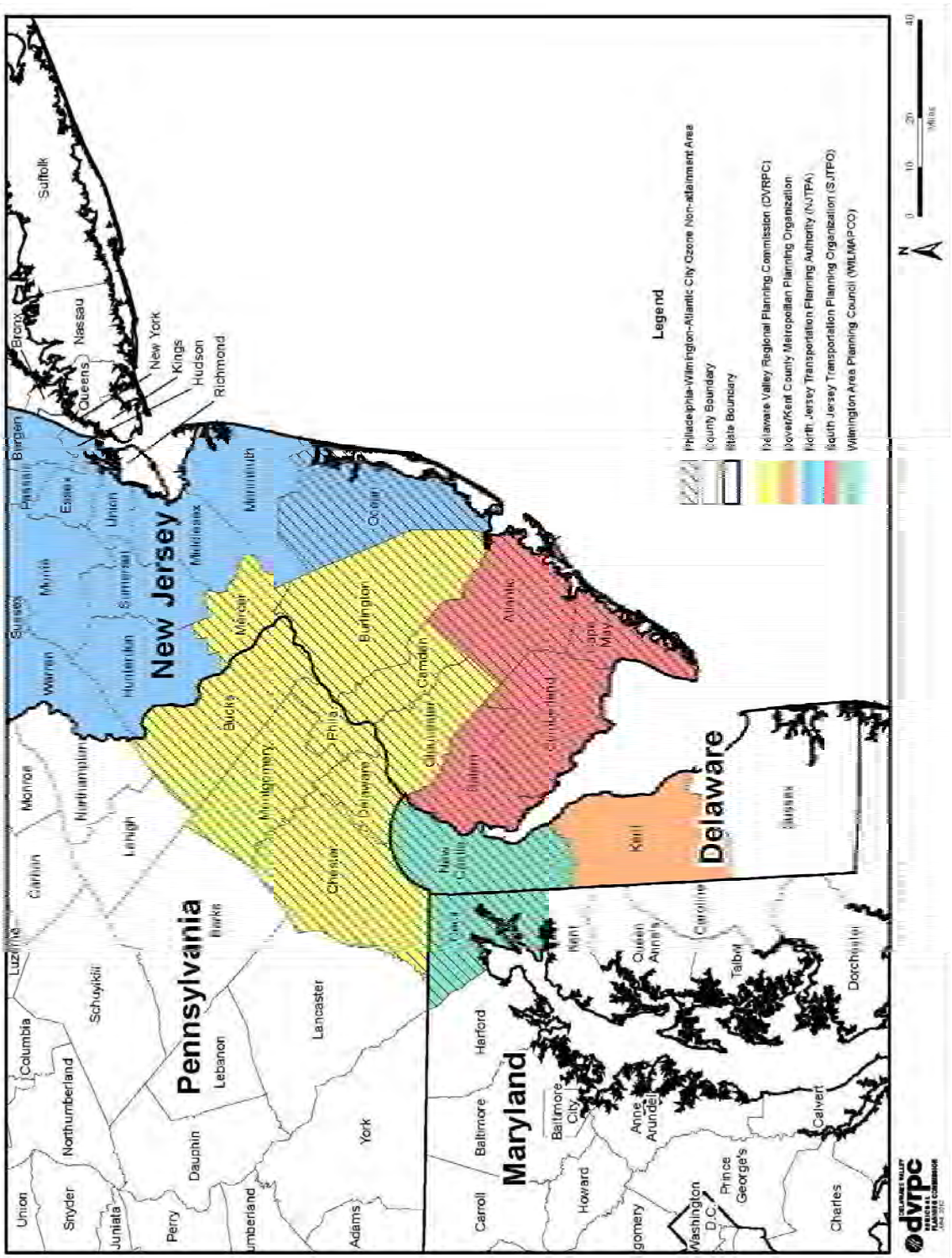


Figure 5. Philadelphia–Wilmington–Atlantic City Eight-Hour Ozone Nonattainment Area

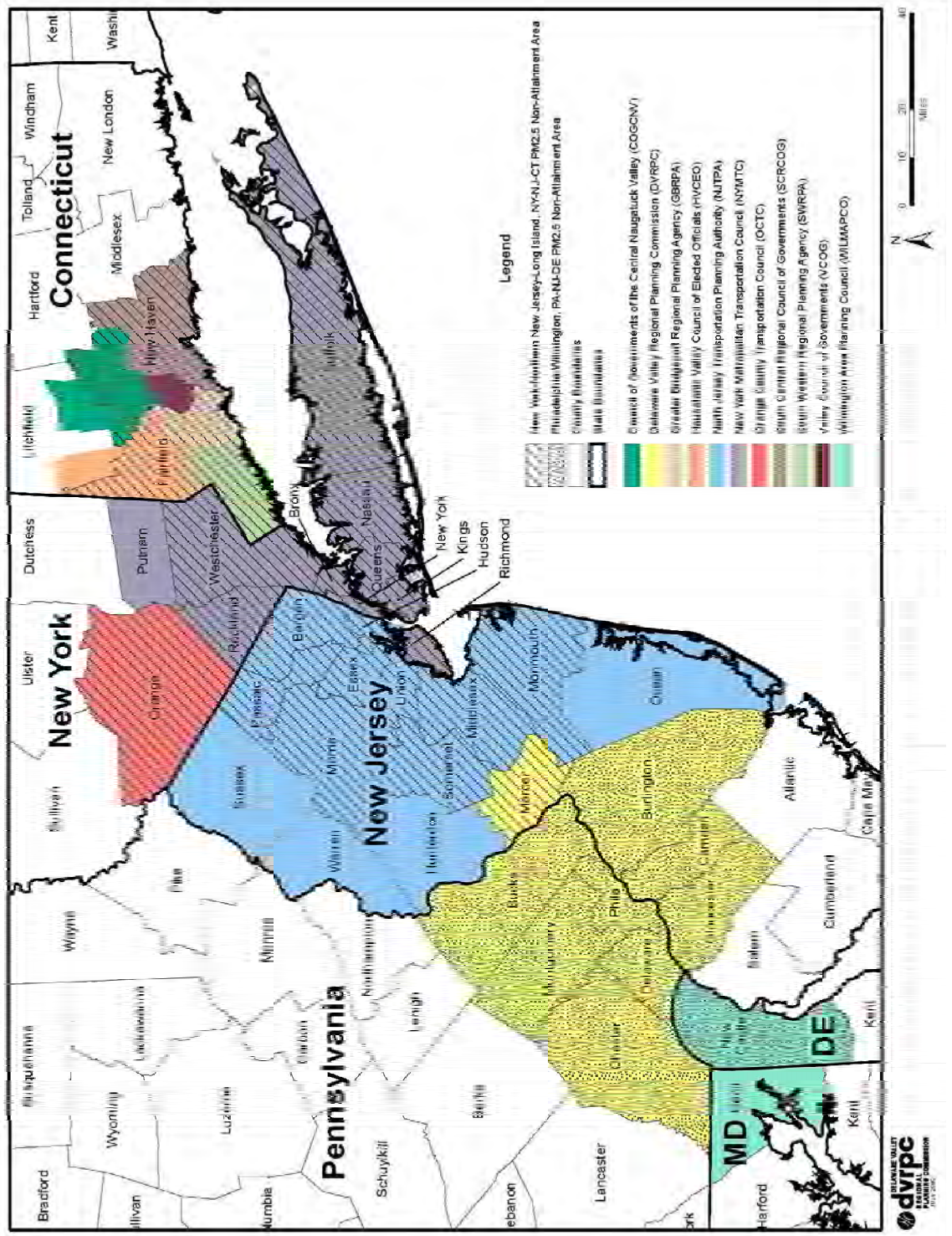


Figure 6. Delaware Valley Regional Planning Commission Annual and 24-Hour Fine Particulate Matter Nonattainment Areas

Conformity Demonstration Overview

DVRPC Plan and TIPs

The CAA requires that, in nonattainment or maintenance areas, all regionally significant and nonexempt projects included in a Plan or TIP meet the conformity requirements established in the Final Rule. Therefore DVRPC must identify these projects in the Plan and TIPs and conduct a conformity determination on those projects in order to demonstrate that the projects included in the Plan and TIPs do not worsen air quality or inhibit the region's progress toward meeting the NAAQS.

The DVRPC FY 2013 Pennsylvania and FY 2014 New Jersey TIPs are staged, multi-year, intermodal programs of transportation projects covering the respective five Pennsylvania and four New Jersey counties in the DVRPC planning area. The DVRPC TIPs are consistent with the Plan and are developed, pursuant to 23 CFR Part 450, to meet the federal requirement of being financially constrained to a funding level that is available to the region, as established in the financial guidance provided by the respective states. All TIP projects have been reviewed and approved by DVRPC's Transportation Conformity Interagency Consultation Group (TCICG) for appropriate air quality code and analysis year.

The *Connections 2040* Long-Range Plan, adopted in July 2013, provides a broad planning framework for the region. The transportation component of the Plan articulates a vision and a comprehensive long-range transportation blueprint for the DVRPC planning area. The *Connections 2040* Plan includes over $52 billion from traditional sources for regional transportation improvements. The Plan is fiscally constrained and focuses transportation funding on rebuilding the region's transportation infrastructure, but it also includes new major regional transportation projects to achieve its goals and objectives. The Plan also advances and supports the region's land use plans and policies and proposes strategies to carry out those policies.

The Plan's financial component reflects actual federal authorization levels. Projected costs for future Plan projects have been adjusted to account for inflation and to reflect the year of expenditure as required by the FHWA/FTA Final Rule on Statewide and Metropolitan Transportation Planning and Programming.[3] All Plan projects have also been reviewed and approved by the TCICG for appropriate air quality code and analysis year.

[3] See 23 CFR 450.216(1), 23CFR 450.322(f) (10) (iv), and 23 CFR 450.23(h).

Project Category

There are three categories of projects in the TIPs and the Plan:

(1) regionally significant projects;

(2) projects exempted from the conformity analysis; and

(3) projects that do not fit into a nonexempt category but are not regionally significant.

These terms are defined as follows:

- **Regionally Significant Project:** a nonexempt highway or transit project on a facility that, regardless of its length, serves regional needs and is normally included in the regional travel simulation model;
- **Exempt Project:** a project listed in Table 2 or 3 of the Final Rule (40 CFR 93) that primarily enhances safety or aesthetics, maintains mass transit, continues current levels of ridesharing, or builds bicycle and pedestrian facilities; and
- **Not Regionally Significant Project/Nonexempt:** a nonexempt highway or transit project on a facility that does not serve regional needs or is not normally included in the regional travel simulation model and does not fit into an exempt project category in Table 2 or 3 of the Final Rule (40 CFR 93).

The Final Rule requires that a regional emissions analysis be conducted to demonstrate conformity of the Plan and the TIPs and includes all “regionally significant, nonexempt” projects on principal arterials and higher classifications—that is, those that can impact regional air quality. The project set includes all those in the Plan, those in the current TIPs, and those that have been introduced in previous TIPs but are not yet completed. Each project is classified by the first year that the project is included in the regional emissions analysis or analysis year. The emissions estimates for a particular analysis year include all of the projects that are expected to be open to traffic by that analysis year.

Certain projects that cannot be analyzed within the travel demand model (TDM) are categorized as “off-network” and are evaluated using trip estimate techniques outside the DVRPC TDM. The Pennsylvania Air Quality Off-Network Estimator (PAQ-ONE) and the New Jersey Air Quality Off-Network Estimator (NJAQ-ONE) are sets of travel impact and emissions analysis methodologies developed for the Pennsylvania and New Jersey state DOTs to be used for off-network analyses in their respective states.

DVRPC Air Quality Code

For all Plan and TIP projects, an alphanumeric air quality (AQ) coding scheme has been developed and is applied by DVRPC for the conformity determination and exempt eligibility identification purposes.

All regionally significant, nonexempt projects are assigned five-character alphanumeric AQ codes that begin with a four-digit analysis year followed by either the letter “M” (model) or “O” (off-network). For instance, a Plan or TIP project may have an AQ code of 2015O, in which case the project is identified as a regionally significant, nonexempt project, the emissions estimates of which are (1) included in the 2015 and all subsequent future analysis years and (2) performed using an off-network analysis technique.

DVRPC has also developed an internal coding scheme to identify each exempt project type based on those defined in the Final Rule. Table 1 shows the exempt project categories in the Final Rule and their corresponding DVRPC AQ codes. In cases in which multiple codes can apply to a project, the most representative code is assigned. The air quality code for each project is shown in the respective Plan and TIP documents.

In both Pennsylvania and New Jersey, there are projects included in the TIP document that are still in pre-construction phases and are not yet part of the current four-year constrained TIPs. These projects show planned funding in future years that are outside of the current TIP four-year period. Unless these projects are also Plan projects, they are not included in the regional emissions analysis. DVRPC assigns AQ codes to these projects to indicate the future planned status. In the New Jersey TIP, projects of this type receive AQ codes that begin with “SD,” to indicate that they are in the Study and Development Program in that state. In DVRPC’s Pennsylvania region, these projects are considered to be on the Illustrative Unfunded list of projects and are given an AQ code that begins with “FY” to indicate that funding is planned for future years outside of the current four-year TIP. These projects will be further scrutinized when or if they advance to be included in the four-year TIP.

Projects that have been determined not to be regionally significant as defined in the Final Rule and do not fit into an exempt category are labeled as “NRS.”

The TCICG has reviewed all projects and concurred on all assigned AQ codes in the Plan and the TIP.

Table 1. Air Quality Codes for Projects in the Plan and Transportation Improvement Programs

Exempt Project Category† — Safety Projects	DVRPC AQ Code
Railroad/highway crossing	S1
Hazard elimination program	S2
Safer non-federal-aid system roads	S3
Shoulder improvements	S4
Increasing sight distance	S5
Safety improvement program	S6
Traffic control device and operating assistance other than signalization projects	S7
Railroad/highway crossing warning devices	S8
Guardrails, median barriers, crash cushions	S9
Pavement resurfacing and/or rehabilitation	S10
Pavement marking demonstration	S11
Emergency relief (23 U.S.C. 125)	S12
Fencing	S13
Skid treatments	S14
Safety roadside rest areas	S15
Adding medians	S16
Truck-climbing lanes outside the urbanized area	S17
Lighting improvements	S18
Widening narrow pavements or reconstructing bridges (no additional travel lanes)	S19
Emergency truck pullovers	S20

Exempt Project Category† — Air Quality Projects	DVRPC AQ Code
Continuation of ridesharing and van-pooling promotion activities at current levels	A1
Bicycle and pedestrian facilities	A2

Exempt Project Category† — Mass Transit Projects	DVRPC AQ Code
Operating assistance to transit agencies	M1
Purchase of support vehicles	M2
Rehabilitation of transit vehicles	M3
Purchase of office, shop, and operating equipment for existing facilities	M4
Purchase of operating equipment for vehicles (e.g., radios, fareboxes, lifts, etc.)	M5
Construction or renovation of power, signal, and communications systems	M6
Construction of small passenger shelters and information kiosks	M7
Reconstruction or renovation of transit buildings and structures	M8
Rehabilitation or reconstruction of track structures, track, and tracked-in existing rights-of-way	M9
Purchase of new buses and rail cars to replace existing vehicles or for minor expansions of the fleet	M10
Construction of new bus or rail storage/maintenance facilities categorically excluded in 23 CFR part 771	M11

Exempt Project Category† — Study and Development Projects (NJ) and Projects Planned for Funding in Future Years (PA)	DVRPC AQ Code
Project in the Study and Development Program expected to result in an exempt project	SDX
Project in the Study and Development Program expected to result in a nonexempt project	SDN
Project on the Illustrative Unfunded List expected to result in a nonexempt project	FYN

<<continued>>

Exempt Project Category†—Other Projects	DVRPC AQ Code
Specific activities that do not involve or lead directly to construction, such as planning and technical studies	X1
Grants for training and research programs	X2
Planning activities conducted pursuant to title 23 and 49 U.S.C.	X3
Federal aid systems revisions	X4
Engineering to assess social, economic, and environmental effects of the proposed action or alternatives to that action	X5
Noise attenuation	X6
Advance land acquisitions (23 CFR 712 or 23 CFR 771)	X7
Acquisition of scenic easements	X8
Plantings, landscaping, etc.	X9
Sign removal	X10
Directional and informational signs	X11
Transportation enhancement activities (except rehabilitation and operation of historic transportation buildings, structures, or facilities)	X12
Repair of damage caused by natural disasters, civil unrest, or terrorist acts, except projects involving substantial functional, locational, or capacity changes	X13

Exempt Project Category†—No Regional Emissions Analysis Required	DVRPC AQ Code
Intersection channelization projects	R1
Intersection signalization projects at individual intersections	R2
Interchange reconfiguration projects	R3
Changes in vertical and horizontal alignment	R4
Truck size and weight inspection stations	R5
Bus terminals and transfer points	R6

Not Regionally Significant Project Category	DVRPC AQ Code
Projects determined to be “Not Regionally Significant” and do not fit into an exempt category	NRS

Source: Delaware Valley Regional Planning Commission, 2013.

Note: † 40 CFR 93 Sections 126 and 127.

Analysis Year

For this conformity demonstration, the mobile source ozone emissions analysis years for VOCs and NOx for ozone in the Philadelphia–Wilmington–Atlantic City Ozone Nonattainment Area, are 2015 (attainment year for the 2008 Eight-Hour Ozone Standard), 2025 (the interim year selected to keep all analysis years no more than 10 years apart), 2035 (the second interim year selected to keep all analysis years no more than 10 years apart), and 2040 (the horizon year of the DVRPC Plan). VOCs and NOx, which are heat-sensitive ozone precursors, are estimated for a July day. To demonstrate conformity, projected ozone emissions in all analysis years must not exceed the established MVEBs in prior years.

In the Philadelphia–Wilmington, PA–NJ–DE and New York–Northern New Jersey–Long Island, NY–NJ–CT $PM_{2.5}$ Nonattainment Areas, the analysis years are 2015 (near-term year in the current TIP), 2025 (the interim year selected to keep all analysis years no more than 10 years apart and SIP budget year in New Jersey), 2035 (the second interim year selected to keep all analysis years no more than 10 years apart), and 2040 (the horizon year of the DVRPC Plan).

To demonstrate conformity, projected $PM_{2.5}$ emissions in analysis years must not exceed the 2009 (for analysis years before 2025) and 2025 (for analysis years 2025 and later) budgeted emissions in the New Jersey portion of the Philadelphia–Wilmington, PA–NJ–DE $PM_{2.5}$ Nonattainment Area and Mercer County in the New York–Northern New Jersey–Long Island, NY–NJ–CT $PM_{2.5}$ Nonattainment Area; and the 2009 budgeted emissions in the Pennsylvania portion of the Philadelphia–Wilmington, PA–NJ–DE $PM_{2.5}$ Nonattainment Area.

Both New Jersey and Pennsylvania have approved limited maintenance plans for CO, and a regional emissions analysis for CO is no longer required to demonstrate conformity.

Table 2 describes the project sets that are considered in each future-year analysis. All analysis years, projects, and activities identified in Table 2 have been reviewed and approved by the TCICG for the conformity demonstration.

Table 2. Projects Included in the Regional Emissions Analysis

Analysis Year	Project Set
2008 PA only (Eight-Hour Ozone SIP Budget)	Eight-Hour Ozone RFP budget year included to compare against future emissions analysis (PA portion of the region).
2009 NJ only (Eight-Hour Ozone SIP Budget)	Eight-Hour Ozone Attainment SIP budget year included to compare against future emissions analysis (NJ portion of the region).
2009 ($PM_{2.5}$ budget)	$PM_{2.5}$ SIP budget year included to compare against future emissions analysis.
2015 (Attainment date for the 2008 Eight-Hour Ozone Standard	All regionally significant highway and transit facilities, services, and activities currently in place and All regionally significant highway and transit projects that are scheduled to open by 2015.
2025 (NJ $PM_{2.5}$ budget year and interim year)	All regionally significant highway and transit projects in the 2015 model network and Additional highway and transit projects that are scheduled to open between 2015 and 2025.
2035 (Interim year)	All regionally significant highway and transit projects in the 2025 model network and Additional highway and transit projects that are scheduled to open between 2025 and 2035.
2040 (DVRPC Plan horizon)	All regionally significant highway and transit projects in the 2035 model network and Additional highway and transit projects that are scheduled to open between 2035 and 2040.

Source: Delaware Valley Regional Planning Commission, 2013.

Note: DVRPC = Delaware Valley Regional Planning Commission; RFP = Reasonable Further Progress; $PM_{2.5}$ = Fine Particulate Matter; SIP = State Implementation Plan.

Emissions Analysis

Once the regionally significant and nonexempt projects in the Plan and TIPs are identified, the projects are included in the DVRPC TDM, in this case TIM.2.0. The TDM represents the regional transportation network and uses inputs such as population, employment, and land use data to develop estimates for trip length, vehicle miles traveled (VMT), and traffic volumes on the transportation network. The model includes the base transportation network of roads and transit projects that have been constructed, and new networks are built to include projects from the Plan and TIPs according to the projects' analysis years.

Outputs of the TDM are then processed and entered into the emissions estimation model, MOVES. The MOVES model will then take the TDM outputs, information on meteorology, fuel information, data on vehicle types and vehicle populations, and other critical inputs to develop a projected emissions estimate for a given analysis year and pollutant. Those emissions estimates are then reviewed against an established set of emissions limits to determine if the Plan and TIPs conform to the state SIPs and CAA requirements.

Conformity Tests

The DVRPC region must demonstrate transportation conformity for ozone, $PM_{2.5}$, and CO, and governing SIPs are in place for these pollutants in Pennsylvania and New Jersey. DVRPC utilizes the budget test to demonstrate conformity using applicable SIP budgets.

The DVRPC region has been designated as a marginal nonattainment area for the 2008 Ozone Standard. On April 30, 2012, the US EPA published guidance for implementing the 2008 Eight-Hour Ozone Standard. In that guidance (77 FR 30160), the US EPA stated that the 1997 Ozone Standard will be revoked for transportation conformity purposes beginning in July 2013. Since this finding is being performed concurrently with that revocation, this finding demonstrates transportation conformity to both the 1997 and 2008 Eight-Hour Ozone NAAQS.

For this conformity determination, DVRPC is using the 2008 Ozone SIP Budget in Pennsylvania and the 2009 Ozone SIP Budget in New Jersey for VOCs and NOx. These budgets were found adequate for conformity purposes in December 2008 and July 2008, respectively. These budgets will be used to demonstrate conformity to both the 1997 and 2008 Eight-Hour Ozone NAAQS as required by the Final Rule. All ozone budgets have been established in cooperation with the state DEPs using MOBILE 6.2. The regional emissions analysis for ozone was conducted using the MOVES model (version 2010B). Analysis will be conducted for ozone emissions for a typical July day.

The US EPA has approved Annual $PM_{2.5}$ SIP budgets in Pennsylvania (found adequate for conformity purposes in February 2013; 78 FR 11122). The budgets will also be used to demonstrate conformity to the 24-Hour $PM_{2.5}$ standard in accordance with the Final Rule requirements.

In December 2012, the NJ DEP submitted a Maintenance Plan SIP to demonstrate attainment for both the Annual and 24-Hour $PM_{2.5}$ standards. The Maintenance Plan contained MOVES emissions-model-based MVEBs to replace the MOBILE 6.2-based budgets that had previously been found adequate for conformity purposes. Due to the differing results between the two models for NO_x and $PM_{2.5}$, these revised budgets are necessary for the region to demonstrate transportation conformity. The MOVES-based MVEBs contained in New Jersey's Maintenance Plan were found adequate for conformity purposes by the US EPA in May 2013, and the approval of that finding became effective in July 2013.

Exhaust and brake/tire wear must be included in the regional analysis of direct $PM_{2.5}$ emissions. The US EPA has further ruled that regional emissions analyses for direct $PM_{2.5}$ should include road dust if road dust is found to be a significant contributor to $PM_{2.5}$ by either the US EPA Regional Administrator or the state DEPs. The US EPA has also required that regional direct

$PM_{2.5}$ analyses include fugitive dust from the construction of transportation projects if a governing $PM_{2.5}$ SIP identifies these emissions as significant contributors to the regional $PM_{2.5}$ problem. Road dust has not been found to be a significant $PM_{2.5}$ contributor in either of the DVRPC $PM_{2.5}$ nonattainment areas; therefore, no construction-related dust will be considered in the direct $PM_{2.5}$ emissions analysis. Thus, the only components of direct $PM_{2.5}$ emissions in this DVRPC conformity iteration are tailpipe exhaust and brake/tire wear.

For the indirect $PM_{2.5}$ emissions (also called $PM_{2.5}$ precursors), the US EPA has identified four potential transportation-related $PM_{2.5}$ precursors: VOCs, NOx, SOx, and NH_3. Once a SIP is implemented, any precursors identified in the SIP will be required in the analysis of indirect $PM_{2.5}$ emissions. There have been no findings of significance for any of the precursors (and, also, no findings of insignificance for NOx). Thus, the only indirect $PM_{2.5}$ component considered in this conformity iteration is NOx.

In New Jersey and Pennsylvania, the US EPA has approved limited maintenance plans for CO in Burlington, Mercer, Camden, and Philadelphia counties, and no further emissions analyses are required for the conformity determination.

Table 3 shows governing MVEBs and other applicable NAAQS requirements to be utilized in this iteration of conformity demonstration.

Table 3. Motor Vehicle Emissions Budgets

Pollutant	Budget/Baseline	Pennsylvania Subregion	New Jersey Subregion†	
VOCs	2008 Budget (tons per July day)	61.09 (all counties)	-	
	2009 Budget (tons per July day)	-	25.98 (all counties)	
NOx	2008 Budget (tons per July day)	108.78 (all counties)	-	
	2009 Budget (tons per July day)	-	63.66 (all counties)	
Annual and 24-Hour Direct $PM_{2.5}$♦	2009 Budget† (tons per year)	1,907.5 (all counties)	680 (Burlington, Camden, and Gloucester)	224 (Mercer)
Annual and 24-Hour Precursor NOx♦		57,218.3 (all counties)	18,254 (Burlington, Camden, and Gloucester)	5,835 (Mercer)
Annual and 24-Hour Direct $PM_{2.5}$♦	2025 Budget‡ (tons per year)	(NJ Budget Year Only)	363 (Burlington, Camden, and Gloucester)	119 (Mercer)
Annual and 24-Hour Precursor NOx♦		(NJ Budget Year Only)	8,003 (Burlington, Camden, and Gloucester)	2,551 (Mercer)

Source: Delaware Valley Regional Planning Commission, 2013.

Note: NOx = Nitrogen Oxides; $PM_{2.5}$ = Fine Particulate Matter; VOCs = Volatile Organic Compounds.
† $PM_{2.5}$ budgets in New Jersey are rounded off to the nearest integer in accordance with the respective SIP. The Pennsylvania emissions test is rounded off to the nearest tenth ton per year.
‡ The 2025 budget applies only to New Jersey counties. Both states have 2009 budgets for PM $_{2.5.}$
♦ New Jersey budgets for Annual and 24-Hour $PM_{2.5}$ are identical. Final Rule guidance for 24-Hour $PM_{2.5}$ Conformity (75 FR 56) requires that the Annual $PM_{2.5}$ Budget Test be used to demonstrate conformity for the 24-Hour Standard in Nonattainment Areas with Annual $PM_{2.5}$ budgets. This rule is applied in the Pennsylvania subregion.

Regional Emissions Analysis Procedure

Overview

Regional emissions estimates are developed through a series of models that simulate travel demand in the region and then convert those travel characteristics into estimates of emissions of the pollutants of concern. The TDM utilizes planning assumptions to produce estimates of VMT and travel characteristics, including operating modes and vehicle characteristics, of the people in the region. The TDM results are then processed and input into the proscribed emissions estimate model—in this case, MOVES (version 2010B).

The Final Rule establishes guidelines and minimum requirements to control the quality of the inputs to the transportation demand and emissions estimate models. These guidelines require that the latest planning assumptions and best available data inputs be used to develop the regional emissions estimates. These estimates are ultimately compared against the SIP budgets described in the previous chapter to support the conformity determination. The TCICG reviews and approves the planning assumptions and model inputs prior to the beginning of conformity analysis.

This is the first conformity determination for which DVRPC is using the TIM 2.0 TDM. The model has been successfully validated following FHWA guidelines. The TIM 2.0 validation documentation is currently in development.

Latest Planning Assumptions

The Final Rule requires that the most current available planning assumptions be used in determining transportation conformity. Planning assumptions such as population and employment estimates, transit and toll road policies, and land use assumptions are critical inputs to the TDM. Plan and TIP projects are also reviewed and coded according to the expected date that the projects will be opened to traffic. These codes identify which projects will be analyzed in the regional emissions model. Planning assumptions, as well as the list of Plan and TIP projects, are reviewed and approved by the TCICG before DVRPC begins the regional emissions analysis. The planning assumptions used in this demonstration are the latest and most current assumptions available as of April 30, 2013, which is the start date of this conformity analysis.

Population and Employment Estimates

The population and employment estimates used in this conformity determination are the latest available at the traffic analysis zone (TAZ) level. Population forecasts were adopted by the DVRPC Board in January 2012 and employment forecasts were adopted in September 2012. These estimates include forecasts for the Plan horizon year of 2040 and can be reviewed in

Regional, County, and Municipal Population Forecasts, 2010–2040 (June 2012, DVRPC publication number ADR018) and *Regional, County, and Municipal Employment Forecasts, 2010–2040* (January 2013, DVRPC publication number ADR019).

Transit and Toll Road Policies

As part of the latest planning assumptions, current transit operations policies and other road toll structures are considered. The transit person trips produced by the modal split component of the DVRPC TDM are considered "linked" in the sense that they do not include any transfers that may have occurred either between transit trips or between auto approaches and transit lines. Therefore, the transit assignment procedure accomplishes two major tasks. First, the transit trips are "unlinked" to include transfers; and second, these "unlinked" transit trips are associated with specific transit facilities to produce link, line, and station volumes. These tasks are performed simultaneously within the transit assignment model, which assigns the transit trip matrix to paths built through the transit network, which is not capacity constrained.

All fares entering the transit network are "blended" by operating entity. For each operator, different existing fare types (e.g., cash; token; transfer charge; and daily, weekly, and monthly passes) are blended into a single fare policy based on the percentage of each fare type and use in the 2010 fare structure. Then the future fare for each operator is held constant in current dollars. All current operating plans, ridership, and service levels of transit systems are built into the transit network and incorporated into the future-year networks as well. Future-year transit networks are also augmented with any new services identified in the corresponding DVRPC Plan and TIPs. Table 4 details all transit operators included in the transit network and their operational assumptions.

Other transportation-related costs, such as automobile operating costs, gasoline costs, parking costs, and road/bridge tolls, are also based on current and available data and are held constant in current dollars into the future analysis years.

Table 4. Transit Operation Assumptions

Transit Companies	Fares	Operating Plan/Service Level
SEPTA City Transit Division	Specified in the transit network by operator and by analysis year; held constant in year 2010 dollars	Specified in the transit networks by operator and by analysis year.
SEPTA Suburban Victory Division		
SEPTA Suburban Frontier Division		
SEPTA Regional Rail Division		
NJ Transit Mercer Division		
NJ Transit Southern Division		
NJ Transit Railroad Division		
PATCO High-Speed Line (DRPA)		
Pottstown Area Rapid Transit		
Krapf's Coaches		

Source: Delaware Valley Regional Planning Commission, 2013.

Note: DRPA = Delaware River Port Authority; NJ Transit = New Jersey Transit; PATCO = Port Authority Transit Corporation; SEPTA = Southeastern Pennsylvania Transportation Authority.

Plan and TIP Amendments

The Final Rule requires MPOs to demonstrate conformity when any nonexempt, regionally significant projects in the Plan or the TIPs are altered substantially to change regional travel patterns. This iteration of conformity is triggered by new regionally significant projects being amended to the FY 2013 Pennsylvania TIP, a new FY 2014 TIP for New Jersey, and a new *Connections 2040* Plan. This conformity iteration reflects all such changes proposed to the Plan and the TIPs since their last demonstration.

Each state's TIP and the *Connections 2040* Plan contain an AQ Code associated with each project that identifies the project's relationship to the conformity analysis. Each code indicates whether the project is exempt or regionally significant, and the first year of analysis in the TDM network or off-network analysis.

The TCICG reviewed all proposed AQ codes in the FY 2013 Pennsylvania TIP, FY 2014 New Jersey TIP, and *Connections 2040* Plan prior to the start of this conformity analysis.

Travel Demand Simulation

DVRPC is using a new TDM for this conformity determination named TIM 2.0. This TDM has been validated following FHWA guidance and features an expanded geography to improve travel simulation within, through, and across the region. The previous DVRPC TDM only included data on the nine-county DVRPC region. The current model includes detailed transportation network data on the DVRPC region plus less detailed information on the transportation network in the 16 counties surrounding the DVRPC region. The current DVRPC TDM meets the federal

transportation authorization and planning requirements as well as requirements included in the CAA and the Final Rule.

DVRPC's TDM is a four-step process that ultimately assigns travel patterns among and within TAZs and modes of transportation, using the built transportation networks along with the planned highway and transit networks described by the Plan and the TIPs. Travel patterns and modal splits are then run through a post-processor in preparation for emissions analysis by MOVES.

The TCICG has reviewed and approved DVRPC's travel demand modeling process, including the use of off-network methodologies to analyze regionally significant, nonexempt projects, such as park-and-ride facilities, that cannot be properly evaluated by the aforementioned network TDM.

Projects Analyzed Using Off-Network Methodology

The TCICG has approved the use of two off-network travel impact and emissions analysis methodologies developed for the state DOTs: PAQ-ONE and NJAQ-ONE. The methodologies are used to analyze projects that are usually of such a scale that they cannot be properly analyzed by the network model.

Both PAQ-ONE and NJAQ-ONE contain independent MOVES-generated look-up tables to determine emissions estimates. Final off-network emissions estimate outputs show the changes in VOCs, and NO_x in kilograms or tons per July day for ozone, as well as kilograms or tons per year for $PM_{2.5}$ and NO_x, for the project sets included in the Plan and the TIPs.

Table 5 identifies the projects in the Pennsylvania and New Jersey TIPs that were analyzed using off-network methodologies. Emissions from these analyses were applied to the results from the network model.

Table 5. Nonexempt, Off-Network Projects in the Plan and Transportation Improvement Programs

MPMS #	County/ Agency	Project/Facility	First Year of Analysis
60629	SEPTA	Job Access and Reverse Commute	2015
74823	Philadelphia	Philadelphia Zoo Intermodal Center	2025
96217	Bucks	Central Bucks Congestion Mitigation	2025
96239	Montgomery	King of Prussia Business Improvement District Shuttle	2015
96241	Chester	Boot Road Interchange	2025
T199	NJ Transit	Job Access and Reverse Commute	2015

Source: Delaware Valley Regional Planning Commission, 2013.

Note: NJ Transit = New Jersey Transit; SEPTA = Southeastern Pennsylvania Transportation Authority.

Emissions Test

The CAA requires the US EPA to regularly update emissions models. In 2000, the National Research Council recommended that the US EPA make changes to its mobile source modeling program. After a number of years of development and testing, the US EPA released the MOVES emissions model and in 2009 required that the MOVES model become the official emissions estimation model used for SIP development and transportation conformity determinations. A two-year grace period was granted before the MOVES model was required to be used for transportation conformity purposes. This grace period was further extended to March 2013 in 2012. DVRPC is currently using the MOVES 2010B version of the MOVES family of models to demonstrate transportation conformity.

MOVES Model

The MOVES model is significantly different from the MOBILE 6.2 emissions model that it replaces. The MOVES model estimates total emissions and energy use from all on-road vehicle sources and can estimate a total emissions inventory as well as emissions rates. The MOBILE 6.2 model produced emissions rates which were converted to emissions inventories at the county level using extensive post-processing procedures, whereas the MOVES model can generate emissions estimates at multiple geographic and temporal scales.

Another significant difference between the MOVES and MOBILE 6.2 models is that MOBILE 6.2 generated emissions rates based on aggregate driving cycles and accounted for difference in average speeds. These emissions rates were then applied to VMT generated by the TDM and vehicle types to produce an emissions inventory. MOVES emissions rates are based on operating modes that account for different patterns of acceleration, deceleration, and cruising, in addition to average speeds. The MOVES model also accounts for vehicle starts, evaporative emissions from parked vehicles, and extended idling.

The expanded capabilities of the MOVES model result in substantially different results in emissions analysis, particularly for NO_x and $PM_{2.5}$. Since the emissions results are significantly higher than the MOBILE 6.2 outputs, each state has revised their $PM_{2.5}$ SIPs to include MOVES-based budgets. The increase in emissions estimates using the MOVES model does not reflect an increase in emissions but simply a more realistic accounting of the emissions from the transportation sector.

Pennsylvania and New Jersey have not updated the budgets included in the ozone SIPs from the MOBILE 6.2-generated budgets to MOVES-based budgets. Extensive testing has shown that conformity to these budgets can be demonstrated despite the higher NO_x results from the MOVES emissions model.

For a detailed description of the MOVES model please visit:
www.epa.gov/otaq/models/moves/index.htm

CHAPTER 4

Conformity Determination

Travel Simulation Results

Quantitative analyses for this iteration of transportation conformity determination began on April 30, 2013. All planning assumptions utilized in this demonstration are the latest and most current as of that date. The TDM analysis includes all regionally significant and nonexempt projects from the Plan and TIPs, segregated into networks according to the anticipated date that the facilities will be open to traffic.

Results from the TDM, including speed distribution, VMT by vehicle type, road type distribution, ramp fraction, VMT by day and month, and VMT by hour, were input into the MOVES emissions analysis model. These input files are available by request.

Emissions Estimate Results

Mobile source emissions estimates are outputs of the MOVES model. The regional emissions analysis must meet all conformity tests in the Final Rule. Specifically, emissions of VOCs, NO_x, and $PM_{2.5}$ must be less than the MVEBs established by the states.

For ozone precursors, the conformity demonstration was performed using the Eight-Hour Ozone SIP 2008 MVEB for Pennsylvania and the Eight-Hour Ozone SIP 2009 MVEB for New Jersey. The US EPA published adequacy findings of these budgets in the *Federal Register* in December 2008 and July 2008, respectively.

Tables 6 and 7 present the results of these calculations for the transportation conformity simulation for the critical ozone precursors of VOCs and NO_x. Analysis years for ozone are 2015, 2025, 2035, and 2040. These results are compared with the budgets to demonstrate conformity. The emissions analysis indicates that the DVRPC region will meet all of the current SIP MVEBs. The Final Rule requires that until MVEBs are established for the 2008 Eight-Hour Ozone NAAQS, the MVEBs for the 1997 Ozone Standard are to be used to demonstrate conformity.

Furthermore, DVRPC must make conformity determinations for $PM_{2.5}$ in two different nonattainment areas. Table 8 provides the $PM_{2.5}$ emissions estimate results.

In Pennsylvania, a governing SIP MVEB was found adequate for conformity purposes for $PM_{2.5}$ in February 2013. Conformity is demonstrated against the budget, which is established for 2009. All applicable direct $PM_{2.5}$ sources and precursors (NO_x) are tested for the 2015, 2025, 2035, and 2040 $PM_{2.5}$ emissions estimates.

In New Jersey, a governing SIP MVEB was found adequate for conformity purposes for $PM_{2.5}$ in May 2013 and DVRPC has demonstrated conformity using these proposed budgets.

Collectively, these tables show that the estimated emissions of VOCs, NO_x, and $PM_{2.5}$ do not exceed the respective MVEBs included in the established and proposed SIPs submitted by the corresponding states.

In addition, the region must maintain the CO standard. The US EPA has approved limited maintenance plans for both the Pennsylvania and New Jersey portions of the region and has ruled that no emissions analyses are required to demonstrate conformity in the region for CO.

Table 6. Volatile Organic Compounds Emissions Analysis Results (Tons/July Day)†

		SIP 2008 MVEB†	SIP 2009 MVEB†	2015	2025	2035	2040
PA	Emissions from MOVES 2010B	-	-	40.54	21.33	19.36	19.65
	Adjustments from Off-Network Calculation‡	-	-	0.0	0.0	0.0	0.0
	Estimated Total Emissions	61.09	-	40.54	21.33	19.36	19.65
NJ	Emissions from MOVES 2010B	-	-	14.01	9.42	9.32	9.38
	Adjustments from Off-Network Calculation‡	-	-	0.0	0.0	0.0	0.0
	Estimated Total Emissions	-	25.98	14.01	9.42	9.32	9.38

Source: Delaware Valley Regional Planning Commission, 2013.

Note: MVEB = Motor Vehicle Emissions Budget; SIP = State Implementation Plan.
† The most recent Eight-Hour Ozone SIP MVEBs (2008 in Pennsylvania or 2009 in New Jersey) will apply to all future analysis years. All emissions are rounded off to the nearest hundredth of a ton for a July day.
‡ Emissions adjustments calculated using off-network methodology could become zero when rounded off.

Table 7. Nitrogen Oxides Emissions Analysis Results (Tons/July Day)†

		SIP 2008 MVEB†	SIP 2009 MVEB†	2015	2025	2035	2040
PA	Emissions from MOVES 2010B	-	-	86.64	39.58	33.20	33.54
	Adjustments from Off-Network Calculation‡	-	-	0.0	-0.1	-0.1	-0.1
	Estimated Total Emissions	108.78	-	86.64	39.48	33.10	33.44
NJ	Emissions from MOVES 2010B	-	-	33.91	18.44	17.55	17.60
	Adjustments from Off-Network Calculation‡	-	-	0.0	0.0	0.0	0.0
	Estimated Total Emissions	-	63.66	33.91	18.44	17.55	17.60

Source: Delaware Valley Regional Planning Commission, 2013.

Note: MVEB = Motor Vehicle Emissions Budget; SIP = State Implementation Plan.
† The most recent Eight-Hour Ozone SIP MVEBs (2008 in Pennsylvania or 2009 in New Jersey) will apply to all future analysis years. All emissions are rounded off to the nearest hundredth of a ton for a July day.
‡ Emissions adjustments calculated using off-network methodology could become zero when rounded off.

Table 8. Annual and 24-Hour Direct Fine Particulate Matter and Nitrogen Oxides Emissions Analysis Results (Tons/Year)†

		2009	2015	2025	2025	2035	2040
		SIP MVEB	Estimated Emissions*	SIP MVEB (NJ only)	Estimated Emissions*	Estimated Emissions*	Estimated Emissions*
Direct $PM_{2.5}$	DVRPC—PA*	1,907.5	1,201.5	-	682.9	616.1	623.1
	DVRPC—NJ; except Mercer County*‡	680	373	363	235	228	229
	Mercer County, NJ*«	224	118	119	74	71	72
$PM_{2.5}$ Precursor (NOx)	DVRPC—PA*	57,218.3	31,685.2	-	14,876.0	12,628.7	12,770.2
	DVRPC—NJ; except Mercer County*‡	18,254	9,458	8,003	5,260	5,040	5,055
	Mercer County, NJ*«	5,835	2,841	2,551	1,553	1,475	1,486

Source: Delaware Valley Regional Planning Commission, 2013.

Note: DVRPC = Delaware Valley Regional Planning Commission; MVEB = Motor Vehicle Emissions Budget; NOx = Nitrogen Oxides; $PM_{2.5}$ = Fine Particulate Matter; SIP = State Implementation Plan.
† Associated 2009 and 2025 (in New Jersey only) MVEBs apply to all future analysis years. $PM_{2.5}$ budgets in New Jersey are rounded off to the nearest integer in accordance with the respective SIP. The Pennsylvania emissions test is rounded off to the nearest tenth of a ton per year.
* Off-model adjustments have been made.

‡ Results are only for Burlington, Camden, and Gloucester counties, which are the New Jersey portion of the Philadelphia–Wilmington, PA–NJ–DE $PM_{2.5}$ Nonattainment Area
« Results are only for Mercer County, which is the DVRPC New Jersey portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT $PM_{2.5}$ Nonattainment Area.

Meeting the Conformity Criteria

Tables 6 through 8 cumulatively demonstrate that the Plan and the TIPs conform to the SIPs with respect to the MVEBs in the corresponding implementation year. The Plan and the TIPs meet all requirements under the governing ozone and $PM_{2.5}$ regulations for all analysis years tested.

In addition, the transportation conformity process must also meet all the applicable criteria that are consistent with the requirements for nonattainment areas and maintenance areas under the CAA. Specifically, the finding must show, among other items, that:

- the Plan and the TIPs are fiscally constrained [40 CFR 93.108];
- this determination is based on the latest planning assumptions [40 CFR 93.110];
- this determination is based on the latest emissions estimation model available [40 CFR 93.111];
- DVRPC has made the determination according to the applicable consultation procedures [40 CFR 93.112];
- the Plan and the TIPs do not interfere with the timely implementation of TCMs [40 CFR 93.113]; and
- the Plan and the TIPs are consistent with the MVEBs in the applicable SIPs [40 CFR 93.118].

All identified conformity evaluation criteria in the Final Rule and subsequent responses from DVRPC are detailed in Table 9.

Table 9. Evaluation of the Conformity Determination Criteria

Corresponding 40 CFR Part 93 Section(s)	Evaluation Criteria	DVRPC's Response
§93.106(a) (1)	Are the transportation plan horizon years correct?	Yes. The analysis years of 2015, 2025, 2035, and 2040 correspond to the 2008 Eight-Hour Ozone attainment date, SIP budget years, interim years within a 10-year time frame, and the current DVRPC Plan horizon years.
§93.106(a) (2)(i)	Does the plan quantify and document the demographic and employment factors influencing transportation demand?	Yes. The *Connections 2040* Long-Range Plan does quantify and document demographic and employment factors influencing transportation demand. Future population and employment forecasts were developed with member counties and adopted by the DVRPC Board.
§93.106(a) (2)(ii)	Is the highway and transit system adequately described in terms of regionally significant additions or modifications to the existing transportation network that the transportation plan envisions to be operational in horizon years?	Yes. The regionally significant additions and modifications to the network utilized in this conformity analysis are listed and described. Detailed information regarding each project can be found in the respective Plan and TIP documents.
§93.108	Are the TIP and the transportation plan fiscally constrained?	Yes. The Plan and the TIPs are constrained to reasonably anticipated financial resources, projected in year of expenditure, as required by federal regulations and are based on year of expenditure costs.
§93.109(a)	Has the MPO demonstrated that all applicable criteria and procedures for conformity are complied with and satisfied?	Yes. As part of the response, this table itemizing criteria and responses is presented.
§93.109(e) §93.109(f)	Are all budget tests for VOCs, NOx, and CO satisfied as required by §93.118 and §93.119 for conformity determination?	Yes. VOCs and NOx MVEBs for both Pennsylvania and New Jersey have been approved by the US EPA. DVRPC performs budget tests to demonstrate the ozone conformity of the Plan and the TIP. The US EPA has approved limited maintenance plans for the CO Maintenance Areas within the region and no emissions analyses are required. $PM_{2.5}$ is tested using area-appropriate budget tests.

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Corresponding 40 CFR Part 93 Section(s)	Evaluation Criteria	DVRPC's Response
§93.110	Are the conformity determinations based upon the latest planning assumptions?	Yes.
	Is the conformity determination, with respect to all other applicable criteria in §93.111-93.119, based upon the most recent planning assumptions in force at the time that the conformity determination began?	Yes. This conformity determination utilizes the most recent planning assumptions as of April 30, 2013, the start date of this conformity determination process.
	Are the assumptions derived from the estimates of current and future population, employment, travel, and congestion most recently developed by the MPO or other designated agency? Is the conformity determination based upon the latest assumptions about current and future background concentrations?	Yes. This conformity determination utilizes the most recent demographic and employment data, which were adopted by the DVRPC Board in January and September 2012. Also, other planning assumptions and travel data are derived from the most current information available to DVRPC.
	Are any changes in the transit operating policies (including fares and service levels) and assumed transit ridership discussed in the determination?	Yes. Applicable transit operating policies and transit ridership are discussed in this document (Chapter 3, p. 28).
	The conformity determination must include reasonable assumptions about transit service and increases in transit fares and road and bridge tolls over time.	Key transit and toll assumptions are outlined in this document (Chapter 3, p. 28).
	The conformity determination must use the latest existing information regarding the effectiveness of the TCMs and other implementation plan measures that have already been implemented.	Currently, there are no adopted TCMs in the corresponding SIPs.
	Key assumptions must be specified and included in the draft documents and supporting materials used for the interagency and public consultation, as required by §93.105.	Key assumptions are specified and other supporting documents are included in this conformity determination document, which is available to the TCICG and the public.

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Corresponding 40 CFR Part 93 Section(s)	Evaluation Criteria	DVRPC's Response
§93.111	Is the conformity determination based upon the latest emissions model?	Yes. The transportation conformity determination for the Plan and the TIP is based on MOVES 2010B.
§93.112	Did the MPO make the conformity determination according to the consultation procedures of the Final Rule or the state's conformity SIP?	Yes. Three interagency consultation meetings have been held according to the consultation procedures consistent with the requirements of all applicable regulations, including §93.105 (a) and (e), to consider input assumptions and to review findings regarding transportation conformity. In compliance with 23 CFR 450, a 30-day public comment period and three public meetings are scheduled to receive comments regarding the transportation conformity of the Plan and the TIPs under all governing NAAQS.
§93.113(b) §93.113(c)	Are TCMs being implemented in a timely manner?	There are currently no adopted TCMs in the SIPs.
§93.114	Are there a currently conforming transportation plan and a currently conforming TIP at the time of project approval?	Yes. The FY 2014 NJ TIP supplants the FY 2012 NJ TIP. The FY 2013 PA TIP is a conforming TIP. The *Connections 2040* Plan supplants the *Connections 2035* Plan.
§93.115	Are the projects from a conforming plan and TIP?	Yes. The projects are from conforming TIPs and the Plan. The TIPs are consistent with the Plan.
§93.118	For areas with SIP Budgets: is the transportation plan, TIP, or project consistent with the established motor vehicle emissions budget(s) in the applicable SIP?	Yes. Projects contained in the TIPs and the Plan result in fewer emissions than the established budgets for all applicable pollutants in each analysis year.
§93.119	For areas without SIP Budgets: does the transportation plan, TIP, or project satisfy the prescribed interim emissions test?	SIP budgets exist for the relevant pollutants in the entire DVRPC region.

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Corresponding 40 CFR Part 93 Section(s)	Evaluation Criteria	DVRPC's Response
§93.122(a) (1)	Does the conformity analysis include all regionally significant projects?	Yes. The project sets for Plan and the TIPs include all regionally significant projects.
§93.122(a) (6) §93.122(a) (7)	Are reasonable methods and factors used for the regional emissions analysis consistent with those used to establish the emissions budget in the applicable implementation plan?	Yes. The ambient temperatures and other factors used in the analysis, including the methods for off-network VMT and speed, have been reviewed by the TCICG and deemed reasonable.
§93.122(b)	Is there a network-based travel model of reasonable methods to estimate traffic speed and delays for the purpose of transportation-related emissions estimates?	Yes. DVRPC uses a network-based model that runs iteratively using the Evans algorithm to obtain convergence on input/output highway and transit travel speed. It is sensitive to travel time, costs, and other factors affecting travel choices.

Source: Delaware Valley Regional Planning Commission, 2013

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Stakeholder Participation

Transportation Conformity Interagency Consultation Group Meetings

DVRPC hosted a series of TCICG meetings and correspondence for this iteration of the transportation conformity demonstration of the Plan and the TIPs. Three TCICG meetings were held. The first meeting was held on April 16, 2013 to assess the transportation conformity process, to advise on the timeline, and to determine the latest planning assumptions utilized. The second meeting was held on April 30, 2013 to review draft TIP project sets, updates to the *Connections 2040* Long-Range Plan, and associated AQ codes. The third meeting was held on June 3, 2013 to review the draft conformity document before it was released for public comment.

Represented federal, state, and local partners on the TCICG included US EPA Region II and III Offices, FHWA–NJ Division Office, FHWA–PA Division Office, NJDOT, NJ Transit, NJ DEP, PA DEP, PennDOT, and SEPTA. The consultant firm of Michael Baker Jr., Inc., also participated in the TCICG process because of its extensive involvement and expertise in the transportation conformity processes in both Pennsylvania and New Jersey.

Public Participation

DVRPC opened a mandated 30-day public comment period on June 7, 2013, to receive comments on the Draft Conformity findings. The announcement for the public comment period for the conformity determination of the Plan and the TIPs appeared in five major newspapers throughout the region on June 7, 2013. Additionally, a media release was sent to local television, radio, and print media.

The draft conformity document was distributed to various libraries throughout the region and made available online at www.dvrpc.org. Two public meeting/information sessions were held on June 12, 2013 at the Cherry Hill Library, 1100 Kings Highway North, in Cherry Hill, New Jersey and June 27, 2013 at the DVRPC offices at 190 N. Independence Mall West, in Philadelphia. The comment period will close on July 8, 2013, at 5:00 PM.

DVRPC encouraged the public to submit comments on the Draft Conformity document by email to tip-plan-comments@dvrpc.org; by faxing to (215) 592-9125; by mailing to the address at the end of this document, Attention: TIP/Plan/Conformity Comments; or by submitting a written copy of oral comments made at the Public Meetings.

Technical Correction / Public Comment

The emissions analysis results for this conformity determination underwent a minor revision during the public comment period to reflect the adjustment of analysis year of a regionally significant, non-exempt plan project and a correction to the Stage II Vapor Recovery program inputs in Pennsylvania, into the MOVES model. These revisions resulted in a less than one ton per day change in the emissions analysis results for ozone precursors and less than a two ton per year change in the emissions analysis results for $PM_{2.5}$ NOx precursors. These changes were approved by the TCICG and have no impact on the region's ability to meet the established SIP MVEBs or demonstrate transportation conformity.

DVRPC received no public comments regarding this conformity determination.

CHAPTER 6

Conclusion

The DVRPC Plan and TIPs are found to be in conformity with the current Pennsylvania and New Jersey SIPs under the CAA. The forecasted emissions levels of VOCs, NOx, and $PM_{2.5}$ do not exceed the respective budgets established by the states in accordance with the Final Rule under the current NAAQS governing applicable pollutants. The transportation conformity analysis meets all applicable conformity criteria, including, but not limited to, the following:

- that the Plan and the TIPs are fiscally constrained [40 CFR 93.108];
- that this determination is based on the latest planning assumptions [40 CFR 93.110];
- that this determination is based on the latest emissions estimation model available [40 CFR 93.111];
- that DVRPC has made the determination according to the applicable consultation procedures [40 CFR 93.112];
- that the Plan and the TIPs do not interfere with the timely implementation of TCMs [40 CFR 93.113]; and
- that the Plan and the TIPs are consistent with the MVEBs in the applicable implementation plans [40 CFR 93.118].

These findings demonstrate transportation conformity of the FY 2013 Pennsylvania TIP, FY 2014 New Jersey TIP, and the DVRPC *Connections 2040* Long-Range Plan with the corresponding state SIPs and the Final Rule requirements under CAA, including:

- the 1997 and 2008 Eight-Hour Ozone NAAQS in the Philadelphia-Wilmington-Atlantic City Ozone Nonattainment Area;
- the Annual and 24-Hour $PM_{2.5}$ NAAQS in the Philadelphia–Wilmington, PA–NJ–DE $PM_{2.5}$ Nonattainment Area;
- the Annual and 24-Hour $PM_{2.5}$ NAAQS in the DVRPC portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT $PM_{2.5}$ Nonattainment Area; and
- the Eight-Hour CO NAAQS in the Philadelphia–Camden CO Maintenance Area; in the City of Burlington in Burlington County, New Jersey; and in the City of Trenton in Mercer County, New Jersey.

Abstract Page

Title: Transportation Conformity Demonstration: FY 2013 Pennsylvania TIP, FY 2014 New Jersey TIP, and *Connections 2040* Long-Range Plan

Publication Number:	13063
Date Published:	June 2013
Geographic Area Covered:	The nine-county DVRPC planning area, which covers the counties of Bucks, Chester, Delaware, Montgomery, and Philadelphia in Pennsylvania; and Burlington, Camden, Gloucester, and Mercer in New Jersey.
Key Words:	Transportation Conformity, Air Quality, National Ambient Air Quality Standards, Ozone, Volatile Organic Compounds (VOCs), Nitrogen Oxides (NOx), Carbon Monoxide (CO), Fine Particulate Matter ($PM_{2.5}$), Nonattainment Area, Maintenance Area, Multi-jurisdictional Nonattainment Area, *Connections 2040* Long-Range Plan, Transportation Improvement Program (TIP), State Implementation Plan (SIP).

Abstract:

The Delaware Valley Regional Planning Commission (DVRPC) demonstrates transportation conformity of its Fiscal Year (FY) 2013 Pennsylvania Transportation Improvement Program (TIP), FY 2014 New Jersey TIP, and *Connections 2040* Long-Range Plan. A transportation conformity demonstration is required at least once every four years or when an MPO: 1) adopts a new Plan or TIPs, or 2) amends, adds, or deletes a regionally significant, non-exempt project in a Plan or TIP. This conformity finding of the DVRPC Plan and TIPs shows that they meet the National Ambient Air Quality Standards (NAAQS) requirements governing ozone, carbon monoxide, and fine particulate matter. This conformity finding reflects all amendments to the Plan and TIPs through June 2013.

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