DRAFT Transportation Conformity Demonstration

Amendments to *Update: Connections 2050 Plan for Greater Philadelphia*,
FFY2026 TIP for New Jersey, and
DRAFT FFY2027 TIP for Pennsylvania
Executive Summary

PUBLIC COMMENT PERIOD:

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MAY 2026

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Last updated: January 2025

Glossary of Acronyms and Terms

AQ	Air Quality
CAA	Clean Air Act (as amended)
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DEP	State Department of Environmental Protection
DOT	State Department of Transportation
DRPA	Delaware River Port Authority
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 U.S. EPA
MPO	Metropolitan Planning Organization
MVEB	Motor Vehicle Emissions Budget
NAAQS	National Ambient Air Quality Standards
NH_3	Ammonia
NJT	New Jersey Transit
Nonattainment Area	Area currently not meeting the NAAQS
NO_x	Nitrogen Oxides
NRS	Not Regionally Significant
PATCO	Port Authority Transit Corporation
PennDOT	Pennsylvania Department of Transportation
Plan	DVRPC's Long-Range Plan
PM	Particulate Matter
$PM_{2.5}$	Fine Particulate Matter
PM_{10}	Coarse Particulate Matter
ppm	Parts per Million
SIP	State Implementation Plan
SEPTA	Southeastern Transportation Authority
SO_x	Sulfur Oxides
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.	U.S. Code
U.S. EPA	U.S. Environmental Protection Agency
U.S. DOT	U.S. Department of Transportation
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 or Transportation Improvement Program (TIP) do not cause new air quality violations, worsen existing violations, or delay timely attainment of the National Ambient Air Quality Standards (NAAQS).

A transportation conformity demonstration is required at least once every four years or when an MPO: (1) adopts a new Long-Range plan or TIP; or (2) amends, adds, or deletes a regionally significant, nonexempt project in a Long-Range Plan or TIP. This conformity demonstration is required due to an amendment to the *Update: Connections 2050 Plan for Greater Philadelphia* (Plan) and a new Federal Fiscal Year (FFY) 2027–2030 Pennsylvania TIP. Through this document, the Delaware Valley Regional Planning Commission (DVRPC) will also reaffirm the conformity analysis for the FFY 2026-2029 New Jersey TIP.

Where is Transportation Conformity Required?

Nonattainment Areas: a region that currently does not meet the NAAQS.

Maintenance Areas: a region that **previously** violated air quality standards but currently meets the standards and has an approved Clean Air Act (CAA) section 175(a) maintenance plan.

The DVRPC region includes a complex combination of nonattainment and maintenance areas for ozone and fine particulate matter ($PM_{2.5}$). The region's ozone nonattainment area encompasses the entire nine-county DVRPC region, while the $PM_{2.5}$ maintenance areas encompass various portions of the region. The region is required to demonstrate transportation conformity for each of these standards in each of the appropriate geographic areas covered by the nonattainment and maintenance areas.

This Executive Summary highlights DVRPC's conformity demonstration for:

Volatile Organic Compounds (VOCs) and Nitrogen Oxides (NO_x) meeting the 1997, 2008, and 2015 Eight-Hour Ozone NAAQS requirements in:

- the DVRPC portion of the Philadelphia–Wilmington–Atlantic City, PA–NJ–MD–DE Ozone Nonattainment Area; and

Direct $PM_{2.5}$ and precursor NO_x meeting the 2006 24-Hour and 2012 Annual $PM_{2.5}$ NAAQS requirements in:

- the DVRPC portion of the Philadelphia–Wilmington, PA–NJ–DE 24-Hour $PM_{2.5}$ Maintenance Area,
- the DVRPC portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT 24-Hour $PM_{2.5}$ Maintenance Area, and
- the Delaware County, PA Annual $PM_{2.5}$ Maintenance Area.

This summary serves as an inclusive document that demonstrates the transportation conformity of the amended *Update: Connections 2050 Plan*, FFY 26 New Jersey TIP, and Draft FFY 27 Pennsylvania TIP with all applicable SIPs and NAAQS requirements for the above pollutants within the noted areas.

Analysis Approach

Reaffirmation of Previous Analysis for New Jersey Counties

The U.S. EPA guidance for determining transportation conformity (referred to as the Final Rule) allows MPOs, such as DVRPC, that have previously demonstrated conformity for their TIPs or Plans to reaffirm the previous conformity analysis (40 CFR93.122(g)) in lieu of performing a full conformity analysis as long certain requirements are met. Since there have been no changes to the timing or scope of the regionally significant and non-exempt projects in the New Jersey portion of the DVRPC region since the last conformity analysis was approved by the U.S. Department of Transportation (U.S. DOT) in 2025, DVRPC is reaffirming the results of that analysis.

Regional Emissions Analysis of Plan and TIP Projects for the Pennsylvania Counties

The federal Final Conformity Rule (Final Rule) requires that all regionally significant and nonexempt projects that are funded in the Plan and TIP be included in the regional transportation conformity analysis. Areas designated as nonattainment or maintenance areas must conduct a regional emissions analysis to demonstrate conformity. Emissions analysis is conducted by including all existing and planned, regionally significant and nonexempt projects from the Plan and TIP in the regional Travel Demand Model (TDM). Emissions from those modeled projects are then quantified using the latest U.S. Environmental Protection Agency (U.S. EPA) approved emissions modeling system, in this case the Motor Vehicle Emissions Simulator version 5 (MOVES 5).

Conformity Test

Modeled emissions results from transportation networks including the projects in the Plan and TIPs are then compared to Motor Vehicle Emissions Budgets (MVEBs) contained in the SIPs to meet the NAAQS. When modeled emissions are less than the SIP budgets, the transportation conformity requirements have been met. This process is referred to as the “budget test.”

Areas that have demonstrated maintenance of the NAAQS for ten years are eligible for a limited maintenance plan. Once that plan is approved by U.S. EPA, emissions analyses are no longer required to demonstrate transportation conformity for that NAAQS. The U.S. EPA approved limited maintenance plans for $PM_{2.5}$ in New Jersey in March 2024. All other conformity requirements still apply to the $PM_{2.5}$ NAAQS in New Jersey.

New Jersey and Pennsylvania have approved SIP MVEBs for the 1997 Eight-Hour Ozone Standard. Pennsylvania has approved budgets for the 2006 24-Hour $PM_{2.5}$ standards, and 2012 Annual $PM_{2.5}$ standards. Both states have submitted Ozone SIP revisions to the U.S. EPA that contain budgets for the 2015 Ozone NAAQs that are stricter than the previous budgets. Thes budgets are currently being reviewed for adequacy for use for conformity purposes and DVRPC is demonstrating that the Plan and each state’s TIP conform to those pending MVEBs as well as the existing MVEBs. Tables 7-9 include both the pending and existing MVEBs. Emissions budgets are used to demonstrate conformity for all of the current NAAQs requirements.

Analysis Years

When performing the budget test, DVRPC identifies a series of analysis years. Analysis years are benchmarks for the projects that are included in the TDM and emissions analysis. All projects that are expected to be open to traffic by the beginning of that analysis year are included in that year’s emissions analysis. The Final Rule includes guidance on the selection of analysis years. Analysis years must include SIP budget years, NAAQS attainment dates, the final year of the Plan, and interim analysis years that are no more than 10 years apart extending out to the horizon year of the Plan.

MVEBs are established in each state's SIP for specific years. The MVEBs set the emissions limits moving forward. For example, the 2025 $PM_{2.5}$ SIP budgets in Pennsylvania establish emissions limits for all projects that are open to traffic after 2025 and until such time as a new SIP budget is approved by the U.S. EPA.

To demonstrate conformity for the ozone NAAQS, projected VOC and NO_x emissions in all analysis years must be below the SIP MVEBs for the given analysis years. VOCs and NO_x, which are heat-sensitive ozone precursors, are estimated for a typical summer week workday.

To demonstrate conformity for the $PM_{2.5}$ NAAQS in Pennsylvania, emissions are estimated for direct $PM_{2.5}$ and the $PM_{2.5}$ precursor chemical NO_x. The SIP budgets for $PM_{2.5}$ are expressed in terms of annual emissions; therefore, conformity analyses are conducted for annual $PM_{2.5}$ emissions. $PM_{2.5}$ emissions analysis are no longer required in New Jersey.

In the DVRPC region, the analysis years are 2030, 2040, and 2050. The year 2026 is shown in the New Jersey analysis because it was included in the latest conformity demonstration approved in 2025.

Table 1. identifies the mobile source emissions analysis years for this conformity demonstration.

Table 1: Mobile Source Analysis Years

Year	Ozone	$PM_{2.5}$ (PA only)	Note
2030	√	√	**$PM_{2.5}$ SIP budget year and interim year**
2040	√	√	**Year within 10 years of previous analysis**
2050	√	√	**DVRPC Plan horizon year**

Source: DVRPC 2026

Findings

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

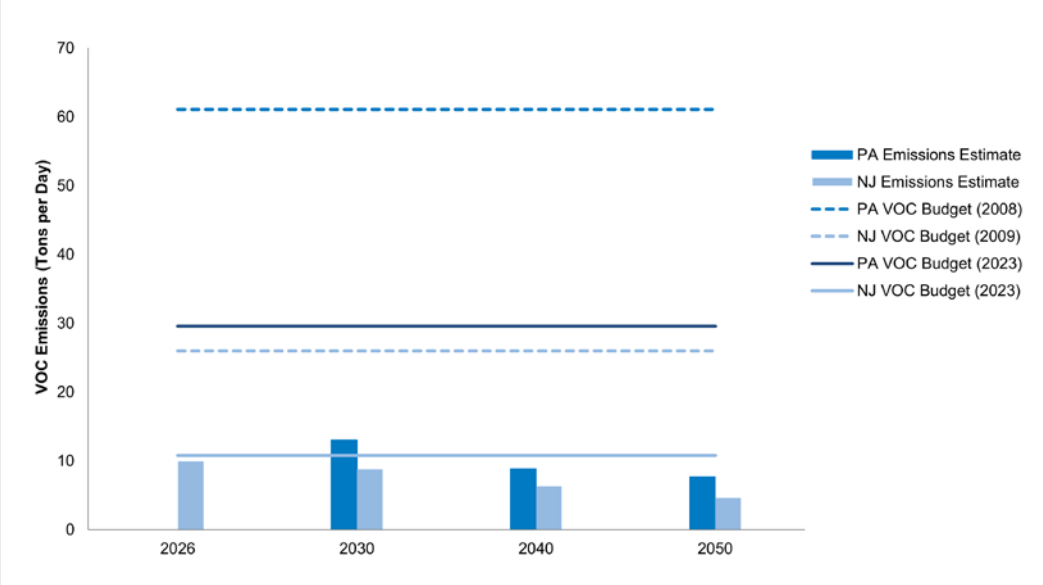
The transportation conformity analysis meets all applicable conformity criteria, including, but not limited to, the following:

- that the Plan and the TIP 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 TIP do not interfere with the timely implementation of transportation control measures (TCMs)[1] [40 CFR 93.113]; and
- that the Plan and the TIP are consistent with the MVEBs in the applicable SIPs [40 CFR 93.118].

[1]TCMs are strategies that reduce transportation-related air pollution and fuel use by reducing vehicle miles traveled and improving roadway operations.

Figures 1 through 6 detail the emissions analysis results for transportation projects included in the Plan and TIPs for New Jersey (2025 Analysis) and Pennsylvania. The data for these figures is detailed beginning on page 27 of the full conformity document. VOCs Emissions Analysis Results (Tons/Day) for the DVRPC Region

Figure 1: VOC Emissions Analysis Results (Tons/Day) for the DVRPC Region

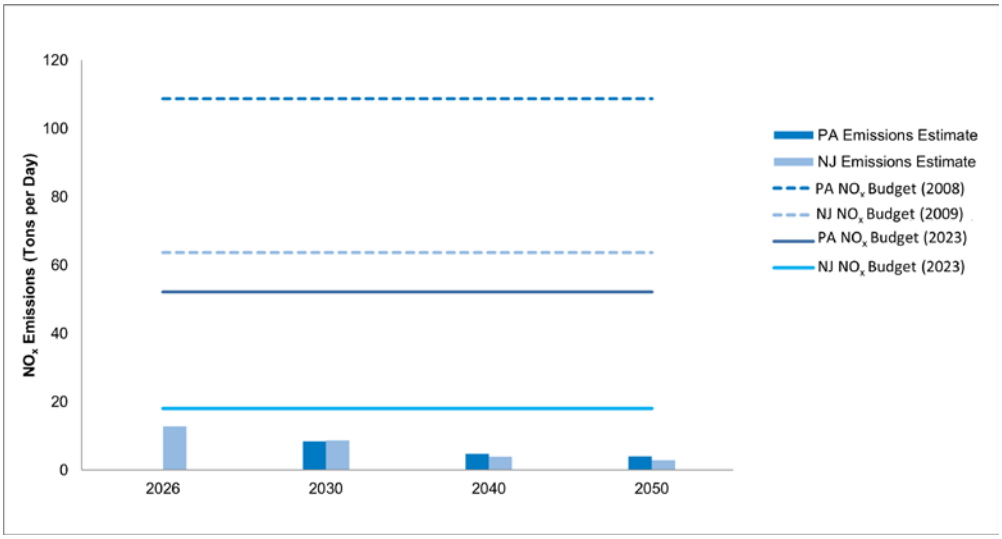


The recent Eight-Hour Ozone SIP MVEBs apply to all future analysis years.

Source: DVRPC, 2025 and 2026

Figure 1 compares modeled VOC emissions for each analysis year in the Pennsylvania and New Jersey subregions relative to the emissions budgets. The VOC emissions in the Pennsylvania subregion are estimated at 13.02 tons per day in 2030 and are projected to decline to 7.65 tons per day by 2050. This is well below the SIP budget of 61.09 tons per day. In the New Jersey subregion 2026 emissions are estimated at 9.93 tons per day and are projected to decline to 4.59 tons per day by 2050. This is well below the SIP budget of 25.98 tons per day.

Figure 2: NO_x Emissions Analysis Results (Tons/Day) for the DVRPC Region

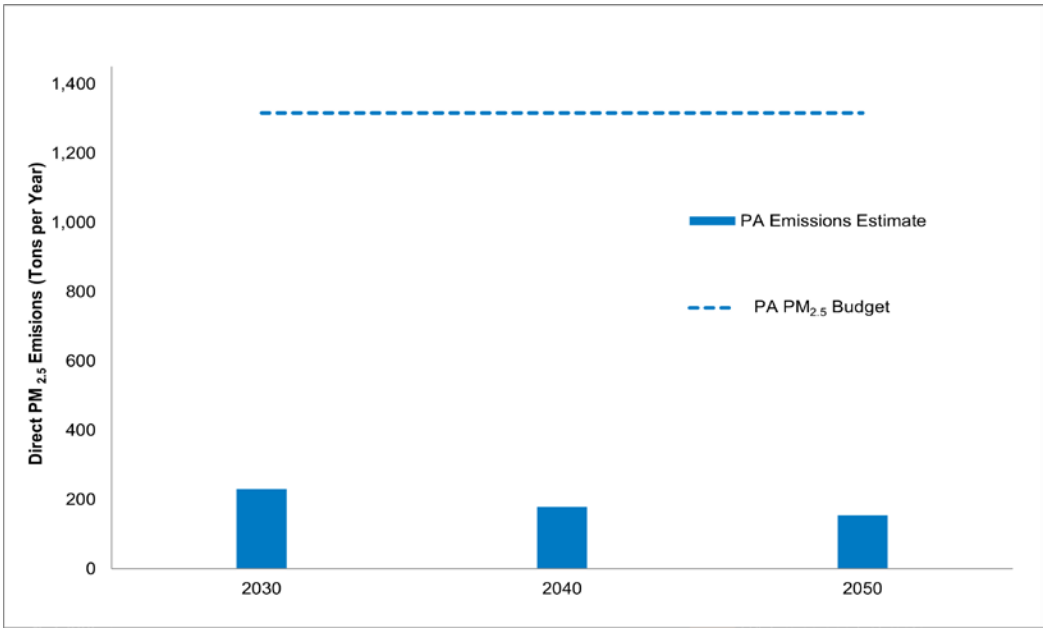


The most recent Eight-Hour Ozone SIP MVEBs apply to all future analysis years.

Source: DVRPC 2025

Figure 2 compares modeled NOx emissions for each analysis year in the Pennsylvania and New Jersey subregions relative to the emissions budgets. NO_x emissions in the Pennsylvania subregion are estimated at 8.43 tons per day in 2030 and are projected to decline to 4.08 tons per day by 2050. This is well below the SIP budget of 108.78 tons per day. In the New Jersey subregion 2026 emissions are estimated at 12.80 tons per day and are projected to decline to 2.84 tons per day by 2050. This is well below the SIP budget of 63.66 tons per day.

Figure 3: 24-Hour Direct $PM_{2.5}$ Emissions Analysis Results (Tons/Year) for the DVRPC Region

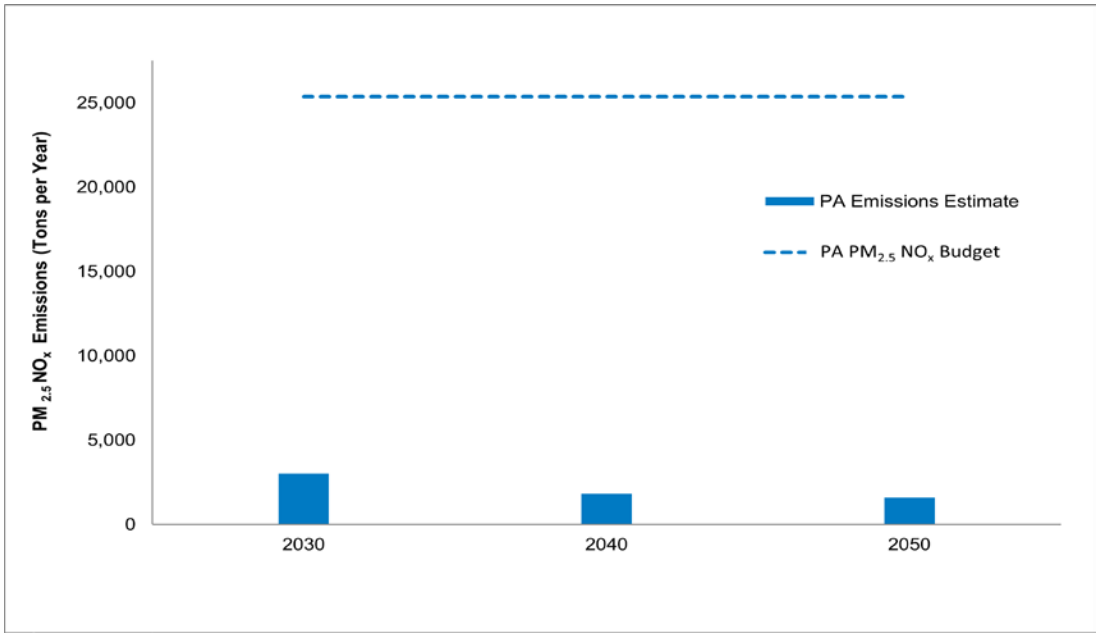


The most recent MVEBs apply to all future analysis years.

Source: DVRPC, 2026

Figure 3 compares modeled direct $PM_{2.5}$ emissions for each analysis year for the Pennsylvania subregion relative to the emissions budgets. Direct $PM_{2.5}$ emissions in the Pennsylvania subregion are estimated at 230 tons per year in 2030 and are projected to decline to 154 tons per year by 2050. This is well below the SIP budget of 1,316 tons per year.

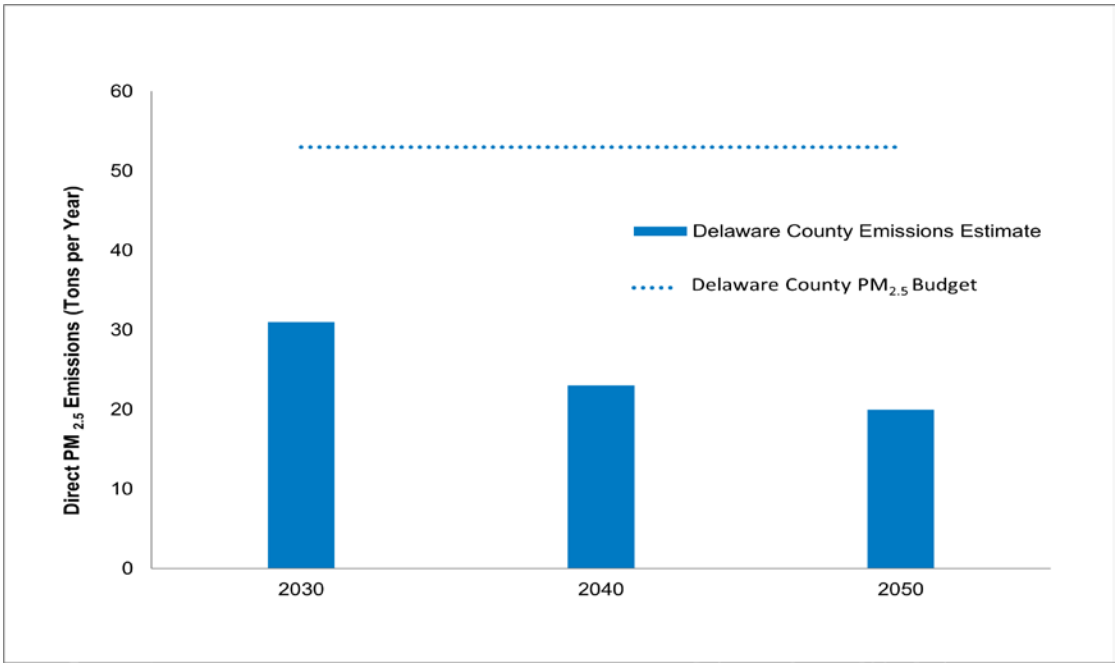
Figure 4: 24-Hour NO_x Precursor Emissions Analysis Results (Tons/Year) for the DVRPC Region



The most recent MVEBs apply to all future analysis years.
Source: DVRPC, 2026

Figure 4 compares modeled precursor NO_x $PM_{2.5}$ emissions for each analysis year for the Pennsylvania subregion relative to the emissions budgets. The current precursor NO_x $PM_{2.5}$ emissions in the Pennsylvania subregion are estimated at 3,007 tons per year and are projected to decline to 1,604 tons per year by 2050. This is well below the SIP budget of 25,361 tons per year.

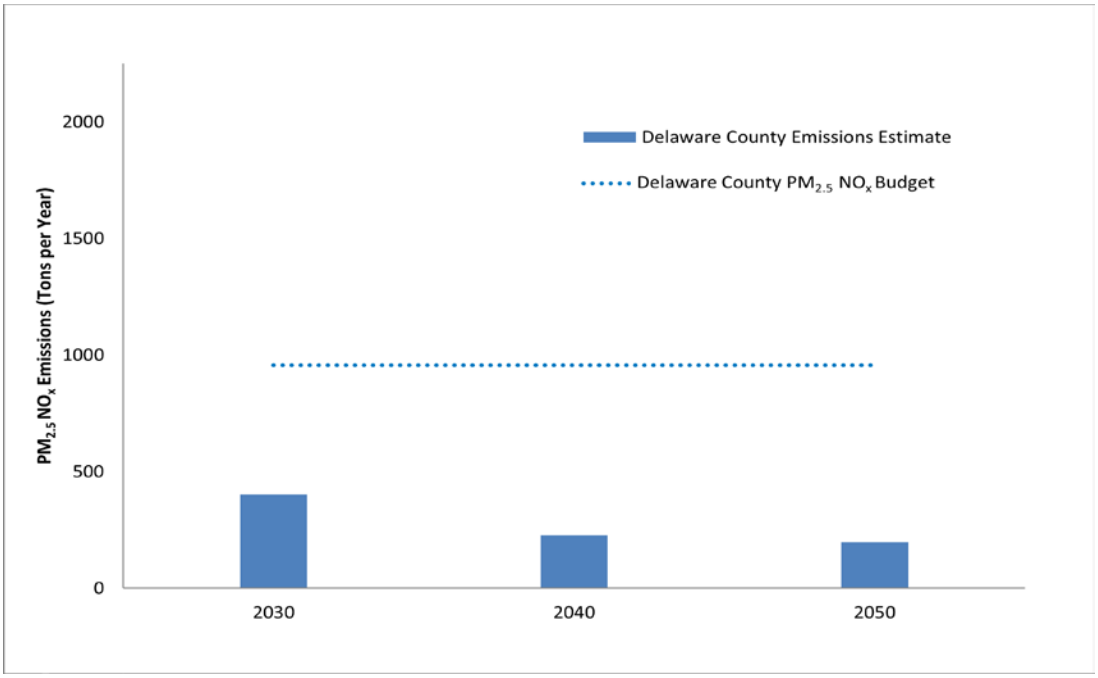
Figure 5: Delaware County Annual Direct $PM_{2.5}$ Emissions Analysis Results (Tons/Year) for Delaware County, Pennsylvania



The most recent MVEBs apply to all future analysis years.
Source: DVRPC, 2026

Figure 5 compares modeled direct PM2.5 emissions for each analysis year for Delaware County relative to the emissions budgets. Direct $PM_{2.5}$ emissions in the Delaware County, Pennsylvania subregion are estimated at 31 tons per year in 2030 and are projected to decline to 20 tons per year by 2050. This is well below the SIP budget of 79 tons per year.

Figure 6: Delaware County Annual NO_x Precursor Emissions Analysis Results (Tons/Year) for Delaware County, Pennsylvania



The most recent MVEBs apply to all future analysis years.

Source: DVRPC, 2026

Figure 6 compares modeled NOx precursor emissions for each analysis year for Delaware County relative to the emissions budgets. Precursor NO_x $PM_{2.5}$ emissions in the Pennsylvania subregion are estimated at 402 tons per year in 2030 and are projected to decline to 198 tons per year by 2050. This is well below the SIP budget of 2,016 tons per year.

These findings demonstrate transportation conformity of the DVRPC *Update: Connections 2050 Plan for Greater Philadelphia*, FFY2026 New Jersey TIP, and Draft FFY 2027 Pennsylvania TIP with the state SIPs and the Final Rule requirements under CAA, including:

- the 1997, 2008, and 2015 Eight-Hour Ozone NAAQS in the Philadelphia–Wilmington–Atlantic City, PA–NJ–MD–DE Ozone Nonattainment Area;
- the 2006 24-Hour $PM_{2.5}$ NAAQS in the Philadelphia–Wilmington, PA–NJ–DE $PM_{2.5}$ Maintenance Area;
- the 2006 24-Hour $PM_{2.5}$ NAAQS in the New York–Northern New Jersey–Long Island, NY–NJ–CT Annual and 24-Hour $PM_{2.5}$ Maintenance Area, and
- the 2012 Annual $PM_{2.5}$ Delaware County, PA Maintenance Area.

DRAFT Transportation Conformity Demonstration

Update: *Connections 2050* Long-Range Plan, FFY 2026 New Jersey TIP , and Draft FFY 2027 Pennsylvania TIP, and Draft

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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:

Air Quality, *Update: Connections 2050 Plan for Greater Philadelphia*, Multijurisdictional Nonattainment Area, National Ambient Air Quality Standards, Nonattainment Area, NO_x, Ozone, State Implementation Plan (SIP), Transportation Conformity, Transportation Improvement Program (TIP), Volatile Organic Compounds (VOCs).

Abstract:

The Delaware Valley Regional Planning Commission (DVRPC) demonstrates transportation conformity of amendments to *Update: **Connections 2050 Plan for Greater Philadelphia***, FFY2026 New Jersey TIP, and Draft FFY 2027 Pennsylvania TIP. A transportation conformity demonstration is required at least once every four years or when a metropolitan planning organization: (1) adopts a new Plan or TIP; or (2) amends, adds, or deletes a regionally significant, nonexempt project in a Plan or TIP. This conformity finding of the DVRPC Plan and TIP shows that they meet the National Ambient Air Quality Standards requirements governing ozone and fine particulate matter. This conformity finding reflects all amendments to the Plan and TIPs through April 2026.

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Vision

A Greater Philadelphia region that provides:

- A safe, modern, multimodal **transportation** network for all
- An innovative and connected **economy** with opportunity and shared prosperity
- Healthy, walkable, and vibrant **communities**
- A preserved and restored natural **environment** with thriving ecological systems
- Clean, reliable, and affordable **infrastructure and utility services** resilient to the effects of extreme weather

Mission

As the Metropolitan Planning Organization (MPO) for Greater Philadelphia, the Delaware Valley Regional Planning Commission (DVRPC) builds consensus for a shared regional vision; enables data-based, community-centered solutions; and helps put plans into action.

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