



PERFORMANCE PLAN

CONGESTION MITIGATION AND AIR QUALITY (CMAQ)

Wilmington Area Planning Council (WILMAPCO)
Philadelphia, PA—NJ—DE—MD

September 25, 2018





Introduction

Both the Moving Ahead for Progress in the 21st Century (MAP-21) and the Fixing America's Surface Transportation (FAST) Acts called for a more performance-based approach to transportation planning. Under this federal legislation, States, Metropolitan Planning Organizations (MPOs), and public transportation providers must link investment priorities to certain performance-based measures and targets. These measures and targets lie in the following areas:

- Highway safety and assets
- System performance
- Transit safety and transit asset management

As the MPO for the Wilmington, Delaware region (which includes New Castle County, Delaware and Cecil County, Maryland) the Wilmington Area Planning Council (WILMAPCO) has a long history of incorporating performance measurement into the planning process. The Regional Progress Report, produced every two years, tracks the performance of and informs the update to policy in the Regional Transportation Plan, our long-range Plan. Looking beyond surface trends, the Progress Report uses deep indicators that assess why certain policy actions are on course while others may not be. With mature, performance-based planning already in place, WILMAPCO is in a strong position to incorporate new federally-required performance measures and targets.

This report specifically addresses federal requirements to incorporate performance measurement into Congestion Mitigation and Air Quality (CMAQ) planning and programming. It establishes baseline conditions/performance and two and four-year targets for both traffic congestion and on-road mobile source emission measures. The table on the following page identifies specific measures and data used. Going further, it then provides a description of future projects which may be funded by CMAQ monies and notes how they will help to achieve the identified targets.



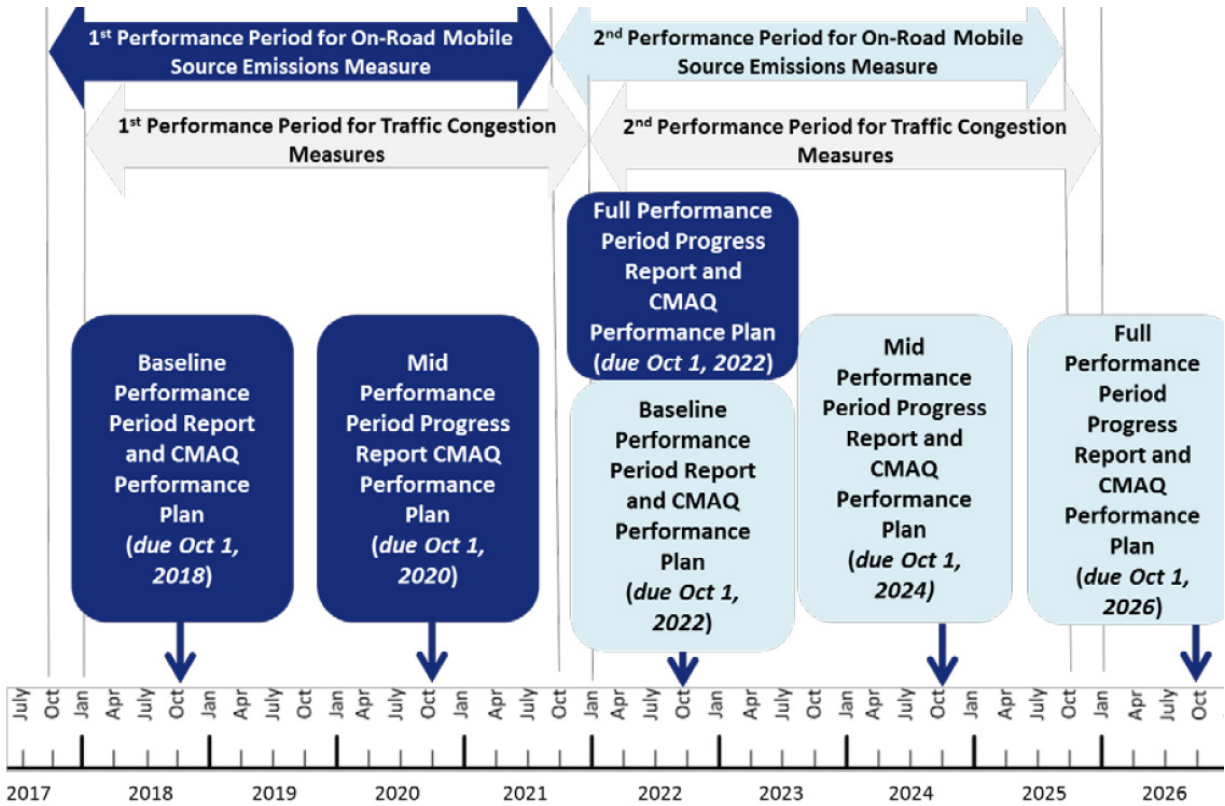
DATA PRESENTED IN THIS REPORT

CMAQ Program	Performance Measure	Data
Traffic Congestion	Peak Hour Excessive Delay	Annual hours of peak hour excessive delay per capita
Traffic Congestion	Mode Share	Percent of non-Single Occupancy Vehicle work trips
Mobile Source Emissions	CMAQ funded project emissions	NOx, VOC and PM2.5 reductions from CMAQ projects

As part of federal rulemaking, both the Delaware and Maryland Departments of Transportation (DeIDOT and MDOT) had to establish performance measures and targets ahead of MPOs. MPOs have the choice to either adopt the state measures and targets or come up with their own. With our strong coordination between WILMAPCO and both DeIDOT and MDOT, along with other regional partners, WILMAPCO has chosen to adopt all but one of the previously-submitted state targets. The exception is MDOT's 2 and 4-year targets for CMAQ emissions reductions. In this case, WILMAPCO presents its own targets.

This plan will be the first in a series of CMAQ Performance Plans WILMAPCO will submit through the next decade. The graphic on the following page, from the Federal Highway Administration, details the performance plans and progress reports and their deadlines.

PERFORMANCE PERIODS FOR CMAQ MEASURES AND REPORTING TIMELINE

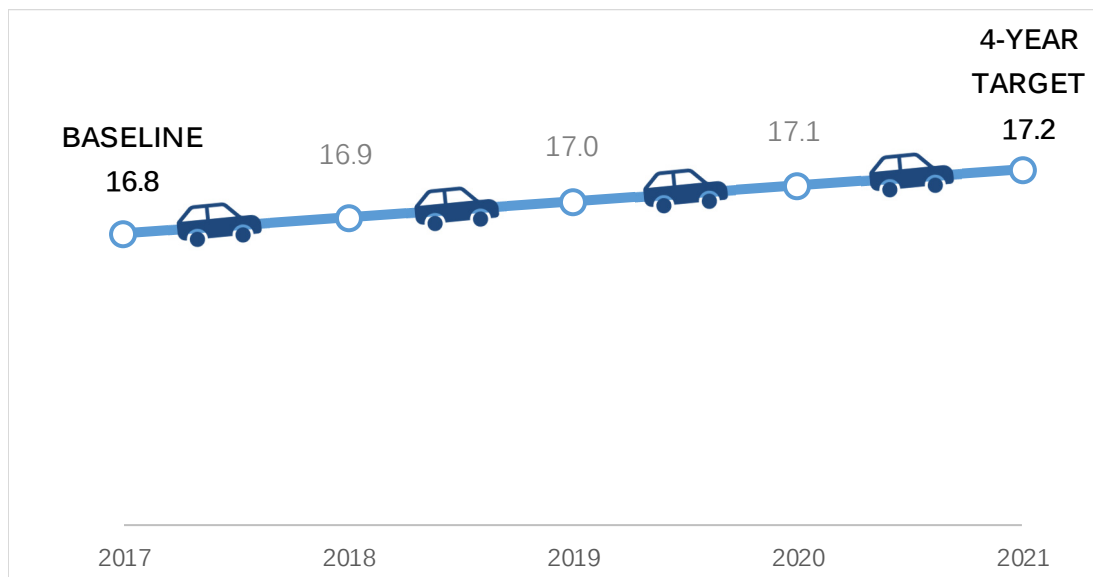


Source: "Congestion Mitigation and Air quality Improvement Program: A Guidebook for Preparing Performance Plans for Metropolitan Planning Organizations." FHWA.

Peak Hour Excessive Delay

The graph below displays both baseline conditions and a 4-year target for Peak Hour Excessive Delay (PHED) in the WILMAPCO region (both New Castle County, and Cecil County Maryland). PHED is the extra amount of time spent in congested traffic. A joint PHED baseline and target for the Philadelphia metropolitan region were set through a multiagency coordination process that occurred among relevant state DOTs and MPOs in Pennsylvania, New Jersey, Delaware, and Maryland. As shown in the graph, peak-hour congestion is expected to worsen on regional highways over the near term.

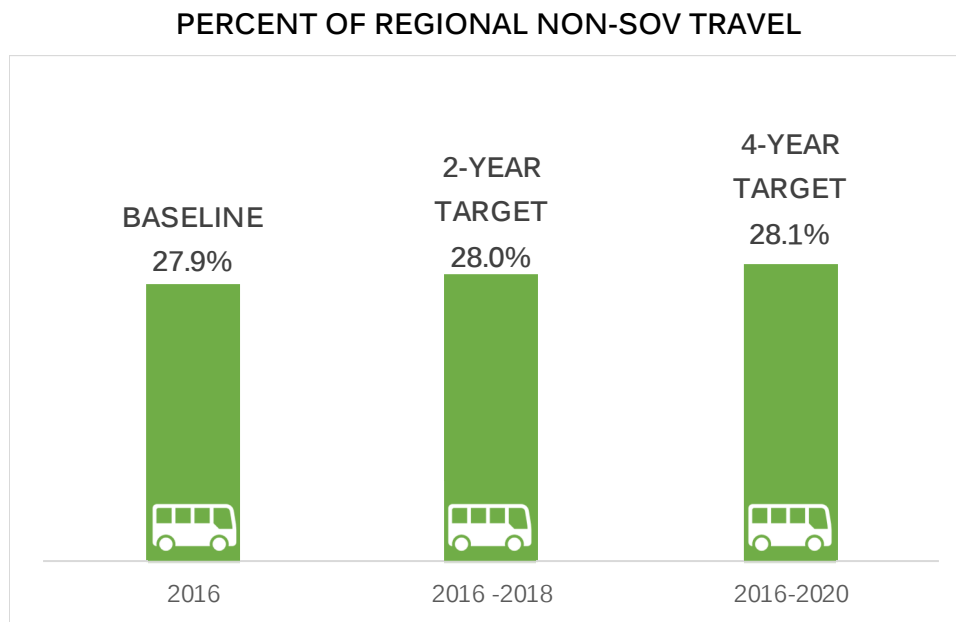
PEAK HOUR EXCESSIVE DELAY: HOURS OF REGIONAL DELAY PER CAPITA



Source: "Performance Management 3." Delaware DOT Division of Planning. May 20, 2018.

Percent Non-SOV Travel

The graph below displays both baseline conditions and 2 and 4-year targets for the percentage of non-Single Occupancy Vehicle (non-SOV) trips in the WILMAPCO region. These data, from the American Community Survey, are based on how people report commuting to work. Non-SOV trips include: carpooling, public transit, walking, and bicycling. Joint non-SOV baseline and targets for the Philadelphia metropolitan region were set through a multiagency coordination process that occurred among relevant state DOTs and MPOs in Pennsylvania, New Jersey, Delaware, and Maryland. As shown in the graph, we expect non-SOV travel to slightly increase through 2020 data.



Source: "Performance Management 3" Delaware DOT Division of Planning. May 20, 2018.



On-Road Mobile Source Emissions

The figures below display both baseline conditions and 2 and 4-year targets for on-road mobile source emissions stemming from CMAQ projects. Data here are broken up between Cecil County and New Castle County and are presented for NOx, VOCs, and PM2.5. We do not present PM2.5 data for Cecil County based on guidance from the FHWA.

In Cecil County, we adopt MDOT's baseline measure¹ but elect to set our own 2 and 4-year emissions targets. The baseline figure is based on summed emissions reductions from Cecil County's CMAQ projects from 2014 through 2017 placed in the FHWA CMAQ Public Access System database. MDOT's targets are based on these previously-funded CMAQ projects, several roundabouts.

WILMAPCO proposes targets based on ten cost-beneficial bicycle and pedestrian projects listed in various Cecil County and municipal priority letters. Using the Atlanta Regional Commission's CMAQ calculator, WILMAPCO determined the median emissions benefits for these projects for the years 2018 and 2020. We extrapolated benefits for the year 2022, based on those figures. The 2020 results became the 2-year target. The sum of the 2020 results and the 2022 results became the 4-year target.²

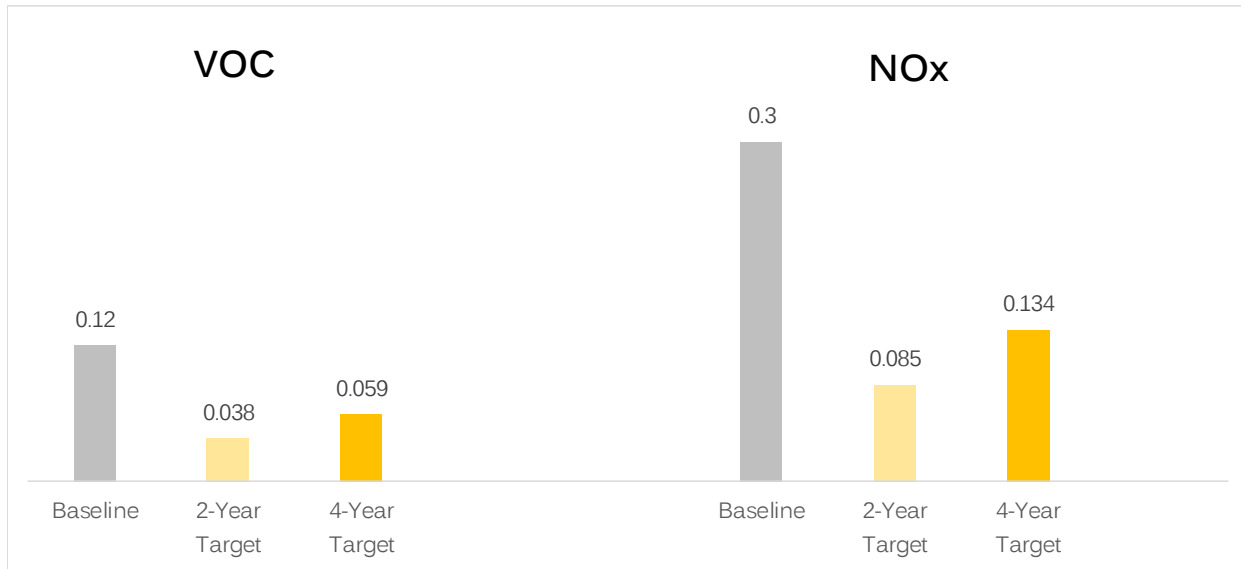
¹ Baseline source: MDOT's "CMAQ On-Road Mobile Source Emissions" presentation to the WILMAPCO Air Quality Subcommittee. http://www.wilmapco.org/Aq/files/2018/other/WILMAPCO_CMAQBriefing_041018.pdf


² More information: WILMAPCO's "Cecil County On-Road CMAQ On-Road Mobile Source Emissions" presentation to the WILMAPCO Air Quality Subcommittee. http://www.wilmapco.org/Aq/files/2018/other/CMAQ_CecilCo_8.30.18.pdf

**CMAQ ON-ROAD MOBILE SOURCE EMISSION REDUCTIONS
IN CECIL COUNTY, MD (KG/DAY)**

	Baseline	2-Year Target	4-Year Target
VOC	0.12	0.038	0.059
NOx	0.30	0.085	0.134

**CMAQ ON-ROAD MOBILE SOURCE EMISSION REDUCTIONS
IN CECIL COUNTY, MD (KG/DAY)**





In New Castle County, we adopt the emissions targets set by DelDOT for the State of Delaware. These are presented on the following page.

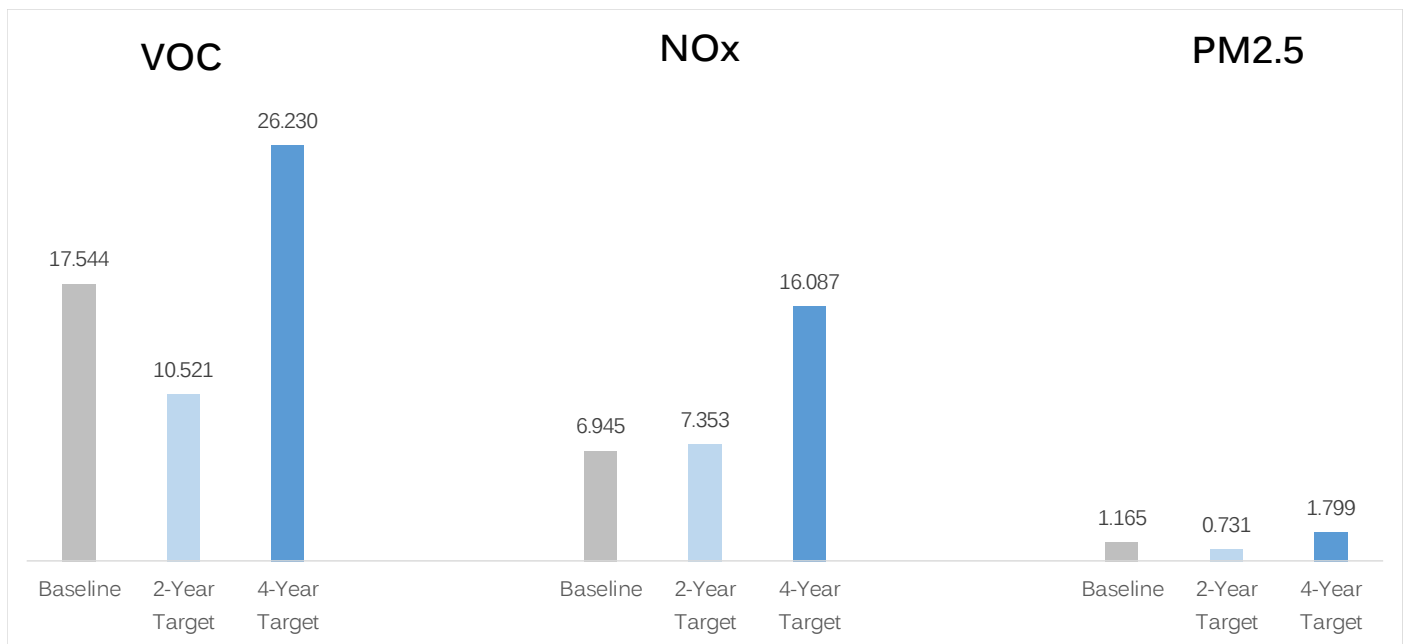
DelDOT's methodology for developing these targets for VOC and NOx emissions is described in their "Performance Management 3" submission to FHWA in May 2018. First, a listing of potential CMAQ projects through 2021 was compiled. (A listing of these can be found in the next section.) Next, projects which could, quantitatively, have their emissions reductions estimated were identified. These projects were run through a DelDOT Planning emission reduction spreadsheet tool. Estimates for emissions reductions were developed for each year, by project, between the years 2017 and 2021. The sum of emissions reductions for all projects for the years 2018 and 2019 became the 2-year target. The sum of emission reductions for all projects between the years 2018 and 2021 became the 4-year target. DelDOT also provided WILMAPCO with estimates for PM2.5 emission reductions that we include here.

WILMAPCO sets the baseline figures for VOC, NOx, and PM2.5 reductions based on the potential reductions for all Delaware statewide projects in year 2017 provided by DelDOT. Emission reduction estimates for historic CMAQ projects between the years 2014 and 2016 were not available at the time of writing.

CMAQ ON-ROAD MOBILE SOURCE EMISSION REDUCTIONS IN DELAWARE (KG/DAY)

	Baseline	2-Year Target	4-Year Target
VOC	17.544	10.521	26.230
NOx	6.945	7.353	16.087
PM2.5	1.165	0.731	1.799

CMAQ ON-ROAD MOBILE SOURCE EMISSION REDUCTIONS
IN DELAWARE (KG/DAY)



CMAQ Projects

The table on the following page lists projects that may be funded by CMAQ over the next several years. Included are the project's expected emission benefits, and benefits to reducing PHED and increasing non-SOV travel. The projects in Cecil County are unfunded projects that are priorities for local government. These are listed below.

POTENTIAL CMAQ PROJECTS IN CECIL COUNTY, MD

PROJECT	SOURCE
MD 7: East Cecil Ave. to Mechanics Valley Rd. -- Sidewalks	2017 North East Priority Letter
MD 7: North East Isles Dr. to Catherine St. -- Full Bike/Ped Enhancements	2017 North East Priority Letter
MD 7: North East Isles Dr. to Catherine St. -- Interim Bike/Ped Enhancements	2017 North East Priority Letter
US 40 Sycamore Dr. to MD 272 -- Sidewalk	2017 North East Priority Letter
US 40 at MD 272 -- Bike/Ped Improvements	2018 Cecil Co Priority Letter
MD 222: US 40 to MD 275 -- Bike/Ped Improvements	2018 Cecil Co. Priority Letter
MD 272: US 40 to I-95 -- Bike Lanes and Sidewalks	2018 Cecil Co. Priority Letter
US 40 at MD 213 -- Bike/Ped Improvements	2018 Cecil Co. Priority Letter
US 40 at MD 222 -- Bike/Ped Improvements	2018 Cecil Co. Priority Letter
MD 222: Clayton St. to St. Mark's Church Rd. -- Sidewalk	2018 Perryville Priority Letter

The projects in New Castle County, meanwhile, were identified by WILMAPCO as CMAQ-eligible and tabbed by DeIDOT, along with other projects in Delaware, for future CMAQ spending. In a coordinated process, we submit a ranked list of CMAQ-eligible projects in New Castle County in the Transportation Improvement Program to DeIDOT each year. In turn, DeIDOT works through that list to assign future CMAQ spending.

These projects reflect the current priorities for CMAQ spending. These priorities may shift, and other projects may be funded via CMAQ monies in the future. Reasons for this may include (but are not limited to): changes to a project's scope, evolving priorities for spending CMAQ monies based on a better understanding of benefits, and evolving state DOT priorities or needs.

WILMAPCO will report on the status of these CMAQ projects, as well as the progress of meeting the targets presented in this plan in October 2020.

POTENTIAL CMAQ PROJECT DESCRIPTIONS

Cecil County, MD						
PROJECT	DESCRIPTION	YEAR(S) OF CMAQ FUNDING	VOC REDUCTION (kg/day, year 2020)	NOx REDUCTION (kg/day, year 2020)	PHED BENEFIT	NON-SOV BENEFIT
Bicycle and Pedestrian Improvements (grouped)	Construction of new sidewalks, trails and pathways	2019-2022	0.038	0.085	Yes - fewer vehicle trips	Yes - improved pedestrian and bicycle network

Delaware							
PROJECT	DESCRIPTION	YEAR(S) OF CMAQ FUNDING	VOC REDUCTION (kg/day)	NOx REDUCTION (kg/day)	PM2.5 REDUCTION (kg/day)	PHED BENEFIT	NON-SOV BENEFIT
Transportation Management Improvements (grouped)	Signal timing and traffic and weather monitoring enhancements; mobile app and radio development; dynamic messaging signs.	2018 – 2021	<i>qualitative</i>			Yes - better traffic flow	No
Bicycle and Pedestrian Improvements (grouped; median of all planned projects)	Construction of new sidewalks, trails, and pathways	2018 – 2021	2.044	0.544	0.126	Yes - fewer vehicle trips	Yes - improved pedestrian and bicycle network
Elkton Road, MD Line to Casho Mill Road	Multimodal improvement of an arterial roadway. Bicycle and pedestrian elements are CMAQ-eligible.	2019 – 2021	2.044	0.544	0.133	Yes - potentially fewer vehicle trips	Yes - improved pedestrian and bicycle network
Rideshare Program/Trip Mitigation (median of four years)	Support for carpooling program.	2018 – 2021	0.650	2.450	0.065	Yes - fewer vehicle trips	Yes - fewer vehicle trips