MEMORANDUM

TO: Transportation Planning Board Technical Committee

FROM: Robert d'Abadie, TPB Transportation Engineer

SUBJECT: Performance Measures and Targets for On-Road VOC and NO_X Emissions Reductions (from CMAQ-funded projects)

DATE: June 25, 2026

In June, TPB was briefed on two performance measures and proposed targets for on-road emissions reductions for Volatile Organic Compounds (VOCs) and for Nitrogen Oxides (NOx) from congestion mitigation and air quality (CMAQ) funded projects, including data, performance, and forecasting methodologies. The board will be asked to adopt the FY 2026-2029 targets that were presented last month at its upcoming July 15 meeting

This memorandum provides an update on the performance and target setting for the on-road emissions reductions for VOCs and for NOx from CMAQ funded projects as part of TPB's performance-based planning and programming process. State DOTs and MPOs must establish targets for these measures, and this year, new targets are required for both two- and four-year horizons (CY 2027 and 2029). State reports on past performance for the 2022–2025 reporting period and on the two- and four-year targets for the 2026–2029 reporting period are due to the FHWA by October 1, 2026.

The TPB has adopted these CMAQ emissions reductions measures since 2018, in accordance with federal regulations. At the July 1, 2026 Technical Committee, TPB staff will brief the Committee on the National Capital Region's progress in meeting its previous On-Road VOCs and NO_X reductions from CMAQ-funded projects and review the process for establishing new targets for the 2026-2029 reporting period.

OVERVIEW OF REQUIREMENTS FOR ON-ROAD VOC AND NO_X EMISSIONS REDUCTIONS FROM CMAQ-FUNDED PROJECTS

The targets are required to reflect the anticipated cumulative emissions reductions for CMAQ projects included in the Transportation Improvement Program (TIP). The requirement for these targets to be evidence-based and predictive of anticipated outcomes does not supersede or diminish any aspirational targets to which local, regional, or state jurisdictions are committed.

Table 1 describes this performance measure with reference to its Federal Code, data source, the required reporting frequency, and the anticipated timeframe for target-setting and adoption.

Table 1 - Performance Measures for On-Road Emissions Reductions from CMAQ-Funded Projects

Performance Measure	Description	Federal Code	Data Source	Frequency of Reporting
Volatile Organic Compounds (VOCs) Reductions	Sum of the VOC emissions reductions for projects receiving CMAQ funding	23 CFR 490, Subpart H	FHWA CMAQ Public Access System	Every four years, set new two- and four-year targets.
Nitrogen Oxides (NO_X) Reductions	Sum of the NO_X emissions reductions for projects receiving CMAQ funding	23 CFR 490, Subpart H	FHWA CMAQ Public Access System	Every four years, set new two- and four-year targets.

PAST PERFORMANCE

Past performance is based on the emissions reductions for projects recorded in the CMAQ Public Access System (CPAS), available at https://fhwaapps.fhwa.dot.gov/cmaq2p/. The CPAS data was downloaded, and the total VOC and NO_X emissions reduction for all the projects in the required years were summed to determine the two- and four-year actual values achieved. These numbers were verified with the states and adjusted for pending corrections to the CPAS as requested by the states to the FHWA. Tables 2 and 3 show the original two- and four-year targets and the actual totals recorded in the CPAS.

Table 2: Two-Year (2022-2023) Targets and Actual Performance

State	VOC (kg/day)		NO_X (kg/day)	
	Target	Actual	Target	Actual
DC	0.077	0.094	0.508	0.128
MD	0.210	0.144	1.710	0.150
VA (NoVA)	0.323	2.478	0.612	2.665
Total for MPO	**0.610**	**2.716**	**2.830**	**2.943**

Table 3: Four-Year (2022-2025) Targets and Actual Performance

State	VOC (kg/day)		NO_X (kg/day)	
	Target	Actual	Target	Actual
DC	0.155	140.104	1.016	174.608
MD	6.240	164.244	15.190	205.010
VA (NoVA)	3.013	4.637	4.911	17.517
Total for MPO	**9.408**	**308.985**	**21.117**	**397.135**

The results show that MD did not meet its two-year targets, but all states exceeded their four-year targets. Both DC and MD met their four-year targets by a wide margin, largely due to the inclusion of new, high-impact projects that were not part of the target-setting process. Specifically, DC and MD both programmed CMAQ funding for Travel Demand Management (TDM) projects, namely contributions to Commuter Connections and, in the case of DC, goDCgo. TDM programs have very high emissions reductions, with these projects accounting for 96.6% and 93.5% of the total VOC and NO_X reductions for the region, respectively, for the MPO's four-year 2022-2025 reporting period.

TARGET-SETTING METHODOLOGY

In forecasting the 2026-2029 four-year performance period, TPB staff used a methodology consistent with that from the previous performance period. TPB worked with the state DOTs to determine their predicted emissions from anticipated CMAQ-funded projects. The MD and VA DOTs were able to provide VOC and NO_X reductions for their planned CMAQ-funded projects located within the TPB region, as shown in Attachment A. The District DOT did not identify specific projects because they are still in the selection phase. As a result, for DC, the two- and four-year emissions reductions reported in 2022-2025 CMAQ projects were used as the 2026-2029 targets. The draft targets reflect the assumption that DC will be moving forward with projects of similar magnitude in the upcoming 2026-2029 reporting period. The MPO targets are the sum of the state targets.

EMISSIONS REDUCTION FOR CMAQ-FUNDED PROJECTS 2026–2029 TARGETS

Using the methodology described above, TPB staff developed a set of regional emissions reduction targets for CMAQ-funded projects for the 2026-2029 period, as shown in Table 4.

Table 4: Two- and Four-Year VOC and NO_X Reduction Targets for CMAQ-funded Projects in the TPB Region

Performance Measure	Two-Year Targets 2026 – 2027	Four-Year Targets 2026 - 2029
Emissions Reduction for CMAQ-Funded Projects – VOC	0.556 kg/day	252.986 kg/day
Emissions Reduction for CMAQ-Funded Projects – NO_X	3.633 kg/day	316.973 kg/day

NEXT STEPS

- July 2026: TPB staff present final measures and targets to the TPB and Technical Committee. TPB approves new targets.
- July - September 2026: Three states to adopt targets no later than September. TPB finalizes the region's 2022-2025 and 2026-2029 MPO CMAQ Performance Reports for inclusion in the state Performance Management Forms (PMFs). All three states notify TPB that the PMF is complete.

Attachment A – Maryland DOT and Virginia DOT 2026-2029 Programmed CMAQ Projects

DOT	Project Title	Year Anticipated for CMAQ Obligation	NOx Benefit (kg/day)	VOC Benefit (kg/day)
MDOT	Sidewalk improvements, Shared-Use facilities (multiple projects)	2026-2027	0.08	0.08
MDOT	Commuter Connection Program FY26-29 (includes Carpool/Vanpool initiative)	2028-2029	109.64	136.07
MDOT	Ridesharing Program – MWCOG Region	2028-2029	2.7	2.7
MDOT	Sidewalk improvements, Shared-Use facilities (multiple projects)	2028-2029	0.024	0.028

DOT	Project Title	Year Anticipated for CMAQ Obligation	NOx Benefit (kg/day)	VOC Benefit (kg/day)
VDOT	Manassas Park Signalization	2028	0.07	0.06
VDOT	Van Dorn-Beauregard Multi-Use Trail	2026	0.03	0.023
VDOT	Old Cameron Run Trail Construction	2026	0.042	0.04
VDOT	Citywide Bus Shelters Phase II	2026	0.398	0.167
VDOT	PRTC Bus Shelter Program	2026	0.102	0.112
VDOT	BUS REPLACEMENT (OMNIRIDE EXPRESS COMMUTER BUSES)	2026	1.525	0.021
VDOT	WMATA REPLACEMENT BUSES	2026	1.3281	0.0191