

Reading MPO Congestion Mitigation and Air Quality (CMAQ) Performance Plan

FOUR-YEAR PROGRESS REPORT (2022 – 2025)
BASELINE REPORT (2026-2029)

READING AREA TRANSPORTATION STUDY (READING MPO),
BERKS COUNTY, PENNSYLVANIA



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READING AREA TRANSPORTATION STUDY
C/O BERKS COUNTY PLANNING COMMISSION
400 E. WYOMISSING AVE, BOX 2
MOHNTON, PA 19540
Phone: (610) 478-6300
Email: planning@berkspa.gov
Web Site: <https://www.berkspa.gov/departments/planning-commission>

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INTRODUCTION

The Congestion Mitigation and Air Quality Improvement (CMAQ) Performance Plan documents the Reading Area Transportation Study (RATS-Reading MPO)'s role in meeting federal CMAQ performance management requirements. The Reading MPO serves Berks County and is administered by the Berks County Planning Commission (BCPC). The document summarizes recent congestion and emissions performance and presents the baselines, targets, and project information required for the current CMAQ reporting cycle. The following overview provides the federal regulatory and performance management context for the Reading MPO's CMAQ reporting and target-setting responsibilities.

Regulatory Requirements

The Federal Highway Administration (FHWA) final rule for National Performance Management Measures; Assessing Performance of the National Highway System, Freight Movement on the Interstate System, and the Congestion Mitigation and Air Quality Improvement Program was published in the Federal Register (82 FR 5970) on January 18, 2017, and became effective on May 20, 2017. This final rule, referred to as the PM-3 regulation, is the third in a series of three related rulemakings that together establish a set of performance measures for State Departments of Transportation (State DOTs) and Metropolitan Planning Organizations (MPOs). These performance management requirements were established under the Moving Ahead for Progress in the 21st Century Act (MAP-21), continued under the Fixing America's Surface Transportation (FAST) Act, and continue to apply under the Infrastructure Investment and Jobs Act (IIJA), which continues the Congestion Mitigation and Air Quality Improvement (CMAQ) Program under 23 U.S.C. 149.

CMAQ PERFORMANCE MEASURES

To carry out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program, FHWA has established performance measures to assess traffic congestion and on-road mobile source emissions. The congestion measures currently apply only to National Highway System (NHS) mileage in urbanized areas with populations over 200,000. **Table 1** lists the CMAQ performance measures associated with the PM-3 regulation.

Table 1 – Performance Measures for the CMAQ Program

SUBPART & MEASURE	MEASURE DESCRIPTION
SUBPART G: TRAFFIC CONGESTION	PHED Measure: Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita
	Percent of Non-SOV Travel Measure: Percent of Non-Single Occupancy Vehicle (SOV) Travel
SUBPART H: ON-ROAD MOBILE SOURCE EMISSIONS	Total Emissions Reduction Measure: two- and four-year Total Emissions Reduction for each applicable criteria pollutant and precursor for all projects funded with CMAQ funds

CMAQ TARGET-SETTING AND PERFORMANCE PLAN REQUIREMENTS

Each State DOT and MPO that encompasses an applicable urbanized area jointly establishes targets for the CMAQ traffic congestion measures. For urbanized areas with multiple participating agencies, a

designated Lead MPO coordinates the target-setting process, facilitates interagency consultation, documents coordination activities, and assists with reporting and target submission in coordination with the State DOT. The MPO also coordinates with the State DOT in establishing statewide and MPO-level targets for the CMAQ emissions measure.

In addition to the reporting required by the PM-3 regulation, 23 United States Code (U.S.C.) 149(l) requires each MPO serving a transportation management area (TMA) with a population over 1,000,000 that includes a nonattainment or maintenance area to develop a CMAQ Performance Plan to support implementation of the CMAQ measures. MPOs subject to the CMAQ Performance Plan requirement must submit a plan at the beginning of a four-year performance period and update the plan at the midpoint and end of the performance period. In the CMAQ Performance Plan and its biennial updates, MPOs must report the two- and four-year targets, describe how they plan to meet their targets, and detail their progress toward achieving the targets over the course of the performance period. FHWA provides guidance and reporting resources to assist MPOs in preparing CMAQ Performance Plans.

PERFORMANCE PERIODS, REPORTING MILESTONES, AND PLAN SCOPE

This Reading MPO CMAQ Performance Plan addresses the applicable performance periods, reporting milestones, and plan scope for the current reporting cycle. **Table 2** shows the sequence of CMAQ performance periods to date. **Table 3** identifies the key reporting milestones for the 2026–2029 performance period, including baseline reporting, midpoint progress reporting, and full-period progress reporting.

Table 2 – CMAQ Performance Periods

PERFORMANCE PERIOD	PERIOD DESCRIPTION	APPLICABILITY NOTES
2018–2021	First performance period	Initial four-year performance period for CMAQ traffic congestion and emissions measures
2022–2025	Second performance period	Performance period covered by the 2026 Full Performance Period Progress Report
2026–2029	Third performance period	Current four-year performance period for CMAQ traffic congestion and emissions measures, which relates to the Baseline Report

Table 3 – 2026–2029 Performance Period Reporting Milestones

DATE	REPORTING MILESTONE	CMAQ PERFORMANCE PLAN RELEVANCE
OCTOBER 1, 2026	Full Performance Period Progress Report (2022–2025)	MPO CMAQ Performance Plan update submitted with the State DOT biennial performance report
OCTOBER 1, 2026	Baseline Performance Period Report (2026–2029)	Establishes baseline values and two- and four-year targets for the 2026–2029 performance period
OCTOBER 1, 2028	Mid Performance Period Progress Report (2026–2029)	Reports two-year condition/performance and progress toward targets; four-year targets may be adjusted where applicable
OCTOBER 1, 2030	Full Performance Period Progress Report (2026–2029)	Reports on four-year condition/performance and progress toward achieving targets

This plan addresses both the Full Performance Period Progress Report for the completed 2022–2025 performance period and the Baseline Performance Period Report for the 2026–2029 performance period. For the 2022–2025 report, it summarizes actual performance and assesses progress toward four-year targets for the applicable congestion and emissions measures. For the 2026–2029 report, it establishes baseline values, two-year targets, four-year targets, and planned project information expected to support future target achievement.

Applicability

MPOs serving a transportation management area with a population greater than 1 million that includes a nonattainment or maintenance area are required to prepare a CMAQ Performance Plan. This requirement applies to the Philadelphia, PA-NJ-DE-MD urbanized area. Although the Reading MPO does not serve a transportation management area with a population greater than one million, portions of Berks County are located within the Philadelphia Urbanized Area. As a result, FHWA has determined that the Reading MPO is subject to CMAQ Performance Plan requirements.

The Reading MPO refers to the metropolitan planning organization responsible for transportation planning across Berks County. The Reading urbanized area refers to the Census-defined urbanized geography used for CMAQ performance measure reporting. Throughout this report, references to the Reading MPO describe the responsible planning agency, while references to the Reading urbanized area describe the geographic area used to calculate and report applicable CMAQ performance measures.

Figure 1 illustrates the urbanized area boundaries and **Figure 2** shows the communities in Berks County that overlap with the Philadelphia urbanized area.

Figure 1 – Philadelphia Urbanized Area Boundary and Overlap with Berks County

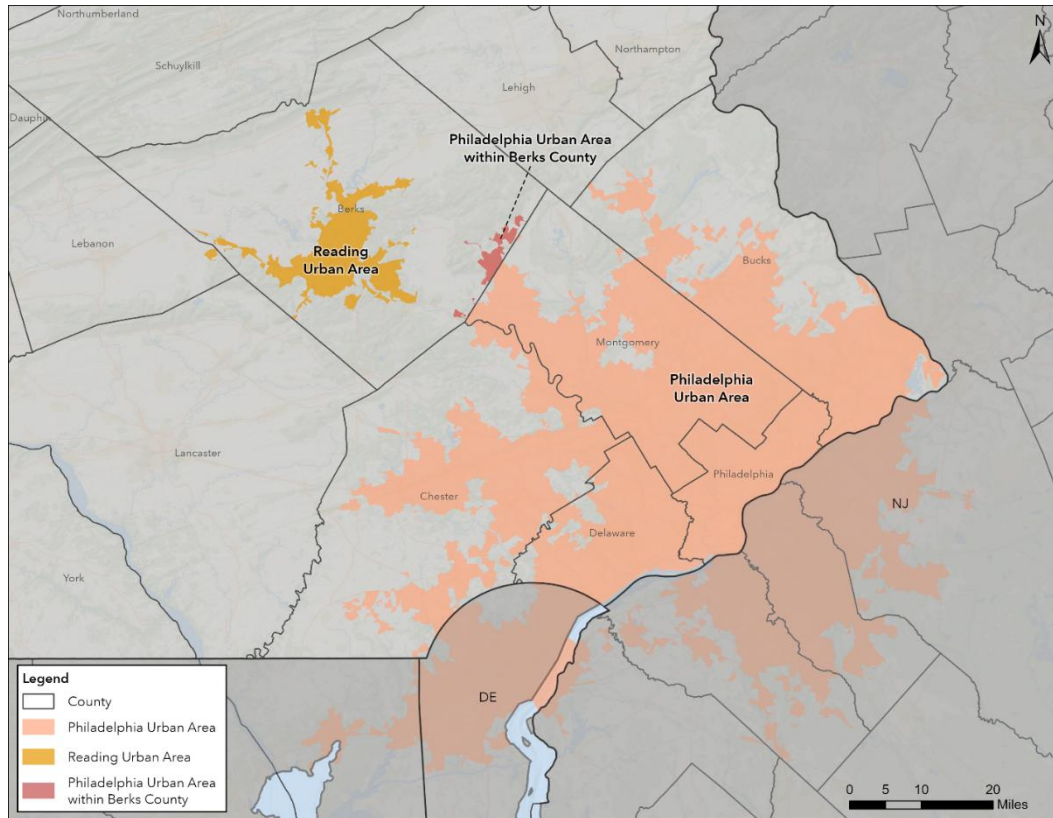
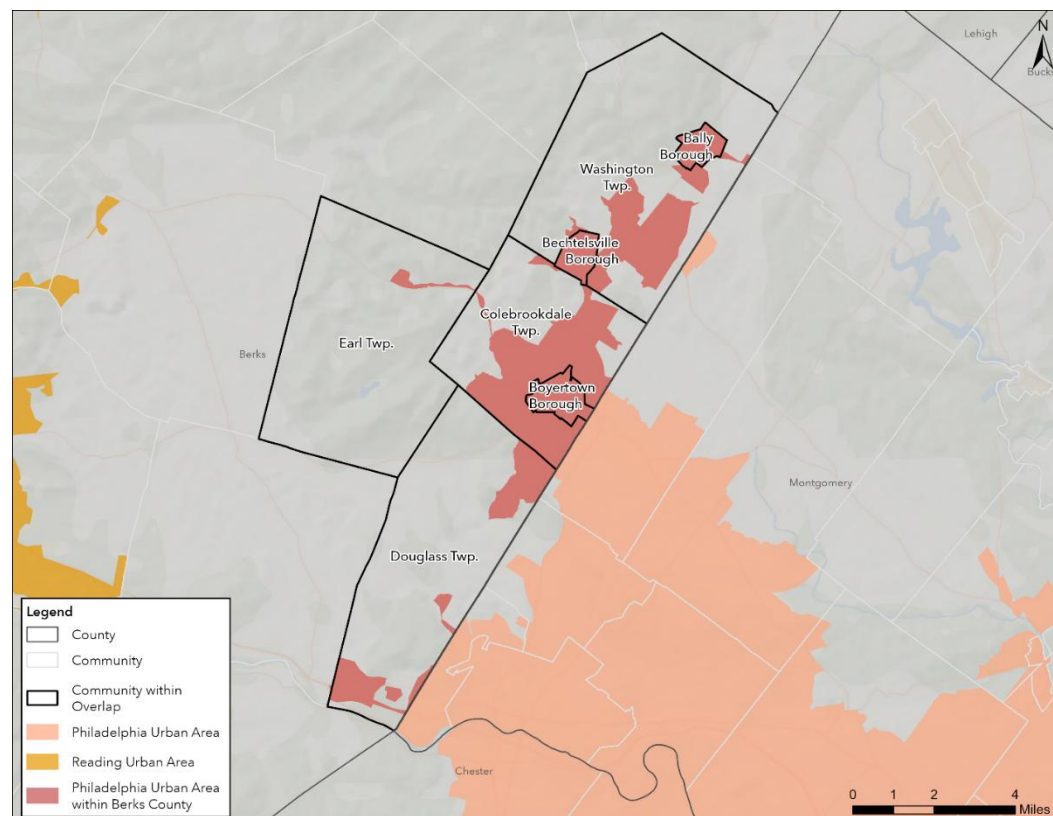


Figure 2 – Philadelphia Urbanized Area Boundary and Overlap with Berks County (Zoom)



Written Provisions

Written provisions documenting the coordination requirements for both the Philadelphia and Reading urbanized areas have been signed by PennDOT and the Reading MPO. PennDOT maintains copies of the written provisions on its SharePoint performance management website. The written provisions were developed in coordination with FHWA.

2022–2025 FULL PERFORMANCE PROGRESS REPORT

Federal CMAQ performance management requirements include both traffic congestion measures and an on-road mobile source emissions measure. MPOs and State DOTs must coordinate to establish and report performance for these measures, with the specific coordination process varying by measure. For the traffic congestion measures, agencies within an applicable urbanized area jointly develop baselines, performance values, and targets for the Peak-Hour Excessive Delay (PHED) and Percent Non-Single Occupancy Vehicle (Non-SOV) Travel measures. For the emissions measure, PennDOT coordinates with applicable MPOs to establish emissions reduction targets and report the benefits of CMAQ-funded projects.

For the Philadelphia urbanized area, coordination on the traffic congestion measures includes the Delaware Valley Regional Planning Commission (DVRPC), RATS, the South Jersey Transportation Planning Organization (SJTPA), the Wilmington Area Planning Council (WILMAPCO), PennDOT, the New Jersey Department of Transportation (NJDOT), the Delaware Department of Transportation (DelDOT), and the Maryland Department of Transportation (MDOT). For the Reading urbanized area, coordination on the traffic congestion measures includes RATS and PennDOT. RATS also coordinated with PennDOT on the CMAQ emissions measure applicable to the Reading urbanized area's ozone nonattainment area.

During the 2022-2025 performance period, the partner agencies reviewed performance data, established targets, and monitored progress for the applicable CMAQ measures. The Full Performance Period Progress Report evaluates final performance results for the PHED, Non-SOV Travel, and CMAQ emissions measures and assesses progress toward the established performance targets. The following sections summarize performance results for each measure applicable to the 2022-2025 performance period.

Congestion Measures

PEAK-HOUR EXCESSIVE DELAY (PHED)

The Annual Hours of PHED Per Capita measure evaluates excessive delay experienced during peak travel periods on the National Highway System (NHS). The measure compares actual four-year performance against the established four-year target for the Philadelphia and Reading urbanized areas (**Table 5** and **Table 6**). As the tables show, the target was not met for either area in the past 2022-2025 performance period. Although the targets were not achieved, actual performance remained relatively close to the adopted targets.

Table 5 – PHED Measure Performance for the Philadelphia Urbanized Area

MEASURE	FOUR-YEAR TARGET	FOUR-YEAR PERFORMANCE (2025)	TARGET MET?
PHED	15.1	15.6	X

Table 6 – PHED Measure Performance for the Reading Urbanized Area

MEASURE	FOUR-YEAR TARGET	FOUR-YEAR PERFORMANCE (2025)	TARGET MET?
PHED	6.5	6.7	X

Notes:

- Traffic congestion is measured by the annual hours of PHED per capita on the NHS.
- Population is based on Census annual estimates for the urbanized area.
- Travel times are based on segment level INRIX GPS travel time data.
- The threshold for excessive delay is based on the travel time at 20 miles per hour (MPH) or 60% of the posted speed limit travel time, whichever is greater, and is measured in 15-minute intervals.
- Peak travel hours are defined as 6:00 a.m. to 10:00 a.m. and 3:00 p.m. to 7:00 p.m. on weekdays.
- The total excessive delay metric is weighted by vehicle volumes and occupancy.
- PHED targets were initially set based on available trend data that included data both before and during the COVID-19 pandemic.

PERCENT NON-SOV TRAVEL

The Percent Non-SOV Travel measure estimates the share of travel occurring by means other than single-occupancy vehicle travel, including transit, carpooling, walking, bicycling, teleworking, and other qualifying non-SOV modes. For this report, the measure compares actual performance against the established targets for the Philadelphia and Reading urbanized areas (**Table 7 and Table 8**). While the target was met for the Reading area in the past 2022-2025 performance period, it was not met for the Philadelphia urbanized area.

Table 7 – Non-SOV Travel Measure Performance for the Philadelphia Urbanized Area

MEASURE	FOUR-YEAR TARGET	FOUR-YEAR PERFORMANCE (2025)	TARGET MET?
% NON-SOV TRAVEL	33.0%	32.8%	X

Table 8 –Non-SOV Travel Measure Performance for the Reading Urbanized Area

MEASURE	FOUR-YEAR TARGET	FOUR-YEAR PERFORMANCE (2025)	TARGET MET?
% NON-SOV TRAVEL	20.2%	24.2%	✓

Notes:

- Measure is based on commuting to work.
- Reflects how people travel, not vehicles, emphasizing mode choice and occupancy.
- Increasing non-SOV indicates less single-driver travel, helping reduce congestion and emissions.
- The four-year target for Reading was set using a conservative approach by averaging the historic trends from the 2017 – 2021 performance years.
- The Federal Highway Administration (FHWA) officially bases the 2025 actual performance for the non-SOV measure on the 2017-2021 American Community Survey (ACS) data since the census urbanized boundaries have changed in the ACS 2022 version.

Emission Measures

Federal regulations require the CMAQ on-road mobile source emissions measure, Total Emissions Reduction, to be reported for states and applicable MPO areas that include designated nonattainment or maintenance areas. For the 2022-2025 performance period, PennDOT coordinated with applicable MPOs to establish emissions reduction targets and report CMAQ-funded project benefits. This coordination included the DVRPC for the Philadelphia urbanized area and RATS for the Reading urbanized area. Because Reading was not included in the Philadelphia urbanized area during the previous CMAQ performance period, the Reading MPO was not required to prepare a CMAQ Performance Plan and did not establish individual MPO-level CMAQ emissions targets. As a result, emissions reduction targets for the prior performance period were available at the Pennsylvania statewide level and for the Philadelphia urbanized area only. The following discussion summarizes CMAQ emissions performance and targets for Pennsylvania statewide, the Philadelphia urbanized area, and the Reading urbanized area, as applicable.

ON-ROAD MOBILE SOURCE EMISSIONS MEASURES

CMAQ funding is programmed for the Philadelphia and Reading MPOs through PennDOT to support eligible projects that improve congestion and reduce on-road mobile source emissions. PennDOT submits an annual CMAQ report to FHWA that includes estimated emissions reductions from CMAQ-funded projects across the state. These data are also entered into the FHWA CMAQ Public Access System, where emissions reductions attributable to CMAQ-funded projects can be viewed.

The two-year and four-year performance values for the CMAQ emissions measure are based on approved CMAQ projects and estimated emissions benefits reported through PennDOT and FHWA systems for the applicable performance period. Pennsylvania statewide performance and targets are summarized in **Table 9**, and the Philadelphia urbanized area performance and targets are summarized in **Table 10**. For purposes of the CMAQ emissions measure, only eligible new CMAQ-funded projects are counted toward the performance targets during the period in which they are first reported. Ongoing or continuing projects are generally credited when they are first entered into the system.

Table 9 – On-road Emissions Reductions Targets for Pennsylvania Statewide

POLLUTANT	EMISSIONS REDUCTION (KG/DAY)				TARGET MET?
	FY2022-2023 TWO-YEAR TARGET	FY2022-2023 TWO-YEAR PERFORMANCE	FY2022-2025 FOUR-YEAR TARGET	FY2022-2025 FOUR-YEAR PERFORMANCE	
VOC EMISSIONS	46.00	40.06	93.00	143.49	✓
NOX EMISSIONS	392.00	782.298	785.00	1,047.32	✓
PM _{2.5} EMISSIONS	18.00	28.18	36.00	40.99	✓

Table 10 – On-road Emissions Reductions Targets for the Philadelphia Urbanized Area

POLLUTANT	EMISSIONS REDUCTION (KG/DAY)				TARGET MET?
	FY2022-2023 TWO-YEAR TARGET	FY2022-2023 TWO-YEAR PERFORMANCE	FY2022-2025 FOUR-YEAR TARGET	FY2022-2025 FOUR-YEAR PERFORMANCE	
VOC EMISSIONS	46.00	40.06	93.00	143.49	✓
NOX EMISSIONS	51.28	101.22	102.56	158.95	✓
PM _{2.5} EMISSIONS	4.07	7.86	8.14	10.99	✓

CMAQ-Funded Projects Contributing to Emission Reductions

Because the Reading MPO was not required to establish MPO-level CMAQ emissions reduction targets for the 2022-2025 performance period, emissions benefits from CMAQ-funded projects within the Reading MPO area were incorporated into Pennsylvania's statewide CMAQ emissions performance reporting. The following projects represent CMAQ-funded investments within the Reading MPO area that contributed to the statewide emissions reduction values reported by PennDOT. Emissions benefits associated with projects in the Philadelphia urbanized area are documented separately in DVRPC's CMAQ Performance Plan.

The funded CMAQ projects during the four-year period (2022–2025) for the Reading MPO region are shown in **Table 11**.

Table 11 – CMAQ Funded Projects for the Reading MPO (2022-2025)

MPMS #	PROJECT NAME	PROJECT TYPE	DESCRIPTION
92411	State Route (SR) 222 and 662	Congestion Reduction and Traffic Flow Improvements	Congestion Management Systems - Implementation - Intersection/lane improvements
92414	SR 222 and Genesis Drive	Congestion Reduction and Traffic Flow Improvements	Congestion Management Systems - Implementation - Intersection Improvements
90569	SR 222 and Long Lane	Congestion Reduction and Traffic Flow Improvements	This project involves the construction of a roundabout on US Route 222 and Long Lane to improve safety and reduce congestion in Maxatawny Township, Berks County.
110075	SR 422 Ben Franklin Congested Corridor	Congestion Reduction and Traffic Flow Improvements	Upgrade of 13 signalized intersections to be more traffic responsive to improve traffic flow between Pineland Road and River Bridge Road on SR 422 also known as Ben Franklin Highway in Amity and Exeter Townships, Berks County.
117620	State Hill Road from Norfolk Southern Rail Road to Penn Avenue	Congestion Reduction and Traffic Flow Improvements	Reduce congestion at the SR 3023 (State Hill Road) signalized intersection with Business 422 (Penn Avenue) by conversion into a roundabout to reduce congestion and improve safety in Wyomissing Borough, Berks County.
110318	SR 12 Alsace Manor	Congestion Reduction and Traffic Flow Improvements	Congestion Reduction and Traffic Flow Improvements, Intersection Improvements
69335	RATS BARTA Flex	Transit Improvements	This project consists of Highway and Bridge "flexed" CMAQ funds for the replacement of four (4) 2010 Fixed Route Electric Hybrid buses with 2022 Electric Hybrid buses.

Additional CMAQ funding supported projects that were initiated before the second performance period. Because they are continuing projects, their emissions benefits were generally credited when the projects were first reported and are not counted again toward the associated emissions targets or performance assessment for the 2022–2025 period.

2026–2029 BASELINE AND TARGETS

The baseline report establishes the next two-year and four-year CMAQ measure targets for the third performance period covering 2026–2029. CMAQ congestion measure targets are required for both the Philadelphia and Reading urbanized areas. Emissions measure targets are required for Pennsylvania statewide and the Reading urbanized area. RATS has coordinated with PennDOT and DVRPC in developing the applicable targets.

Congestion Measures

For the 2026–2029 performance period, partner agencies developed common CMAQ congestion measure baselines and targets for the Philadelphia and Reading urbanized areas using agreed-upon target-setting procedures, methodologies, and data sources. The consensus two- and four-year congestion measure targets for both geographies will be submitted to FHWA by the respective State DOTs by October 1, 2026.

Target development considered data and trends related to delay, urbanized area population, vehicle miles traveled (VMT), transit ridership, and percent non-single occupant vehicle (non-SOV) travel.

PEAK-HOUR EXCESSIVE DELAY

The Annual Hours of PHED Per Capita baseline measure for the 2026–2029 performance period was calculated using the RITIS Probe Data Analytics (PDA) Suite. The two- and four-year PHED targets were established based on recent performance trends, travel demand forecasts, anticipated construction activity, freight movement, and expected changes in commuting patterns. These considerations reflect uncertainty in future travel behavior, continued economic growth, and the potential delay impacts of programmed infrastructure projects, while also accounting for projects expected to improve traffic operations over the performance period. The 2025 baseline value and the two- and four-year targets for the Philadelphia and Reading urbanized areas are shown in **Table 12** and **Table 13**.

Table 12 – PHED Measure Targets for the Philadelphia Urbanized Area

MEASURE	2025 BASELINE	TWO-YEAR TARGET (2026-2027)	FOUR-YEAR TARGET (2026-2029)
PHED	15.6	16.9	16.8

Table 13 – PHED Measure Targets for the Reading Urbanized Area

MEASURE	2025 BASELINE	TWO-YEAR TARGET (2026-2027)	FOUR-YEAR TARGET (2026-2029)
PHED	6.7	7.4	7.4

Notes:

- Targets are driven by traffic growth and congestion patterns.
- Construction activities can significantly impact delays.
- Completed projects can have benefits on congestion.
- Ecommerce and freight increases can impact congestion.
- There is a general trend of worsening congestion since 2021.
- The urbanized area boundary change for the 2020 census was considered.
- The four-year target is slightly lower than the two-year target for the Philadelphia urbanized area to reflect anticipated benefits from planned projects that may reduce excessive delay.
- The Reading urbanized area target reflects the expectation that congestion may worsen over the next four years due to significant construction activity in the area.

PERCENT NON-SOV TRAVEL

The Percent Non-SOV Travel baseline measure for the 2026 baseline performance plan was derived from the 2020-2024 U.S. Census American Community Survey (ACS) five-year estimates for the urbanized area. The two- and four-year targets were established based on recent ACS trends, anticipated changes in commuting behavior, and planned transit investments. One-year ACS data shows declining or steady values for non-SOV, which was taken into account in the process of developing targets. The 2025 baseline value and the two- and four-year targets for the Philadelphia and Reading urbanized area are shown in **Table 14** and **Table 15**.

Table 14 – Percent Non-SOV Measure Targets for the Philadelphia Urbanized Area

MEASURE	2025 BASELINE	TWO-YEAR TARGET (2026-2027)	FOUR-YEAR TARGET (2026-2029)
% NON-SOV TRAVEL	38.1	36.0	36.1

Table 15 – Percent Non-SOV Measure Targets for the Reading Urbanized Area

MEASURE	2025 BASELINE	TWO-YEAR TARGET (2026-2027)	FOUR-YEAR TARGET (2026-2029)
% NON-SOV TRAVEL	27.3	25.9	25.9

Notes:

- Conservative targets were developed to reflect uncertainty in whether recent trends will be representative of future conditions. Uncertainties in setting targets included inflation, energy and supply chain disruptions, and changes in remote work.
- For the Philadelphia urban area, the 2-year target is less than the baseline. The 4-year target is higher with expectations that projects will increase the measure.
- For the Reading urbanized area, the Non-SOV targets reflect the expectation that the non-SOV share may decrease from recent high values as COVID-era years are removed from the five-year ACS sample and as work-from-home levels moderate over the next several years. The MPO is not anticipating major changes to transit ridership.
- For the Reading urbanized area, the same value was assumed for the two- and four-year targets. The four-year target may be updated in the Mid Performance Period Progress Report.

Emissions Measures

The Reading urbanized area is included in an applicable nonattainment area for the National Ambient Air Quality Standards (NAAQS). This means the area is subject to continued monitoring for one or more federal air quality standards. RATS has worked with PennDOT to establish county-level targets for the CMAQ emissions measure, which will be submitted to FHWA by October 1, 2026. These targets represent the first CMAQ emissions targets specifically developed for the Reading MPO.

ON-ROAD MOBILE EMISSIONS MEASURES

The 2026–2029 emissions targets were developed from prior-period performance and adjusted to reflect future-year emissions factors. The statewide, Philadelphia, and Reading urbanized area targets are shown in **Tables 16, 17** and **18**.

Table 16 – On-road Emissions Reductions Targets for Pennsylvania Statewide

POLLUTANT	EMISSIONS REDUCTION (KG/DAY)	
	2027 TWO-YEAR TARGET	2029 FOUR-YEAR TARGETS
VOC EMISSIONS	68.93	137.86
NOX EMISSIONS	514.82	1,029.65
PM _{2.5} EMISSIONS	19.47	38.94

Table 17 – On-road Emissions Reductions Targets for the Philadelphia Urbanized Area

POLLUTANT	EMISSIONS REDUCTION (KG/DAY)	
	2027 TWO-YEAR TARGET	2029 FOUR-YEAR TARGETS
VOC EMISSIONS	9.65	19.31
NOX EMISSIONS	75.83	151.67
PM _{2.5} EMISSIONS	5.22	10.45

Table 18 – On-road Emissions Reductions Targets for the Reading Urbanized Area

POLLUTANT	EMISSIONS REDUCTION (KG/DAY)	
	2027 TWO-YEAR TARGET	2029 FOUR-YEAR TARGETS
VOC EMISSIONS	0.38	0.76
NOX EMISSIONS	3.65	7.29
PM _{2.5} EMISSIONS	0.007	0.015

CMAQ-Funded Projects (2026-2029) Contributing to Performance

The following sections summarize the statewide CMAQ administration framework and the Reading MPO's local project selection process for identifying and programming CMAQ-funded projects. DVRPC's CMAQ Performance Plan addresses how DVRPC selects and programs projects for the Philadelphia urbanized area.

CMAQ PROGRAM ADMINISTRATION AND PROJECT SELECTION

PennDOT administers the CMAQ program in coordination with Pennsylvania MPOs and RPOs that include eligible nonattainment or maintenance areas. CMAQ funds are sub-apportioned to eligible planning partners based on federal funding formulas and EPA air quality designations. PennDOT reviews project eligibility, supports emissions analysis and transportation conformity, and prepares the annual CMAQ report to FHWA.

At the regional level, MPOs, RPOs, and PennDOT District offices coordinate project identification, evaluation, selection, and Transportation Improvement Program (TIP) development. Projects proposed for CMAQ funding must be documented through a CMAQ Project Eligibility Form, coded in MPMS, and supported by quantitative analysis using emissions estimator software or another accepted method. Projects are re-evaluated if there is a change in scope, sponsor, or schedule, including projects using CMAQ funds transferred to Federal Transit Administration (FTA) or Federal Railroad Administration (FRA) for transit or rail-related improvements.

The Reading MPO applies this statewide framework through a local CMAQ project selection process adopted in 2021. The process prioritizes ongoing CMAQ-eligible programs while allowing funding to be redirected during the TIP update process as project needs and available resources change.

- Before each TIP update cycle, PennDOT District and MPO staff meet to identify projects proposed for consideration through the CMAQ project selection process.
- After accounting for ongoing program commitments, the MPO allocates remaining CMAQ funds to eligible candidate projects based on program requirements and documented emissions or congestion-reduction benefits.
- MPO staff complete an initial eligibility screening, then use the CMAQ Evaluation Table Template developed with PennDOT and FHWA to document project evaluation.
- District and MPO staff review candidate projects together and record project information in the evaluation spreadsheet. Because the Reading MPO does not use a competitive solicitation process, the spreadsheet documents the decision-making process rather than ranking projects against one another.
- After District concurrence, project selection results are forwarded to PennDOT Center for Program Development and Management (CPDM) staff for review.
- Once approved, selected projects are programmed on the TIP and advanced publicly through MPO Technical and Coordinating Committee meetings.

If additional CMAQ funds become available outside the TIP update cycle, the Reading MPO may apply the same selection process to currently programmed CMAQ-eligible projects or new candidate projects.

CMAQ Projects for the Reading MPO

Berks County's portion of the Philadelphia urbanized area is small. As such, completed and planned CMAQ-funded projects under the Reading MPO's purview are not expected to have a significant impact on achieving the overall Philadelphia urbanized area CMAQ targets established by DVRPC. However, the Reading MPO's CMAQ-funded projects have supported progress toward the regional CMAQ emissions targets established by PennDOT, including achievement of the four-year targets established for the first performance period.

Tables 19 through 21 distinguish between new CMAQ-funded projects, continuing CMAQ-funded projects, and related non-CMAQ projects. New CMAQ-funded projects shown in **Table 19** contribute directly to the current target achievement calculation. Continuing CMAQ-funded projects shown in **Table 20** are included to document ongoing congestion and air quality benefits, while **Table 21** lists related non-CMAQ-funded projects developed in cooperation between PennDOT and the Reading MPO.

RATS will continue to collaborate with PennDOT to program CMAQ-funded projects that improve congestion and reduce on-road mobile emissions in a cost-effective manner. Other regional highway improvement projects may also benefit CMAQ performance measures, although some benefits may not be realized until future performance periods after those projects are completed.

Table 19 – FFY 2027–2030 TIP CMAQ-Funded Projects for the Reading MPO (New Projects)

MPMS #	PROJECT NAME	DESCRIPTION	POTENTIAL BENEFIT TO CMAQ PERFORMANCE MEASURES
86420	Berks Commuter Services	This project funds the Transportation Demand Management program in Berks County that is administered by CommutePA.	By helping commuters find alternatives to driving alone such as public transit, car/van pooling, bicycles and walking, traffic congestion can be reduced and air quality and safety can be increased.
79467	SR 12 Elizabeth Avenue	Project involves shoulder widening, removal of a narrow bridge, installation of a hybrid roundabout at Elizabeth Avenue and a traffic signal with realignment and a southbound left turn lane on PA 12 at Skyline Drive in Alsace Township.	May reduce congestion and vehicle idling by improving intersection operations, adding roundabout capacity, and improving traffic flow along PA 12.
10815	SR 73 & Friedensburg Road (SR 2023)	Project involves intersection improvements to reconfigure and improve traffic flow at SR 73 (Memorial Highway) and SR 2023 (Friedensburg Road) in Oley Township.	May reduce congestion, delay, and vehicle idling by improving traffic flow and operations at the SR 73 and Friedensburg Road intersection.
117603	State Hill Road – SR 222 SB to Norfolk Southern RR	The project involves improvements to State Hill Road (SR 3023) intersections with State Route 222 southbound ramps, State Route 222 northbound ramps and Spring Street/Granite Point Drive with addition of a roundabout at State Route 222 southbound and addition of a roundabout combining the State Route 222 northbound and Spring Street intersections in Wyomissing Borough.	May reduce congestion and delay by improving ramp and intersection operations, including roundabout improvements that support smoother traffic flow.

Table 20 – FFY 2027–2030 TIP CMAQ-Funded Projects for the Reading MPO (Continuing)

MPMS #	PROJECT NAME	DESCRIPTION	POTENTIAL BENEFIT TO CMAQ PERFORMANCE MEASURES
69335	RATS BARTA Flex	This project consists of Highway and Bridge “flexed” CMAQ funds to SCTA to assist in the replacement of Fixed Route Electric Hybrid busses which have exceeded their service life in the BARTA service area.	Supports transit service reliability and fleet modernization, which may help maintain or increase transit use, reduce single-occupancy vehicle travel, and lower on-road emissions.
90569	SR 222 and Long Lane (SR 1024) Intersection Improvements	Project involves the construction of a roundabout on US 222 at Long Lane (SR 1024) to improve safety and reduce congestion.	May reduce congestion, delay, and vehicle idling by replacing the existing intersection configuration with a roundabout that supports more continuous traffic flow.
110075	SR 422 Ben Franklin Congested Corridor	This project involves the upgrade of 8 signalized intersections to be more traffic responsive to improve traffic flow between SR 2025 (Monocacy Creek Road) and River Bridge Road on SR 422 also known as Ben Franklin Highway in Amity Township, Berks County.	May reduce corridor delay, stops, and vehicle idling by upgrading traffic signals to be more responsive to current traffic conditions.
117620	State Hill Road – Norfolk Southern RR to Penn Ave.	Project involves improvements to State Hill Road (SR 3023) with Penn Avenue (SR 3422) (US 422-B) intersection to improve safety and reduce congestion in Wyomissing Borough.	May reduce congestion, delay, and vehicle idling by improving intersection operations and traffic flow at State Hill Road and Penn Avenue.

Table 21 – Non-CMAQ Funded Projects for the Reading MPO to Reduce Congestion and Improve Safety

MPMS #	PROJECT NAME	DESCRIPTION	POTENTIAL BENEFIT TO CONGESTION REDUCTION AND SAFETY
110318	SR 12 Alsace Manor Intersection Improvements	Project involves shoulder widening and the addition of a center two-way left turn lane between the non-signalized intersections of Antietam Road (SR 2021) and Mount Laurel Road (SR 1004) including the intersection with Woodside Avenue in Alsace Township.	May improve traffic flow and safety by adding a center two-way left turn lane, reducing conflicts from turning vehicles, and providing shoulder widening along the corridor.
113325	Hamburg Traffic Improvements	This project will involve intersection and roadway improvements on State Street (SR 4028) and Fourth Street (SR 4035) within Hamburg Borough.	May reduce localized congestion and improve safety by upgrading intersection and roadway operations on State Street and Fourth Street in Hamburg Borough.
61972	US 222 Widening	Project involves widening US 222 to four lanes and installing a median barrier from Schaeffer Road in Maidencreek Township to the Kutztown Bypass in Richmond Township. Roundabouts will be constructed at US 222 intersections with Pleasant Hills Road and at Richmond Road.	May improve corridor mobility and safety by widening US 222, separating opposing traffic with a median barrier, and adding roundabouts to improve intersection operations.
114439	West Shore Bypass – Phase 1	This project involves highway reconstruction and widening to six lanes of US 422 (West Shore Bypass) from the Buttonwood Street Bridge overpass in West Reading through the Lancaster Avenue (US 222-B) interchange in the City of Reading. This includes the reconfiguration of both the Penn Avenue/Penn Street interchange and the Lancaster Avenue interchange and the reconstruction of the Bingaman Street bridge. Project also includes the reconstruction of the US 422 bridges over the Schuylkill River and Norfolk Southern RR just west of the I-176 interchange in Cumru Township including an improved ramp connection from I-176.	May reduce recurring congestion and improve safety by reconstructing and widening US 422, improving interchange operations, and upgrading bridge and ramp connections through the corridor.

MPMS #	PROJECT NAME	DESCRIPTION	POTENTIAL BENEFIT TO CONGESTION REDUCTION AND SAFETY
87688	SR 422 in Sinking Spring	Project involves re-alignment of intersections at US 422 (Penn Avenue) and PA 724 (Shillington Road) and SR 3055 (Mull Avenue) to reduce congestion in the Borough of Sinking Spring.	May reduce congestion and improve safety by realigning key intersections on US 422, PA 724, and SR 3055 to support smoother traffic flow through Sinking Spring.