



Performance Measure (PM) 3 Report Federal Fiscal Year 2022

This document outlines the Federal Fiscal Year (FFY) 2022 prior performance period (2018-2021) progress, new baseline scores, and 2- and 4-year targets for system performance (PM 3) for New Mexico, as required by 23 CFR 490, System Performance/Freight/Congestion Mitigation Air Quality (CMAQ) Final Rule published January 18, 2017 (effective May 20, 2017). The new baseline scores and 2- and 4-year targets are for the next reporting period, 2022-2025). The New Mexico Department of Transportation (NMDOT) Multimodal Planning and Programs Bureau (MPPB) is responsible for reporting on progress and coordinating the setting of PM 3 targets.

Overview of PM 3 Measures

The PM 3 measures are as follows:

1. Two measures to assess system performance:
 - a. Percentage of person-miles traveled on the Interstate System that are reliable
 - b. Percentage of person-miles traveled on the non-Interstate National Highway System (NHS) that are reliable
2. One measure to assess freight movement:
 - a. Truck Travel Time Reliability (TTTR) Index
3. Three measures to assess the CMAQ Program:
 - a. Annual Hours of peak-hour excessive delay per capita (applies to El Paso Metropolitan Planning Organization (EPMPO) planning area only)
 - b. Percent of Non-Single Occupancy Vehicle (SOV) travel (applies to EPMPO planning area only)
 - c. On-Road Mobile Source Emissions Reduction (applies to EPMPO planning area only)

Coordination within NMDOT and with Metropolitan Planning Organizations

The NMDOT coordinated within NMDOT, as well as with the Metropolitan Planning Organizations (MPOs), on system performance and freight reliability progress and target review.

1. On March 7, 2022, MPPB staff presented the PM 3 Dashboard, created by High Street Consulting Group on behalf of NMDOT, to the MPOs at the MPO Quarterly. The PM 3 Dashboard showed the final progress results for the prior reporting period (2018-2021), the new baseline scores for the 2022-2025 performance period, as well as interactive maps allowing the user to view system performance metrics on specific roadway segments. MPPB also invited the MPOs to access and view the PM 3 dashboard on their own.
2. On April 13, 2022, MPPB staff emailed NMDOT leadership, including the District Engineers (DEs), information on the PM 3 progress and new baseline information, inviting them to view the PM 3 Dashboard, as described above.
3. On May 25, 2022, MPPB staff and High Street Consulting Group presented PM 3 forecasting methodology to the DEs and asked for their input on the specific targets. The DEs that offered comments agreed that the targets should not be overly-aggressive and that some congestion is acceptable. The District 3 DE specifically said that he would expect the TTTR Index to become less reliable in the coming years based upon his field observations.
4. On June 14, 2022, MPPB staff sent 2- and 4-year draft targets, for the 2022-2025 performance period, to the DEs for their consideration. No comments were received.

5. On June 15, 2022, MPPB staff and High Street Consulting Group presented PM 3 forecasting methodology and 2- and 4-year draft targets, for the 2022-2025 performance period, to the MPOs at the MPO Quarterly meeting. The only comments received were in support of the targets.
6. On September 8, 2022, MPPB staff emailed the MPOs a draft of this report, as well as the draft responses to the questions in the Performance Management Forms (prior period and new period), for a two-week review and comment period. MPPB received minimal comments, and no substantive comments that affected the narrative or targets.
7. On November 22, 2022, NMDOT Cabinet Secretary Ricky Serna concurred with the prior period's progress determinations and the next period's 2- and 4- year targets, as contained in this report.

Data Methodologies and Assumptions

The FFY2022 PM 3 targets are set based on future System Performance and Freight Movement forecasts developed by High Street on behalf of NMDOT. The forecasting methodology relates current roadway volumes and capacities to performance metric scores. Future volumes and capacities are updated based on assumed traffic volume growth and programmed capacity enhancement projects. Future System Performance and Freight Movement forecasts are derived by training statistical models based on current condition and performance data and updating the model inputs based on assumed future traffic volumes and capacities.

Data Sources

1. PM3 system performance and freight movement segment-level metric scores for NMDOT's road network, calculated by High Street based on 2019 National Performance Management Research Data Set (NPMRDS) data in accordance with Federal Highway Administration (FHWA) guidance
2. Segment-level free-flow traffic speeds, as reported in NPMRDS for 2019
3. Traffic volumes, as reported by NMDOT and available in the NPMRDS shapefiles
4. Roadway attributes, including functional class and urban / rural designation
5. Traffic volume growth rates provided by NMDOT and calculated using historical Highway Performance Monitoring System (HPMS) volumes
6. Capacity enhancement projects, with project boundaries and projected completion dates

Methodology

The forecasting methodology consists of four steps:

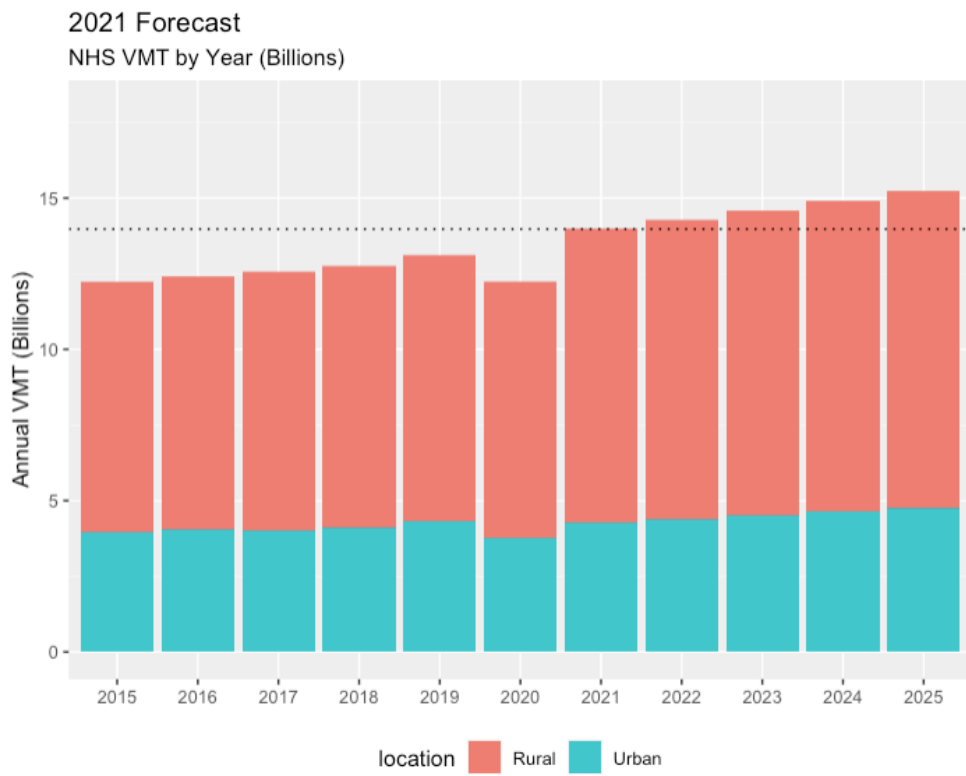
1. Setup: Calculate current performance, volume, and capacity.
 - a. K-factors (the percent of total daily traffic during peak hour) are calculated based on probe data and, where missing, are estimated based on functional class and urban or rural designation.
 - b. Roadway capacities are calculated by assigning functional-class capacity assumptions (based on the Highway Capacity Manual (HCM) and other sources) and updating these capacities based on observed free-flow speeds reported in the NPMRDS.
 - c. Future annual roadway capacities are forecasted based on widening/capacity projects and work zone closures as prescribed in the NMDOT Statewide Transportation Improvement Program (STIP).
 - d. Future roadway volumes are forecasted based on segment growth rates based on 2017-2021 NPMRDS Average Annual Daily Traffic (AADT) volumes combined with NDMOT growth rate estimates. Segment specific volume adjustments were made for years 2020 and 2021 using NMDOT recorded volumes.

Table 1: Forecast Future Volume

Growth Rate	Directional Miles (Statewide)	Percent of System (Statewide)
< 0%	1526	24%
0 – 1%	1531	24%
1 – 2%	979	16%
2 – 3%	1074	17%
3 – 5%	848	14%
> 5%	326	5%

2.2% weighted average

Growth rates damped at high volume / capacity (V/C) ratios



- Model Fitting: Log-level linear regression models are fit relating non-interstate level of travel time reliability (LOTTR) to roadway volume / capacity ratio, functional class and urban/rural designation. Interstate LOTTR to roadway location (urban / rural) and volume / capacity ratio and TTTR to roadway location (urban / rural) and volume / capacity ratio.
- Score Update: Updated segment scores are calculated using the forecasted future volume and capacity.

Assumptions

The following tables and information outline the assumptions used in the methodologies.

Table 2: Functional-Class Capacity Assumptions

Location	Functional System	Reference speed	Capacity (passenger cars per lane per hour)
Rural	Interstate	75	2100
Rural	Principal Arterial - Other Freeways and Expressways	60	1950
Rural	Principal Arterial - Other	55	1850
Rural	Minor Arterial	45	850
Rural	Major Collector	40	750
Rural	Minor Collector	35	650
Rural	Local	25	450
Urban	Interstate	70	2200
Urban	Principal Arterial - Other Freeways and Expressways	45	1200
Urban	Principal Arterial - Other	40	920
Urban	Minor Arterial	35	760
Urban	Major Collector	30	680
Urban	Minor Collector	30	680
Urban	Local	25	425

Reference Capacities Adapted from HCM 2000 and Washtenaw Area Transportation Study's Regional Travel Model (WATS RTM). Reference Capacity Updated using NPMRDS Free Flow Speed. +150 Passenger Cars Per Lane per Hour (PCPLPH) per 5 mph over reference speed (max +600), -100 PCPLPH per 5 mph under reference speed (min -300).

Capacity Updates

To account for increases in future capacity due to capacity enhancing projects, the existing road network is updated to add +1 directional lane to affected (overlapping) Traffic Message Channel (TMC) segments coinciding with project boundaries. Partially overlapping TMC segments are assigned a pro-rated partial additional lane. In some cases, due to the 15-meter conflation buffer used to relate project boundaries and TMC segments, some divided highways are updated with an additional lane in each direction. Capacity updates are applied for the expected completion year and subsequent years.

During the year that a project is scheduled to be completed, capacity is subtracted (half a lane of capacity) to account for work zone delays.

Table 3: Baseline and Forecasted Performance Scores

	Baseline (2021)	Two Year Performance (2023)	Four Year Performance (2025)
LOTTR Interstates	98.5%	98.5%	98.5%
LOTTR Non-Interstate NHS	97.5	97.7	97.7
TTTR	1.23	1.23	1.23

NMDOT PM 3 Progress Report (Performance Period 2018-2021)

1. Percentage of person-miles traveled on the Interstate System that are reliable

Measure	Baseline Score (2017)	NMDOT Target (2019)	Actual (2019)	NMDOT Target (2021)	Actual (2021)
Interstate Reliability	96.0%	96.1%	96.9%	95.1%	98.5%

NMDOT Performance Statement: The percent of reliable person-miles traveled on the Interstate improved from 2017 (96.00% reliable) to 2021 (98.5% reliable). NMDOT met its 4-year (2021) target of the Interstates being 95.1% reliable.

NMDOT Justification: During the performance period timeframe (2018-2021), NMDOT completed numerous projects along the Interstate Highways that contributed to increased reliability. Specifically, NMDOT reconstructed the interchange at I-25 and University in Las Cruces (LC00250) to include longer deceleration lanes, and also to provide a direct connector to the New Mexico State University campus to avoid delays on I-25. Additionally, NMDOT reconfigured the I-25 and Rio Bravo interchange in Albuquerque (A300280) to provide for longer deceleration lanes to reduce backup and delays on I-25. On I-40, NMDOT completed two more projects that also increased reliability. From mileposts 39.8-42.5 NMDOT reconstructed the interchange at Refinery Road, and also added truck climbing lanes on I-40 for about 3 miles (6100902). Also, between mileposts 4.4-5.4, NMDOT replaced and widened the bridge, thus providing wider shoulders that can be used as extra lanes during crashes or construction (6101131). Lastly, NMDOT installed Intelligent Transportation System (ITS) elements on I-10 (1101740) to alert traffic coming from Arizona to potential dust storms along I-10. This provides the opportunity for trucks and motorists to stop when the Interstate is closed, rather than idle on the Interstate until it reopens.

2. Percentage of person-miles traveled on the non-interstate National Highway System (NHS) that are reliable

Measure	Baseline Score (2017) ¹	NMDOT Target (2019) ²	Baseline Score (2019)	NMDOT Target (2021)	Actual (2021)
Non-Interstate (NHS) Reliability	90.5%	NA	93.7%	90.4%	97.5%

NMDOT Performance Statement: The percent of reliable person-miles traveled on the Non-Interstate NHS improved from 2017 (90.5% reliable) and 2019 (93.7% reliable) to 2021 (97.5% reliable). NMDOT met its 4-year (2021) target of the Non-Interstate NHS being 90.4% reliable.

NMDOT Justification: During the performance period timeframe (2018-2021), NMDOT completed numerous projects along the Non-Interstate NHS that contributed to increased reliability. On NM 136 from mileposts 0-9.1, just north of the Santa Teresa Port of Entry, NMDOT reconstructed the roadway with a reinforced concrete section to allow for overweight loads from Mexico to enter, which decreased the back-up of trucks at this location (E100081/ E100082/ E100083). On US 82 between mileposts 107.4-139.1 (2101771), NMDOT reconstructed and widened the road to four lanes, to help accommodate the oil/gas related freight movements. The roadway was also reconstructed and widened to four lanes on US 54 between mileposts 69.5-78.2 (2100554). Farther north on US 54 between mileposts 302.5-304 (400831), the road was also reconstructed and widened to four lanes. Both of these improvements on US 54 provide for better interstate freight movements between Texas, New Mexico and Oklahoma. Between mileposts 7.75-18.5 (6100911) on NM 6, which is a connecting route between I-25 and I-40, NMDOT reconstructed and widened the road to four lanes. Lastly, US 64 between mileposts 54-58 (F100112/ F100113), near Farmington, was widened to six lanes to help accommodate oil/gas freight traffic.

3. Index of the Interstate System mileage providing for reliable truck travel times that are reliable

Measure	Baseline Score (2017)	NMDOT Target (2019)	Actual (2019)	NMDOT Target (2021)	Actual (2021)
Truck Travel Time Reliability Index	1.13	1.14	1.18	1.15	1.23

NMDOT Performance Statement: New Mexico’s National Highway Freight Network is generally quite reliable for truck freight. However, through the reporting period the Truck Travel Time Reliability index nominally declined from 2017 (1.13) to 2021 (1.23), and NMDOT did not meet its target of 1.15.

NMDOT Justification: This small decrease in reliability can mostly be attributed to large construction projects on I-40 during this time period. Specifically, eastbound I-40 just east of Gallup experienced significant delays, with the highest 2021 TTTR score of 13.32. This section of I-40 rebounded to normal levels of reliability (TTTR <2) in September 2021 and we can expect a similar future performance. Another section of I-40, near Mesita on Laguna Pueblo, was also under construction during this time period, and had a 2021 TTTR score of 9.39. While the TTTR on this section appears more varied over the course of 2021 than the previously mentioned section of I-40, we can also expect that the TTTR scores

¹ These numbers are for internal tracking only; NMDOT was not required to report this information to FHWA. From FHWA’s TPM dashboard: “For the first performance period only, baseline condition and 2-year targets are not required for the Non-Interstate NHS reliability measure.”

² See footnote 1.

will stabilize upon completion of the construction project. Additionally, once complete, both of these projects should ultimately make freight movements more reliable in New Mexico.

The only other section of the Interstate system in New Mexico that had a TTTR of over 5 in 2021 is the section of westbound I-40 where it intersects I-25 in Albuquerque, which had a 2021 TTTR score of 5.1. This area is one of the most consistent freight bottlenecks in New Mexico. This particular segment of I-40 is where the traffic moving from southbound I-25 merges onto westbound I-40, and this level of reliability is expected.

Ultimately, the two construction projects on I-40 discussed above contributed to NMDOT not meeting its 2021 TTTR Index target of 1.15. Since these conditions are temporary, we can reasonably expect that the statewide TTTR Index score will not be similarly affected by these segments in the future. Additionally, after observing the impacts of these projects on the TTTR score, we integrated similar conditions into TTTR forecasting for the next performance period. Specifically, NMDOT used future project information found in the STIP to anticipate potential delays associated with construction projects to account for these anticipated delays for the next round of forecasting and target setting.

Over the 2018 to 2021 reporting period NMDOT completed the following capital investments to improve statewide Truck Travel Time Reliability on the Interstate System, though some projects temporarily negatively impacted freight reliability during construction:

- Reconstruction of the I-25 and Rio Bravo interchange, including the addition of longer deceleration lanes (A300280)
- Reconstruction of the I-25/University interchange in Las Cruces, including the addition of longer deceleration lanes (LC00250)
- Reconstruction of the I-40/Refinery interchange, east of Gallup, including adding truck climbing lanes on I-40 (6100902)
- Replacement of a bridge along I-40 at mileposts 4.4-5.4, including widening so that the shoulders may be used in case of crashes or construction (6101131)
- Installation of an ITS system on I-10 from mileposts 0-25, alerting traffic coming from Arizona to the possibility of dust storms, allowing trucks and motorists to exit and stop rather than idling on the Interstate in the case of closure (1101740)
- I-40, mileposts 111-117 – Replacement of median cable barrier with concrete wall barrier. Reconstruction of pavement on curves to correct deficiencies and rehab additional pavement. Bridge No. 6491 rehabilitated. (6101181)
- I-40, mileposts 152 to MP 155.5 – Pavement preservation including pavement markings, signage and other appurtenances as needed (A302100)

4. Annual Hours of peak-hour excessive delay per capita

NMDOT Performance Statement: In the initial performance period (2018-2021), the rule applied to urbanized areas of more than 1 million people that are also in nonattainment or maintenance areas for ozone, carbon monoxide or particulate matter. Currently, there are no such urbanized areas in New Mexico.

NMDOT Justification: Not applicable based on current urbanized area populations and nonattainment or maintenance thresholds.

5. Percent of Non-Single Occupancy Vehicle (SOV) travel

NMDOT Performance Statement: In the initial performance period (2018-2021), the rule applied to urbanized areas of more than 1 million people that are also in nonattainment or maintenance areas for ozone, carbon monoxide or particulate matter. Currently, there are no such urbanized areas in New Mexico.

NMDOT Justification: Not applicable based on current urbanized area populations and nonattainment or maintenance

thresholds.

6. On-Road Mobile Source Emissions Reduction

Measure	Baseline Determination (2017)	EPMPO / NMDOT Target (2019)	Actual (2019)	EPMPO / NMDOT Target (2021)	Actual (2021)
Emissions PM 10	Non-Attainment	1.79 kg/day	NA	3.48 kg/day	0.0071 kg/day

NMDOT Performance Statement: For the full performance period, NMDOT estimates that the obligated CMAQ projects cumulatively contributed to a 0.0071 kg/day reduction in Particulate Matter 10 (PM 10). This is below the 4-year adjusted target, set in 2020, of 3.48 kg/day. The original target for PM10, set in 2018, was for a 1.79 kg/day reduction.

NMDOT Justification: The performance for the Emissions measure is based upon anticipated benefits from obligated CMAQ projects in the area of nonattainment/maintenance. Of the four CMAQ projects obligated in this timeframe, only one project anticipated any PM 10 benefit (E100202). The projects often provided more air quality benefits for other pollutants.

Opportunities to reduce PM 10 in this area using CMAQ funds are limited due to a few challenges. The El Paso MPO (EPMPO) and NMDOT struggle in awarding and funding CMAQ projects in the EPMPO-NM planning area, specifically because the local public agencies in this area often do not have funding for the match requirement associated with federal projects. In addition, the challenges (e.g. specific expertise, substantial time commitment) of managing federal grants may discourage applications.

EPMPO and NMDOT worked and continue to work actively to find CMAQ projects in the EPMPO-NM area and hope that in the future these efforts manifest in projects that contribute to better air quality performance.

NMDOT PM 3 Baseline and 2- and 4-Year Targets (2022-2025)

1. Percentage of person-miles traveled on the Interstate System that are reliable

Measure	2022 Baseline Score (2021 Actual)	NMDOT Target (2021)	Recommended NMDOT Target (2023)	Recommended NMDOT Target (2025)
Interstate Reliability	98.5%	95.1%	95.1%	95.1%

NMDOT Target Statement and Justification: The Interstate Level of Travel Time Reliability (LOTTR) forecasts for this period were 98.5% for each year, 2022-2025. NMDOT and its consultants shared this information with the NMDOT District Engineers, as well as the staff of the five MPOs in New Mexico, for discussion to help establish the actual targets. For the LOTTR (Interstate) targets, the reliable actual performance assisted in NMDOT’s decision to retain the prior target of 95.1% for both the 2- and 4-year targets. NMDOT believes this represents an acceptable level of reliability and

investment in reliability.

2. Percentage of person-miles traveled on the non-interstate National Highway System (NHS) that are reliable

Measure	2022 Baseline Score (2021 Actual)	NMDOT Target (2021)	Recommended NMDOT Target (2023)	Recommended NMDOT Target (2025)
Non-Interstate (NHS) Reliability	97.5%	90.4%	94.1%	94.1%

NMDOT Target Statement and Justification: The Non-Interstate NHS Level of Travel Time Reliability (LOTTR) forecasts for this period ranged from 97.8% in 2022 and 2023, and 97.7% in 2024 and 2025 for each year. NMDOT and its consultants shared this information with the NMDOT District Engineers, as well as the staff of the five MPOs in New Mexico, for discussion to help establish the actual targets. For the LOTTR (Non-Interstate NHS) targets, the reliable actual performance assisted in NMDOT’s decision to set the 2- and 4- year targets of 94.1%. NMDOT believes this represents an acceptable level of reliability and investment in reliability. The number of 94.1% is 1% less than the LOTTR Interstate targets and was selected as it closely mirrors the relationship between the Interstate and Non-Interstate NHS baseline and forecasts, which are also approximately 1% apart.

3. Index of the Interstate System mileage providing for reliable truck travel times that are reliable

Measure	2022 Baseline Score (2021 Actual)	NMDOT Target (2021)	Recommended NMDOT Target (2023)	Recommended NMDOT Target (2025)
Truck Travel Time Reliability Index	1.23	1.15	1.30	1.30

NMDOT Target Statement and Justification: The Truck Travel Time Reliability (TTTR) Index forecasts for this period were 1.23 for each year, 2022-2025. NMDOT and its consultants shared this information with the NMDOT District Engineers, as well as the staff of the five MPOs in New Mexico, for discussion to help establish the actual targets. For the TTTR targets, the relatively reliable actual performance assisted in NMDOT’s decision to set the 2- and 4-year targets of 1.30. NMDOT believes this represents an acceptable level of reliability and investment in reliability.

4. Annual Hours of peak-hour excessive delay (PHED) per capita

Measure	2022 Baseline Score (2021 Actual)	Recommended EPMPO / NMDOT Target (2023)	Recommended EPMPO / NMDOT Target (2025)
Peak-Hour Excessive Delay (PHED)	7.5	9.0	10.0

NMDOT Target Statement and Justification: The actual reported PHED indicates that in 2019 (6.3 hours) and 2020 (4.6 hours) there was a big drop in PHED, likely due to pandemic-related reductions in all travel; however, the reported value rose significantly in 2021 (7.5 hours), to a higher value than in 2017 (7.4 hours), indicating an upward trend. Due to 2019 and 2020 not being consistent values, it is difficult to use this period of data to forecast and obtain a reliable target. Given these challenges, and that EPMPO/Texas DOT (TxDOT)/NMDOT can adjust them at the mid-performance report (with the benefit of two more years of data), EPMPO/TxDOT/NMDOT set a target of no more than nine (9) hours of peak hour excessive delay for the 2-year target, and ten (10) hours for the 4-year target, for the 4-8 p.m. peak period.

5. Percent of Non-Single Occupancy Vehicle (SOV) travel

Measure	Baseline Score (2022)	Recommended EPMPO / NMDOT Target (2023)	Recommended EPMPO / NMDOT Target (2025)
Non-Single Occupancy Vehicle	20.2%	20.0%	20.0%

NMDOT Target Statement and Justification: Federal rulemaking allows for a variety of data sources for this measure, but strongly encourages use of 5-Year American Community Survey (ACS) results for the sake of consistency with state and federal partners. While results of the ACS are generally not available in the year they were collected, federal guidance explicitly allows the reporting agency to use the latest available ACS results for target-setting. For this performance period EPMPO used the ACS to establish targets. Looking at the estimates provided by the Texas A&M Transportation Institute (TTI), approximately 18% of commuting trips qualified as Non-SOV travel in 2018, and 19.0% in 2019. The ACS data, as provided in the Performance Management Form, set the baseline Non-SOV travel at 20.2%.

These estimates were used as the baseline to develop a trendline and extrapolate to set the proposed targets for years 2024 and 2026. The desired trend is to increase the percent share of Non-SOV. However, if the best-fit line method is applied to only two years of data and extrapolated through the end of the performance period, the 2024 target would be 24.5%, and 26.7% for the 4-year target in 2026. EPMPO/TxDOT/NMDOT believe these numbers are unrealistic, even if there is a great effort by entities to increase the mode shares. Therefore, EPMPO/TxDOT/NMDOT set both the 2-year and 4-year targets at 20%. Using these targets, the goal for this performance period will be to maintain current mode shares. These targets may be adjusted when additional data is available at the mid-performance period report in two years.

6. On-Road Mobile Source Emissions Reduction

Measure	Baseline Score (2022)	Recommended EPMPPO / NMDOT Target (2023)	Recommended EPMPPO / NMDOT Target (2025)
Emissions NOx	0.120 kg/day	0.0032 kg/day	0.0060 kg/day

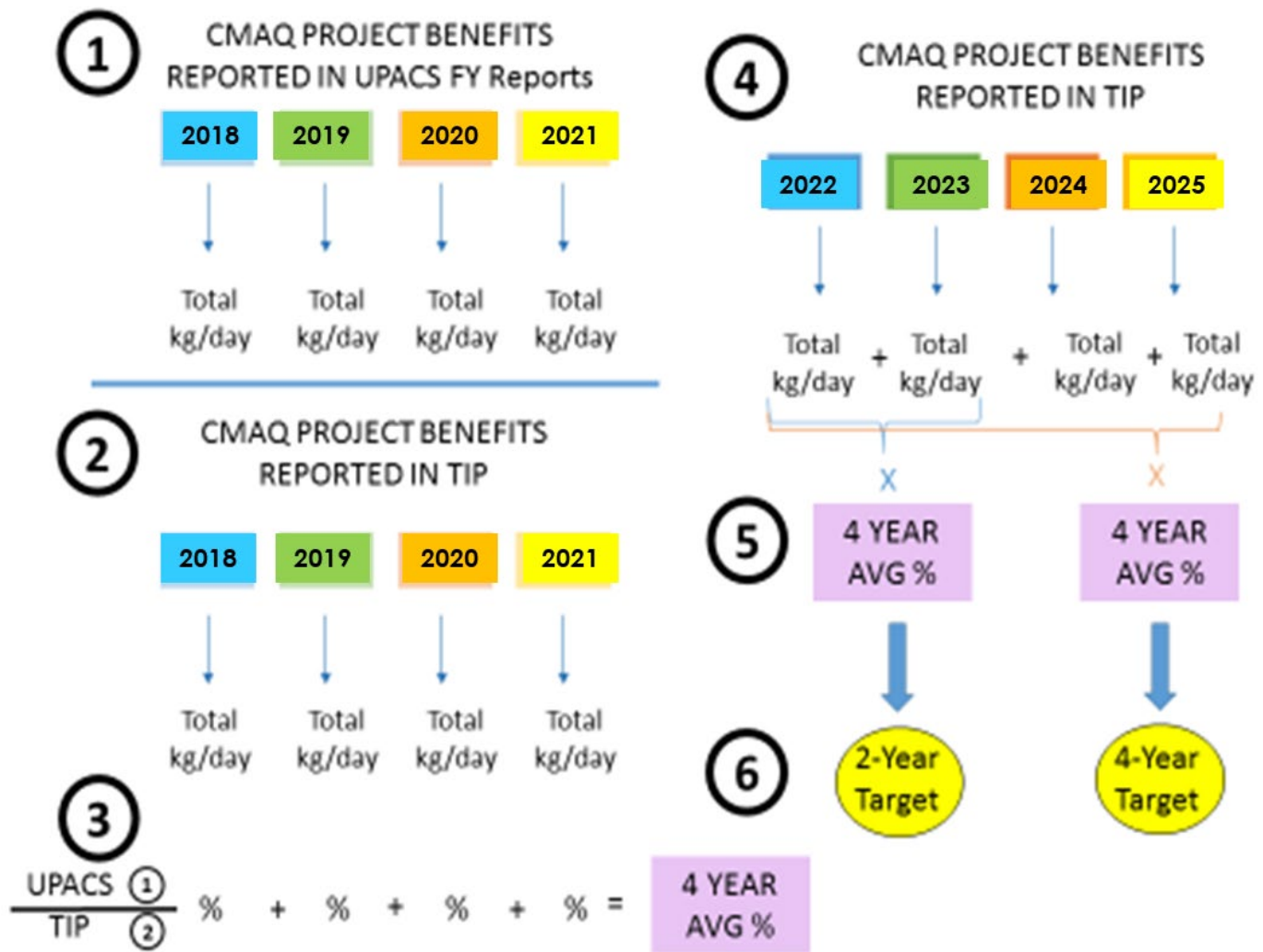
Measure	Baseline Score (2022)	Recommended EPMPPO / NMDOT Target (2023)	Recommended EPMPPO / NMDOT Target (2025)
Emissions VOC	0.064 kg/day	0.0108 kg/day	0.0218 kg/day

Measure	Baseline Score (2022)	EPMPPO / NMDOT Target (2021)	Recommended EPMPPO / NMDOT Target (2023)	Recommended EPMPPO / NMDOT Target (2025)
Emissions PM 10	0.0071 kg/day	3.4800 kg/day	0.0021 kg/day	0.0041 kg/day

NMDOT Target Statement: New Mexico is included in the list of 42 State DOTs required to establish targets and report performance for On-Road Mobile Source Emissions (Total Emissions Reduction Measure for Criteria Pollutants). The measure is limited to nonattainment or maintenance areas, which in New Mexico applies exclusively to the Sunland Park, Anthony and Southern Doña Ana County area, which is within the El Paso MPO (EPMPPO) planning area. Specifically, this area is in non-attainment for PM 10 and Ozone. For the Ozone non-attainment designation, EPMPPO and NMDOT are required to establish targets and monitor performance for the two precursor pollutants—Nitrogen Oxide (NOx) and Volatile Organic Compounds (VOC).

The EPMPPO coordinates with NMDOT on programming New Mexico CMAQ funds allocated to the EPMPPO. It was, therefore, mutually agreed upon by NMDOT and the EPMPPO to develop 4-year targets for applicable criteria pollutants—in this case PM10, NOx and VOC—for the state of New Mexico by developing a benefit ratio analysis using the ratio of benefits reported in 2018 to those reported in 2021 for the Texas and New Mexico EPMPPO portion and applying the *ESTABLISHED* emissions targets for Texas (second performance period) to *estimate future* emissions targets in the New Mexico portion of the EPMPPO planning area.

In order to establish the EPMPPO emissions targets for the Texas portion of the MPO, EPMPPO and Texas DOT established a methodology that compares CMAQ project emissions from the FHWA User Profile and Access Control System (UPACS) and the EPMPPO Transportation Improvement Program (TIP) over the past 4-years to develop targets for the future 4-year CMAQ program. See graphic below.



NMDOT Justification:

Step 1: New Mexico emission benefits reported in the 2018-2021 TIP / Texas emission benefits reported in the 2018-2021 TIP = RATIO

	NM (2018-2021)	TX (2018-2021)	Ratio
VOC	0.0719	58.075	0.0012
NOX	0.0727	144.155	0.0005
PM10	0.0101	21.988	0.0005

Step 2: RATIO (from Step 1) * ESTABLISHED emissions targets for Texas = Future emissions targets for the New Mexico portion

	TX Target	Ratio	NM Target
VOC	17.63	0.001238	0.0218
NOX	11.98	0.000504	0.0060
PM10	8.90	0.000459	0.0041

By using the Texas methodology as a base, EPMPO and NMDOT are making assumptions that the future (2 years and 4 years) NM CMAQ project(s) quantifiable emissions will be the same in NM as in TX based on type of projects, methodology used to quantify projects, data, assumptions, etc. This is not likely to be the case, but this methodology gives the EPMPO and NMDOT reasonable projections in order to set targets for this reporting period.

These quantifiable targets are reflective of the anticipated cumulative emission reductions for the EPMPO to be reported in the CMAQ Public Access System as required in 23 CFR 490.105 for establishing targets for MPOs.