



APPENDIX G

EXECUTIVE SUMMARY OF THE
DOCUMENTATION OF THE CONFORMITY
FINDING

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). The transportation conformity process is required in areas that have been designated by the US Environmental Protection Agency (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 Clean Air Act (CAA) section 175(a) maintenance plan. The transportation conformity requirements are still applicable for up to 20 years after a nonattainment area is redesignated 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 in a Plan or TIP. This conformity demonstration is required due to the new Fiscal Year (FY) 2017 TIP for Pennsylvania and the addition of a regionally significant and nonexempt project being amended to the *Connections 2040* Long-Range Plan in the Pennsylvania portion of the region.

The Delaware Valley Regional Planning Commission (DVRPC) region includes a complex combination of nonattainment and maintenance areas for three of the NAAQS (ozone, fine particulate matter [PM_{2.5}], and carbon monoxide [CO]). The region's ozone nonattainment area encompasses the entire nine-county DVRPC region, while the PM_{2.5} and CO 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 transportation conformity demonstration shows that the *Connections 2040* Long-Range Plan and FY 2017 TIP for Pennsylvania are following, or "conforming to," the Pennsylvania State Implementation Plans (SIPs) to meet the NAAQS.

This Executive Summary highlights DVRPC's conformity demonstration for:

- **Volatile organic compounds (VOCs) and nitrogen oxides (NO_x) meeting the 2008 Eight-Hour Ozone NAAQS requirements in:**
 - the Pennsylvania portion of the Philadelphia–Wilmington–Atlantic City Ozone Nonattainment Area
- **Direct PM_{2.5} and Precursor NO_x meeting the 1997 Annual and 2006 24-Hour PM_{2.5} NAAQS requirements in:**
 - the Pennsylvania portion of the Philadelphia–Wilmington, Pennsylvania–New Jersey–Delaware (PA–NJ–DE) Annual PM_{2.5} Maintenance Area
 - the Pennsylvania portion of the Philadelphia–Wilmington, PA–NJ–DE 24-Hour PM_{2.5} Maintenance Area
- **Direct PM_{2.5} and precursor NO_x meeting the 2012 Annual PM_{2.5} NAAQS requirements in:**
 - the Delaware County, Pennsylvania Annual PM_{2.5} Nonattainment Area

- **CO meeting the 1971 CO NAAQS requirements in:**
 - the Philadelphia–Camden CO Maintenance Area.

This summary serves as an inclusive document that demonstrates the transportation conformity of the DVRPC Plan and TIP 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). These projects are determined to have minimal or no impact on regional air quality.

Regional Emissions Analysis

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

For an area with an approved 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 multistate MPO such as DVRPC, conformity applies separately to individual state portions of its planning area under respective SIPs. Since there are no scheduled changes to the New Jersey TIP or Plan projects, DVRPC is only required to update conformity for the Pennsylvania portion of the region.

Beginning in October 2016, MPOs and state DOTs are required by the US EPA to use the Motor Vehicle Emissions Simulator 2014 (MOVES 2014) emissions model to demonstrate transportation conformity. MOVES 2014 replaces MOVES 2010 as the official emissions analysis model for conformity determinations. The MOVES family of models estimates on-road mobile emissions based on an operational mode that accounts for different driving patterns and emissions profiles from various vehicle types. MOVES 2014 includes a number of improvements from MOVES 2010, including the Tier III fuel standards, updates to vehicle emissions and fuel standards, new data on fleets, and vehicle activity emissions.

Conformity Test

The DVRPC region has EPA approved SIP budgets for the 1997 Eight-Hour Ozone Standard in Pennsylvania (76 FR 6559). DVRPC will utilize the 1997 Eight-Hour Ozone MVEBs to demonstrate conformity to the 2008 Eight-Hour Ozone Standard as required by the Final Rule.

The region also has approved SIP budgets for the 1997 Annual and 2006 24-Hour PM_{2.5} standards in Pennsylvania (78 FR 19991). In Pennsylvania, the Transportation Conformity Interagency Consultation Group (TCICG) has determined that since the Pennsylvania PM_{2.5} SIP budgets were developed with individual county emissions inventories, the MVEB portion of the SIP budgets for the 1997 and 2007 PM_{2.5} Standards attributed to Delaware County could serve as a SIP budget for the 2012 Annual PM_{2.5} standard conformity demonstration.

The region is a limited maintenance area for CO and no emissions analysis is required.

Analysis Years

For this conformity demonstration, the mobile source emissions analysis years are identified in Table 1.

Table 1: Mobile Source Analysis Years

Year	Ozone	PM _{2.5}	Note
2017	√	√	PM _{2.5} SIP budget year in PA
2020	√	√	2012 PM _{2.5} Std. attainment date and near-term year
2025	√	√	PA PM _{2.5} SIP budget year
2035	√	√	Year within 10 years of previous analysis
2040	√	√	DVRPC Plan horizon year

Source: Delaware Valley Regional Planning Commission, 2016.

For this conformity demonstration, the mobile source ozone emissions analysis years for VOCs and NO_x in the Philadelphia–Wilmington–Atlantic City Ozone Nonattainment Area are 2017, 2020, 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 NO_x, 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 SIP MVEBs for VOCs and NO_x established for the year 2008.

In the Philadelphia–Wilmington, PA–NJ–DE PM_{2.5} Maintenance Area and the Delaware County PM_{2.5} Nonattainment Area, the analysis years are 2017 (a SIP budget year), 2020 (the attainment date for the 2012 PM_{2.5} standard for Delaware County and near-term year), 2025 (a SIP budget year), 2035 (an 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 each analysis year must not exceed the 2017 MVEBs (for analysis years before 2025) and 2025 MVEBs (for analysis years 2025 and later) in the Pennsylvania portion of the Philadelphia–Wilmington, PA–NJ–DE PM_{2.5} Maintenance Area and Delaware County in the Delaware County PM_{2.5} Nonattainment Area.

Findings

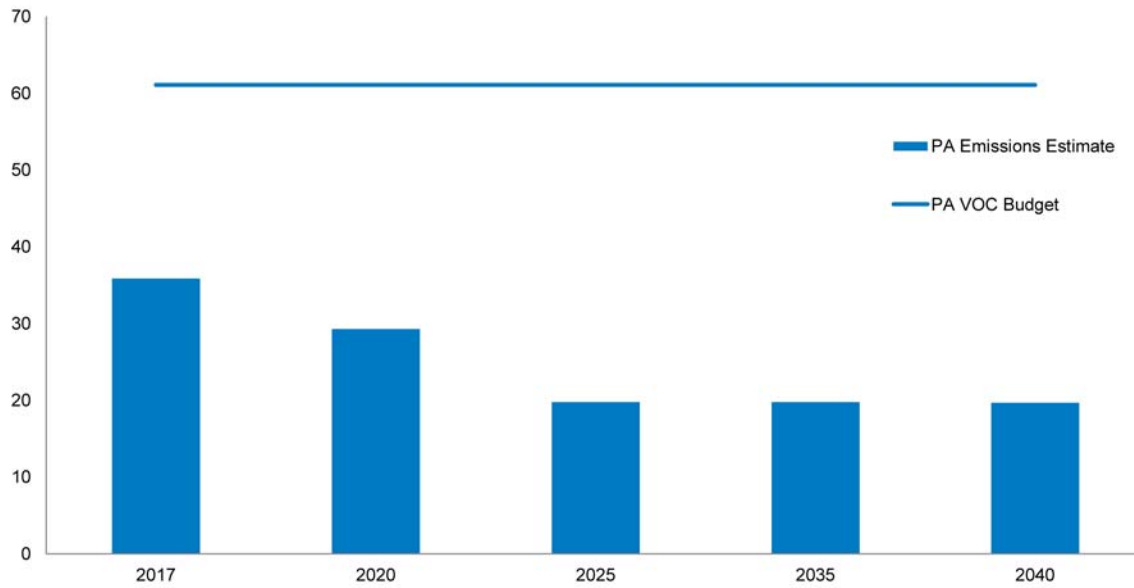
The DVRPC Plan and the TIPs are found to be in conformity with the current Pennsylvania SIP under the CAA. The forecasted emissions levels of VOCs, NO_x, and PM_{2.5} do not exceed the respective budgets established by the Pennsylvania Department of Environmental Protection (DEP) in accordance with the 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) [40 CFR 93.113]; and
- that the Plan and the TIP are consistent with the MVEBs in the applicable implementation plans [40 CFR 93.118].

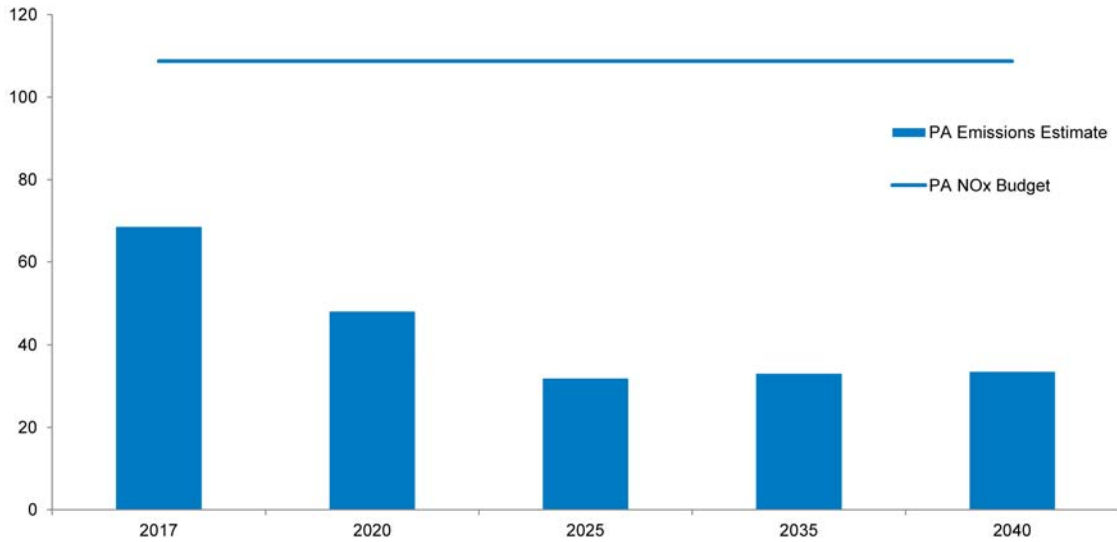
Figures 1 through 6 detail the emissions analysis results for transportation projects included in the Plan and TIP for Pennsylvania. The data for these figures is detailed in Tables 10 through 14, found on pages 30 through 32. These estimates of emissions results confirm that the transportation projects in the Plan and TIP conform to the relevant SIP and Final Rule conformity requirements.

Figure 1: VOCs Emissions Analysis Results (Tons/July Day)



Source: Delaware Valley Regional Planning Commission, 2016.

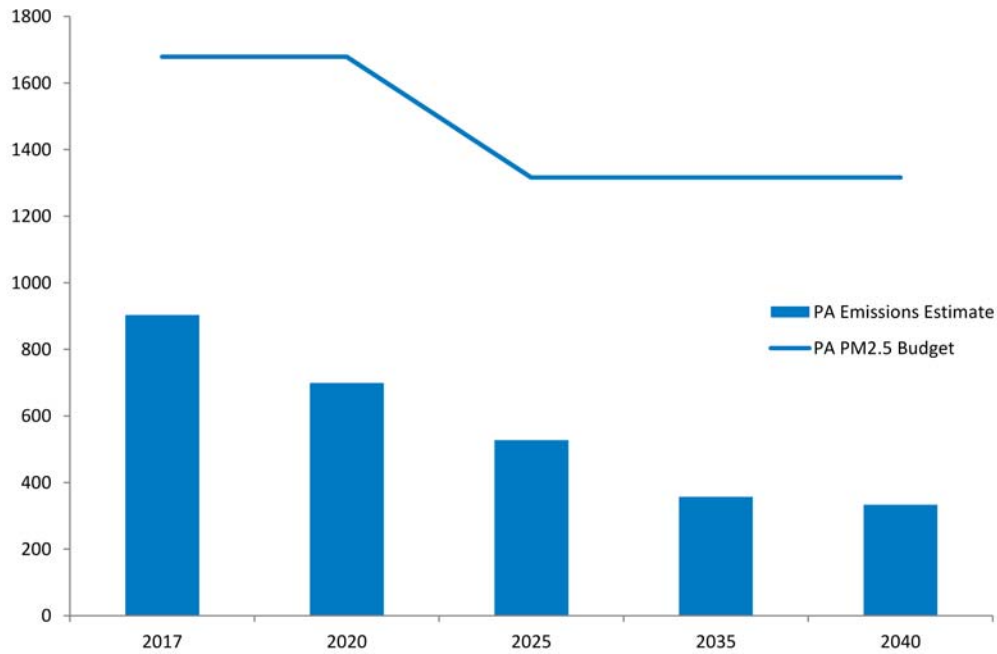
Figure 2: NO_x Emissions Analysis Results (Tons/July Day)



Source: Delaware Valley Regional Planning Commission, 2016.

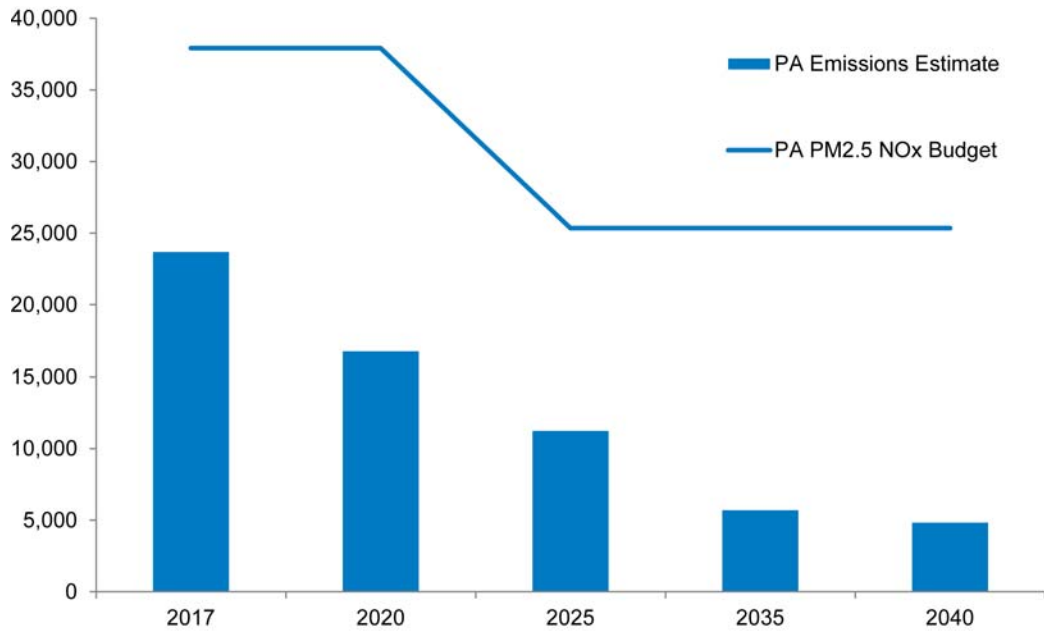
Note: The most recent Eight-Hour Ozone SIP MVEBs (2008) will apply to all future analysis years.

Figure 3: Annual and 24-Hour Direct PM_{2.5} Emissions Analysis Results (Tons/Year)



Source: Delaware Valley Regional Planning Commission, 2016.

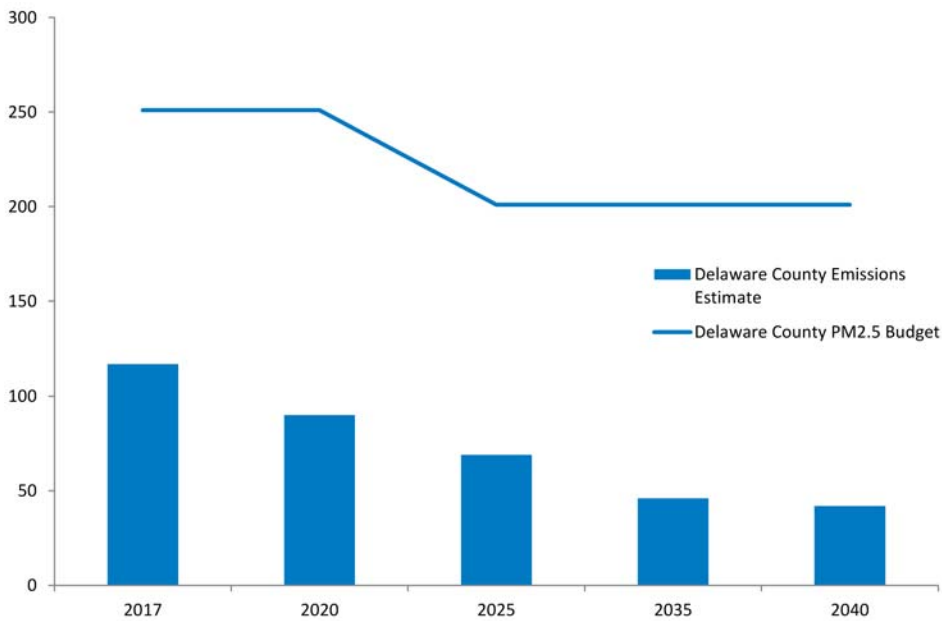
Figure 4: Annual and 24-Hour NO_x Precursor Emissions Analysis Results (Tons/Year)



Source: Delaware Valley Regional Planning Commission, 2016.

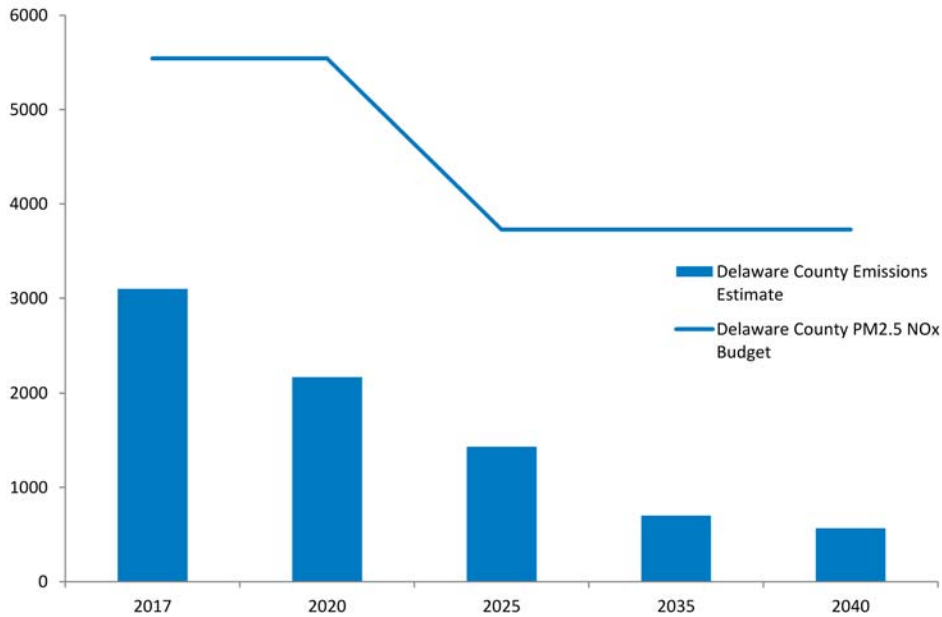
Note: † Associated MVEBs apply to all future analysis years.

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



Source: Delaware Valley Regional Planning Commission, 2016.

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



Source: Delaware Valley Regional Planning Commission, 2016.

Note:

- Associated MVEBs apply to all future analysis years.
- Results are only for Delaware County, which is the nonattainment area for the 2012 PM_{2.5} Annual Standard.

These findings demonstrate transportation conformity of the DVRPC *Connections 2040* Long-Range Plan and FY 2017 TIP for Pennsylvania with the corresponding state SIP and the Final Rule requirements under the CAA, including:

- the 2008 Eight-Hour Ozone NAAQS in the Philadelphia–Wilmington–Atlantic City Ozone Nonattainment Area;
- the 1997 Annual and 2006 24-Hour PM_{2.5} NAAQS in the Philadelphia–Wilmington, PA–NJ–DE PM_{2.5} Maintenance Area;
- the 2012 Annual PM_{2.5} Delaware County Nonattainment Area; and
- the 1971 CO NAAQS in the Philadelphia–Camden CO Maintenance Area.