
Congestion Mitigation and Air Quality Improvement Program (CMAQ)

Performance Plan for St. Louis Metropolitan Area

Includes

Full Performance Period Progress Report (2018 – 2021)

Baseline Performance Period Report (2022 – 2025)

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EAST-WEST GATEWAY
Council of Governments

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This report summarizes the federal requirements for the East-West Gateway Council of Governments (EWG) in the reporting of the 2018-2021 Congestion Mitigation and Air Quality Improvement (CMAQ) Performance Period and the establishment of performance measure targets associated with the 2022-2025 CMAQ performance period. This includes unified urbanized targets for the performance measures of Peak Hour Excessive Delay (PHED) and Non-Single Occupancy Vehicle (Non-SOV) travel in the area of traffic congestion, and a quantifiable target for Emissions Reduction for applicable pollutants and precursors for the nonattainment/maintenance areas within the EWG planning area boundary. The targets described in this report meet the MAP-21/FAST Act/IIJA performance-based planning and programming requirements and are consistent with the target setting approaches of Missouri and Illinois.

Background

The Congestion Mitigation and Air Quality Improvement (CMAQ) Program is a federal program that provides funding to regions that face the challenge of attaining or maintaining the National Ambient Air Quality Standards (NAQSS) for ozone, carbon monoxide, and/or particulate matter as established under the Clean Air Act.

The CMAQ program was created under the Intermodal Surface Transportation Efficiency Act (ISTEA) in 1991 and has been reauthorized under every following transportation bill up to and including the Bipartisan Infrastructure Bill (BIL), which was enacted as the Infrastructure Investment and Jobs Act (IIJA) in 2021.

The Moving Ahead for Progress in the 21st Century Act (MAP-21), signed into law on July 6, 2012, provided that the Federal-aid highway program include a performance-based mechanism to guide and support transportation investments across the country. On December 4, 2015, the Fixing America's Surface Transportation Act (FAST Act) was signed into law and continued the performance-based planning process established in the MAP-21.

MAP-21 and, subsequently, the FAST Act established new requirements for performance management to ensure that Federal transportation funds are being used efficiently. The performance management framework provides guidance to support efficient investment decision making through a focus on performance outcomes for key national transportation goals. Recipients of Federal-aid highway funding will make transportation investments to achieve targets that make progress toward the following national goals:

- **Safety** — to achieve a significant reduction in traffic fatalities and serious injuries on all public roads.
- **Infrastructure condition** — to maintain the highway infrastructure asset system in a state of good repair.
- **Congestion reduction** — to achieve a significant reduction in congestion on the National Highway System (NHS).
- **System reliability** — to improve the efficiency of the surface transportation system.
- **Freight movement and economic vitality** — to improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development.
- **Environmental sustainability** — to enhance the performance of the transportation system while protecting and enhancing the natural environment.

- **Reduced project delivery delays** — to reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices.

Through collaboration with the U.S. Department of transportation (USDOT), State Departments of Transportation (State DOTs), and Metropolitan Planning Organizations (MPOs), performance measures were established for the national goals through a series of final rules. In order to meet the requirements of MAP-21 and carry out the Congestion Mitigation and Air Quality Improvement (CMAQ) Program, the USDOT established measures for State DOTs and MPOs to use to assess progress towards reducing traffic congestion and on-road mobile source emissions. State DOTs and MPOs are charged with coordinating and setting targets to meet each national goal.

The Infrastructure Investment and Jobs Act (IIJA), signed into law on November 15, 2021, continues all requirements for CMAQ Performance Reporting under the FAST Act. New guidance is forthcoming regarding greenhouse gas emissions (GHG) and new carbon reduction programs. EWG staff will continue to monitor guidance and adjust all performance plans and reports as required by federal law.

St. Louis Region Attainment Status

As a function of the CMAQ funding program, all MPOs who are awarded CMAQ funds must report on measures for reducing traffic congestion and on-road mobile source emissions. Which emissions must be included in the total emission reduction depends on the MPO's attainment/maintenance status for applicable criteria pollutants and precursors across their region. An MPO that has no parts of their region in non-attainment need not create targets for emission reduction.

At the creation of the 2018-2021 CMAQ Performance Plan, The EWG region was in non-attainment of the 8 hour ozone standard (ozone formation precursors are Volatile Organic Compounds (VOC) and Nitrogen Oxides (NO_x)). The EWG region was in non-attainment of 1997 fine particulate (PM 2.5) standard. The City of St. Louis and that portion of St. Louis County within the I-270 loop was a limited maintenance area for the 1999 standard for Carbon Monoxide (CO) Therefore, the 2018-2021 CMAQ Performance Plan created targets for total emissions reduction which included all four pollutants and precursors. Following redesignations by the Environmental Protection Agency in 2018 (Missouri) and 2019 (Illinois), all counties in the EWG region are in attainment of the PM2.5 standard. In 2019, the end of the 20-year maintenance period for CO was reached. The area is considered to be in attainment of this standard, so EWG is no longer required to establish targets for CO.¹

As of this publication, portions of the EWG region are still in non-attainment for the 2015 Ozone Standard. Thus, this performance plan includes targets for VOC and NO_x.

¹ EWG Mid-Year Air Quality Conformity Determination and Documentation 8-Hour Ozone, Jan 2021

Performance Measures

The Federal Highway Administration (FHWA) finalized three performance measures through the National Performance Management Measures – Assessing Performance of the NHS, Freight Movement on the Interstate System, and Congestion Mitigation and Air Quality Improvement Program Final Rule (PM3 regulation). Each performance measure is part of two Subparts of 23 CFR part 490, Subpart G and Subpart H (Table 1).

Table 1. Performance Measures for the CMAQ Program	
Subpart and 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: 2- and 4-year Total Emission Reductions for each applicable criteria pollutant and precursor for all projects funded with CMAQ funds

There are two traffic congestion performance measures: 1) PHED Measure and 2) Percent of Non-SOV Travel measure. The PHED measure is the annual hours of peak hour excessive delay per capita within the EWG urbanized area. The Percent of Non-SOV Travel measure is the percentage of “trips” that occur in Non-SOV vehicles or modes, including telecommutes and bike/walk. The applicable urbanized area must have a population over 1,000,000 for the first performance period. The urbanized area for each subsequent performance period must have a population over 200,000. Since the St. Louis region has a population over 1,000,000, it has to set targets for the PHED and Percent of Non-SOV Travel measures.

The On-Road Mobile Source measure is the Total Emissions Reduction measure. The Total Emission Reduction Measure is the 2-year and 4-year cumulative estimated emission reductions, for all CMAQ funded projects, of each applicable criteria pollutant and precursor. For the St. Louis region, the applicable criteria pollutants and precursors are only VOC and NO_x. Emission reduction targets and performance are expressed as the kilograms of each emission reduced per day (kg/day).

Full Performance Period Progress Report (2018-2021)

The first CMAQ Performance Plan for the EWG region was submitted in 2018 and updated in 2020. As a part of the plan for the next performance period, EWG is required to report on the performance of our region during the 2018-2022 reporting period. This includes an analysis of whether or not 4-year targets were met, why or why not, and setting a baseline for the next performance period.

Peak Hour Excessive Delay (PHED) Measure

Historical Data

As shown in Figure 1, for the Greater St. Louis region, PHED was between 9.2 and 10.6 hours in the five years preceding the COVID-19 Pandemic, which reached the United States in 2020. During the pandemic, there is a steep decline in PHED, as driving is significantly reduced. In 2021, we start to see a rebound in PHED as travel increases again. However, PHED remains below the pre-pandemic levels likely due to decreased travel from individuals working from home.

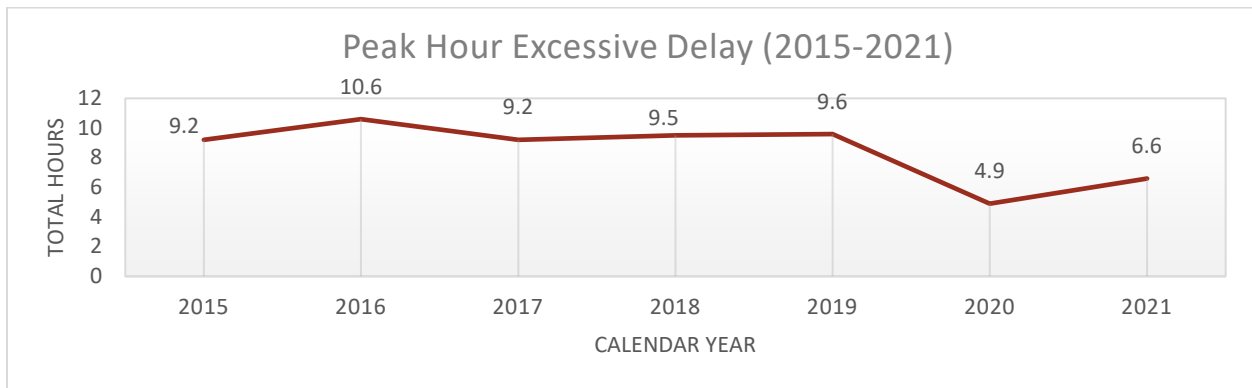


Figure 1. Graph of Peak Hour Excessive Delay from 2015 to 2021 in the St Louis area. Source: NPMRDS HERE (2015-2016) and NPMRDS INRIX (2017-2021)

Performance Targets

In 2018, a 4-year target for PHED was set at 9.5 hours by 2021. At the midpoint evaluation in 2020, the target was not met because the PHED in 2019 was 9.6 hours (0.1 hours greater than the target). Thus, the target was not revised during the midpoint review. However, at the end of the four-year performance period, the target was met. It is acknowledged that the target was met due to the reduction in travel due to the COVID-19 Pandemic.

Table 2. PHED Performance (4-Year Target)	
2021 Target	9.5 hours
2021 Actual	6.6 hours
Target Met	YES

Non-Single Occupancy Vehicle (Non-SOV) Travel Measure

Historical Data

As shown in Figure 2, Non-SOV travel fluctuated between 17.3% and 17.8%. In 2020, there was an increase to 19.5%. At the time of writing, the 2021 data was not available due to delays in the release of 1-year and 5-year estimates for American Community Survey.

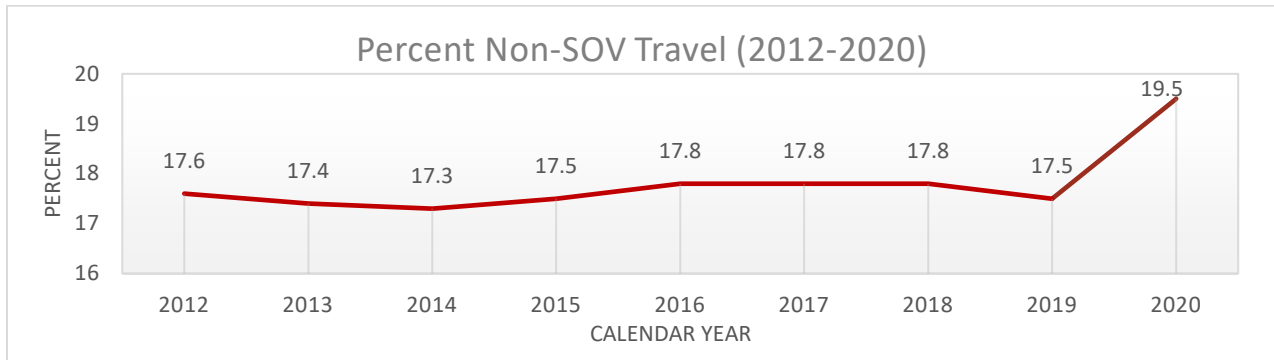


Figure 2. Non-SOV Travel from 2012 to 2020 in the St Louis area. Source: American Community Survey, 5-Year Estimates

Performance Targets

In 2018, a 2-year and 4-year target for Non-SOV travel was established at 16.7% and 17%, respectively. At the midpoint evaluation in 2020, the 4-year target was revised to a higher level of 17.7% due to the region already meeting the previously set target at the midpoint. At the end of the 4-year performance period, the revised target has been met. However, it is acknowledged that the target was met due to the increase in telecommuting due to the COVID-19 Pandemic. Please note that due to data release delays by the American Community Survey, the target was compared to 2020 data.

2021 Target (Set in 2018)	17.0 %
2021 Target (Revised in 2020)	17.7 %
2020 Actual	19.5 %
Target Met	YES

Total Emissions Reduction Measure

Performance Targets

Tables 4-6 detail the progress made toward achieving the 4-year target established in the 2020 Mid Performance CMAQ Progress Report by EWG. The reported benefits in the CMAQ Public Access system for NO_x and VOC are lower than the 4-year targets updated in 2018 due to CMAQ projects that were not implemented. There were two engine replacement projects in Illinois that did not move forward due to Buy America waiver issues. These projects accounted for nearly 64 kg/day of NO_x. Other projects were delayed into FY 2022. Note that the CO and PM_{2.5} reported emission reductions were higher than the target. The 4-year target established in 2018 represented the CMAQ projects funded to that point. Additional CMAQ projects were programmed in 2019 and 2020 that obligated funding prior to the end of 2021.

Table 4. Total Emissions Reduction Performance (4-Year Target) - Illinois and Missouri			
Pollutant	4-Year Target (2018-2021) Comparison to actual 4-Year Performance		
	4-Year Target (kg/day)	4-Year Reported (kg/day)	Target Met
Nitrogen Oxides (NO _x)	261.7	96.062	NO
Volatile Organic Compounds (VOC)	29.9	18.359	NO
Particulate Matter (PM2.5)	6.9	11	YES
Carbon Monoxide (CO)	201.9	335.5	YES

Table 5. Total Emissions Reduction Performance (4-Year Target) - Missouri			
Pollutant	4-Year Target (2018-2021) Comparison to actual 4-Year Performance		
	4-Year Target (kg/day)	4-Year Reported (kg/day)	Target Met
Nitrogen Oxides (NO _x)	195.7	89.162	NO
Volatile Organic Compounds (VOC)	24.6	16.459	NO
Particulate Matter (PM2.5)	4	10.9	YES
Carbon Monoxide (CO)	201.9	335.5	YES

Table 6. Total Emissions Reduction Performance (4-Year Target) - Illinois			
Pollutant	4-Year Target (2018-2021) Comparison to actual 4-Year Performance		
	4-Year Target (kg/day)	4-Year Reported (kg/day)	Target Met
Nitrogen Oxides (NO _x)	66	6.9	NO
Volatile Organic Compounds (VOC)	5.3	1.9	NO
Particulate Matter (PM2.5)	2.9	0.1	NO
Carbon Monoxide (CO)	n/a	n/a	n/a

Baseline Performance Period Report (2022 – 2025)

Baseline Performance and Targets

In order to set targets for the 2022-2025 CMAQ Performance Period, a baseline performance needs to be established. For PHED, the baseline is performance in year 2021. For Non-SOV, the baseline is regional performance in 2020. The total emissions reduction measure uses projects documented in the CMAQ Public Access System, between the fiscal years 2018-2021, as a baseline. All baselines and targets are presented in the tables and narrative below.

Peak-Hour Excessive Delay (PHED) Measure

The 2021 baseline PHED is 6.6 hours. To set a 4-year target for this performance period, a method needed to be developed to account for the changes in PHED due to the COVID-19 Pandemic. PHED data from 2020 is based on travel patterns that were severely impacted due to “stay at home” restrictions. In 2021, as the country and economy opened up again, many people resumed normal travel patterns. However, there was an increase in remote work that will influence future trends in PHED. Because of this, a hybrid target setting approach was used which combined the pre-COVID trendline with an analysis of monthly data in 2021. This leads to a 2-year target of 8.4 hours and a 4-year target of 8.3 hours. While it appears we are “targeting” an increase in PHED, the targets are lower than the previously established target of 9.5 hours.

Table 7: PHED Targets (2-Year and 4-Year)	
2021 Baseline	6.6 hours
2023 2-Year Target	8.4 hours
2025 4-Year Target	8.3 hours

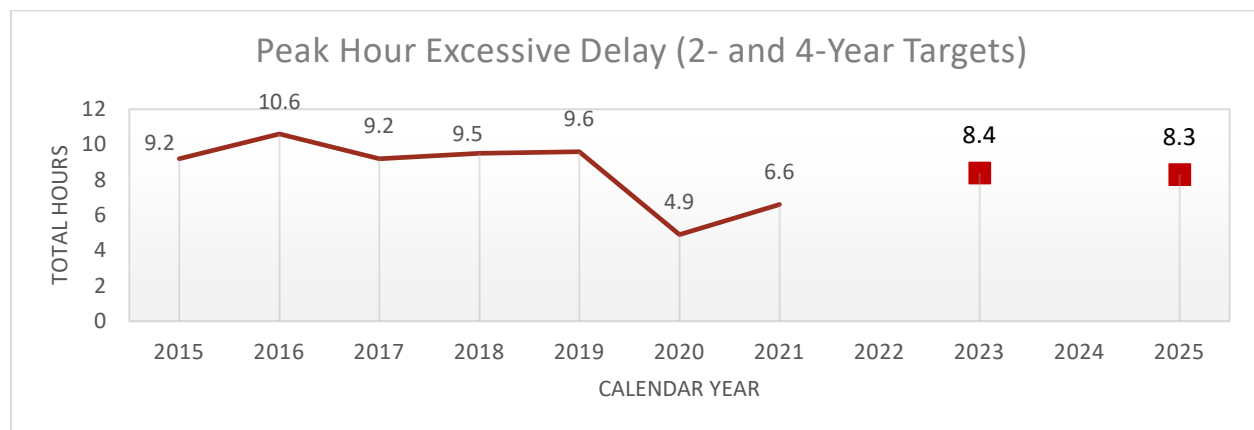


Figure 3. 2- and 4-year targets in relation to historical PHED data. Source: NPMRDS HERE (2015-2016) and NPMRDS INRIX (2017-2021)

Non-Single Occupancy Vehicle (Non-SOV) Measure

From 2012 to 2019, Non-SOV mode share had remained relatively constant, with slight increases and decreases that may be explained by the sample data utilized by the American Community Survey. In 2020, Non-SOV travel increased to 19.5%. This value serves as the baseline for the targets due to the 2021 ACS data not being available at the time the target were set. In 2020, the Non-SOV mode share increased due to the COVID-19 Pandemic and the resulting decrease in overall travel due to increased telecommuting. In 2021, individuals returned to commuting, however, there is a higher rate of telecommuting compared to pre-pandemic years. This is a fundamental change in commute patterns. Given the change in travel due to the pandemic and continuing investments in bicycle and pedestrian facilities, EWG recommends a 2-year target of 18.0% and a 4-year target of 18.2%. This serves as an increase from the pre-pandemic mode share of 17.7% but a decrease from the skewed data in 2020.

Table 8: Non-SOV Travel Targets (2-Year and 4-Year)	
2020 Baseline	19.5%
2023 2-Year Target	18.0%
2025 4-Year Target	18.2%

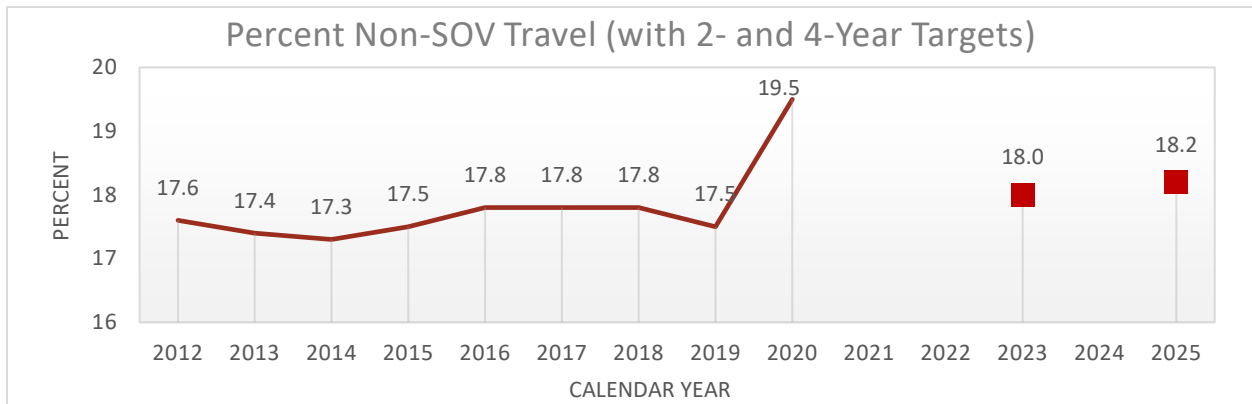


Figure 4. 2- and 4-year targets in relation to historical percent Non-SOV travel data. Source: American Community Survey, 5-Year Estimates

Total Emissions Reduction Measure

The baseline for on-road source emissions reduction is the regional emissions reduction performance between 2018 and 2021. The baseline uses only scheduled CMAQ funded projects that were scheduled and were either obligated or completed during the performance period.

Table 9. Total Emissions Reduction Baseline Performance			
FFY 2018-2022 Criteria Pollutants and Applicable Precursors from CMAQ Public Access System	IL (kg/day)	MO (kg/day)	Total (kg/day)
Volatile Organic Compounds (VOC)	6.9	89.162	96.062
Nitrogen Oxides (NO _x)	1.9	16.459	18.359

To set targets for FY 2022-2025, all CMAQ funded projects for the FY 2022-2025 TIP were analyzed for their emissions reductions. There are 65 CMAQ funded projects with quantitative emissions reductions. Total emissions reduction targets are below. Emissions reduction targets for Missouri and Illinois are included as well.

Table 10. Total Emissions Reduction Target			
Total Emissions Reduction Measure	2- and 4- year Total Emission Reductions for each applicable criteria pollutant and precursor for all projects funded with CMAQ funds		
	FFY 2022-2025 CMAQ Program Totals (kg/day)	2-year Target (kg/day)	4-year Target (kg/day)
Nitrogen Oxides (NO _x)	143.483	9.671	143.483
Volatile Organic Compounds (VOC)	8.673	3.308	8.673

Table 11. Emissions Reduction - Missouri			
Emissions Reduction Measure Missouri	2- and 4- year Emission Reductions for each applicable criteria pollutant and precursor for all projects funded with CMAQ funds		
	FFY 2022-2025 CMAQ Program (kg/day)	2-year (kg/day)	4-year (kg/day)
Nitrogen Oxides (NO _x)	142.004	8.836	142.004
Volatile Organic Compounds (VOC)	8.209	2.940	8.209

Table 12. Emissions Reduction - Illinois			
Emissions Reduction Measure Illinois	2- and 4- year Emission Reductions for each applicable criteria pollutant and precursor for all projects funded with CMAQ funds		
	FFY 2022-2025 CMAQ Program (kg/day)	2-year (kg/day)	4-year (kg/day)
Nitrogen Oxides (NO _x)	1.479	0.836	1.479
Volatile Organic Compounds (VOC)	0.464	0.368	0.464

Description of Projects

Table 13. Description of FFY 2022-2025 projects with CMAQ funding and expected benefits								
Project Category	Description of Projects	Applicable Pollutant	Anticipated Year of Obligation	State	NO _x Benefit kg/day	VOC Benefit kg/day	PHED Benefit	Non-SOV Benefit
Bicycle-Pedestrian Facilities	Shared use path	Ozone	2022	IL-MO	0.026	0.005	Yes – reduced peak hour delay	Yes – increased use of non-SOV
				IL	0.011	0.002		
				MO	0.015	0.003		
Rideshare	Rideshare marketing, vanpool acquisition	Ozone	2022	IL - MO	0.026	0.005	Yes – reduced peak hour delay	Yes – increased use of non-SOV
				IL	0.026	0.005		
				MO	0.000	0.000		
Traffic flow improvement	Intelligent Transportation Systems, intersection improvement, road improvement	Ozone	2022	IL - MO	2.836	1.850	Yes – reduced peak hour delay	Yes – increased use of non-SOV
				IL	0.025	0.012		
				MO	2.811	1.838		
Transit improvement	Replacement buses	Ozone	2022	IL - MO	1.663	0.023	Yes – reduced peak hour delay	Yes – increased use of non-SOV
				IL	0.205	0.003		
				MO	1.458	0.020		
Travel demand management	Education	Ozone	2022	IL - MO	0.057	0.004	Yes – reduced peak hour delay	Yes – increased use of non-SOV
				IL	0.019	0.004		
				MO	0.038	0.000		
Alternative Fuels & Vehicles	Publicly owned fueling infrastructure	Ozone	2023	IL-MO	0.092	0.057	No	No
				IL	0.092	0.057		
				MO	0.000	0.000		
Bicycle-Pedestrian Facilities	Shared use path	Ozone	2023	IL-MO	0.093	0.033	Yes – reduced peak hour delay	Yes – increased use of non-SOV
				IL	0.000	0.000		
				MO	0.093	0.033		

Table 13. Description of FFY 2022-2025 projects with CMAQ funding and expected benefits

Project Category	Description of Projects	Applicable Pollutant	Anticipated Year of Obligation	State	NO _x Benefit kg/day	VOC Benefit kg/day	PHED Benefit	Non-SOV Benefit
Engine technologies	Marine engine repower	Ozone	2023	IL - MO	2.808	0.190	No	No
				IL	0.000	0.000		
				MO	2.808	0.190		
Traffic flow improvement	Intelligent Transportation Systems, intersection improvement, road improvement	Ozone	2023	IL - MO	1.611	1.056	Yes – reduced peak hour delay	Yes – increased use of non-SOV
				IL	0.303	0.255		
				MO	1.308	0.800		
Transit improvement	Operating assistance and fuel	Ozone	2023	IL - MO	0.011	0.003	No	Yes – increased use of non-SOV
				IL	0.000	0.000		
				MO	0.011	0.003		
Travel demand management	Education	Ozone	2023	IL - MO	0.430	0.078	Yes – reduced peak hour delay	No
				IL	0.155	0.030		
				MO	0.275	0.048		
Travel demand management	Fringe parking	Ozone	2023	IL - MO	0.020	0.004	Yes – reduced peak hour delay	No
				IL	0.000	0.000		
				MO	0.020	0.004		
Bicycle-Pedestrian Facilities	Shared use path	Ozone	2024	IL- MO	0.027	0.006	Yes – reduced peak hour delay	Yes – increased use of non-SOV
				IL	0.000	0.000		
				MO	0.027	0.006		
Traffic flow improvement	Intelligent Transportation Systems, intersection improvement, road improvement	Ozone	2024	IL - MO	0.585	0.700	Yes – reduced peak hour delay	Yes – increased use of non-SOV
				IL	0.096	0.088		
				MO	0.489	0.612		
Transit improvement	Replacement buses	Ozone	2024	IL - MO	0.277	0.004	Yes – reduced	Yes – increased

Table 13. Description of FFY 2022-2025 projects with CMAQ funding and expected benefits

Project Category	Description of Projects	Applicable Pollutant	Anticipated Year of Obligation	State	NO _x Benefit kg/day	VOC Benefit kg/day	PHED Benefit	Non-SOV Benefit
				IL	0.277	0.004	peak hour delay	use of non-SOV
				MO	0.000	0.000		
Bicycle-Pedestrian Facilities	Shared use path	Ozone	2025	IL-MO	0.152	0.099	Yes – reduced peak hour delay	Yes – increased use of non-SOV
				IL	0.000	0.000		
				MO	0.152	0.099		
Engine technologies	Marine engine repower	Ozone	2025	IL - MO	130.569	4.452	No	No
				IL	0.000	0.000		
				MO	130.569	4.452		
Traffic flow improvement	Intelligent Transportation Systems, intersection improvement, road improvement	Ozone	2025	IL - MO	0.128	0.074	Yes – reduced peak hour delay	Yes – increased use of non-SOV
				IL	0.000	0.000		
				MO	0.128	0.074		
Transit improvement	Replacement buses	Ozone	2025	IL - MO	2.072	0.030	Yes – reduced peak hour delay	Yes – increased use of non-SOV
				IL	0.270	0.004		
				MO	1.802	0.026		

Appendix A: Data Sources for Performance Measures

Data Requirements and Resources

MPOs are required to use data sources determined by the FHWA to assess condition and performance for the CMAQ Performance Plan. State DOTs and MPOs must coordinate on each target and use specific data sources to calculate performance for each measure.

Peak Hour Excessive Delay (PHED) Measure

State DOTs and MPOs are required to report a single, unified PHED target for each urbanized area and must use the same data source. EWG coordinated with the Illinois Department of Transportation (IDOT) and Missouri Department of Transportation (MoDOT) to set targets. Table 1A includes the data sources that MPOs are required to use to assess performance and calculate the PHED target. EWG used NPRMDS INRIX data from the Regional Integrated Transportation Information System (RITIS) MAP-21 tool to calculate targets for its urbanized area. The weekday evening peak hour period used was 3:00 p.m. to 7:00 p.m.

Relevant Data	Data Source Options	How to Access
Urbanized Area Boundary	<ul style="list-style-type: none"> US Decennial Census HPMS 	<ul style="list-style-type: none"> American FactFinder provides Census data for the most recent decennial census. The HPMS Field Manual provides detailed instructions for how to enter and extract data in HPMS
Urbanized Area Population	Total population in the applicable urbanized area from the most recent annual population published by the U.S. Census at the time that the State Biennial Performance Period Report is due to FHWA	5-year annual estimates from American Community Survey (Table DP05) filtered by "Urban Area" ³⁸ at the time that the State Biennial Performance Period Report is due to FHWA.
Reporting Segments	National Performance Management Research Data Set (NPMRDS) OR	FHWA provides State DOTs and MPOs with access to NPMRDS. Visit the FHWA Operations Performance Measurement webpage for additional details.
	Equivalent data set	Refer to 23 CFR 490.103(e)
Travel Times in 15-minute intervals	NPMRDS, OR	FHWA provides State DOTs and MPOs with access to NPMRDS. Visit the Operations Performance Measurement webpage for additional details.
	Equivalent data set	Refer to 23 CFR 490.103(e)

Table 1A. PHED Data Sources (Source: FHWA CMAQ Performance Plan Guidebook for MPOs)		
Relevant Data	Data Source Options	How to Access
Hourly Traffic Volume	Annual traffic volume counts, OR	State DOTs may use hourly traffic volume counts collected by continuous count stations and apply them to one or more reporting segments.
	AADT reported to the HPMS	State DOTs Average Annual Daily Traffic (AADT) reported to HPMS to estimate hourly traffic volumes when no hourly volume counts exist. The HPMS Field Manual provides detailed instructions for how to enter and extract data in HPMS.
Annual Vehicle Classification for Buses, Trucks, and Cars	Annual traffic volume counts, OR	State DOTs may use hourly traffic volume counts collected by continuous count stations and apply them to one or more reporting segments.
	Data provided by FHWA, OR	FHWA to provide data for each urbanized area.
Annual Vehicle Occupancy for Cars, Buses, and Trucks	Alternative estimate that is more specific	State DOTs may use an alternative estimate of annual vehicle occupancy factors for a specific reporting segment(s) for cars, buses, and trucks in urbanized areas, provided that it is more specific than the data provided by FHWA.

Non-Single Occupancy Vehicle (Non-SOV) Travel Measure

State DOTs and MPOs have the option to use one of three count methodologies when calculating the Non-SOV Travel measure; all applicable agencies must use the same data source. Table 2A describes the three data source options. EWG, IDOT, and MoDOT used Method A: the American Community Survey to calculate performance for this measure.

Table 2A. Non-SOV Travel Data Sources (Source: FHWA CMAQ Performance Plan Guidebook for MPOs)			
Method	Relevant Data	Source	How to Access
Method A: American Community Survey	5 Year Estimate for "Commuting to Work" totaled by mode, as of August 15 of year State Biennial Performance Report is due	American Community Survey (Table DP03) filtered by "Urban Area", as of August 15th of the year in which the State Biennial Performance Report is due to FHWA51	American FactFinder52 provides data for the most recent American Community Survey
Method B: Local Survey	Travel mode choices gathered within 2 years of the start of the Performance Period	Local Survey*	Through local sources
Method C: System Use Measurement	Sample or continuous count of travelers using different modes	System Use Measurement**	Through local sources

Total Emissions Reduction Measure

The CMAQ Public Access System is the required data source for calculating the Total Emissions Reduction measure (Table 3A). State DOTs are responsible for submitting project information to the CMAQ Project Tracking System by March 1 of each Federal fiscal year (with the CMAQ Annual Report), for all projects obligated in the previous Federal fiscal year.

Table 3A. Total Emissions Reduction Data Source (Source: FHWA CMAQ Performance Plan Guidebook for MPOs)		
Relevant Data	Data Source Options	How to Access
Emission reduction estimated for each CMAQ funded project by pollutant and precursor	State DOT extracted data from CMAQ Public Access System on July 1 each year	CMAQ Public Access System Website: https://fhwaapps.fhwa.dot.gov/cmaq_pub

Appendix B: Consolidated 2022-2025 Baseline Performance and Targets

MoDOT / IDOT / EWG System Performance Targets

September 2022

Performance Measure	2021 Baseline	2023 Target	2025 Target
Peak Hour Excessive Delay (PHED) Measure: Annual Hours of PHED Per Capita (single unified target for EWG, IDOT, MoDOT) using 3-7 P.M.	6.6	8.4	8.3
Non-Single Occupancy Vehicle Travel (SOV) Measure: Percent of non-SOV Travel (single unified target for EWG, IDOT, MoDOT)	19.5%*	18.0%	18.2%
Total Emissions Reduction for PM2.5 reported in kg/day	N/A	N/A	N/A
Total Emissions Reduction for NO _x reported in kg/day	96.062**	9.671	143.483
Total Emissions Reduction for VOC reported in kg/day	18.359**	3.308	8.673
Total Emissions Reduction for CO reported in kg/day	N/A	N/A	N/A

*Baseline from 2020 due to delay in release of 2021 ACS 5 Year estimates

**Baseline from reported emissions reduction in CMAQ projects 2018-2021