



COMMONWEALTH of VIRGINIA

Commonwealth Transportation Board

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Agenda item # 3

RESOLUTION OF THE COMMONWEALTH TRANSPORTATION BOARD

June 21, 2023

MOTION

Made By: Mr. Dodson, **Seconded By:** Mr. Coleman
Action: Motion Carried

Title: Approval of Federal Safety Performance Metrics for Calendar Year 2024

WHEREAS, pursuant to §2.2-229 of the *Code of Virginia*, 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 21st 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 anticipated performance metrics 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, safety performance measures and metrics relating to the Highway Safety Improvement Program (Safety Performance Regulations), including 23 CFR §§490.207 and 490.209, which require State Departments of Transportation and Metropolitan Planning Organizations to set anticipated performance metrics for five safety related performance measures (Federal Safety Performance Metrics); and

WHEREAS, 23 CFR §§490.207 and 490.209 require the state to set Federal Safety Performance Metrics, which apply to all public roads, for the following five measures: number of fatalities, rate of fatalities per 100 million vehicle miles traveled (VMT), number of serious injuries, rate of serious injuries per 100 million VMT, and number of non-motorized fatalities and serious injuries; and

WHEREAS, 23 CFR §490.209(a)(1) requires the anticipated performance metrics established by the state Department of Transportation to be identical to the those established by the State Highway Safety Office (represented by the Department of Motor Vehicles) and reported in the State's Highway Safety Plan for three common safety performance measures, namely number of fatalities, rate of fatalities per 100 million VMT, and number of serious injuries; and

WHEREAS, 23 CFR §490.209(a)(1) is subject to the requirements of 23 USC 402(k)(4) providing that the three common safety performance measures be identical and are quantifiable performance metrics that demonstrate constant or improved performance for each performance measures; and

WHEREAS, in July 2018, the Board directed the Office of Intermodal Planning and Investment (OIPI), in consultation with the Virginia Department of Transportation (VDOT) and Department of Motor Vehicles (DMV), to develop a more rigorous data-driven methodology that will be used to establish performance metrics for the Federal Safety Performance Metrics; and

WHEREAS, in June 2019, the Board reaffirmed its July 2018 direction to OIPI, in consultation with VDOT and DMV, to continue development and improvement of the data-driven and statistical modeling for establishing Federal Safety Performance Metrics; and

WHEREAS, a key finding from the data-driven analysis demonstrates that systemic and hybrid corridor safety projects—low-cost improvements, such as high-visibility signal backplates, crosswalks, and curve chevrons, flashing yellow left turn signals, and rumble strips, systemically spread on a roadway network— provide more potential crash reduction benefits for lower costs than do spot improvement projects; and

WHEREAS, pursuant to §33.2-373 of the Code of Virginia, it is the responsibility of the Board to establish the Virginia Highway Safety Improvement Program (the Program) to reduce

motorized and non-motorized fatalities and severe injuries on highways in the Commonwealth, whether such highways are state or locally maintained; and

WHEREAS, pursuant to §33.2-373 of the *Code of Virginia*, the Board shall adopt an investment strategy to guide the investments of the Program, and the investment strategy shall cover a period of at least five years and seek to achieve a significant reduction in the anticipated number of fatalities and severe injuries over the covered period and shall give priority to projects, strategies, and activities based on the expected reduction in fatalities and severe injuries relative to cost, including improvements that are widely implemented based on a high-risk roadway feature that is correlated with a particular crash type, rather than crash frequency; and

WHEREAS, in June 2022, the Board adopted the 2023 Safety Performance Targets, established Aspirational Safety Performance Goals consistent with the goals in Virginia's 2022-2026 Strategic Highway Safety Plan, and directed OIPI, working collaboratively with VDOT and DMV, to (i) evaluate and identify actionable strategies that will improve safety performance and reduce the number of fatal and serious injury crashes, (ii) evaluate how such strategies will help to achieve the Aspirational Safety Performance Goals, and (iii) present to the Board by no later than October 2022 the findings of the evaluation and recommended new strategies; and

WHEREAS, in September 2022, the Board adopted an updated Virginia Highway Investment Strategy directing continued and accelerated deployment of proven systemic and hybrid safety countermeasures across the roadway network, including VDOT and locally-maintained facilities, and development of a behavioral safety program investment plan for the deployment of educational and enforcement countermeasures to address the behavioral causes of crashes in support of the Board's desire to reduce serious injury, fatal, and non-motorized crashes; and

WHEREAS, VDOT, working collaboratively with OIPI, has conducted a data-driven analysis with results consistent with Calendar Year 2022 performance, established Federal Safety Performance Metrics and, where applicable, has coordinated with DMV and agreed on methodologies to establish the Federal Safety Performance Metrics set out in Table A below, having complied with the requirements set forth in 23 CFR §§ 490.207, 490.209, 490.213 and 924.15 ensuring that metrics are demonstrating constant or improving performance; and

WHEREAS, in accordance with 23 CFR §§ 490.207, 490.209, 490.213 and 924.15, Federal Safety Performance Metrics for the MAP-21 performance measures relating to safety were to be established and first reported in August 2017 and must be established and reported by June 30 by DMV and August 31 by VDOT for each subsequent year; and

WHEREAS, in May 2023, the Board was presented with Calendar Year 2024 performance metrics set forth in Table A below, and

WHEREAS, OIPI, in consultation with VDOT and DMV, recommends adoption of the Calendar Year 2024 performance metrics set forth in Table A below:

Table A

Federal Safety Performance Measures	2024 Metrics
Number of Fatalities	1,005
Rate of Fatalities per 100 million VMT	1.187
Number of Serious Injuries	7,137
Rate of Serious Injuries per 100 million VMT	8.429
Number of Non-Motorized Fatalities and Serious Injuries	765

WHEREAS, the Board continues to find the anticipated safety outcomes to be unacceptable, and to be consistent with the goals in Virginia’s 2022-2026 Strategic Highway Safety Plan to reduce fatalities and serious injuries by two percent a year, desires to achieve internal Aspirational Safety Performance Goals that seek reductions in all of the safety measures as set forth in Table B below:

Table B

Aspirational Safety Performance Goals	2024 Goals
Number of Fatalities	908
Rate of Fatalities per 100 million VMT	1.072
Number of Serious Injuries	6,935
Rate of Serious Injuries per 100 million VMT	8.191
Number of Non-Motorized Fatalities and Serious Injuries	642

NOW THEREFORE, BE IT RESOLVED, that the Commonwealth Transportation Board hereby approves, for each of the safety performance measures referenced therein, the annual federal performance metrics set forth in Table A for calendar year 2024 for submittal to the National Highway Transportation Safety Administration and the Federal Highway Administration.

BE IT FURTHER RESOLVED, that the Commonwealth Transportation Board hereby declares its desire and intent that the Aspirational Safety Performance Goals set forth in Table B be achieved for calendar year 2024.

BE IT FURTHER RESOLVED, that the Commonwealth Transportation Board directs OIPI, VDOT and DMV, to continue to identify strategies to achieve the Aspirational Safety Performance Goals.

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CTB Decision Brief

Approval of Federal Safety Performance Metrics for Calendar Year 2024

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 §§490.207, 490.209, 490.213 and 924.15, states must establish anticipated performance metrics for five federally mandated safety performance measures (Federal Safety Performance Metrics) which be established annually and reported by August 31 of each year. CTB approval of the Office of Intermodal Planning and Investment (OIPI) with Virginia Department of Transportation's (VDOT) and Department of Motor Vehicle's (DMV) proposed Federal Safety Performance Metrics is requested. Additionally, finding the anticipated safety outcomes associated with the Federal Safety Performance Metrics to be unacceptable, CTB approval of Aspirational Safety Performance Goals is requested.

Facts: In 2012, Congress passed the Moving Ahead for Progress in the 21st Century (MAP-21) and, in 2015, the Fixing America's Surface Transportation (FAST) Act that mandated, and continued the mandate, respectively, for the 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. One such national transportation goal focuses on safety and seeks to achieve a significant reduction in traffic fatalities and serious injuries on all roads. The remaining national transportation goals focus on 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, safety performance measures and metrics relating to the Highway Safety Improvement Program (Safety Performance Regulations), including 23 CFR §§490.207 and 490.209, which require State Departments of Transportation and Metropolitan Planning Organizations to set Federal Safety Performance Metrics for five measures. Additionally, the Safety Performance Regulations require the State DOT and the State Highway Safety Office (represented in Virginia by the DMV) to establish identical metrics for three of the five measures (common safety performance measures). Pursuant to the Infrastructure Investment and Jobs Act (IIJA) 23 CFR §490.209 was amended providing that the three common safety performance measures be identical and are quantifiable performance metrics that demonstrate constant or improved performance for each performance measures. Federal Safety Performance Metrics were first established and reported in August 2017 for Calendar Year 2018 without CTB approval; however, with changes to §2.2-229 of the *Code of Virginia* that became effective on July 1, 2018, CTB approval is now required. DMV must establish and report its metrics by June 30 of each year.

OIPI has coordinated and worked collaboratively with VDOT and DMV and agreed on methodologies and anticipated performance metrics for Calendar Year 2024 in accordance with the reporting requirements and pursuant to development and publication of the Virginia Strategic Highway Safety Plan. The anticipated performance metrics to be reported for the five safety performance measures are set forth below in Table A:

Table A

Federal Safety Performance Measures	2024 Metrics
Number of Fatalities ¹	1,005
Rate of Fatalities per 100 million VMT ¹	1.187
Number of Serious Injuries ¹	7,137
Rate of Serious Injuries per 100 million VMT	8.429
Number of Non-Motorized Fatalities and Serious Injuries	765

The methodology for Calendar Year 2024 meets the July 2018 CTB directive for OIPI, in consultation with VDOT and DMV, to develop a more rigorous data-driven methodology to establish the Federal Safety Performance Metrics. Statistical models were developed to project future performance based on a number of data variables and expected crash reductions from completed projects. The models were calibrated against past annual performance, or actual annual numbers of fatalities, serious injuries, and non-motorized fatalities and serious injuries. The rate measures are determined based on the predicted vehicle miles traveled in the performance year. Due to the requirement that anticipated performance metrics must “demonstrate constant or improved performance”, the methodology was modified, and Calendar Year 2022 performance was compared with model projections. Results from the model were within one percent of 2022 performance, however, reflected worsening conditions. As such, the proposed approach utilized the 2022 performance results for fatalities, serious injuries, and the number of non-motorized fatalities and serious injuries. The rate measures were then calculated from those values assuming vehicle miles traveled (VMT) growth of 1.3% per year and reflect improved conditions.

In June 2022, the Board adopted the 2023 Safety Performance Targets, established Aspirational Safety Performance Goals consistent with the goals in Virginia’s 2022-2026 Strategic Highway Safety Plan, and directed OIPI, working collaboratively with VDOT and DMV, to (i) evaluate and identify actionable strategies that will improve safety performance and reduce the number of fatal and serious injury crashes, (ii) evaluate how such strategies will help to achieve the Aspirational Safety Performance Goals, and (iii) present to the Board by no later than October 2022 the findings of the evaluation and recommended new strategies. In September 2022 and pursuant to §33.2-373 of the *Code of Virginia*, the CTB adopted an update to the Virginia Highway Safety Investment Strategy directing continued and accelerated deployment of proven system and hybrid safety countermeasures across the roadway network, including VDOT and locally-maintained facilities, and development of a behavioral safety program investment plan for the deployment of educational and enforcement countermeasures to

¹ Safety Performance Measures common to both VDOT and DMV

address the behavioral causes of crashes in support of the Board’s desire to reduce serious injury, fatal, and non-motorized crashes. The CTB continues to find the anticipated safety outcomes to be unacceptable, thus Aspirational Safety Performance Goals have been updated consistent with Virginia’s 2022-2026 Strategic Highway Safety Plan to reduce fatalities and serious injuries by two percent a year and are set forth below in Table B.

Table B

Aspirational Safety Performance Goals	2024 Goals
Number of Fatalities	908
Rate of Fatalities per 100 million VMT	1.072
Number of Serious Injuries	6,935
Rate of Serious Injuries per 100 million VMT	8.191
Number of Non-Motorized Fatalities and Serious Injuries	642

Recommendations: OIPI in consultation with VDOT recommends the approval of the Proposed Federal Safety Performance Metrics and Aspirational Safety Performance Goals.

Action Required by CTB: The CTB will be presented with a resolution for a formal vote to approve the proposed Federal Safety Performance Metrics to meet federal reporting requirements and Aspirational Safety Performance Goals for Calendar Year 2024.

Result, if Approved: If approved, Federal Safety Performance Metrics will be reported prior to the June 30 and August 31 deadlines.

Options: Approve, Deny, or Defer.

Public Comments/Reactions: None