

Appendix I: Federal Performance Measures and FAST Act Report

Note: this Appendix was updated on March 16, 2022 to include the resolution passed by the MTB in February 2022 (R-22-02) showing adoption of the Public Transportation Safety Action Plans; this Appendix was updated on February 3, 2021 to include new PM 1 Safety Targets for FFY 2021 and public transportation agency safety plans, both of which were adopted by the MTB in December 2020 (R-20-09 and R-20-10).

New Mexico Metropolitan Planning Organizations Performance Based Planning and Programming & Target Reporting

The New Mexico Planning Procedures Manual (PPM) was amended March 13, 2019 to include a new chapter *NMDOT Planning Procedures Manual: Performance Based Planning and Programming/Target Setting Procedures*. This reporting format will provide consistency and assure implementation of federal reporting requirements.

MPO: **Mid-Region Metropolitan Planning Organization, Albuquerque, NM**

Target Report - Performance Measure #1 Safety

Target for FFY 2021

Preamble: Long Term Goals vs. Annual Federal Safety Targets

Independent of the federal safety performance measures target, the Mid-Region Metropolitan Planning Organization adopted (August 2018) the Regional Transportation Safety Action Plan (RTSAP) which provides an overview of multimodal safety concerns in the metro area and promotes and encourages the implementation of **Vision Zero** policies and practices by our various agencies and jurisdictions. The RTSAP also specifies safety improvement emphasis areas and action items.

Vision Zero is guided by five principles:

1. traffic deaths and severe injuries are preventable,
2. human error is inevitable, and transportation systems should be designed to minimize the consequences of human error,
3. make improvements to transportation safety focused on systems-level changes,
4. place emphasis on preventing severe crashes leading to fatalities (mitigation of speed is recognized and prioritized as the fundamental factor in crash severity), and
5. saving lives is not expensive, human life and health are prioritized within all aspects of the transportation system.

Safety Improvement: Efforts to improve safety include capital construction projects to eliminate hazardous infrastructure features, studies, roadway safety audits, signalization improvements, retrofitting existing infrastructure to provide intermodal improvements, public education and awareness endeavors, and increased enforcement of existing laws.

Implementation: Since MRMPO is not an implementing agency for these strategies, the region relies on state, municipal, county, and tribal government agencies to undertake such projects. MRMPO works closely with those agencies to identify problem areas, develop strategies to address deficiencies, and program available funding for implementation. All agencies work cooperatively to reduce crashes, fatalities, and injuries which is a common goal for all.

HSIP: NMDOT retains full programming authority of the federal Highway Safety Improvement Program (HSIP) funding. Agencies submit project proposals to NMDOT which reviews proposals on a competitive statewide basis and determines which projects receive HSIP funds. Further information on this process is available from NMDOT.

PM #1 Safety Target: This document addresses the federal requirement to establish annual targets for five specific safety performance measures. MRMPO's approach in adopting the RTSAP is to identify problematic areas, and develop strategies and action items improve safety in the long-term. For the PM #1 safety target the MPO chose to adopt the state target developed by NMDOT. NMDOT used various methodologies and assumptions to develop the targets to conform to federal requirements. Although these targets may not seem to be

aggressive enough to improve safety, it must be noted that these are annual targets and there is little time to implement projects and strategies over a one-year period which would show any significant improvement in the target from year to year. NMDOT, MRMPO and all local and tribal agencies are committed to improving safety for all transportation modes and are committed to long-range comprehensive improvement plans and strategies to address safety issues. Note: this report includes updated targets for FFY 2021 adopted by the MTB in December 2020 (Resolution R-20-09).

Target for Number of Total Fatalities: 411.6

MPO adopted NMDOT target – **Yes** See attached documentation from NMDOT.
For MPOs adopting the NMDOT target, the annual reporting shall be undertaken by NMDOT as part of their Highway Safety Improvement Program (HSIP) submitted to FHWA annually (due August 31st).

MPO adopted separate target – **No**
For MPOs adopting a separate target, the following information is required: the estimated Vehicle Miles Traveled (VMT) used for rate targets and the methodology used to develop the estimate. The MPO must report annually to NMDOT and provide the report to FHWA upon request. MPO methodology, if applicable:

MPO Progress Report if adopting separate target:

Target for Number of Serious Injuries: 1,030.5

MPO adopted NMDOT target – **Yes** See attached documentation from NMDOT.
For MPOs adopting the NMDOT target, the annual reporting shall be undertaken by NMDOT as part of their Highway Safety Improvement Program (HSIP) submitted to FHWA annually (due August 31st).

MPO adopted separate target – **No**
For MPOs adopting a separate target, the following information is required: the estimated Vehicle Miles Traveled (VMT) used for rate targets and the methodology used to develop the estimate. The MPO must report annually to NMDOT and provide the report to FHWA upon request. MPO methodology, if applicable:

MPO Progress Report if adopting separate target:

Target for Rate of Fatalities: 1.486

MPO adopted NMDOT target – **Yes** See attached documentation from NMDOT.
For MPOs adopting the NMDOT target, the annual reporting shall be undertaken by NMDOT as part of their Highway Safety Improvement Program (HSIP) submitted to FHWA annually (due August 31st).

MPO adopted separate target – **No**
For MPOs adopting a separate target, the following information is required: the estimated Vehicle Miles Traveled (VMT) used for rate targets and the methodology used to develop the estimate. The MPO must report annually to NMDOT and provide the report to FHWA upon request. MPO methodology, if applicable:

MPO Progress Report if adopting separate target:

Target for Rate of Serious Injuries: 3.722

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|--|
| <p>MPO adopted NMDOT target – <u>Yes</u> See attached documentation from NMDOT. For MPOs adopting the NMDOT target, the annual reporting shall be undertaken by NMDOT as part of their Highway Safety Improvement Program (HSIP) submitted to FHWA annually (due August 31st).</p> |
| <p>MPO adopted separate target – <u>No</u> For MPOs adopting a separate target, the following information is required: the estimated Vehicle Miles Traveled (VMT) used for rate targets and the methodology used to develop the estimate. The MPO must report annually to NMDOT and provide the report to FHWA upon request. MPO methodology, if applicable:</p> |
| <p>MPO Progress Report if adopting separate target:</p> |

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|--|
| <p>Target for Number of Nonmotorized Fatalities and Serious Injuries: 200.0</p> |
| <p>MPO adopted NMDOT target – <u>Yes</u> See attached documentation from NMDOT. For MPOs adopting the NMDOT target, the annual reporting shall be undertaken by NMDOT as part of their Highway Safety Improvement Program (HSIP) submitted to FHWA annually (due August 31st).</p> |
| <p>MPO adopted separate target – <u>No</u> For MPOs adopting a separate target, the following information is required: the estimated Vehicle Miles Traveled (VMT) used for rate targets and the methodology used to develop the estimate. The MPO must report annually to NMDOT and provide the report to FHWA upon request. MPO methodology, if applicable:</p> |
| <p>MPO Progress Report if adopting separate target:</p> |



Performance Measure (PM) Target Report – PM 1 2021 Safety Targets

This document outlines the 2021 Targets for Safety (PM 1) for New Mexico, as required by the 23 CFR 490, Final Rule on the Highway Safety Improvement Program (HSIP) published March 15, 2016 (effective April 14, 2017). The New Mexico Department of Transportation (NMDOT) Multimodal Planning and Programs Bureau (MPPB) is responsible for coordinating the setting of PM 1 targets.

Overview of PM 1 Measures

The state is required to set annual targets for five performance measures:

1. Number of Total Fatalities
2. Number of Serious Injuries
3. Fatalities per 100 million vehicle miles travelled (VMT) or fatality rate
4. Serious Injuries per 100 million VMT or serious injury rate
5. Number of Non-motorized Fatalities and Serious Injuries

The first three are common measures and must be identical to the targets established for the Highway Safety Plan (HSP).

Coordination with Metropolitan Planning Organizations (MPOs)

The NMDOT undertook a coordinated effort with the Metropolitan Planning Organizations (MPOs), the HSP team and other stakeholders to set the targets.

1. Numerous internal meetings took place in winter of 2020 between staff of the NMDOT Planning Division and Traffic Safety Division, responsible for the HSP to review and analyze crash data and trends. A representative of the University of New Mexico (UNM), contracted by NMDOT to maintain the state's crash database, attended the meetings and provided crash data and analysis.
2. On May 12, 2020, the NMDOT Safety Division held a meeting with stakeholders to discuss and adopt the targets required in the HSP. The targets were revised following the meeting, to reflect the revised 2017 VMT, approved by FHWA, and the updated 2018 and 2019 crash datasets provided by UNM.
3. On July 15, 2020, the NMDOT Safety Committee reviewed and approved the 2021 Safety Targets as outlined in this report for submittal in the 2021 HSIP Annual Report.
4. On July 17, 2020, MPPB staff emailed a draft of this report, outlining the adopted state PM1 targets, to the MPOs for review and comments. The MPOs submitted comments and corrections, which MPPB staff incorporated into this report. Other than those edits, the MPOs agreed to the targets as outlined.
5. The MPOs have until February 27, 2021 to formally adopt the NMDOT PM 1 targets or set their own quantifiable targets.

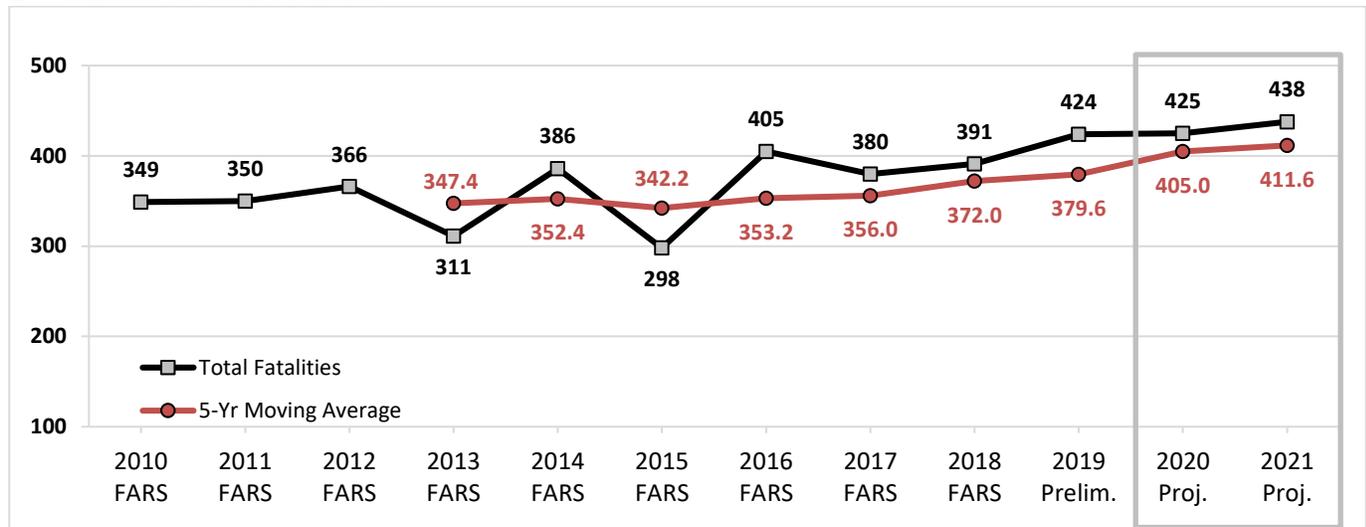
Data Methodologies and Assumptions

In setting the 2021 safety targets, NMDOT and stakeholders did not rely solely on the data projections but used the data in combination with their discussions regarding other relevant factors and their assessment of the potential safety impacts of various strategies and projects. NMDOT worked with UNM to determine methodologies and assumptions required to set the targets. These are as follows:

- NMDOT uses Excel to plot a linear best fit line based on 6-years of actual data to project for future years.
- Vehicle Miles Travelled (VMT) - The annual VMT is from the FHWA Highway Statistics Series (<https://www.fhwa.dot.gov/policyinformation/statistics/2017/pdf/vm2.pdf>). Within this link, simply replace '2017' with the desired year to obtain the VMT for the year of interest.
 - Appendix A of this document displays the annual VMT from the FHWA Highway Statistics Series using a unit of 100 Million VMT (HVMVT). FHWA guidance documents insist on using HVMVT for calculating fatality rates and serious injury rates, hence, Appendix A displays the annual VMT adjusted to HVMVT.
- The preliminary Annual VMT for 2019 is provided by the NMDOT Planning Division, Data Management Bureau.
- Crash Data for 2019 is preliminary and provided by UNM.
- The source data table is attached as Appendix B. This data was used to calculate the linear regression equations that yield the 2020 and 2021 projections. It also contains the data that was used to calculate the five-year moving averages.

NMDOT PM 1 (Safety) 2021 Targets

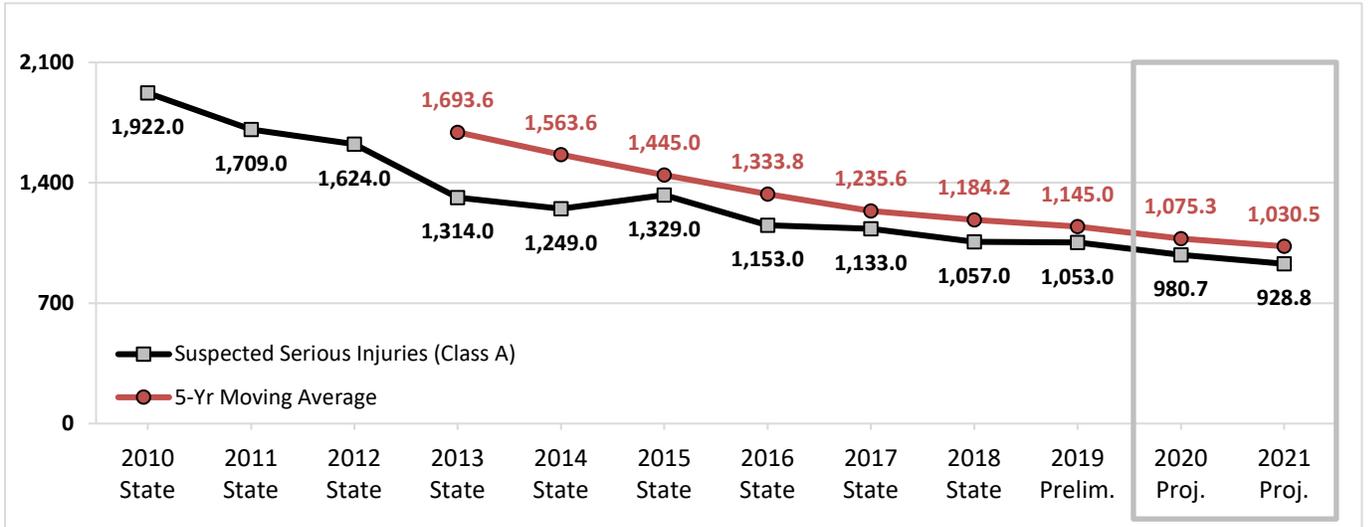
1 Number of Total Fatalities



NMDOT 2021 Target for Number of Total Fatalities: 411.6

NMDOT Justification: Although five-year average fatalities rose by a moderate 5.5 percent between 2014 and 2018, preliminary and projected data indicate that fatalities will increase by about 10.6 percent between 2018 and 2021. In 2019, fatalities involving large, personal vehicles (SUVs/Pick-up Trucks/Vans/4-Wheel Drives) or involving pedestrians have increased and accounted for 53.3 percent of all crash fatalities. Given the prevalence of large, personal vehicle ownership, and projected increase in fatalities overall, the five-year average projection of 411.6 is determined to be the 2021 target.

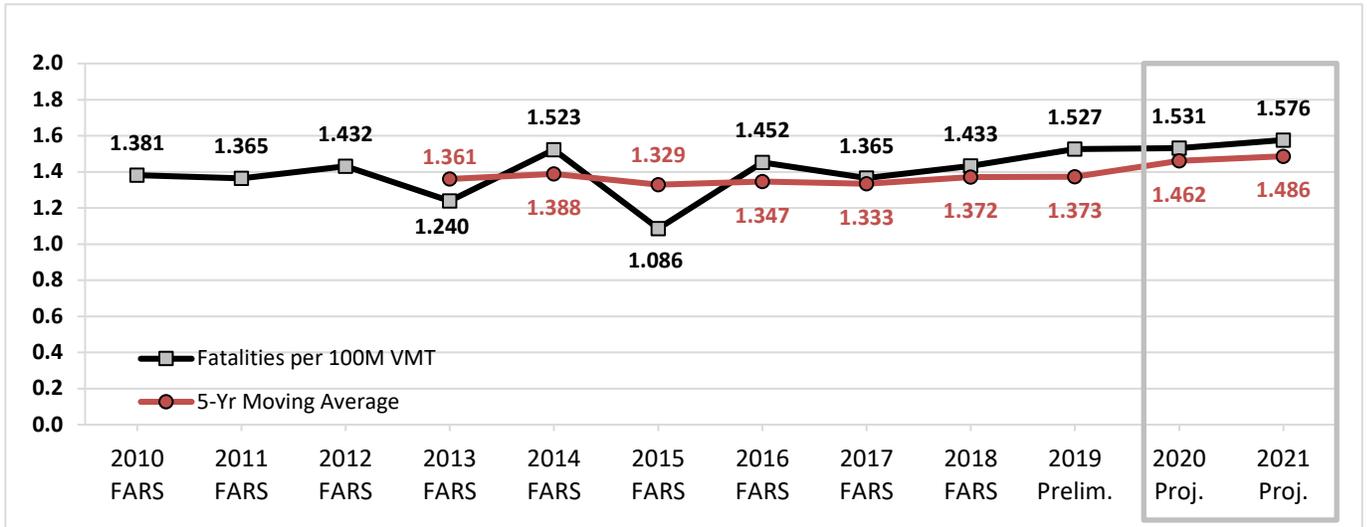
2 Number of Serious Injuries



NMDOT 2021 Target for Number of Serious Injuries: 1,030.5

NMDOT Justification: Five-year average serious injuries are projected to fall by about 13.2 percent between 2018 and 2021, and the State anticipates a continued reduction in serious injuries in 2020. The five-year average projection of 1,030.5 is the 2021 target.

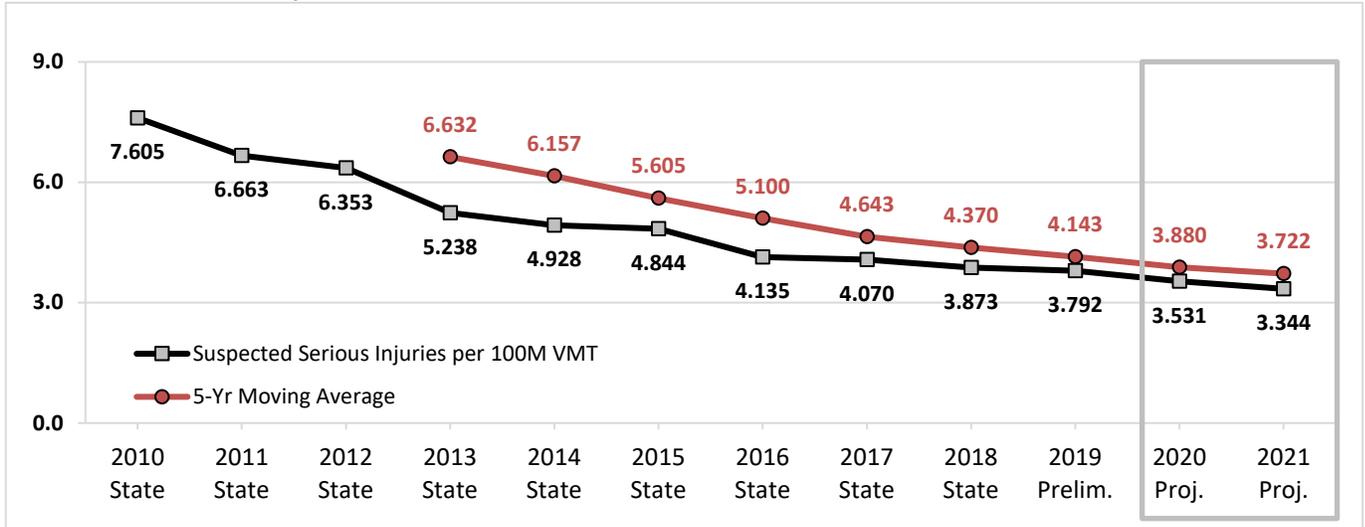
3 Rate of Fatalities



NMDOT 2021 Target for Rate of Fatalities: 1.486

NMDOT Justification: Five-year average fatalities are expected to increase in 2021 from 2017, thus the projected five-year average of 1.486 is the 2021 target. Due to the uncertainty of the COVID-19 pandemic's impact on VMT, the preliminary 2019 VMT value is also used for the 2020 and 2021 VMT values.

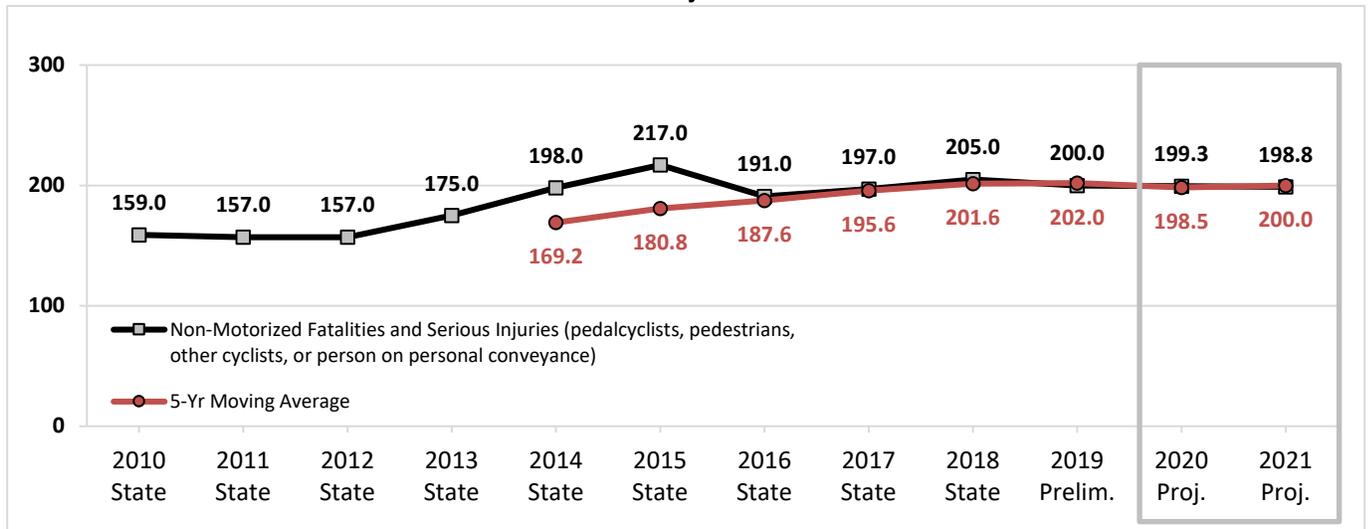
4 Rate of Serious Injuries



NMDOT 2021 Target for Rate of Serious Injuries: 3.722

NMDOT Justification: Five-year average serious injury rates are projected to continue falling, thus the five-year average projection of 3.722 is the 2021 target.

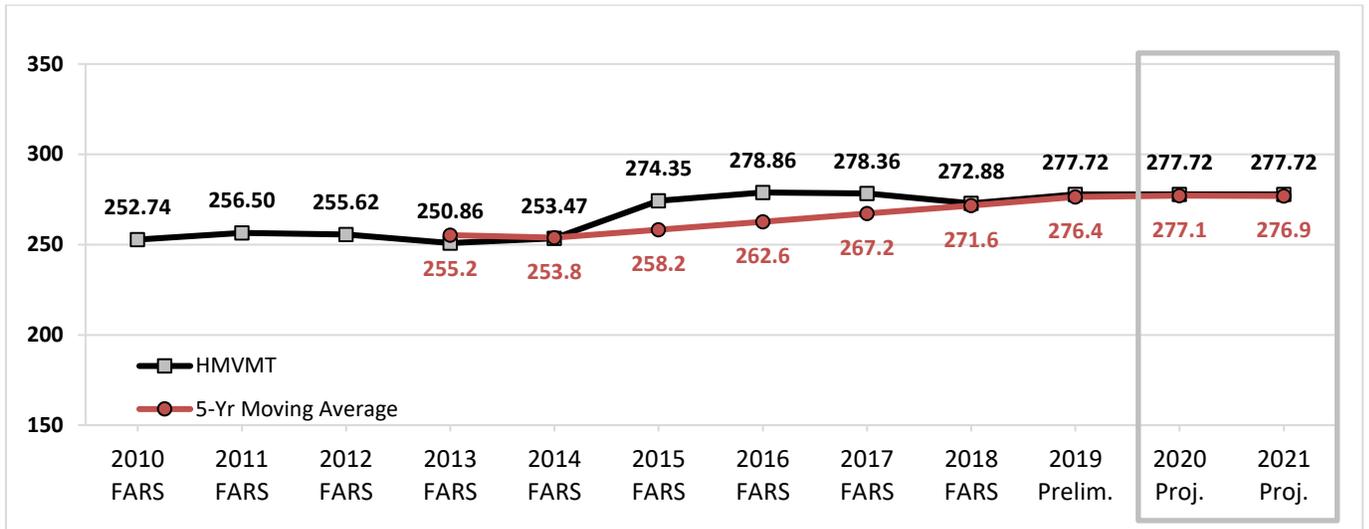
5 Number of Non-motorized Fatalities and Serious Injuries



NMDOT 2021 Target for Number of Non-motorized Fatalities and Serious Injuries: 200.0

NMDOT Justification: Five-year average non-motorized fatalities and serious injuries are projected to remain relatively constant over the next two years from 2020 to 2021. The five-year average projection of 200.0 is the 2021 target.

Appendix A: Five-Year Moving Average of Hundred Million VMT (HMVMT)



Appendix B: Data Values and Sources

| Performance Measure | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 |
|--|--------|--------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| Fatalities* | 361 | 349 | 350 | 366 | 311 | 386 | 298 | 405 | 380 | 391 | 424 | 425 | 438 |
| Serious Injuries** | 1,899 | 1,922 | 1,709 | 1,624 | 1,314 | 1,249 | 1,329 | 1,153 | 1,133 | 1,057 | 1,053 | 980.7 | 928.8 |
| HMVMT† | 260.13 | 252.74 | 256.50 | 255.62 | 250.86 | 253.47 | 274.35 | 278.86 | 278.36 | 272.88 | 277.72 | 277.72 | 277.72 |
| Fatality rate (per HMVMT) | 1.388 | 1.381 | 1.365 | 1.432 | 1.240 | 1.523 | 1.086 | 1.452 | 1.365 | 1.433 | 1.527 | 1.531 | 1.576 |
| Serious injury rate (per HMVMT) | 7.300 | 7.605 | 6.663 | 6.353 | 5.238 | 4.928 | 4.844 | 4.135 | 4.070 | 3.873 | 3.792 | 3.531 | 3.344 |
| Number non-motorized fatalities*** | 44 | 41 | 46 | 68 | 55 | 78 | 62 | 81 | 81 | 95 | | | |
| Number of non-motorized serious injuries** | 117 | 118 | 111 | 89 | 120 | 120 | 155 | 110 | 116 | 110 | | | |
| Non-motorized fatalities and serious injuries**** | 161 | 159 | 157 | 157 | 175 | 198 | 217 | 191 | 197 | 205 | 200 | 199.3 | 198.8 |
| Fatalities 5YRA start @2014 | | | | | | 352.4 | 342.2 | 353.2 | 356.0 | 372.0 | 379.6 | 405.0 | 411.6 |
| Fatalities 5YRA start @2013 | | | | | 347.4 | 352.4 | 342.2 | 353.2 | 356.0 | 372.0 | 379.6 | 405.0 | 411.6 |
| Serious Injuries 5YRA start @2014 | | | | | | 1,563.6 | 1,445.0 | 1,333.8 | 1,235.6 | 1,184.2 | 1,145.0 | 1,075.3 | 1,030.5 |
| Serious Injuries 5YRA start @2013 | | | | | 1,693.6 | 1,563.6 | 1,445.0 | 1,333.8 | 1,235.6 | 1,184.2 | 1,145.0 | 1,075.3 | 1,030.5 |
| Fatality rate (per HMVMT) 5YRA start @2014 | | | | | | 1.388 | 1.329 | 1.347 | 1.333 | 1.372 | 1.373 | 1.462 | 1.486 |
| Fatality rate (per HMVMT) 5YRA start @2013 | | | | | 1.361 | 1.388 | 1.329 | 1.347 | 1.333 | 1.372 | 1.373 | 1.462 | 1.486 |
| Serious injury rate (per HMVMT) 5YRA start @2014 | | | | | | 6.157 | 5.605 | 5.100 | 4.643 | 4.370 | 4.143 | 3.880 | 3.722 |
| Serious injury rate (per HMVMT) 5YRA start @2013 | | | | | 6.632 | 6.157 | 5.605 | 5.100 | 4.643 | 4.370 | 4.143 | 3.880 | 3.722 |
| Number non-motorized fatalities 5YRA | | | | | | 57.6 | 61.8 | 68.8 | 71.4 | 79.4 | | | |
| Number of non-motorized serious injuries 5YRA | | | | | | 111.6 | 119.0 | 118.8 | 124.2 | 122.2 | | | |
| Non-motorized fatalities and serious injuries 5YRA start @2014 | | | | | | 169.2 | 180.8 | 187.6 | 195.6 | 201.6 | 202.0 | 198.5 | 200.0 |
| Non-motorized fatalities and serious injuries 5YRA start @2013 | | | | | 161.8 | 169.2 | 180.8 | 187.6 | 195.6 | 201.6 | 202.0 | 198.5 | 200.0 |
| HMVMT 5YRA | | | | | | 253.8 | 258.2 | 262.6 | 267.2 | 271.6 | 276.4 | 277.1 | 276.9 |

*Source: 2009-2018 is from FARS

**Source: Dataset received from NMDOT on 1/9/2020 (excludes 2018 & 2019 data)

***Source: <https://www-fars.nhtsa.dot.gov/People/PeopleAllVictims.aspx> & see image on "FARS_Screenshots" sheet for non-motorized fatality information

****Non-motorized definition per FHWA: pedalcyclists, pedestrians, other cyclists, or person on personal conveyance

†HMVMT source (change four-digit year to desired calendar year in link): <https://www.fhwa.dot.gov/policyinformation/statistics/2009/vm2.cfm>

2019 crash data is preliminary from dataset received on 24-June-2020.

Linear regression (best fit straight line; $y = 12.686x + 336.27$) based on 2014-2019 fatalities

Linear regression (best fit straight line; $y = -51.886x + 1,343.9$) based on 2014-2019 A-Injuries

Linear regression (best fit straight line; $y = -0.5714x + 203.33$) based on 2014-2019 non-motorized fatalities and A-Injuries

The VMT for 2020 and 2021 are the same as the preliminary 2019 VMT. The rates for 2019 - 2021 use NMDOT preliminary 2019 VMT

New Mexico Metropolitan Planning Organizations Performance Based Planning and Programming & Target Reporting

The New Mexico Planning Procedures Manual (PPM) was amended March 13, 2019 to include a new chapter *NMDOT Planning Procedures Manual: Performance Based Planning and Programming/Target Setting Procedures*. This reporting format will provide consistency and assure implementation of federal reporting requirements.

MPO: **Mid-Region Metropolitan Planning Organization, Albuquerque, NM**

Target Report - Performance Measure #2 Infrastructure and System Performance National Highway System (NHS) Pavement and Bridges 2-Year & 4-Year Targets

Per federal law, NMDOT is required to establish 2-year and 4-year targets for each performance area. MPOs are required to adopt only 4-year targets. The 2-year targets adopted by NMDOT are shown here for informational purposes.

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|---|
| Percentage of Bridges on the NHS in "Good" Condition: 2-yr Target for 2019 is 36.0% & 4yr Target for 2021 is 30.0% |
| MPO adopted NMDOT 4-year target – <u>Yes</u> See attached documentation from NMDOT. For MPOs adopting the NMDOT target, the Mid-Performance Period Progress Report shall be undertaken by NMDOT and submitted to FHWA biennially (due October 1 st of even years). |
| MPO adopted separate 4-year target – <u>No</u> MPOs adopting a separate 4-year target must commit to their own <i>quantifiable</i> target. MPO methodology and rationale including MPO baseline performance figures used. Target methodology report, if applicable: |
| MPO Progress Report on 4-Year Target Due October 1, 2022 |
| The bridge condition information report for the bridges within the MPO area for the 4 th year, will be provided by NMDOT. The MPO's report should include: whether the target was met/progress on achieving the target, extenuating circumstances (if any) relating to the target, investment strategies, applicable target achievement discussion (for next 4-year target). |
| Progress Report: |

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| Percentage of Bridges on the NHS in "Poor" Condition: 2-yr Target for 2019 is 3.3% & 4yr Target for 2021 is 2.5% |
| MPO adopted NMDOT 4-year target – <u>Yes</u> See attached documentation from NMDOT. For MPOs adopting the NMDOT target, the Mid-Performance Period Progress Report shall be undertaken by NMDOT and submitted to FHWA biennially (due October 1 st of even years). |
| MPO adopted separate 4-year target – <u>No</u> MPOs adopting a separate 4-year target must commit to their own <i>quantifiable</i> target. MPO methodology and rationale including MPO baseline performance figures used. Target methodology report, if applicable: |
| MPO Progress Report on 4-Year Target Due October 1, 2022 |
| The bridge condition information report for the bridges within the MPO area for the 4 th year, will be provided by NMDOT. The MPO's report should include: whether the target was met/progress on achieving the target, extenuating circumstances (if any) relating to the target, investment strategies, applicable target achievement discussion (for next 4-year target). |

Progress Report:

**Percentage of Interstate Pavement on the NHS in "Good" Condition:
2-yr Target for 2019 is 57.3% & 4yr Target for 2021 is 59.1%**

MPO adopted NMDOT 4-year target – Yes See attached documentation from NMDOT.
For MPOs adopting the NMDOT target, the Mid-Performance Period Progress Report shall be undertaken by NMDOT and submitted to FHWA biennially (due October 1st of even years).

MPO adopted separate 4-year target – No
MPOs adopting a separate 4-year target must commit to their own *quantifiable* target. MPO methodology and rationale including MPO baseline performance figures used. Target methodology report, if applicable:

MPO Progress Report on 4-Year Target Due October 1, 2022

The pavement condition information report for the Interstate highways within the MPO area for the 4th year, will be provided by NMDOT. The MPO's report should include: whether the target was met/progress on achieving the target, extenuating circumstances (if any) relating to the target, investment strategies, applicable target achievement discussion (for next 4-year target).

Progress Report:

**Percentage of Interstate Pavement on the NHS in "Poor" Condition:
2-yr Target for 2019 is 4.5% & 4yr Target for 2021 is 5.0%**

MPO adopted NMDOT 4-year target – Yes See attached documentation from NMDOT.
For MPOs adopting the NMDOT target, the Mid-Performance Period Progress Report shall be undertaken by NMDOT and submitted to FHWA biennially (due October 1st of even years).

MPO adopted separate 4-year target – No
MPOs adopting a separate 4-year target must commit to their own *quantifiable* target. MPO methodology and rationale including MPO baseline performance figures used. Target methodology report, if applicable:

MPO Progress Report on 4-Year Target Due October 1, 2022

The pavement condition information report for the Interstate highways within the MPO area for the 4th year, will be provided by NMDOT. The MPO's report should include: whether the target was met/progress on achieving the target, extenuating circumstances (if any) relating to the target, investment strategies, applicable target achievement discussion (for next 4-year target).

Progress Report:

**Percentage of Non-Interstate Pavement on the NHS in "Good" Condition:
2-yr Target for 2019 is 35.6% & 4yr Target for 2021 is 34.2%**

MPO adopted NMDOT 4-year target – Yes See attached documentation from NMDOT.
For MPOs adopting the NMDOT target, the Mid-Performance Period Progress Report shall be undertaken by NMDOT and submitted to FHWA biennially (due October 1st of even years).

MPO adopted separate 4-year target – No
MPOs adopting a separate 4-year target must commit to their own *quantifiable* target. MPO methodology and rationale including MPO baseline performance figures used.

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| Target methodology report, if applicable: |
| MPO Progress Report on 4-Year Target Due October 1, 2022 |
| The pavement condition information report for the non-Interstate NHS highways (regardless of ownership) within the MPO area for the 4 th year, will be provided by NMDOT. The MPO's report should include: whether the target was met/progress on achieving the target, extenuating circumstances (if any) relating to the target, investment strategies, applicable target achievement discussion (for next 4-year target). |
| Progress Report: |

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|---|
| Percentage of Non-Interstate Pavement on the NHS in "Poor" Condition: 2-yr Target for 2019 is 9.0% & 4yr Target for 2021 is 12.0% |
| MPO adopted NMDOT 4-year target – <u>Yes</u> See attached documentation from NMDOT. For MPOs adopting the NMDOT target, the Mid-Performance Period Progress Report shall be undertaken by NMDOT and submitted to FHWA biennially (due October 1 st of even years). |
| MPO adopted separate 4-year target – <u>No</u> MPOs adopting a separate 4-year target must commit to their own <i>quantifiable</i> target. MPO methodology and rationale including MPO baseline performance figures used. Target methodology report, if applicable: |
| MPO Progress Report on 4-Year Target Due October 1, 2022 |
| The pavement condition information report for the non-Interstate NHS highways (regardless of ownership) within the MPO area for the 4 th year, will be provided by NMDOT. The MPO's report should include: whether the target was met/progress on achieving the target, extenuating circumstances (if any) relating to the target, investment strategies, applicable target achievement discussion (for next 4-year target). |
| Progress Report: |

23 CFR 490 Sub Part C and D Target Setting National Highway System Pavements and Bridges

This document outlines the NMDOT procedures for establishing performance targets for New Mexico, as required by 23 CFR 490, Subpart C - National Performance Management Measures for Assessing Pavement Condition and Subpart D – National Performance Management Measures for Assessing Bridge Condition. The State DOT is required to establish targets, regardless of ownership, for the full extent of the Interstate and non-Interstate NHS for pavements and for Bridges on the NHS. By May 21, 2018, 2- and 4-year targets must be established and report targets by October 1, 2018, in the Baseline Performance Period Report. The following are the six (6) Performance Measures:

1. Percentage of Interstate pavements on the NHS in Good Condition
2. Percentage of Interstate pavements on the NHS in Poor Condition
3. Percentage of non-Interstate pavements on the NHS in Good Condition
4. Percentage of non-Interstate pavements on the NHS in Poor Condition
5. Percentage of bridges on the NHS in Good condition
6. Percentage of bridges on the NHS in Poor Condition

The NMDOT used a coordinated effort with the Metropolitan Planning Organizations (MPOs) and other stakeholders to set the targets. The bulleted sections below provide an explanation of events leading to the development of the performance measures and this document:

1. In 2013, NMDOT began collecting the pavement condition data for all NMDOT maintained roadways, non-DOT maintained NHS and HPMS sample segments based on the four condition metrics (IRI, rutting, faulting and cracking) and three inventory data elements (through lanes, surface type, and structure type) included in 23 CFR 490.309. Pavement condition data is collected based on one-tenth mile. 23 CFR 490.313 requires DOTs to be in compliance with the reporting cycle beginning January 1, 2019 for the Interstate.
2. Numerous internal meetings took place with representatives from the Districts and Pavement Management and Design Bureau staff to review and analyze pavement condition data and performance trends. NMDOT maintains the pavement condition data in a Pavement Management System database (PMS db) on the Agile Assets platform. The PMS db is used to predict future performance based on criteria identified for various funding scenarios. It can also forecast funding required to attain a desired condition.
3. Funding allocations for Interstate, non-Interstate NHS and non-NHS pavements, NHS and non-NHS Bridges were determined based on reviewing historical information based on obligated amounts for federally funded projects contained in the Statewide Transportation Improvement Program (STIP) database. In addition, historical funding amounts for pavements and bridges was obtained from data in the Maintenance Management System and Contract Maintenance Databases.
4. In preparation for developing the Transportation Asset Management Plan (the TAMP), a Financial Planning and Investment Analysis Workshop was held on June 15, 2015 to review the process for developing Transportation Asset Management (TAM) eligible revenue forecasts and reviewing bridge and pavement performance at funding levels in order to develop allocation recommendations for baseline revenues.

5. On February 27, 2018, FHWA presented the Asset Management Workshop on Life Cycle Planning, Risk Management and Financial Plans to support the implementation of Asset Management Plans. Representatives from the Mesilla Valley MPO, Mid-Region MPO and Santa Fe MPO participated in the workshop with NMDOT staff. There was a representative from five of the six NMDOT Districts in attendance.
6. On March 15, 2018, the New Mexico Transportation Commission was briefed on the Initial TAMP and proposed Federal 2 and 4 year targets.
7. On March 16, 2018, the NMDOT TAM Technical Working Committee met to review the final draft of the initial TAMP and to review the performance targets proposed for inclusion in the document.
8. On March 28, 2018, the NMDOT provided a presentation on all Performance Measures to the MPO's attending the quarterly MPO meeting. NMDOT collected Pavement Condition data was presented by MPO area for the Interstate and non-Interstate NHS pavements within each MPO boundary in order to show how pavements are performing within each MPO area. In addition, 10-year pavement condition projections were presented.
9. Documentation on the Pavement and Bridge condition performance measures was presented to NMDOT Executive Staff on May 16, 2018, in preparation for transmitting the 2- and 4-year performance targets for the six measures listed above to FHWA-NM Division.

Predicting future condition of pavements and bridges is dependent on funding. The period determined for predicting future condition is ten years. In order to prepare predictions of future conditions, funding allocations needed to be established. The funding allocations for Interstate, non-Interstate NHS and non-NHS pavements and NHS and non-NHS bridges were based on a review of information contained in historical STIP's and MMS data. A combination of federal and state funding is used to determine the total amount of funding available for TAM activities. In addition to STIP and MMS financial information, a review of NMDOT historical budget, state road fund revenue projections and future debt service payments were reviewed to determine the TAM-eligible revenues. This analysis also included review of pavement and bridge allocations.

In setting the 2- and 4-year performance targets for the pavement measures, NMDOT analyzed historical pavement condition data based on the FHWA measures to prepare a trend analysis. The PMS db is used to predict future condition; however, it is unable to predict future condition based on the FHWA metrics. As a result, the PMS db uses a Pavement Condition Rating (PCR) to determine condition. The PMS db was configured based on a multi-year collaborative effort to develop the decision trees that combine the various pavement distresses collected for each tenth mile section to determine an Overall Condition Index (OCI) for each 2-mile managed segment. The PCR is 80 percent OCI and 20 percent smoothness index, which is IRI and rutting metric converted to a 100 scale.

The annual funding allocation below is entered into the PMS db in order to predict an annual PCR for each system. The PCR is then mapped to the Federal Good, Fair and Poor to predict a future pavement condition each year for the ten-year analysis period.

The annual funding allocations used in the PMS to predict future pavement condition are:

1. Interstate Pavements, \$62 million/year
2. Non-Interstate NHS Pavements, \$68 million/year
3. Non-NHS Pavements, \$50 million/year

NMDOT maintains bridge condition data in a Bridge Management System (BrM); however, BMS does not have the capability of predicting future condition. NMDOT uses a spreadsheet based tool to predict

performance of each bridge given predicted deterioration. The model components include measures, deterioration, treatments and prioritization. The model uses the National Bridge Inventory (NBI) data weighted by deck area. A Markov modeling approach, similar to Pontis models is used but applied to the NBI data. The approach predicts a percent chance a rating will drop to the next value in a year. NCHRP Report 713 was used to determine median years to reach ratings of 3, 4 and 5. NMDOT Bridge Management evaluated the spreadsheet tool for predicting future condition prior to adopting for use. The annual funding allocations used in the spreadsheet tool to predict future condition are:

1. NHS Bridges, \$40 million/year
2. Non-NHS Bridges, \$20 million/year

The future condition is based on data collected during calendar year 2016 and predicting condition for calendar years 2016 through 2026. The 2-year target is based on the condition data collected during calendar year 2019 and the 4-year target is based on data collected in calendar year 2021. The first Mid Performance Period Progress Report is due to FHWA on October 1, 2020 which will be based on pavement and bridge condition data collected during calendar year 2019.

The table below indicates NMDOT performance measure targets.

| Performance Measure | 2 Year (2019) | 4 Year (2021) |
|---|----------------------|----------------------|
| Percentage of bridges on the NHS in Good condition | 36.0% | 30.0% |
| Percentage of bridges on the NHS in Poor condition | 3.3% | 2.5% |
| Percentage of Interstate pavements on the NHS in Good condition | 57.3% | 59.1% |
| Percentage of Interstate pavements on the NHS in Poor condition | 4.5% | 5.0% |
| Percentage of Non-Interstate pavements on the NHS in Good condition | 35.6% | 34.2% |
| Percentage of Non-Interstate pavements on the NHS in Poor condition | 9.0% | 12.0% |

New Mexico Metropolitan Planning Organizations Performance Based Planning and Programming & Target Reporting

The New Mexico Planning Procedures Manual (PPM) was amended March 13, 2019 to include a new chapter *NMDOT Planning Procedures Manual: Performance Based Planning and Programming/Target Setting Procedures*. This reporting format will provide consistency and assure implementation of federal reporting requirements.

MPO: **Mid-Region Metropolitan Planning Organization, Albuquerque, NM**

Target Report - Performance Measure #3 System Performance, Freight, Congestion and Air Quality 2-Year & 4-Year Targets

Per federal law, NMDOT is required to establish 2-year and 4-year targets for each performance area. MPOs are required to adopt only 4-year targets. The 2-year targets adopted by NMDOT are shown here for informational purposes.

| |
|---|
| Percentage of Person-Miles Traveled on the Interstate System that are Reliable: 2-yr Target for 2019 is 96.1% & 4yr Target for 2021 is 95.1% |
| MPO adopted NMDOT 4-year target – <u>Yes</u> See attached documentation from NMDOT. For MPOs adopting the NMDOT target, the Mid-Performance Period Progress Report shall be undertaken by NMDOT and submitted to FHWA biennially (due October 1 st of even years). |
| MPO adopted separate 4-year target – <u>No</u> MPOs adopting a separate 4-year target must commit to their own <i>quantifiable</i> target. MPO methodology and rationale including MPO baseline performance figures used. Target methodology report, if applicable: |
| MPO Progress Report on 4-Year Target Due October 1, 2022 |
| The data required for the Interstate System within the MPO area for the 4 th year, will be provided by NMDOT. The MPO's report should include: whether the target was met/progress on achieving the target, extenuating circumstances (if any) relating to the target, investment strategies, applicable target achievement discussion (for next 4-year target). |
| Progress Report: |

| |
|--|
| Percentage of Person-Miles Traveled on the Non-Interstate NHS that are Reliable: 2-yr Target for 2019 is 90.4% & 4yr Target for 2021 is 90.4% |
| MPO adopted NMDOT 4-year target – <u>Yes</u> See attached documentation from NMDOT. For MPOs adopting the NMDOT target, the Mid-Performance Period Progress Report shall be undertaken by NMDOT and submitted to FHWA biennially (due October 1 st of even years). |
| MPO adopted separate 4-year target – <u>No</u> MPOs adopting a separate 4-year target must commit to their own <i>quantifiable</i> target. MPO methodology and rationale including MPO baseline performance figures used. Target methodology report, if applicable: |
| MPO Progress Report on 4-Year Target Due October 1, 2022 |
| The data required for the non-Interstate NHS within the MPO area for the 4 th year, will be provided by NMDOT. The MPO's report should include: whether the target was met/progress on achieving the target, extenuating circumstances (if any) relating to the target, investment strategies, applicable target achievement discussion (for next 4-year target). |

Progress Report:

**Index of the Interstate Sys. Mileage providing for Truck Travel Times that are Reliable:
2-yr Target for 2019 is 1.14 & 4yr Target for 2021 is 1.15**

MPO adopted NMDOT 4-year target – Yes See attached documentation from NMDOT.
For MPOs adopting the NMDOT target, the Mid-Performance Period Progress Report shall be undertaken by NMDOT and submitted to FHWA biennially (due October 1st of even years).

MPO adopted separate 4-year target – No
MPOs adopting a separate 4-year target must commit to their own *quantifiable* target. MPO methodology and rationale including MPO baseline performance figures used. Target methodology report, if applicable:

MPO Progress Report on 4-Year Target Due October 1, 2022

The data required for the truck travel times on the Interstate System within the MPO area for the 4th year, will be provided by NMDOT. The MPO's report should include: whether the target was met/progress on achieving the target, extenuating circumstances (if any) relating to the target, investment strategies, applicable target achievement discussion (for next 4-year target).

Progress Report:

**Annual Hours of Peak-Hour Excessive Delay per Capita:
Not Applicable**

MPO adopted NMDOT 4-year target – n/a See attached documentation from NMDOT.
This applies only to urbanized areas of more than 1 million population that are also in nonattainment or maintenance for ozone, carbon monoxide or particulate matter. At this time, there are no such urbanized areas in New Mexico.

**Percent of Non-Single Occupancy Vehicle (non-SOV) Travel:
Not Applicable**

MPO adopted NMDOT 4-year target – n/a See attached documentation from NMDOT.
This applies only to urbanized areas of more than 1 million population that are also in nonattainment or maintenance for ozone, carbon monoxide or particulate matter. At this time, there are no such urbanized areas in New Mexico.

**On-Road Mobile Emissions Reduction:
Not Applicable**

MPO adopted NMDOT 4-year target – n/a See attached documentation from NMDOT.
New Mexico is included in the list of states required to establish targets and report performance for on-road mobile source emissions. This measure is limited to air quality nonattainment or maintenance areas, which in New Mexico applies exclusively to Sunland Park, Anthony, and southern Doña Ana County which is within the El Paso Metropolitan Planning Area.



R-18-16 MTB Attachment A

Performance Measure (PM) Target Report – PM 3 Federal Fiscal Year 2019 – Revised

This document outlines the Federal Fiscal Year (FFY) 2019 Targets for System Performance (PM 3) for New Mexico, as required by 23 CFR 490, System Performance/Freight/CMAQ Final Rule published January 18, 2017 (effective May 20, 2017). The New Mexico Department of Transportation (NMDOT) Statewide Planning Bureau (SPB) is responsible for 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 – NM is not required to set a target for this measure
 - b. Percent of Non-Single Occupancy Vehicle (SOV) travel – NM is not required to set a target for this measure
 - c. On-Road Mobile Source Emissions Reduction – NM is in non-attainment for Particulate Matter (PM) 10 in one area, covered by El Paso Metropolitan Planning Organization (EPMPO)

Coordination with Metropolitan Planning Organizations (MPOs)

The NMDOT undertook a coordinated effort with the Metropolitan Planning Organizations (MPOs) and other stakeholders to set the targets, as follows:

1. On March 29, 2018, NMDOT SPB staff discussed the PM 3 measures with the MPOs at the Joint Meeting with the MPOs and Regional Transportation Planning Organizations (RTPOs).
2. On May 17, 2018, NMDOT consultants, High Street Consulting (“High Street”), provided a webinar to the MPOs, attended by Mesilla Valley and Farmington MPOs. The webinar outlined the PM3 data, methodologies and recommended targets. SPB staff emails the presentation slides to the MPOs upon request.
3. On June 5, 2018, SPB staff presented this draft report to the MPOs at the MPO Quarterly meeting in Farmington.
4. On June 18, 2018, SPB staff emailed a draft of this report, outlining the adopted state PM3 targets, to the MPOs for review and comments by July 9, 2018. SPB received one comment on July 10, 2018 from Mid Region MPO, as follows: “Although this is a bit late, Mid-Region has no comments on the proposal except to be sure the wording allows MPOs to establish their own targets if they want to in the future. We are not planning on doing so at this time, but I am concerned about the targets for city streets on the NHS.” SPB staff responded that the report outlines the NMDOT targets and the MPOs have the option of adopting the NMDOT targets or setting other targets.
5. The MPOs have until November 20, 2018 to adopt the NMDOT PM 3 targets or set their own quantifiable targets.

Data Methodologies and Assumptions

The FFY2019 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 2017 NPMRDS data in accordance with FHWA guidance
2. Segment-level Free-Flow traffic speeds, as reported in NPMRDS for March 2018
3. Traffic Volumes, as reported by NMDOT in its 2015 HPMS submission
4. Roadway Attributes, including functional class and urban / rural designation, as reported by NMDOT in its 2015 HPMS submission and conflated to the NPMRDS TMC network by Texas Transportation Institute / FHWA
5. Traffic Volume Growth Rates, based on the functional class / regional growth rates provided by NMDOT (see “Table 1: Growth Rates” and discussion under “Assumptions,” below)
6. Capacity Enhancement Projects, from NMDOT’s e-STIP, with project boundaries and projected completion dates

Methodology

The forecasting methodology consists of four steps:

1. Setup: Calculate current performance, volume, and capacity.
 - a. Segment-level Level of Travel Time Reliability (LOTTR) scores based on 2017 NPMRDS data for all vehicles and Truck Travel Time Reliability (TTTR) scores based on 2017 NPMRDS truck data are calculated for all NMDOT TMC segments. For modeling purposes, scores are shifted from being left-bounded at 1.0 to left-bounded at 0.0.
 - b. HPMS AADTs are converted to Passenger Car Equivalents (PCEs) where Single-Unit Trucks and Buses are equal to 1.5 PCEs and Combination Trucks are equal to 2.0 PCEs.
 - c. Roadway capacities are calculated by assigning functional-class capacity assumptions (based on the Highway Capacity Manual and other sources, see “Table 2: Functional-Class Capacity Assumptions”), and updating these capacities based on observed free-flow speeds reported in the NPMRDS.
2. Model Fitting: Log-level linear regression models are fit relating LOTTR to roadway volumes and capacities, and TTTR to roadway location (urban / rural) and volume / capacity ratio. The model coefficients and model R² scores are presented in the tables below.

LOTTR Model Specification:

$$\log(\text{LOTTR} - 1) \sim (\text{intercept}) + \text{cars} * x_i + \text{capacity} * x_i + v/c * x_i + \text{error}$$

| Coefficients | Estimate (Exponentiated) | Std. Error | Interpretation |
|-------------------------|--------------------------|------------|---|
| (Intercept) | -0.02 | 0.059 | The model intercept is 0.02 (i.e. LOTTR = 1.02, interpreted as “a road with zero traffic and zero capacity would be expected to have a LOTTR score of 1.02”) |
| cars (thousands) | 0.06 | 0.000 | Each additional 1000 cars of daily volume is associated with a 6% increase in LOTTR |
| capacity (thousands) | -0.03 | 0.000 | Each additional 1000 cars of daily capacity is associated with a 3% decrease in LOTTR |
| Volume / Capacity Ratio | -0.63 | 0.000 | An increase in V/C Ratio from Zero to One is Associated with a 63% decrease in LOTTR, all else equal (captures slight non-linearity in relationship between cars and LOTTR) |

R² 0.375

All estimates statistically significant at p < 0.001

TTTR Model Model Specification:

$$\log(\text{TTTR} - 1) \sim (\text{intercept}) + v/c * x_i + \text{urban} * x_i + \text{error}$$

| Coefficients | Estimate (Exponentiated) | Std. Error | Interpretation |
|-------------------------|-----------------------------|---------------|--|
| (Intercept) | 0.07 | .005 | The model intercept is 0.07 (i.e. TTTR = 1.07, interpreted as “a road with zero volume / capacity ratio would have a TTTR score of 1.07” |
| Volume / Capacity Ratio | 19.89 | 0.29 | An increase in V/C Ratio from zero to one is associated with a 1989% increase in TTTR |
| Location: Urban | 2.19 | 0.076 | All else equal, urban Interstate segments have, on average, TTTR scores 2.19 higher than rural segments |

R² 0.412

All estimates statistically significant at p < 0.001

3. Source Data Updates: Future Roadway Volumes are calculated based on geometric growth using the Growth Rates specified. Future Roadway Capacities are updated where segments overlap with capacity projects, based on each project’s expected completion date. For more details, see “Assumptions” below.
4. Score Update: Updated segment scores are calculated using the forecasted future volume and capacity, and the original segment scores are updated by the forecasted difference in future performance

Assumptions

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

Table 1: Growth Rates used for Forecasting

| f_system | location | Growth rate |
|----------|----------|-------------|
| 7 | Rural | 0.013 |
| 7 | Urban | 0 |
| 6 | Rural | 0.013 |
| 6 | Urban | 0.01 |
| 5 | Urban | 0.014 |
| 5 | Rural | 0 |
| 4 | Urban | 0.059 |
| 4 | Rural | 0 |
| 3 | Urban | 0 |
| 3 | Rural | 0.036 |
| 2 | Urban | 0.013 |
| 2 | Rural | 0.01 |
| 1 | Urban | 0.0165 |
| 1 | Rural | 0.02 |

These growth rates are based on the most recently available fixed-traffic-count station year-over-year estimates. The

growth rates in the table have been modified based on a minimum growth rate of 0.0%. Although traffic volumes are declining on portions of New Mexico’s road network, it is assumed that the roads with negative traffic growth rates are not, by in large, roads experiencing significant traffic congestion.

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 | 65 | 2200 |
| Urban | Principal Arterial - Other Freeways and Expressways | 45 | 1200 |
| Urban | Principal Arterial - Other | 40 | 925 |
| 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 WATS RTM. Reference Capacity Updated Using NPMRDS Free Flow Speed. +150 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) 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.

As a result of applied updates, 2021 Lane Miles are forecasted at 14,039 NHS directional lane-miles, a 57 lane-mile increase from 2017’s 13,982 directional lane-miles.

Forecast Scenarios

To provide additional context for target setting (as well as to facilitate conservative target selection) three scenarios are presented:

| | | Expected Growth | High Growth |
|----------|---|--|--|
| No Build | Current Capacity | "No Build" <ul style="list-style-type: none"> • 1% Average Growth • No Additional Capacity | "No Build, High Growth" <ul style="list-style-type: none"> • 2% Average Growth • No Additional Capacity |
| Build | Programmed STIP Capacity & ITS Projects Completed On Time | "Build" <ul style="list-style-type: none"> • 1% Average Growth • Project-Based Capacity Expansion & Reliability Improvement | |

The follow tables and graphs reflect the scenarios for each target.

Table 3: Percentage of person-miles traveled on the Interstate System that are reliable

| | Baseline (2017) | 2018 | Two Year Performance (2019) | 2020 | Four Year Performance (2021) |
|----------------------|-----------------|------|-----------------------------|------|------------------------------|
| No Build High Growth | 97.0 | 97.0 | 96.1 | 95.2 | 95.1 |
| No Build | 97.0 | 97.0 | 97 | 96.3 | 95.2 |
| Build | 97.0 | 97.0 | 97 | 97 | 96.9 |

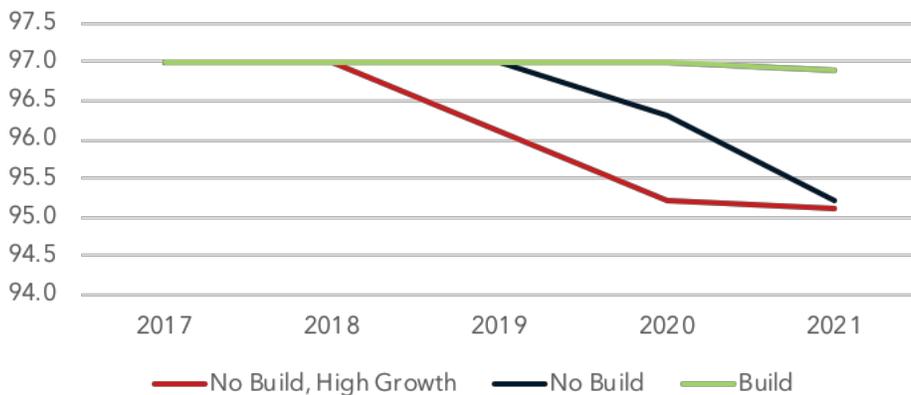


Table 4: Percentage of person-miles traveled on the non-interstate National Highway System (NHS) that are reliable

| | Baseline (2017) | 2018 | Two Year Performance (2019) | 2020 | Four Year Performance (2021) |
|----------------------|-----------------|------|-----------------------------|------|------------------------------|
| No Build High Growth | 90.5 | 90.5 | 90.5 | 90.4 | 90.4 |
| No Build | 90.5 | 90.5 | 90.5 | 90.5 | 90.5 |
| Build | 90.5 | 90.6 | 90.6 | 90.6 | 90.6 |

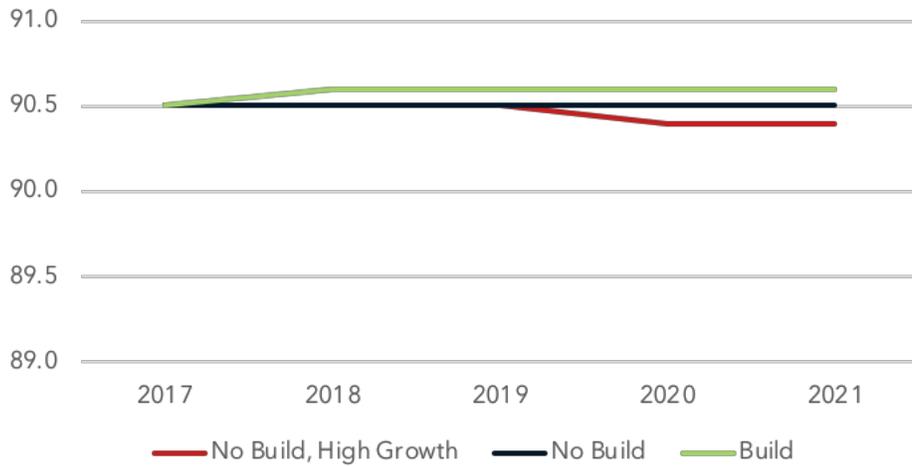
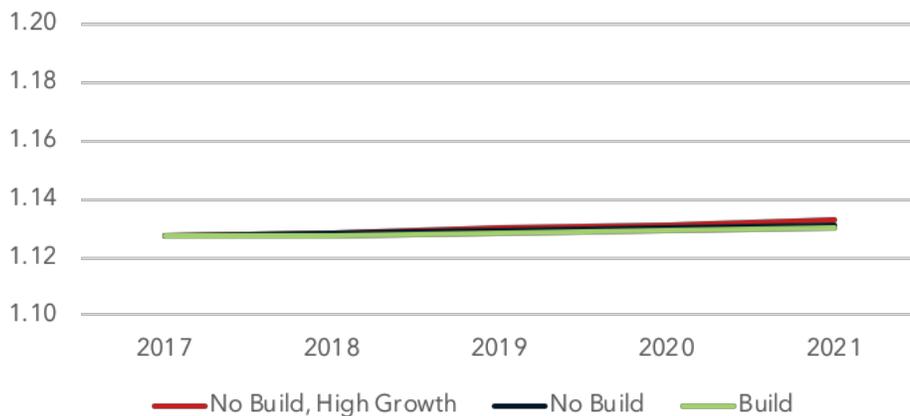


Table 5: Truck Travel Time Reliability (TTTR) Index

| | Baseline (2017) | 2018 | Two Year Performance (2019) | 2020 | Four Year Performance (2021) |
|----------------------|-----------------|------|-----------------------------|------|------------------------------|
| No Build High Growth | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 |
| No Build | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 |
| Build | 1.13 | 1.13 | 1.13 | 1.13 | 1.13 |



NMDOT PM3 Targets

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

| Measure | Baseline Score (2017) | NMDOT Target (2019) | NMDOT Target (2021) |
|------------------------|-----------------------|---------------------|---------------------|
| Interstate Reliability | 97.0% | 96.1% | 95.1% |

NMDOT Target Statement: The percentage of person-miles traveled on the Interstate System will decrease slightly in the next four years, from a baseline score of 97% reliable in 2017 to 96.1% reliable in 2019, and 95.1% reliable in 2021.

NMDOT Justification: Recent modeling forecasted that with the currently programmed projects and forecasted traffic growth, the percentage of person-miles traveled on the Interstate System will remain high, may decrease slightly over this four year timespan.

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

| Measure | Baseline Score (2017) | NMDOT Target (2019) | NMDOT Target (2021) |
|----------------------------|-----------------------|---------------------|---------------------|
| Non-Interstate Reliability | 90.5% | 90.4% | 90.4% |

NMDOT Target Statement: The percentage of person-miles traveled on the non-Interstate National Highway System will decrease slightly in the next four years, from a baseline score of 90.5% reliable in 2017 to 90.4% reliable in 2019, and 90.4% reliable in 2021.

NMDOT Justification: Recent modeling forecasted that with the currently programmed projects and forecasted traffic growth, the percentage of person-miles traveled on the Interstate System will remain high, may decrease slightly over this four year timespan.

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

| Measure | Baseline Score (2017) | NMDOT Target (2019) | NMDOT Target (2021) |
|-------------------------------------|-----------------------|---------------------|---------------------|
| Truck Travel Time Reliability Index | 1.13 | 1.14 | 1.15 |

NMDOT Target Statement: The index of truck travel times on the Interstate System may be reduced slightly in the next four years, from a baseline index of 1.13 in 2017 to an index of 1.14 in 2019, and an index of 1.15 in 2021.

NMDOT Justification: Recent modeling forecasted that with the currently programmed projects and forecasted traffic growth, the truck travel time index value will remain high, but the reliability index may be reduced slightly over this four year timespan.

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

NMDOT Target Statement: In the initial performance period (2017-2021), the rule applies to urbanized areas of more than 1 million people that are also in nonattainment or maintenance areas for ozone, carbon monoxide or particulate matter. At this time, there are no such urbanized areas in New Mexico.

NMDOT Justification: Based on current urbanized area populations and nonattainment or maintenance thresholds.

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

NMDOT Target Statement: In the initial performance period (2017-2021), the rule applies to urbanized areas of more than 1 million people that are also in nonattainment or maintenance areas for ozone, carbon monoxide or particulate matter. At this time, there are no such urbanized areas in New Mexico.

NMDOT Justification: Based on current urbanized area populations and nonattainment or maintenance thresholds.

6. On-Road Mobile Source Emissions Reduction

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 for Particulate Matter 10 (PM10). This part of NM is within the El Paso MPO (EPMPO) planning area. The EPMPO coordinates with the NMDOT on programming New Mexico CMAQ funds allocated to the EPMPO. It was, therefore, mutually agreed upon by NMDOT and the EPMPO to develop the baseline, 2- and 4-year targets for applicable criteria pollutants, in this case PM10, for the state of New Mexico by developing a cost benefit analysis (see method below) using projected future CMAQ allocations for New Mexico and applying the *ESTABLISHED emissions* targets for Texas to *PROJECT* emissions targets in the New Mexico portion of the EPMPO planning area.

NMDOT Justification:

TX allocation next 2-year and 4-years /2-year and 4-year targets kilograms (kg) per day ESTABLISHED for EPMPO-TX = 4-year cost per criteria pollutant TX

NM Allocation next 2-years and 4-years / 2-year and 4-year cost per criteria pollutant TX =2-year and 4-year target in kg per day PROJECTED for EPMPO-NM

This methodology assumes that the future (next 2 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.

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.

The projected EPMPO 4-year targets for on-road mobile source emissions in New Mexico is:

- 2-year = 0.65 kg/day for Particulate Matter less than or equal to 10 microns (PM-10)
- 4-year = 1.79 kg/day for Particulate Matter less than or equal to 10 microns (PM-10)
- Baseline = 0.17 kg/day

The NMDOT on-road mobile source emission targets for PM10 in New Mexico is:

- 2-year = 0.65 kg/day for Particulate Matter less than or equal to 10 microns (PM-10)
- 4-year = 1.79 kg/day for Particulate Matter less than or equal to 10 microns (PM-10)
- Baseline = 0.17 kg/day

New Mexico Metropolitan Planning Organizations Performance Based Planning and Programming & Target Reporting

The New Mexico Planning Procedures Manual (PPM) was amended March 13, 2019 to include a new chapter *NMDOT Planning Procedures Manual: Performance Based Planning and Programming/Target Setting Procedures*. This reporting format will provide consistency and assure implementation of federal reporting requirements.

MPO: **Mid-Region Metropolitan Planning Organization, Albuquerque, NM**

Performance Measures for Public Transportation Agency Safety Plan (PTASP)

| Preamble: Public Transportation Agency Safety Plan |
|--|
| <p>The Federal Transit Administration (FTA) issued the Public Transportation Agency Safety Plan (PTASP) rule (49 CFR 673) in July 2018. This rule requires public transportation systems which receive FTA Urbanized Area Formula Grants (Section 5307 funds) to develop safety plans that include safety performance targets and the processes and procedures to implement Safety Management Systems. The first PTASPs are due July 20, 2020 and must be updated every four years. In New Mexico ABQ Ride, Rio Metro Regional Transit District (RMRTD), North Central Regional Transit District (NCRTD), Santa Fe Trails, Farmington-Red Apple Transit, and Las Cruces RoadRunner Transit.</p> <p>At the time of the development of this MTP, the PTASP by both ABQ Ride and RMRTD are under development. Once the two agencies finalize their PTASPs the MPO will incorporate them into this document.</p> <p>It is likely that due to the level of detailed information in each agencies' Public Transportation Agency Safety Plan, MRMPO will incorporate, by reference, the two transit agencies' plans: <i>Note: The City of Albuquerque Public Transportation Agency Safety Plan (April 2020) and the Rio Metro Regional Transit District Agency Safety Plan (May 2020) were both adopted by the MTB in December 2020 (see Resolution R-20-10) and are incorporated by reference into this plan and appendix.</i></p> |

| Public Transit Safety Performance Target |
|---|
| <p>MPO adopted ABQ Ride's target – <u>Yes</u> See referenced PTASP. MPO adopted RMRTD's target - <u>Yes</u> See referenced PTASP.</p> <p>For MPO's adopting the transit agency's targets, reporting shall be undertaken by the transit agency with reports to the MPO and NMDOT Transit & Rail Division. The quadrennial update of the target shall be undertaken by the transit agency in coordination with the MPO and in consultation with NMDOT Transit & Rail Division (next due July, 20, 2024).</p> |
| <p>MPO adopted separate target – <u>No</u></p> <p>For MPOs adopting a separate target, the MPO must explain the rationale and methodology for the separate target. MPO methodology, if applicable:</p> |
| <p>MPO Progress Report if adopting separate target:</p> |

New Mexico Metropolitan Planning Organizations Performance Based Planning and Programming & Target Reporting

The New Mexico Planning Procedures Manual (PPM) was amended March 13, 2019 to include a new chapter *NMDOT Planning Procedures Manual: Performance Based Planning and Programming/Target Setting Procedures*. This reporting format will provide consistency and assure implementation of federal reporting requirements.

MPO: **Mid-Region Metropolitan Planning Organization, Albuquerque, NM**

Performance Measures for Transit Asset Management (TAM)

Preamble: Transit Asset Management

The Federal Transit Administration (FTA) issued the Transit Asset Management (TAM) rule (49 CFR 625) in July 2016. TAM plans are developed to assist with monitoring and maintaining a state of good repair for transit assets. The first TAM plans were due October 1, 2018 and must be updated every four years. The FTA rule establishes two tiers of TAM planning responsibilities; in New Mexico ABQ Ride and Rio Metro Regional Transit District (RMRTD) are Tier I and all other transit agencies are Tier II.

Due to the level of detailed information in each agencies' Transportation Asset Management Plan (TAMP) MRMPO incorporates, by reference, the two transit agencies' plans:

ABQ Ride – City of Albuquerque, Transit Department Transit Asset Management Plan October 1, 2018 Version 1.

Rio Metro Regional Transit District – Transit Asset Management Plan FFY 2019-2022.

These two documents were both adopted by the Metropolitan Transportation Board on November 16, 2018 under Resolution R-18-17 MTB

Transportation Asset Management Plan (TAMP) Elements

Tier I and Tier II Agency TAMPs must include:

1. An inventory of assets.
2. A condition assessment of inventoried assets.
3. Description of a decision support tool such as an analytic process or tool that either assists in capital asset investment and/or estimates capital needs over time (not necessarily software).
4. A prioritized list of investments (projects or programs) to manage or improve the State of Good Repair (SGR) of capital assets.

Tier I Agency TAMPs must also include:

5. TAM policy and SGT policy such as an executive-level direction regarding expectations for transit asset management and strategies/actions that support the implementation of the TAM policy.
6. Implementation strategy which are operational actions that a transit provider decides to conduct in order to achieve its TAM goals and policies.
7. List of key annual activities. These are actions needed to implement the TAMP for each year of the plan's horizon.
8. Identification of resources which is a summary of list of the resources including personnel that a transit provider needs to develop and carry out the TAMP.
9. Evaluation plan which outlines how the transit provider will monitor, update, and evaluate, as needed, its TAMP and related business practices, to ensure continuous improvement.

Performance Measure Target: Rolling Stock

| Performance Measure Target: Rolling Stock | |
|--|--|
| Rolling stock performance is measured by the percentage of revenue vehicles (by type) that meet or exceed the useful life benchmark. (Revenue vehicles are those that transport passengers.) | |
| MPO adopted ABQ Ride's target – <u>Yes</u> MPO adopted RMRTD's target - <u>Yes</u> | See referenced TAMP. See referenced TAMP. |
| For MPO's adopting the transit agency's targets, reporting shall be undertaken by the transit agency with reports to the MPO and NMDOT Transit & Rail Division. The quadrennial update of the target shall be undertaken by the transit agency in coordination with the MPO and in consultation with NMDOT Transit & Rail Division (next due October 1, 2022). | |
| MPO adopted separate target – <u>No</u> | |
| For MPOs adopting a separate target, the MPO must explain the rationale and methodology for the separate target. MPO methodology, if applicable: | |
| MPO Progress Report if adopting separate target: | |

| Performance Measure Target: Equipment | |
|--|--|
| Equipment performance is measured by the percentage of non-revenue service vehicles (by type) that meet or exceed the useful life benchmark. | |
| MPO adopted ABQ Ride's target – <u>Yes</u> MPO adopted RMRTD's target - <u>Yes</u> | See referenced TAMP. See referenced TAMP. |
| For MPO's adopting the transit agency's targets, reporting shall be undertaken by the transit agency with reports to the MPO and NMDOT Transit & Rail Division. The quadrennial update of the target shall be undertaken by the transit agency in coordination with the MPO and in consultation with NMDOT Transit & Rail Division (next due October 1, 2022). | |
| MPO adopted separate target – <u>No</u> | |
| For MPOs adopting a separate target, the MPO must explain the rationale and methodology for the separate target. MPO methodology, if applicable: | |
| MPO Progress Report if adopting separate target: | |

| Performance Measure Target: Facilities | |
|--|--|
| Facilities performance is measured by the percentage of facilities (by group) that are rated less than "3" on the Transit Economic Requirements Model (TERM) scale. (Facilities include transit stations, maintenance buildings, etc.) | |
| MPO adopted ABQ Ride's target – <u>Yes</u> MPO adopted RMRTD's target - <u>Yes</u> | See referenced TAMP. See referenced TAMP. |
| For MPO's adopting the transit agency's targets, reporting shall be undertaken by the transit agency with reports to the MPO and NMDOT Transit & Rail Division. The quadrennial update of the target shall be undertaken by the transit agency in coordination with the MPO and in consultation with NMDOT Transit & Rail Division (next due October 1, 2022). | |
| MPO adopted separate target – <u>No</u> | |
| For MPOs adopting a separate target, the MPO must explain the rationale and methodology for the separate target. MPO methodology, if applicable: | |
| MPO Progress Report if adopting separate target: | |

| Performance Measure Target: Infrastructure |
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|---|

| Infrastructure performance is measured by the percentage of rail fixed-guideway (by mode) that have performance restrictions. | |
|--|----------------------|
| MPO adopted ABQ Ride's target – <u>Yes</u> | See referenced TAMP. |
| MPO adopted RMRTD's target - <u>Yes</u> | See referenced TAMP. |
| For MPO's adopting the transit agency's targets, reporting shall be undertaken by the transit agency with reports to the MPO and NMDOT Transit & Rail Division. The quadrennial update of the target shall be undertaken by the transit agency in coordination with the MPO and in consultation with NMDOT Transit & Rail Division (next due October 1, 2022). | |
| MPO adopted separate target – <u>No</u> | |
| For MPOs adopting a separate target, the MPO must explain the rationale and methodology for the separate target. MPO methodology, if applicable: | |
| MPO Progress Report if adopting separate target: | |

1 RESOLUTION

2 of the

3 METROPOLITAN TRANSPORTATION BOARD

4 of the

5 MID-REGION METROPOLITAN PLANNING ORGANIZATION

6 of the

7 MID-REGION COUNCIL OF GOVERNMENTS OF NEW MEXICO

8 (R-22-02 MTB)

9 **ADOPTING PUBLIC TRANSPORTATION AGENCY SAFETY PLANS (PTASP)**
10 **DEVELOPED BY**
11 **CITY OF ALBUQUERQUE TRANSIT DEPARTMENT (ABQ RIDE)**
12 **AND RIO METRO REGIONAL TRANSIT DISTRICT**
13

14 WHEREAS, the Metropolitan Transportation Board is the governing body of the
15 Mid-Region Metropolitan Planning Organization (MRMPO), a division of the Mid-Region
16 Council of Governments; and

17 WHEREAS, the MRMPO is responsible for metropolitan transportation planning
18 in accordance with 23 CFR 450, for the Albuquerque Metropolitan Planning Area
19 (AMPA); and

20 WHEREAS, United States Code, Title 49, Code of Federal Regulations Part 673
21 established a requirement for certain transit agencies that receive federal funds under
22 FTA's Urbanized Area Formula Grants to develop a Public Transit Agency Safety Plan
23 (PTASP); that include the process and procedures to implement Safety Management
24 Systems (SMS); and

25 WHEREAS, federal regulations require metropolitan planning organizations to
26 adopt Public Transit Agency Safety Plans.

27 NOW THEREFORE BE IT RESOLVED by the Metropolitan Transportation Board
28 of the Mid-Region Metropolitan Planning Organization of the Mid-Region Council of
29 Governments of New Mexico that the Transit Safety Agency Plans, as set out in
30 ATTACHMENTS A and B, are hereby accepted, and adopted for the Albuquerque
31 Metropolitan Planning Area (AMPA) and the Mid-Region Metropolitan Planning
32 Organization.

33 PASSED, APPROVED, AND ADOPTED this 18th day of February 2022 by
34 the Metropolitan Transportation Board of the Mid-Region Metropolitan Planning
35 Organization of the Mid-Region Council of Governments of New Mexico.

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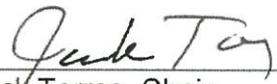
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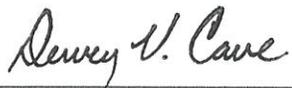
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Jack Torres, Chair
Metropolitan Transportation Board

ATTEST:



Dewey V. Cave
Executive Director, Mid-Region Council of Governments
Executive Director, Mid-Region Metropolitan Planning Organization