Metropolitan Transportation Commission

Congestion Mitigation & Air Quality Improvement Program Performance Plan

Baseline Performance Period Report
2022-2025

December 7, 2022

INTRODUCTION

Performance-Based Planning and Programming

The Moving Ahead for Progress in the 21st Century Act (2012), also known as MAP-21, established several performance management requirements for state departments of transportation (DOTs), metropolitan planning organizations (MPOs), and transit agencies. A performance-based approach to transportation planning and programming intends to ensure the most efficient investment of transportation funds, support improved investment decision-making, and increase accountability and transparency. MAP-21 and subsequent federal legislation require DOTs, MPOs, and transit agencies to establish performance targets for each of the following national goal areas:

- Safety
- Infrastructure Condition
- System Reliability
- Freight Movement and Economic Vitality
- Congestion Reduction
- Environmental Sustainability

MTC's Role

Under the federal performance management rules, MTC, as the MPO serving the San Francisco Bay Area, is responsible for setting short-range targets and incorporating the targets into its planning processes – most notably, the Regional Transportation Plan (RTP) and the Transportation Improvement Program (TIP). In the RTP, MTC is required to report on the condition and performance of the transportation system in relation to its adopted performance targets (23 CFR § 450.324). For the TIP, MTC must show that it is moving in the right direction based on the package of near-term investments included in the TIP, and must also describe how much of an effect the TIP investments are expected to have on the targets (23 CFR § 450.326).

- **Reporting**
  In addition to quantifying progress made towards performance targets in the context of its TIP and RTP, MTC is required to report regional targets to Caltrans. To meet this requirement, MTC has expanded its Vital Signs performance monitoring website (http://www.vitalsigns.mtc.ca.gov/targets) to incorporate federal performance targets, as well as additional performance indicators.

- **CMAQ Performance Plan**
  MTC is also required to report specifically on regional condition, targets, and performance for the federal performance measures identified to carry out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program.

- To assess traffic congestion, the Federal Highway Administration (FHWA) developed two performance measures:
  - Annual Hours of Peak Hour Excessive Delay (PHED) Per Capita
  - Percent of Non-Single Occupancy Vehicle (SOV) Travel
- To assess on-road mobile source emissions, FHWA developed one measure:
  - Total Emissions Reduction, for all CMAQ-funded projects, of each applicable criteria pollutant and precursor

➔ *Baseline Performance Period Report:* Reflects targets and baseline conditions, and includes a description of CMAQ-funded projects programmed during the current performance period (2022-2025).

➔ *Mid and Full Performance Period Reports:* Additional reports are required on a biennial basis. In addition to the requirements of the baseline report, mid and full performance period reports must also include an assessment of progress in reaching 2- and 4- year targets.

CMAQ Performance Plan Report Structure

This report is organized into three sections outlining the 2- and 4-year targets for the traffic congestion and emissions reductions performance measures, baseline conditions, and a description of near-term CMAQ funded projects.

PERFORMANCE TARGETS

State DOTs and MPOs are required to set two- and four-year targets every four years for each CMAQ performance measure.

Goal Areas	• Congestion Reduction • Environmental Sustainability

Performance Measures	• Congestion Reduction
	  o Annual hours of peak-hour excessive delay per capita, by urbanized area
	  o Percent of non-single occupancy vehicle (non-SOV) travel, by urbanized area
	• Environmental Sustainability
	  o Total emissions reductions from CMAQ-funded projects, by pollutant

Performance Period	• Congestion Reduction Measures: January 1, 2022 – December 31, 2025 • Emissions Reduction Measure: October 1, 2021 – September 30, 2025
Target Years	2023, 2025

Congestion Reduction

For the congestion reduction measures, targets are required to be fully consistent between the state Department of Transportation (DOT) and the Metropolitan Planning Organization (MPO) for each urbanized area. For the first performance period, targets were required for urbanized areas (UAs) with populations over one million that were also in nonattainment or maintenance areas for ozone, carbon monoxide, or particulate matter. In the Bay Area, San Francisco-Oakland and San Jose urbanized areas met these thresholds. With the second performance period, three additional urbanized areas in the San Francisco Bay Area are required to set targets.

Caltrans and MTC agreed upon urbanized area targets for both congestion measures in 2022. The targets adopted for the delay measure in the Bay Area's urbanized areas are aspirational, as the targets aim to reduce peak-hour excessive delay per capita by 4% and increase non-SOV mode share by 2% over 2021 conditions.

Table 1: Congestion Reduction Performance Targets

Performance Measures	2021 Baseline	2-year Targets Caltrans & MTC	4-year Targets Caltrans & MTC
Peak-hour excessive delay – annual, per capita			
Antioch UA	6.5 hours	**6.4 hours** (-2.0%)	**6.2 hours** (-4.0%)
Concord UA	16.0 hours	**15.7 hours** (-2.0%)	**15.4 hours** (-4.0%)
San Francisco-Oakland UA	18.3 hours	**17.9 hours** (-2.0%)	**17.6 hours** (-4.0%)
San Jose UA	13.7 hours	**13.4 hours** (-2.0%)	**13.2 hours** (-4.0%)
Santa Rosa UA	6.6 hours	**6.5 hours** (-2.0%)	**6.3 hours** (-4.0%)
Non-SOV travel – percent			
Antioch UA	30.8%	**31.8%** (+1.0%)	**32.8%** (+2.0%)
Concord UA	51.1%	**52.1%** (+1.0%)	**53.1%** (+2.0%)
San Francisco-Oakland UA	55.4%	**56.4%** (+1.0%)	**57.4%** (+2.0%)
San Jose UA	48.6%	**49.6%** (+1.0%)	**50.6%** (+2.0%)
Santa Rosa UA	32.5%	**33.5%** (+1.0%)	**34.5%** (+2.0%)

Emissions Reductions

State DOTs and MPOs are required to set 2- and 4-year numerical targets for the emissions reduction measure for each applicable pollutant. The emissions reductions performance measure focuses specifically on projects funded through the CMAQ program. MPOs have the option of supporting State targets or setting their own region-specific numerical targets.

Statewide baseline data and targets are still pending as of December 2022. MTC will adopt regional targets within 120 days following the development of statewide targets.

Table 2: Emissions Reduction Performance Targets

Performance Measure	Caltrans Statewide Targets			MTC Regional Targets		
	Statewide Baseline	*2-year Targets*	*4-year Targets*	*Regional Baseline*	*2-year Targets*	*4-year Targets*
Total emissions reductions from CMAQ-funded projects, by pollutant						
Fine particulate matter – PM2.5 (kg/day)	State baseline pending	State targets pending		101.35	Regional targets pending	
Particulate matter – PM10 (kg/day)				207.9		
Carbon monoxide – CO* (kg/day)				14,916.98		
Volatile organic compounds – VOCs (kg/day)				1,258.04		
Nitrogen oxide – NOx (kg/day)				1,823.99		

A regional target for carbon monoxide is not required, as the San Francisco Bay Area's maintenance period for carbon monoxide ended June 30, 2018.

BASELINE CONDITIONS

Data on existing conditions for each performance measure is provided by Caltrans, unless otherwise noted.

Congestion Reduction

Baseline conditions for excessive delay are reported for calendar year 2021. Non-SOV mode share is based on a five-year estimate from the American Community Survey due to unavailability of one-year data for 2021.

Table 3: Congestion Reduction Baseline Conditions

Urbanized Areas	Peak-hour excessive delay, per capita 2021	Non-SOV travel, percent 2021
Antioch UA	6.5 hours	30.8%
Concord UA	16.0 hours	51.1%
San Francisco-Oakland UA	18.3 hours	55.4%
San Jose UA	13.7 hours	48.6%
Santa Rosa UA	6.6 hours	32.5%

Sources: National Performance Management Research Data Set (NPMRDS); American Community Survey Table S0801 (2021 5-year estimates)

Emissions Reductions

Baseline emissions reductions by pollutant from CMAQ-funded projects are cumulative emissions reductions from 2018 through 2021, as calculated by MTC staff for annual submittals to the CMAQ Public Access System. Emissions reductions for each project are credited in the first year that CMAQ funds are obligated on the project.

Table 4: Emissions Reduction Baseline Conditions

Pollutant	Regional Baseline Emissions Reductions Provided by CMAQ-Funded Projects 2018-2021
Fine particulate matter – PM2.5 (kg/day)	101.35
Particulate matter – PM10 (kg/day)	207.9
Carbon monoxide – CO (kg/day)*	14,916.98
Volatile organic compounds – VOCs (kg/day)	1,258.04
Nitrogen oxide – NOx (kg/day)	1,823.99

**A regional target for carbon monoxide is not required, as the San Francisco Bay Area's maintenance period for carbon monoxide ended June 30, 2018.*

CMAQ PROJECTS

During the current performance period (2022-2025), 44 projects are currently programmed with CMAQ funds. A list of these projects is provided in **Attachment 1**, and includes a description of how each project is anticipated to contribute towards achieving the performance targets for traffic congestion and on-road mobile source emissions.

For the emissions reductions targets specifically, only projects that will obligate CMAQ funds for the first time during the performance period are credited towards future performance. Benefits for both traffic congestion performance measures will be provided for all CMAQ-funded projects programmed during the baseline performance period.

Please note that project selection processes are currently underway to fully program CMAQ funds for the 2022-2025 performance period. Additional CMAQ projects will be reflected in subsequent CMAQ Performance Plan reports.

CMAQ Performance Plan

Baseline Performance Period Report (2022-2025)

Programmed CMAQ Projects

Attachment 1
CMAQ Performance Plan: Baseline Performance Period Report (2022-2025)

CMAQ Project Type Project Name	Sponsor	Year Actual or Programmed	Traffic Congestion Benefit?** Peak-Hour Excessive Delay	Traffic Congestion Benefit?** Non-SOV Mode Share	Estimated Emissions Reductions Program Total PM2.5 Benefit kg/day	PM10 Benefit kg/day	CO Benefit kg/day	VOC Benefit kg/day	NOx Benefit kg/day
Bicycle and Pedestrian Facilities and Programs									
Alameda County Complete Streets	Alameda County	2024		Yes - Increase non-SOV travel	0.74	1.06	122.73	21.73	13.76
Bernardo Avenue Bicycle Underpass	Sunnyvale	2023		Yes - Increase non-SOV travel	0.08	0.11	12.40	1.28	2.30
Burlingame Square Caltrain Station Mobility Hub	Burlingame	2023		Yes - Increase non-SOV travel	0.03	0.04	4.78	0.50	0.89
Central Avenue Safety Improvements	Alameda	2023		Yes - Increase non-SOV travel	0.74	1.06	122.73	21.73	13.76
Cupertino Stevens Creek Blvd Class IV Bike Lanes	Cupertino	2023		Yes - Increase non-SOV travel	0.53	0.75	87.46	15.48	9.81
Iron Horse Trail Bike and Pedestrian Overcrossing	San Ramon	2023		Yes - Increase non-SOV travel	0.86	1.21	141.14	24.99	15.83
Jepson: Leisure Town Road Phase 1B and 1C	Solano County	2023		Yes - Increase non-SOV travel	0.03	0.04	4.78	0.50	0.89
L Street Pathway to Transit	Antioch	2023		Yes - Increase non-SOV travel	0.35	0.50	57.98	6.01	10.76
Lincoln Elementary Safe Routes to School Pedestrian Enhancements	Richmond	2023		Yes - Increase non-SOV travel	0.41	0.58	67.41	6.98	12.51
Main Street Complete Streets	Hayward	2023		Yes - Increase non-SOV travel	0.74	1.06	122.73	21.73	13.76
McClellan Road Separated Bikeways (Phase 3)	Cupertino	2023		Yes - Increase non-SOV travel	0.29	0.41	47.12	4.88	8.74
Millbrae Transit Center MicroMobility Hub Pilot	Millbrae	2023		Yes - Increase non-SOV travel	0.39	0.55	63.57	6.59	11.80
Mountain View Mobility Hub Pilot	Mountain View	2023		Yes - Increase non-SOV travel	0.03	0.04	25.78	1.15	2.06
Old Redwood Highway Multi-Use Path	Larkspur	2023		Yes - Increase non-SOV travel	1.49	2.11	245.47	43.46	27.52
Park Blvd, San Anselmo Ave and Sta. Teresa Wy Improvements	Millbrae	2023		Yes - Increase non-SOV travel	0.06	0.07	50.78	2.26	4.05
Poplar Complete Streets	Half Moon Bay	2023		Yes - Increase non-SOV travel	0.12	0.18	20.42	2.11	3.79
San Ramon Transit Center - Shared Mobility Hub	San Ramon	2023		Yes - Increase non-SOV travel	0.57	0.80	93.48	9.68	17.35
Saratoga Creek Trail Phase 1	Santa Clara	2023		Yes - Increase non-SOV travel	0.66	0.93	108.11	11.20	20.06
Shannon Road Complete Streets	Los Gatos	2023		Yes - Increase non-SOV travel	0.05	0.06	7.48	0.78	1.39
Transbay Terminal Mobility Hub - East Cut	San Francisco	2023		Yes - Increase non-SOV travel	0.14	0.19	22.34	2.31	4.14
US101/Holly St I/C Mod and Bike/Ped Overcrossing	San Carlos	2023		Yes - Increase non-SOV travel	0.09	0.13	15.64	1.62	2.90
Vaca Valley/I505 Multimodal Improvements	Vacaville	2023		Yes - Increase non-SOV travel	0.05	0.07	7.66	0.79	1.42
Vallejo Ferry Mobility Hub Improvement	Vallejo	2023		Yes - Increase non-SOV travel	0.52	0.73	85.30	15.10	9.56
Willow Pass Road Repaving & Safe Routes to Transit	Concord	2023		Yes - Increase non-SOV travel	0.10	0.14	16.08	1.67	2.98
I/M and Other TCMs									
I-880 Optimized Corridor Operations	MTC	2024	Yes - Reduce peak hour delay		1.31	1.85	215.03	38.07	24.11
Transit Improvements									
Regional Mapping and Wayfinding	MTC	2024	Yes - Reduce peak hour delay	Yes - Increase non-SOV travel	0.18	0.25	29.17	3.02	5.41

	Project Total	Peak-Hour Delay** Project Total	Non-SOV Mode Share** Project Total	Estimated Emissions Reductions Program Total PM2.5 Benefit kg/day	PM10 Benefit kg/day	CO Benefit kg/day	VOC Benefit kg/day	NOx Benefit kg/day
Programmed 2023-2026	**26**	**2**	**25**	**10.56**	**14.92**	**1,797.57**	**265.62**	**241.55**
PERFORMANCE PERIOD TOTAL	**26**	**2**	**25**	**10.56**	**14.92**	**1,797.57**	**265.62**	**241.55**

* For the emissions benefits targets, only projects that obligate CMAQ funds for the first time during the current performance period can be credited towards performance achievements during the period. Projects that have obligated CMAQ funds in prior years can still be credited for performance achievements of the traffic congestion targets.

** Benefits categorized by project type.