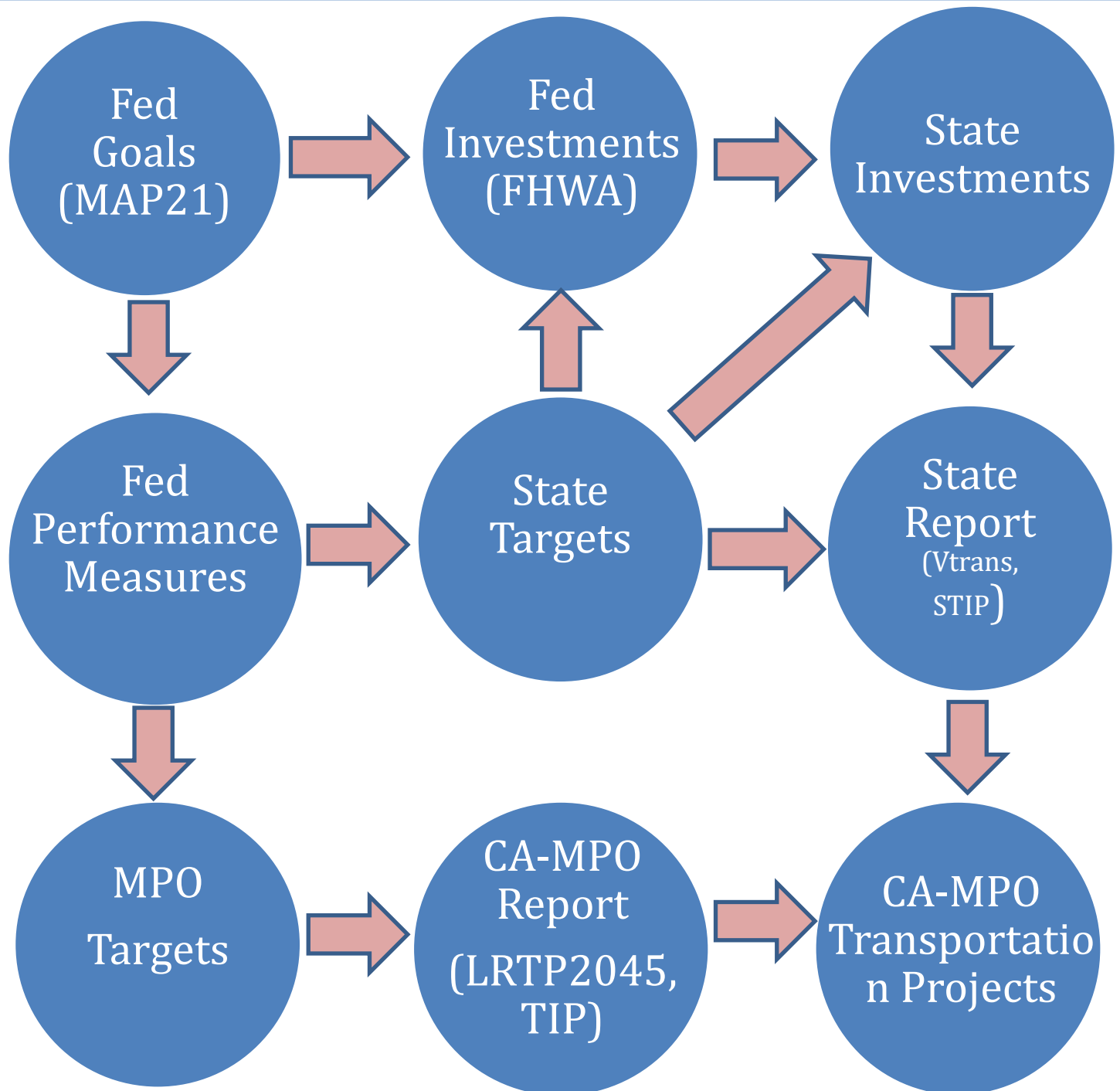


# Transportation Performance Management Overview

For the Charlottesville Albemarle Metropolitan Planning Organization



## Introduction

The new Transportation Performance Management (TPM) tools developed by Virginia's Office of Intermodal Planning and Investment (OIPI) are formed under the guidance of the US Department of Transportation. In addition to complying with federal requirements, these TPM tools will help the Charlottesville Albemarle Metropolitan Planning Organization (CA-MPO) and the Commonwealth plan for and fund transportation projects based on performance measures that are connected to the transportation goals outlined in VTRANS and MAP-21.

This document first provides a brief overview of the federal legislation requiring states and MPOs to develop goals, performance measures, and targets to help guide transportation investments. Then, this document share's the current state performance and safety targets and the MPO's obligation to set local targets with state guidance. The last section in this document outlines the reports that CA-MPO are required to produce under the performance measures system.

## Background—Federal Legislation

The 2012 Federal transportation bill, Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21) required states to use outcome-based programing that aligns with federal-aid highway program performance goals, to guide their Federal Highway Administration (FHWA) investments. The Virginia Department of Transportation's (VDOT) [Fiscal Year 2020 Annual Budget](#) estimated that almost 17% of that year's transportation funds were from federal sources, the third largest source, following Virginia's Transportation Trust Fund (36%) and the state Highway Maintenance and Operating Fund (32%). (Virginia Department of Transportation, 2020)

The national performance goals for the Federal-aid highway program are listed in Table 1 below.

Table 1: National Performance Goals

National Performance Goals	
Goal area	National goal
Safety	To achieve a significant reduction in traffic fatalities and serious injuries on all public roads
Infrastructure condition	To maintain the highway infrastructure asset system in a state of good repair
Congestion reduction	To achieve a significant reduction in congestion on the National Highway System
System reliability	To improve the efficiency of the surface transportation system
Freight movement and economic vitality	To improve the national freight network, strengthen the ability of rural communities to access national and international trade markets, and support regional economic development
Environmental sustainability	To enhance the performance of the transportation system while protecting and enhancing the natural environment
Reduced project delivery delays	To reduce project costs, promote jobs and the economy, and expedite the movement of people and goods by accelerating project completion through eliminating delays in the project development and delivery process, including reducing regulatory burdens and improving agencies' work practices

Source: (US Department of Transportation, Federal Highway Administration, 2020)

## Virginia and CA-MPO Targets

Just like the Charlottesville-Albemarle Metropolitan Planning Organization’s (CA-MPO) long range transportation plan established goals to support our community’s transportation vision, the state’s long range transportation plan, VTrans, developed the following goals for statewide transportation.



Source: (Commonwealth of Virginia, 2020)

Stemming from these goals, Virginia’s Office of Intermodal Planning and Investment (OIP), which leads the development of VTrans, utilizes a suite of multimodal performance measures to track progress and guide investments in reaching these goals. OIP detailed performance by measure in its 2019 Biennial Report, and the next VTrans Update (2045) will include identification of key performance indicators, which will be tracked in the future.

Included in this suite of measures are federally required performance measures, which both FHWA and FTA established because of MAP-21 and the FAST Act. The Commonwealth Transportation Board (CTB) approves statewide targets for federal performance measures. By setting targets for the performance measures, VDOT can report progress towards meeting the FHWA goals.

MPOs are required to participate in the performance measure process by setting targets for their regions based on the state targets and trend data provided by the state. The targets are broken up into three categories for the MPOs.

- 1) Asset and System Condition Performance Targets
- 2) Safety Performance Targets
- 3) Public Transit Agency Safety Performance Targets

OIP and VDOT prepare worksheets for each MPO showing the data collected to measure progress towards each performance measure that has an identified target. These worksheets compare the data over the years starting with the baseline year 2017 to identify trends and track percent changes to help measure progress and adjust the targets.

### Asset and System Condition Targets

The Asset Condition and System Targets include pavement and bridge condition, reliability, and freight reliability. These targets are updated every four years with mid-period updates. Targets that the MPO chooses to set differently from the state targets and targets that are updated by the state during the mid-period update need to be re-evaluated by the MPO in the 2 mid-period update. The targets included in the asset condition and system category are listed below. The targets in bold need to be re-evaluated during this mid-period update.

- 1) Percentage of deck area of bridges in good condition (NBI<sup>1</sup> on NHS<sup>2</sup>)**
- 2) Percentage of deck area of bridges in poor condition (NBI on NHS)**
- 3) Percent of pavement in good condition (Interstate)
- 4) Percent of pavement in poor condition (Interstate)
- 5) Percent of pavement in good condition (NHS)
- 6) Percent of pavement in poor condition (NHS)
- 7) Percentage of person-miles traveled that are reliable (Interstate)**
- 8) Percentage of person-miles traveled that are reliable (Non-Interstate NHS)**

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<sup>1</sup> National Bridge Inventory (NBI)

<sup>2</sup> National Highway System (NHS)

**9) System performance (Interstate)**  
**10) Truck travel time reliability index (Interstate)**

The CA-MPO has until March 15, 2021 to report to the State DOT whether it will either:

- Agree to plan a program of projects so that they contribute to the adjusted state DOT target for that performance measure; or
- Commit to a new quantifiable target for that performance measure for its metropolitan planning area (23 CFR §490.105(f)(7)).

Table 2 below shows the current Asset and System Condition Targets, with CA-MPO’s current targets, the state’s targets and the 2019 actual for the CA-MPO area. At this time, CA-MPO can choose to adjust the targets that are in bold in Table 1, if desired. CA-MPO must choose one of the following options by the March 15, 2021 deadline.

- Continue to support its current regional targets
- Adjust its regional targets by establishing new targets
- Adopt the state targets

VDOT will continue to collect and share data on all the federal performance measures (safety, asset condition, and system performance) with MPOs, so MPOs do not have to collect that information.

*Table 2: Asset and System Condition Targets*

<b>Asset and System Condition Targets</b>	<b>State Target (4 years 2018 to 2021)</b>	<b>CA-MPO Current Target</b>	<b>CA-MPO 2019 actual</b>	<b>CA-MPO Targets for 2020 and 2021</b>
<b>Percentage of deck area of bridges in good condition (NBI on NHS)</b>	<b>30.5%</b>	<b>23%</b>	<b>10.9%</b>	<b>?</b>
<b>Percentage of deck area of bridges in poor condition (NBI on NHS)</b>	<b>2%</b>	<b>3%</b>	<b>7.7%</b>	<b>?</b>
Percent of pavement in good condition (Interstate)	45%	45%	69.7%	45%
Percent of pavement in poor condition (Interstate)	3%	3%	0%	3%
Percent of pavement in good condition (NHS)	25%	25%	26.3%	25%
Percent of pavement in poor condition (NHS)	5%	5%	0.9%	5%
<b>Percentage of person-miles traveled that are reliable (Interstate)</b>	<b>82%</b>	<b>99%</b>	<b>100%</b>	<b>?</b>
<b>Percentage of person-miles traveled that are reliable (Non-Interstate NHS)</b>	<b>82.5%</b>	<b>80%</b>	<b>93.5%</b>	<b>?</b>
<b>Truck travel time reliability index (Interstate)</b>	<b>1.56</b>	<b>1.2</b>	<b>1.15</b>	<b>?</b>

- NBI, National Bridge Inventory covers all bridges used for vehicular traffic over 20 ft in length.
- OIPI adjusted the percent of deck area of bridges in good condition from 23% to 30.5% in the midterm review.
- Targets in **bold** need to be confirmed or adjusted in the January Policy Board meeting.

## Safety Performance Targets

The Highway Safety Performance Targets include the following measures.

- 1) Number and percent change of fatalities
- 2) Number and percent change of serious injuries
- 3) Number of and percent change of non-motorized fatalities and non-motorized serious injuries

MPOs adopt highway safety targets every year. The next targets are due to be sent to the OIPI by February 27, 2021. Last year CA-MPO chose to keep the state targets.

Table 3 below shows the state targets and CA-MPO's predicted trend for the safety performance measures.

*Table 3: Safety Performance Targets*

Safety Performance Targets	State 2021 Target	CA-MPO Projected Trend 2021	CA-MPO Targets for 2021
Percent change fatalities	3.20%	-4.30%	?
Number of fatalities	898	7	
Percent Change serious injuries	-1.46%	-16.10%	?
Number of serious injuries	7,385	50	
Goal Percent Change non-motorized fatalities serious injuries	-0.08%	-1.80%	?
Number of non-motorized fatalities serious injuries	750	13	

*- A positive value represents an increase and a negative value represents a reduction in five-year averages from 2019 to 2021*

## Public Transit Agency Safety Performance Targets

Charlottesville Area Transit and JAUNT are both Tier II agencies participating in the Department of Rail and Public Transit (DRPT) sponsored group statewide [Public Transportation Agency Safety Plan](#) (PTASP). Tier II agencies are defined as small transit agencies not operating rail fixed guideway and running 100 or fewer vehicles in total during peak revenue service. Under the PTASP rule, State Departments of Transportation are tasked with developing the PTASP for all eligible Tier II agencies unless the agency chooses to opt out.

The Statewide Tier II PTASP plan includes safety performance targets and describes safety management systems in place at the 15 agencies who participate in the Statewide Plan. DRPT

measure the following data in the PTASP to comply with MAP-21.

1. Fatalities (total number of reportable fatalities per year)
2. Fatalities (rate per total vehicle revenue miles by mode)
3. Injuries (total number of reportable injuries per year)
4. Injuries (rate per total vehicle revenue miles by mode)
5. Safety events (total number of safety events per year)
6. Safety events (rate per total vehicle revenue miles by mode)
7. Distance between Major Failures
8. Distance between Minor Failures

The Tier II statewide PTASP was completed in July, 2020. Transit agencies must review the plan annually by July 20th of each year. Agencies can choose to opt out of the PTASP and develop their own safety plan.

For more information: <http://www.drpt.virginia.gov/transit/planning/public-transportation-agency-safety-plan-ptasp/>.

## Reporting Requirements

A System Performance Report containing a record of CA-MPO's targets and data trends tracking progress needs to be reported in CA-MPO's Transportation Improvement Program (TIP) and included in the Long Range Transportation Plan (LRTP) when it is updated.

If CA-MPO chooses to select targets that are different from the state targets, the MPO will need to describe a methodology for setting the targets, and also track the progress of the MPO's trends vs the statewide trends in their System Performance Report. All this data will be provided by the state, as it currently is in the form of workbooks. System Performance Reports should also describe how project prioritization is used to meet performance targets and strategies planned to meet the targets in the future.

The System Performance Reports should be included in the TIP and LRTP when they are updated. More details about the performance targets reporting requirements for each of these MPO authored documents follows.

### TIP Reporting Requirements

MPOs should demonstrate how the program of projects in their TIPs contributes to the achievement of their targets. The TIP's reporting requirements follow the federal regulations quoted below.

*“The TIP shall include, to the maximum extent practicable, a description of the anticipated effect of the TIP toward achieving the performance targets identified in the MTP, linking investment priorities to those performance targets.”*

The TIP should have a narrative that specifically describes the linkages between the projects supported in the TIP and the plan to reach the performance measure targets. The narrative should answer the following questions.

- 1) Are the projects in the TIP directly linked to implementation of these other (performance based) plans?
- 2) How was the program of projects in the TIP determined?
- 3) Does the TIPs support achievement of the performance targets?
- 4) How does the TIP support achievement of the performance targets?
- 5) Is the TIP consistent with the other performance based planning documents (asset management plans, SHSP, HSIP, freight plan, CMAQ Performance Plan, CMP, etc.)?
- 6) How was this assessment conducted?
- 7) What does the assessment show?

If the MPO uses the state targets, then they will insert the state's narrative describing the linkages between the projects supported in the STIP and the state's plan to reach the performance measure targets.

### L RTP Reporting Requirement

The CA-MPO included the state System Performance Report as part of their 2045 LRTP, see Appendix E of the LRTP. This System Performance Report establishes baselines for the performance measures that have set targets and illustrates how the performance targets are incorporated into the state planning documents. The System Performance Report and subsequent updates will evaluate the condition and performance of the transportation system with respect to the applicable performance targets: Highway Safety, Pavement and Bridges, Highway System, Congestion Mitigation and Air Quality (CMAQ), and Transit Asset Management. MPOs are required to include updates to the System Performance Report in their LRTPs. The next CA-MPO update for the LRTP will be completed in the spring of 2024.

### Wrap-up

The federal TPM system outlined in this document was discussed with both the CA-MPO's Technical Committee and Policy Board in their November and December meetings. OIPI staff attended those meetings and discussed the TPM system with the committees. After careful consideration of the data and information provided by OIPI and researching other MPO's decisions around setting their TPM targets, staff recommends that the CA-MPO adopt the state targets for the primary reason that the MPO has little influence to affect the performance being measured by these standards.

The Virginia Department of Transportation (VDOT) builds and maintains most of the transportation infrastructure in the state, with the localities responsible for the remaining infrastructure. All transportation funding for projects that would affect change in the asset and system conditions, safety performance, or transit safety are selected and funded through state



and local governments. The opportunities for the MPO to influence the performance measures via submission of Smart Scale or other grant applications are minimal compared to the resources needed to significantly impact overall system performance.