

# Executive Summary

## Overview

This summary documents the demonstration of the transportation conformity of DVRPC's *Connections – The Regional Plan for a Sustainable Future* (Plan) and the FY 2009-2012 Pennsylvania and FY 2010-2013 New Jersey Transportation Improvement Programs (TIPs) with the respective State Air Quality Implementation Plans (SIPs) and applicable National Ambient Air Quality Standards (NAAQS) requirements under the Clean Air Act (CAA). This conformity determination was conducted under the guidance of the Transportation Conformity Interagency Consultation Group (TCICG). The TCICG is comprised of representatives of local, state, and federal transportation, environmental, and planning agencies, who review the planning assumptions, model parameters, and project analyses, and oversee the conformity process to insure that the various stakeholders and regulatory agencies are communicating throughout the conformity determination.

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

### **Volatile Organic Compounds (VOCs) meeting the eight-hour ozone NAAQS requirements in:**

- ❖ the DVRPC portion of the Philadelphia-Wilmington-Atlantic City Ozone Nonattainment Area;

### **Nitrogen Oxides (NOx) meeting the eight-hour ozone NAAQS requirements in:**

- ❖ the DVRPC portion of the Philadelphia-Wilmington-Atlantic City Ozone Nonattainment Area;

### **Carbon Monoxide (CO) meeting the CO NAAQS requirements in:**

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

### **Direct Fine Particulate Matter (PM<sub>2.5</sub>) meeting the PM<sub>2.5</sub> NAAQS requirements in:**

- ❖ the DVRPC portion of the Philadelphia-Wilmington, PA-NJ-DE PM<sub>2.5</sub> Nonattainment Area; and
- ❖ the DVRPC portion of the New York-Northern New Jersey-Long Island, NY-NJ-CT PM<sub>2.5</sub> Nonattainment Area.

### Precursor NOx meeting the PM<sub>2.5</sub> NAAQS requirements in:

- ❖ the DVRPC portion of the Philadelphia-Wilmington, PA-NJ-DE PM<sub>2.5</sub> Nonattainment Area; and
- ❖ the DVRPC portion of the New York-Northern New Jersey-Long Island, NY-NJ-CT PM<sub>2.5</sub> Nonattainment Area.

This summary serves as an inclusive document that demonstrates the transportation conformity of the DVRPC TIPs and Long-Range Plan 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](http://www.dvrpc.org).

## Analysis Approach

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

*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 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.

*NOT REGIONALLY SIGNIFICANT PROJECT*: a highway or transit project on a facility that does not serve regional needs or is not normally included in the regional emissions 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 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 the 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 multistate metropolitan planning organization (MPO) such as DVRPC, conformity applies separately to individual state portions of its planning area under respective SIPs.

In the absence of an implemented SIP, areas must perform what is known as the “interim” emissions test. The Final Rule dictates that only certain interim test types and methodologies are allowed in a given nonattainment area, that they must be applied uniformly throughout the area, and that the US DOT determination on transportation conformity must be made on the entire nonattainment area. The Final Rule further requires that all affected MPOs in the nonattainment area must work together to demonstrate conformity jointly until respective SIPs are implemented.

For this conformity demonstration, the mobile source ozone emissions analysis years for VOCs and NO<sub>x</sub> are 2010 (eight-hour ozone standard attainment year and near-term year within five years of TIP adoption), 2020 (the interim year selected to keep all analysis years no more than 10 years apart), 2030 (the interim year selected to keep all analysis years no more than 10 years apart), and 2035 (the horizon year of the DVRPC Plan). VOCs and NO<sub>x</sub>, which are heat-sensitive ozone precursors, are estimated for a July day. For these analysis years, ozone emissions analyses are performed. To demonstrate conformity, projected ozone emissions in all analysis years must not exceed the established MVEBs in prior years.

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.

In both the Philadelphia-Wilmington, PA-NJ-DE PM<sub>2.5</sub> Nonattainment Area and the New York-Northern New Jersey-Long Island, NY-NJ-CT PM<sub>2.5</sub> Nonattainment Area, the analysis years are 2010, 2020, 2030, and 2035. One of the requirements of the interim test is that all of the MPOs in the nonattainment area must use the same analysis years to demonstrate conformity. And since the horizon year of the Plans must also be analyzed, both WILMAPCO and DVRPC's Plan horizon years must be analyzed. To demonstrate conformity, projected PM<sub>2.5</sub> emissions in all analysis years must not exceed 1) the 2002 baseline emissions results in the Philadelphia-Wilmington, PA-NJ-DE PM<sub>2.5</sub> Nonattainment Area; and 2) the 2009 budgeted emissions in the New York-Northern New Jersey-Long Island, NY-NJ-CT PM<sub>2.5</sub> Nonattainment Area.

## Findings

The DVRPC TIPs and the Plan are found to be in conformity with the current Pennsylvania and New Jersey SIPs under the CAA. The forecasted emissions levels of VOCs, NO<sub>x</sub>, and PM<sub>2.5</sub> do not exceed the respective budgets and baseline 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 TCMs [40 CFR 93.113]; and

☞ that the Plan and the TIPs are consistent with the motor vehicle emissions budgets in the applicable implementation plans [40 CFR 93.118].

Tables E-1 through E-3 detail the emissions analysis results for transportation projects included in the Plan and TIPs for Pennsylvania and New Jersey. These emissions estimate results confirm that the transportation projects in the TIPs and Plan conform to the respective SIP and Final Rule conformity requirements.

**Table E-1. VOCs Emission Analysis Results (Tons/July Day) †**

		2008 SIP MVEB †	2009 SIP MVEB †	2010	2020	2030	2035
PA	Emissions from MOBILE 6.2	-	-	49.37	23.49	21.65	20.59
	Adjustments from Off-Network Calculation ‡	-	-	0.00	-0.01	-0.01	-0.01
	Estimated Total Emissions	61.09	-	49.37	23.48	21.64	20.58
NJ	Emissions from MOBILE 6.2	-	-	22.90	12.57	11.97	12.04
	Adjustments from Off-Network Calculation ‡	-	-	0.00	0.00	0.00	0.00
	Estimated Total Emissions	-	25.98	22.90	12.57	11.97	12.04

Source: DVRPC, 2009

Note: † The most recent (2008 or 2009) eight-hour ozone SIP MVEBs will apply to all future analysis years. All emissions are rounded off to the nearest hundredth.

‡ Emissions adjustments calculated using off-network methodology could become zero when rounded off.

**Table E-2. NO<sub>x</sub> Emission Analysis Results (Tons/July Day) †**

		2008 SIP MVEB <sup>†</sup>	2009 SIP MVEB <sup>†</sup>	2010	2020	2030	2035
PA	Emissions from MOBILE 6.2	-	-	80.07	25.38	15.71	14.37
	Adjustments from Off-Network Calculation <sup>‡</sup>	-	-	-0.63	-1.00	-0.47	-0.40
	Estimated Total Emissions	108.78	-	79.44	24.38	14.34	13.97
NJ	Emissions from MOBILE 6.2	-	-	53.89	14.58	9.45	9.20
	Adjustments from Off-Network Calculation <sup>‡</sup>	-	-	0.00	0.00	0.00	0.00
	Estimated Total Emissions	-	63.66	53.89	14.85	9.45	9.20

Source: DVRPC, 2009

Note: † The most recent (2008 or 2009) eight-hour ozone SIP MVEBs will apply to all future analysis years. All emissions are rounded off to the nearest hundredth.  
 ‡ Emissions adjustments calculated using off-network methodology could become zero when rounded off.

**Table E-3. Direct PM<sub>2.5</sub> and NO<sub>x</sub> Emission Analysis Results (Tons/Year) †**

		2002	2009	2010	2020	2030	2035
		Baseline	SIP MVEB <sup>»</sup>	Estimated Emissions	Estimated Emissions	Estimated Emissions	Estimated Emissions
Direct PM <sub>2.5</sub>	DVRPC – PA <sup>*</sup>	998.2	-	602.66	414.0	415.5	412.7
	DVRPC - NJ; except Mercer <sup>‡</sup>	486.7	-	326.0	188.5	182.6	182.8
	WILMAPCO - DE <sup>§*</sup>	208.6	-	127.6	95.4	99.6	99.2
	Mercer County, NJ <sup>»</sup>	-	108	93	57	56	57
PM <sub>2.5</sub> Precursor (NO <sub>x</sub> )	DVRPC – PA <sup>*</sup>	59,346.0	-	28,825.1	8,889.9	5,514.8	5,287.7
	DVRPC - NJ; except Mercer <sup>‡</sup>	30,499.9	-	14,587.6	3,978.9	2,615.6	2,565.1
	WILMAPCO - DE <sup>§*</sup>	11,799.1	-	6,559.8	2,021.2	1,481.9	1,444.5
	Mercer County, NJ <sup>»</sup>	-	5,056	4,554	1,246	816	802

Source: DVRPC, 2009; WILMAPCO, 2009

Note: † Associated 2002 Baseline or 2009 MVEBs apply to all future analysis years. All emissions are rounded off to the nearest tenth except for those in Mercer. See note on » below.  
 \* Off-model adjustments have been made to PA county results.  
 ‡ Results are for Burlington, Camden and Gloucester Counties only, which are the New Jersey portion of the Philadelphia-Wilmington, PA-NJ-DE PM<sub>2.5</sub> Nonattainment Area.  
 § Results are for New Castle County in Delaware only, and are provided by WILMAPCO. It is the Delaware portion of the Philadelphia-Wilmington, PA-NJ-DE PM<sub>2.5</sub> Nonattainment Area.  
 ♦ The New Castle County figures have been revised from those released during the public comment period. This change is due to the incorporation of the most recent fleet registration data into the emissions model.  
 » NJ SIP MVEBs and the emissions results are for Mercer County only, which is the DVRPC portion of the New York-Northern New Jersey-Long Island, NY-NJ-CT PM<sub>2.5</sub> Nonattainment Area. Emissions results are rounded off to the nearest integer in accordance with the SIP.

**These findings demonstrate transportation conformity of:**

- ☞ the DVRPC *Connections* Long-Range Plan;
- ☞ the FY 2009 Pennsylvania TIP; and
- ☞ the FY 2010 New Jersey TIP.

**with the corresponding state SIPs and the Final Rule requirements under CAA, including:**

- ☞ the eight-hour ozone NAAQS in the Philadelphia-Wilmington-Atlantic City Ozone Nonattainment Area;
- ☞ 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;
- ☞ the PM<sub>2.5</sub> NAAQS in the Philadelphia-Wilmington, PA-NJ-DE PM<sub>2.5</sub> Nonattainment Area; and
- ☞ the PM<sub>2.5</sub> NAAQS in the DVRPC portion of the New York-Northern New Jersey-Long Island, NY-NJ-CT PM<sub>2.5</sub> Nonattainment Area.