



## COMMONWEALTH of VIRGINIA

### *Commonwealth Transportation Board*

Shannon Valentine  
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*Agenda item # 7*

### RESOLUTION OF THE COMMONWEALTH TRANSPORTATION BOARD

**September 18, 2018**

#### MOTION

**Made By: Mr. Kasprowicz, Seconded By: Mr. Johnsen**  
**Action: Motion Carried, Unanimously**

#### **Title: Approval of Asset Condition and System Performance Targets**

**WHEREAS**, pursuant to §2.2-229 of the *Code of Virginia*, as amended by Chapter 828 of the 2018 Acts of Assembly, it is the responsibility of the Office of Intermodal Planning and Investment (OIPI) to develop measures and targets related to the performance of the Commonwealth's surface transportation network for the Commonwealth Transportation Board's (Board) approval, *including any performance measurement required by Title 23 or 49 of the United States Code*; and

**WHEREAS**, Public Law 112-141, the Moving Ahead for Progress in the 21<sup>st</sup> Century Act (MAP-21) amended 23 USC 150, providing that, “[p]erformance management will transform the Federal-aid highway program and provide a means to the most efficient investment of Federal transportation funds by refocusing on national transportation goals, increasing the accountability and transparency of the Federal-aid highway program, and improving project decision-making through performance-based planning and programming.” Pursuant to 23 USC 150, the Federal-aid highway program is to be focused on national transportation goals in the areas of safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery delays; and

**WHEREAS**, MAP-21 also amended 23 USC 150 to direct the United States Secretary of Transportation, in consultation with State departments of transportation, metropolitan planning organizations, and other stakeholders, to promulgate a rulemaking that establishes performance measures and standards relating to the national transportation goals and for each state to set performance targets that reflect the performance measures established in said rule(s); and

**WHEREAS**, various federal regulations were promulgated to address and set forth the requirements for, among other things, measures and targets relating to asset condition, system performance, congestion, and air quality, including 23 CFR §§490.105, 490.307, 490.407, 490.507, 490.607, 490.707, and 490.807, which require State Departments of Transportation and Metropolitan Planning Organizations to set targets for twelve measures; and

**WHEREAS**, more specifically, 23 CFR §§490.307 and 490.407 require the state to set Asset Condition Performance Targets, which apply to the National Highway System (NHS), for the following six measures: percentage of pavement in good condition and percentage of pavement in poor condition on Interstate highways; percentage of pavement in good condition and percentage of pavement in poor condition on Non-Interstate NHS highways; and percentage of deck area of bridges in good condition and percentage of deck area of bridges in poor condition on the NHS; and

**WHEREAS**, 23 CFR §§490.105, 490.507, 490.607, 490.707, and 490.807 set forth measures and require the state to set targets for system performance, congestion, and air quality relating to the highways on the NHS or portions thereof (collectively, System Performance Measures or Targets), which include the following six measures: travel time reliability on Interstate highways and travel time reliability on Non-Interstate NHS highways; freight reliability on Interstate highways; annual hours of peak hour excessive delay per capita on NHS highways (certain areas in Northern Virginia only); percent of non-single occupancy vehicle travel (certain areas in Northern Virginia only); and on-road mobile source emissions reductions from the Congestion Mitigation and Air Quality (CMAQ) Improvement Program (certain areas in Northern Virginia only); and

**WHEREAS**, in accordance with 23 CFR §§490.105 and 490.107, two- and four-year targets for the MAP-21 performance measures relating to asset condition and system performance were to be established in May 2018 and must be reported to FHWA by October 1, 2018, with additional progress reports due by October 1 every two years thereafter; and

**WHEREAS**, the Office of Intermodal Planning and Investment (OIPI) working collaboratively with the Virginia Department of Transportation (VDOT) has for 2018-2021 established proposed Asset Condition Performance Targets and System Performance Targets set out in Tables A and B below, having complied with the target setting and reporting requirements set forth in 23 CFR §§490.105, 490.107, 490.307, 490.407, 490.507, 490.607, 490.707, and 490.807; and

**WHEREAS**, OIPI, in consultation with VDOT, recommends adoption of the proposed Asset Condition Performance Targets and System Performance Targets set forth in Tables A and B below, respectively:

**Table A**

<b>Asset Condition Measures</b>	<b>Scope</b>	<b>2-Year Target<sup>1</sup> (2018-2019)</b>	<b>4-Year Target<sup>2</sup> (2018-2021)</b>
Percentage of Pavement in Good Condition	Interstate	45%	45%
Percentage of Pavement in Poor Condition	Interstate	<3%	<3%
Percentage of Pavement in Good Condition	NHS (non-Interstate)	25%	25%
Percentage of Pavement in Poor Condition	NHS (non-Interstate)	<5%	<5%
Percentage of Pavement in Good Condition <sup>3</sup> (IRI only)	NHS (non-Interstate)	55%	55%
Percentage of Pavement in Poor Condition <sup>3</sup> (IRI only)	NHS (non-Interstate)	<10%	<10%
Percentage of Deck Area of Bridges in Good Condition	NHS	33.5%	33%
Percentage of Deck Area of Bridges in Poor Condition	NHS	3.5%	3%

**Table B**

<b>System Performance Measures</b>	<b>Scope</b>	<b>2-Year Target<sup>1</sup> (2018-2019)</b>	<b>4-Year Target<sup>2</sup> (2018-2021)</b>
Percentage of Person-Miles Traveled that are Reliable	Interstate	82.2%	82%
Percentage of Person-Miles Traveled that are Reliable	NHS (non-Interstate)	N/A	82.5%
Truck Travel Times Reliability Index	Interstate	1.53	1.56
Annual Hours of Peak Hour Excessive Delay Per Capita <sup>4</sup>	NHS	N/A	26.7 hrs/capita
Percentage of Non-SOV Travel <sup>4</sup>	NHS	36.9%	37.2%
Total Emission Reductions for Volatile Organic Compounds <sup>5</sup>	CMAQ Projects	1.721 kg/day	1.985 kg/day
Total Emission Reductions for Nitrogen Oxides (NOx) <sup>5</sup>	CMAQ Projects	3.744 kg/day	4.23 kg/day

<sup>1</sup> All two-year targets cover the time period of Jan. 1, 2018 to Dec. 31, 2019, except for the CMAQ targets which follow the federal fiscal year (Oct. 1, 2017 to Sept. 30, 2019).

<sup>2</sup> All four-year targets cover the time period of Jan. 1, 2018 to Dec. 31, 2021, except for CMAQ targets which follow the federal fiscal year (Oct. 1, 2017 to Sept. 30, 2021).

<sup>3</sup> Per federal guidance, pavement condition is measured by two methods: 1) International Roughness Index (IRI); and 2) IRI, cracking, rutting or faulting. For 2018 to 2022, Non-Interstate NHS pavement condition is to be measured by IRI only. Beginning in 2022, Non-Interstate NHS pavement condition will be measured by all four distresses. Two sets of targets for Non-Interstate NHS pavement condition are provided to illustrate the relative difference in the two measurements and resulting targets.

<sup>4</sup> Targets apply only to certain urbanized areas designated as nonattainment or maintenance for specified pollutants under National Ambient Air Quality Standards (the Virginia portion of the Washington, DC-MD-VA 8-hour ozone nonattainment area).

<sup>5</sup> Targets apply to CMAQ projects in areas designated as nonattainment or maintenance for certain National Ambient Air Quality Standards (the Virginia portion of the Washington, DC-MD-VA 8-hour ozone nonattainment area).

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**NOW THEREFORE, BE IT RESOLVED**, that the Commonwealth Transportation Board hereby approves, for each of the performance measures referenced therein, the Asset Condition Performance Targets and System Performance Targets set forth in Tables A and B for 2018-2021.

**BE IT FURTHER RESOLVED**, that the CTB hereby directs OIPI, in consultation with VDOT, to develop a more rigorous data-driven methodology that will be used in the future to establish targets for the Asset Condition and System Performance Measures.

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## CTB Decision Brief

### Approval of Asset Condition and System Performance Targets

**Issue:** In accordance with §2.2-229 of the *Code of Virginia*, the Commonwealth Transportation Board (CTB) must approve measures and targets related to the performance of the Commonwealth's surface transportation network, including any performance measurement required by Title 23 or 49 of the United States Code. In accordance with 23 CFR §§490.105 and 490.107, targets for twelve federally mandated asset condition, system performance, congestion, and air quality measures must be established and reported to the Federal Highway Administration (FHWA) every four years, beginning in 2018, with progress reports due by October 1 every two years thereafter. CTB approval of OIPI and VDOT-proposed targets for the aforementioned performance measures is requested.

**Facts:** In 2012 Congress passed the Moving Ahead for Progress in the 21<sup>st</sup> Century (MAP-21) Act and in 2015, the Fixing America's Surface Transportation (FAST) Act that mandated/continued the mandate for establishment of performance management to transform the Federal-aid highway program and provide a means to the most efficient investment of Federal transportation funds by refocusing on national transportation goals, increasing the accountability and transparency of the Federal-aid highway program, and improving project decision-making through performance-based planning and programming. The national transportation goals focus on safety, infrastructure condition, congestion reduction, system reliability, freight movement and economic vitality, environmental sustainability, and reduced project delivery delays.

Pursuant to MAP-21 and the FAST Act, various federal regulations were promulgated to address and set forth the requirements for, among other things, performance measures and targets relating to asset condition (Asset Condition Measures/Targets) and system performance, congestion, and air quality (collectively, System Performance Measures/Targets), including 23 CFR §§490.105, 490.307, 490.407, 490.507, 490.607, 490.707, and 490.807, which require State Departments of Transportation and Metropolitan Planning Organizations to set targets for twelve measures. Performance Targets were first established in May 2018 for the first federal reporting period, January 1, 2018 to December 31, 2021, without CTB approval; however, with changes to §2.2-229 of the *Code of Virginia* that became effective on July 1, 2018, CTB approval of the targets is now required.<sup>1</sup>

The Office of Intermodal Planning and Investment has coordinated and worked collaboratively with VDOT and agreed on target setting methodologies and proposed targets for the first federal reporting period. The proposed targets for the twelve asset condition, system performance, congestion, and air quality measures are set forth below:

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<sup>1</sup> Please note that the reporting period timeline differs for the CMAQ Emission Reductions Measures and Targets. The CMAQ reporting period follows federal fiscal years and runs from October 1, 2017 through September 30, 2021.

<b>Asset Condition Measures</b>	<b>Scope</b>	<b>2-Year Target<sup>2</sup> (2018-2019)</b>	<b>4-Year Target<sup>3</sup> (2018-2021)</b>
Percentage of Pavement in Good Condition	Interstate	45%	45%
Percentage of Pavement in Poor Condition	Interstate	<3%	<3%
Percentage of Pavement in Good Condition	NHS (non-Interstate)	25%	25%
Percentage of Pavement in Poor Condition	NHS (non-Interstate)	<5%	<5%
Percentage of Pavement in Good Condition (IRI only) <sup>4</sup>	NHS (non-Interstate)	55%	55%
Percentage of Pavement in Poor Condition (IRI only) <sup>4</sup>	NHS (non-Interstate)	<10%	<10%
Percentage of Deck Area of Bridges in Good Condition	NHS	33.5%	33%
Percentage of Deck Area of Bridges in Poor Condition	NHS	3.5%	3%

<b>System Performance Measures</b>	<b>Scope</b>	<b>2-Year Target<sup>2</sup> (2018-2019)</b>	<b>4-Year Target<sup>3</sup> (2018-2021)</b>
Percentage of Person-Miles Traveled that are Reliable	Interstate	82.2%	82%
Percentage of Person-Miles Traveled that are Reliable	NHS (non-Interstate)	N/A	82.5%
Truck Travel Time Reliability Index	Interstate	1.53	1.56
Annual Hours of Peak Hour Excessive Delay Per Capita <sup>5</sup>	NHS	N/A	26.7 hrs/capita
Percentage of Non-SOV Travel <sup>5</sup>	NHS	36.9%	37.2%
Total Emission Reductions for Volatile Organic Compounds <sup>6</sup>	CMAQ Projects	1.721 kg/day	1.985 kg/day
Total Emission Reductions for Nitrogen Oxides (NOx) <sup>6</sup>	CMAQ Projects	3.744 kg/day	4.23 kg/day

Based on input of the CTB, OIPI and VDOT are examining a more rigorous data-driven methodology that could be used in the future to establish targets to better inform performance

<sup>2</sup> All two-year targets cover the time period of Jan. 1, 2018 to Dec. 31, 2019, except for the CMAQ targets which follow the federal fiscal year (Oct. 1, 2017 to Sept. 30, 2019).

<sup>3</sup> All four-year targets cover the time period of Jan. 1, 2018 to Dec. 31, 2021, except for CMAQ targets which follow the federal fiscal year (Oct. 1, 2017 to Sept. 30, 2021).

<sup>4</sup> Per federal guidance, pavement condition is measured by two methods: 1) International Roughness Index (IRI); and 2) IRI, cracking, rutting or faulting. For 2018 to 2022, Non-Interstate NHS pavement condition is to be measured by IRI only. Beginning in 2022, Non-Interstate NHS pavement condition will be measured by all four distresses. Two sets of targets for Non-Interstate NHS pavement condition are provided to illustrate the relative difference in the two measurements and resulting targets.

<sup>5</sup> Targets apply only to certain urbanized areas designated as nonattainment or maintenance for specified pollutants under National Ambient Air Quality Standards (the Virginia portion of the Washington, DC-MD-VA 8-hour ozone nonattainment area).

<sup>6</sup> Targets apply to CMAQ projects in areas designated as nonattainment or maintenance for certain National Ambient Air Quality Standards (the Virginia portion of the Washington, DC-MD-VA 8-hour ozone nonattainment area).

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based planning and programming and drive future investment decisions or policies relating to asset condition, system performance, congestion, and air quality.

**Recommendations:** OIPI in consultation with VDOT recommend the approval of proposed Asset Condition and System Performance Targets.

**Action Required by CTB:** The CTB will be presented with a resolution for a formal vote to approve the proposed Asset Condition and System Performance Targets for 2018-2021 and to direct OIPI and VDOT to develop a more rigorous data-driven methodology that will be used in the future to establish targets.

**Result, if Approved:** If approved, targets will be reported to FHWA prior to the October 1 deadline.

**Options:** Approve, Deny, or Defer.

**Public Comments/Reactions:** None