VIRGINIA

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2024 ANNUAL REPORT

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Disclaimer

Protection of Data from Discovery Admission into Evidence

23 U.S.C. 148(h)(4) states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section[HSIP], shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in the reports, surveys, schedules, lists, or other data.”

23 U.S.C. 407 states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.”

Executive Summary

The Fiscal Year (FY) 2024 Highway Safety Improvement Program (HSIP) report submitted to the Federal Highway Administration (FHWA) summarizes and describes Virginia Department of Transportation's (VDOT's) strategic use of new Infrastructure Investment and Jobs Act (IIJA) HSIP Funds for the period of July 1, 2023 to June 30, 2024. The IIJA succeeds the Fixing America's Surface Transportation (FAST) Act and continues the HSIP to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-State-owned public roads and roads on tribal land.

VDOT's VHSIP program processes have been developed in consultation with FHWA and in accordance with the current federal transportation funding guidelines, policies, and funding provided. A link to the VHSIP guidelines, safety proposal application submission documents, and other VDOT and FHWA resources are provided online at: https://www.vdot.virginia.gov/doing-business/technical-guidance-and-support/traffic-operations/vhsip/

HSIP Funding and Special Rules

For Federal FY 2024, the following HSIP federal funding requirements **do** apply to Virginia:

· **Section 154, Penalty Transfer-Open Container (23 U.S.C 154):** Virginia has not enacted an open container law, therefore must follow these penalty transfer provisions. Each year, the State DOT and Governor's Highway Safety Office agree on the percentage that goes either to HSIP eligible activities or NHTSA Section 402 Impaired Driving Initiatives.

For FY 2024 0.0% of the funding went to HSIP Program and 100% went to Impaired Driving Initiatives (managed by Virginia DMV).

· **Vulnerable Road Users (VRU) Safety Special Rule (23 USC 148(a)(15):** Applies to States that have 15% or more total annual VRU fatalities and requires they obligate not less than 15% of HSIP funds apportioned the following Federal Fiscal Year.

Based on 2022 crash data, Virginia had 19 % VRU fatalities, therefore triggering this special rule in FY 24. As a result, VDOT must obligate at least 15 percent of its VHSIP apportionment for highway safety projects to address the safety of these vulnerable road users in FY 2024. VDOT plans to do obligate funds between July 1, 2024 and September 30, 2024 as they will be programmed in State FY 25. This is why they do not show up in the Programmed/Obligated table.

· **Not Meet or Significant Progress on Safety Performance Targets (23 U.S.C. 1480(i):** States must submit an Annual HSIP Implementation Report and use obligation authority equal to the HSIP apportionment based on regulation requirements.

VDOT did not make significant progress in meeting the 2021 Safety Performance Targets, therefore submitted HSIP Implementation Plan on June 30, 2023 containing projects and strategies to obligate at least $64.1M in FY24.

For Federal FY 2024 the following HSIP federal funding requirements **do not** apply to Virginia:

23 USC 148(g)(1), High Risk Rural Road (HRRR) Special Rule: Applies to States if fatality rate on its rural roads increases over the most recent 2-year period and requires those states to obligate a certain amount of funds on HRRR. A HRRR is any roadway functionally classified as a rural major or minor collector or a rural local road with significant safety risks as defined in the State's Strategic Highway Safety Plan.

Virginia did not trigger this requirement for FY24 but may need to obligate HRRR funds if funds are deobligated during the fiscal year.

23 USC 148(g)(2), Older Driver and Pedestrians Special Rule: Applies to States if the rate per capita of traffic fatalities and serious injuries for drivers and pedestrians age 65 and over increases over the most recent 2-year period. They should include in subsequent SHSP update strategies to address these crashes.

Commonwealth of Virginia State Safety Funds

The Commonwealth of Virginia is committed to developing and maintaining a safe, multimodal transportation system. In Virginia, as HSIP funding will be supplemented with Virginia State Safety funds, HSIP will be referenced as Virginia HSIP or VHSIP throughout this document. The spending targets for VHSIP funds are based on the level of FHWA funding in future years.

Commonwealth Transportation Board (CTB) Safety Resolutions

In June 2019, the Commonwealth Transportation Board (CTB) adopted Safety Performance Targets for Calendar Year (CY) 2020 and found the anticipated safety outcomes associated with the Safety Performance Targets to be unacceptable. As a result, the CTB directed the Office of Intermodal Planning and Investment (OIPI), working collaboratively with VDOT and Department of Motor Vehicles (DMV), to analyze and develop a plan resulting in a net reduction in fatal and serious injury crashes. A key finding from this data-driven analysis demonstrated that systemic and hybrid [1] corridor safety projects had the potential to provide a greater crash reduction benefits for lower cost (better return on investment- ROI) than traditional spot improvement projects.

Following this finding, VDOT developed a series of plans to deploy systemic countermeasures on both VDOT and local roadways and those plans were subsequently incorporated into CTB resolutions. The following are the countermeasures included in each of those plans.

The **“Phase I” VDOT Systemic Improvement Plan** countermeasures, $152 million, included the following:

1. High-Visibility Signal Backplates (HVSB)

2. Flashing Yellow Arrow (FYA)

3. Pedestrian Accommodations Improvements at Signalized Intersections

4. Centerline Rumble Strip

5. Edgeline Rumble Strip/Stripes

6. Curve Delineation

7. Improvements at Unsignalized Intersections

8. Pavement Shoulder Wedge (funded by pavement maintenance)

The **“Phase II” Systemic Improvement Plan** countermeasures included the following:

VDOT Systemic Measures, $186 million*:*

1. Two-Lane Rural Roads (TLRR Roadway Departure),

2. Expanded Flashing Yellow (Intersections)

3. Expanded Pedestrian Crossings (Intersections)

Local Systemic Measures, $110 million:

1. Flashing Yellow Arrow (FYA) Signals

2. High-Visibility Signal Backplates (HVSB)

3. Pedestrian Crossings

4. Curve Signage

5. Unsignalized Intersections

6. Road Reconfiguration (Road Diets)

Localities may also submit applications for alternative systemic improvements. For alternative improvements, the applicant must then show a Return on investment (ROI) that is comparable to those pre-selected improvements noted above. Lastly, alternative improvements may not be prioritized over the six listed initiatives.

While the January 2022 CTB resolution noted spot improvement projects would not be approved until FY2026 (unless initial systemic and hybrid infrastructure initiatives were fully implemented ahead of schedule), the increase in fatal and serious injury crashes on Virginia roads prompted an earlier return of spot improvements to compliment ongoing systemic improvements. VHSIP accepted spot improvement applications for VA FY2025, although the funding of these spot safety projects is limited to those locations which are located only on VDOT maintained facilities.

Based on the provision for local systemic initiatives, since 2022 VDOT has offered free technical assistance to localities for performing systemic data analysis, countermeasure identification, network screening, and VHSIP application development. While this assistance is available to any locality that submits a request in a timely manner, the primary intent of this assistance is to reach localities that may not have the internal resources or bandwidth to develop these applications. These services are being provided through VDOT on-call consultant services and the Safety Circuit Rider (SCR) Program.

Virginia Safety Circuit Rider (SCR) Program

The Virginia Safety Circuit Rider (SCR) program is focused on reducing crashes and improving overall roadway safety throughout Virginia. The program includes services such as one-on-one technical assistance, road safety assessments, and safety-focused training. The Virginia Transportation Research Council (VTRC), the Virginia Department of Transportation (VDOT), and the UVA Center for Transportation Studies launched the Virginia Safety Circuit Rider program to improve safety on the 11,000 miles of roadways maintained by cities, towns, and local agencies in Virginia.

During FY 22, the Safety Circuit Rider Program embarked on piloting the Road Safety Champion Program, which is an initiative of the National Center for Rural Road Safety to reduce fatal and serious injuries on rural and urban roads. We continued this during FY 23 and FY 24. Virginia remains the only state currently piloting the program.

Virginia's Strategic Highway Safety Plan

In 2022, VDOT completed a multi-agency and multi-disciplinary update of the Commonwealth's Strategic Highway Safety Plan (SHSP), which was approved by FHWA's Virginia Division. The SHSP continues to use Safe System Approach principles to guide VDOT’s coordination with element and emphasis area safety partners and implementation of engineering strategies, driving investment decisions focused on reducing death and injuries.

At present, Virginia's VHSIP is structured to focus on the SHSP infrastructure safety emphasis areas that may be improved with low-cost minimal environmental impact (e.g., project has no or minimal right of way costs) engineering countermeasures, namely:

A. Intersection geometry and traffic control

B. Roadway and roadside improvements

C. Bicycle and pedestrian risk reductions

Data-driven Decision-making on Transportation Safety

VDOT emphasizes data-driven decision-making to improve transportation safety in the Commonwealth. One example of VDOT’s data driven approach is the Department’s use of the Highway Safety Manual (HSM). The following are some of the ways that VDOT employs use of HSM methodologies:

Evaluation of Safety Projects

VDOT regularly performs a statewide before-and-after evaluation of all eligible safety projects for documentation in the VHSIP annual report. To effectively perform this evaluation, VDOT invests in the collection/maintenance of robust project-level data. They coordinate with Districts on a quarterly basis to update the status of all VHSIP funded projects, including implementation status and specific locations.

Identification of Future Safety Projects

As noted previously, VDOT employ the use of the HSM methodologies to identify future safety projects/initiatives. This is evident by the iterative phasing of systemic treatments. Using robust safety research studies, VDOT identifies treatments that align with the SHSP emphasis areas and performs a cursory and then in-depth benefit-cost evaluation. For local systemic projects, or VDOT spot projects, both of which are a competitive process, VDOT uses a state-preferred CMF list.

Safety Performance Functions

To enhance VDOT’s data-driven decisions, particularly regarding the use of public funding for safety and SMART Scale program improvements, VDOT developed state-specific Safety Performance Functions (SPFs) and prioritized a list of locations with the largest Potential for Safety Improvements (PSI). VDOT’s comprehensive set of state-specific SPFs cover 98 percent of its state-maintained roadway locations. To date, VDOT has developed 24 SPFs covering most roadway facilities, from two-lane roads and intersections to freeways/multi-lane highways and interchanges. Further, VDOT recently updated Virginia based research SPF developed for Roadway Departure crashes. For the development of its PSI data, VDOT incorporates the comparisons of actual- to predicted-crash frequencies in its network screening. The top 100 intersections and top 100 miles of segments, plus the Roadway Departure segments with the largest PSI over the last five years are then published for VHSIP use by VDOT staff, safety partners and stakeholders. This list is sent to the

district engineers, who can then determine which site(s) to prioritize based on their practical experience and knowledge of the area.

[1] VDOT defines a hybrid project as a combination of spot and systemic items which can be systematically applied. One example of a hybrid project is integrating shoulder widening (spot) with rumble strips (systemic).

Introduction

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads. As per 23 U.S.C. 148(h) and 23 CFR 924.15, States are required to report annually on the progress being made to advance HSIP implementation and evaluation efforts. The format of this report is consistent with the HSIP Reporting Guidance dated December 29, 2016 and consists of five sections: program structure, progress in implementing highway safety improvement projects, progress in achieving safety outcomes and performance targets, effectiveness of the improvements and compliance assessment.

Program Structure

Program Administration

Describe the general structure of the HSIP in the State.

VDOT Central Office Traffic Operations Division VHSIP staff is responsible for establishing the process and conducting network screening, scoring, and selection of VHSIP improvement projects. VDOT Districts are responsible for further evaluation of the proposed VHSIP project locations for feasibility based on local knowledge and data-driven analysis and then for project delivery on VDOT maintained roadways and oversight of locally administered projects. Once the final VHSIP projects are prioritized and selected by Central Office, the selected VHSIP projects are included in Virginia's Six-Year Improvement Program (SYIP), which is then presented to the Commonwealth Transportation Board (CTB) for approval. Approved VHSIP projects are programmed and allocated FHWA HISP and state funds. The state match for FHWA HSIP funded projects is provided by VDOT, so localities do not need to supply the matching funds. Then, the VHSIP staff monitor the projects from scoping through construction to the final voucher. VHSIP projects in the SYIP are programmed by Fiscal Year (FY) with allocations for each specific phase of project development/implementation. Based on these phases, VHSIP projects in the SYIP are tracked internally across appropriate divisions. The project monitoring process consists of tracking changes that occur to the following functions: advertisement dates, funding authorization dates, engineer's estimates, and expenditures. Cost, schedule, and scope are monitored and measured to ensure that the VHSIP projects are being delivered on time and on budget. VHSIP project schedules and cost both directly affect the Federal Strategy and VDOT's ability to meet their Obligation Authority for the VHSIP Program.

Roles in Identifying Projects/Improvement Locations

The primary objective of the Virginia Highway Safety Improvement Program (VHSIP) is to identify and improve locations where there is a high concentration, or risk, of vehicle crashes that result in deaths or injuries. VHSIP staff within Central Office conduct network screening for the engineering emphasis areas in Virginia's Strategic Highway Safety Plan (SHSP). After conducting network screening, VHSIP staff fulfill transportation safety planning requirements by both producing listings of the largest Potential for Safety Improvement (PSI) on VDOT maintained intersections and segments and also by conducting a broader statewide systemic analysis. The lists are distributed to District staff, and each District Engineer and staff determines which site(s) to prioritize based on their practical experience and knowledge of the area. Safety proposals are not limited to the locations that are identified by VDOT staff. Detailed crash analysis and site evaluation is typically conducted by District staff through a documented engineering study or Road Safety Assessment (RSA).

Roles in HSIP Project Implementation

VDOT Districts are responsible for implementation/administration of VHSIP projects on VDOT roads within their Districts. Localities are also responsible for implementation/administration of VHSIP projects on local

roads within their jurisdiction. However, localities can also request that their VDOT District administer their projects for them. This request may be made if the locality lacks the staffing capacity to administer the projects, or if they have found it challenging to administer federal projects successfully. If a locality would like the VDOT District to administer the project, that coordination typically happens either prior to or during the application phase of the VHSIP project.

Where is HSIP staff located within the State DOT?

Operations

VDOT Traffic Operations Division. District Traffic Engineering staff serve as safety engineering liaisons for plan and deliver safety projects, although design and maintenance engineers are also often engaged or managing safety projects.

How are HSIP funds allocated in a State?

- Formula via Districts/Regions
- Other-Systemic Approach

Describe how local and tribal roads are addressed as part of HSIP.

Locally maintained roads account for approximately 40 percent of all crashes and 20 percent of all fatal and serious injury crashes on Virginia's highways. Local safety projects are targeted to receive up to 20 percent of Virginia's VHSIP funds for implementation of safety projects. VDOT has been providing the state-match to these safety projects for several years.

The safety proposals for local and tribal roads are required to follow the same VHSIP Implementation Guidelines as the safety proposals for VDOT roads. The VHSIP Systemic Implementation Plan that was implemented in FY 2020 states that the VHSIP funds are to be allocated based on risk-based locations of systemic safety improvements in VDOT's initial Systemic Implementation Plan. Also, the initial Systemic Implementation Plan lays out the funding process for local projects as described below:

· Approximately 80 percent of available VHSIP funds shall be allocated to systemic safety improvements over the six-year improvement program.

· Minimum funding levels for locally owned roadways shall be based on proportion of fatalities between VDOT and locality-maintained roads (i.e., approximately 20%).

· The proposed funds for systemic safety improvement on locality maintained or owned roads are available beginning in FY 2024 thru FY 2027

· The SMART Portal will open as needed to receive local agency's applications for VHSIP funding towards systemic improvements.

· Applications are encouraged for the systemic treatments that were presented to the Commonwealth Transportation board (CTB) in December 2021.

· The funding will be awarded through a competitive application process, with ROI and other factors used to prioritize.

· VDOT has developed guidelines and implementation criteria for screening, scoring and selection of local projects.

The current local systemic measures that were approved by the CTB include the following:

1. Flashing Yellow Arrow (FYA) Signals

2. High-Visibility Signal Backplates (HVSB)

3. Pedestrian Crossings

4. Curve Signage

5. Unsignalized Intersections

6. Road Reconfiguration (Road Diets)

Localities may also submit applications for alternative systemic improvements. For alternative improvements, the applicant must then show an ROI that is comparable to the improvements listed. Lastly, alternative improvements may not be prioritized over the six listed initiatives.

All roads within Tribal communities are owned/maintained by VDOT. As such, Tribal communities are able to work with VDOT Districts to request safety improvements on those portions of roadway.

VDOT assists localities and tribal agencies by publishing Virginia's crash data from VDOT's Power BI crash analysis tool. VDOT's Power BI crash analysis tool consists of all public roadway crash data reported to the Virginia Department of Motor Vehicles (DMV). The DMV owns and maintains the main source of the crash data by Virginia Code. This crash analysis tool enables localities and tribal agencies to perform safety analyses, diagnose problems and develop projects with the best ROI.

Based on the provision for local systemic initiatives, since 2022 VDOT has offered free technical assistance to localities for performing systemic data analysis, countermeasure identification, network screening, and HSIP application development. While this assistance is available to any locality that submits a request in a timely manner, the primary intent of this assistance is to reach localities that may not have the internal resources or bandwidth to develop these applications. These services are being provided through VDOT on-call consultant services and the Safety Circuit Rider (SCR) Program.

Virginia Safety Circuit Rider (SCR) Program

The Virginia Safety Circuit Rider (SCR) program is focused on reducing crashes and improving overall roadway safety throughout Virginia. The program partners with local agencies to achieve this goal. The SCR Program provides one-on-one technical assistance, conducts road safety assessments, assists local agencies apply for VHSIP funding and delivers safety-focused training. The Virginia Transportation Research Council (VTRC), the Virginia Department of Transportation (VDOT), and the UVA Center for Transportation Studies launched the Virginia Safety Circuit Rider program to improve safety on the 11,000+ miles of roadways maintained by cities, towns, and local agencies in Virginia.

The goal of the SCR program is to eliminate fatal and severe crashes on local roads. That is accomplished through collaboration efforts with VDOT Districts and local agencies that maintain their roadways. The SCR team attends monthly VDOT District Traffic Engineer meetings to raise awareness of their travels to their District partners. The Safety Circuit Rider Program promotes VDOT's systemic approach to roadway safety.

The Safety Circuit Rider team's primary focus is towards local towns, cities and counties that maintain their roadways. During fiscal year 2024 the SCR team wrapped up contacting every town, city or county that maintains their roadways. They reached 100% during FY2024, which is very exciting for the program and for the state of Virginia. They provided crash data analysis and dissemination to thirty-one cities and towns during fiscal year 2023.

The SCR team raises awareness about Road Safety Assessments (RSA), which is a low-cost countermeasure. RSAs are discussed with every town, city or county during crash data analysis presentations. This technique has generated interest in this benefit. The SCR team follows a standard RSA format, which includes forming the RSA team, conducting a planning / scoping meeting, conducting a field review, creating a draft RSA report and finalizing the RSA report. The SCR team has performed eleven RSAs in the last three years. They completed Road Safety Assessments during FY2024 for the Town of Abingdon, City of Virginia Beach, City of Fredericksburg, and City of Lexington.

The SCR team focuses on Education as they strive to eliminate serious injury and fatal crashes. Their training strategy includes both in-person and virtual training. They deliver this through 1-hour webinars, virtual roundtables, half-day workshops, full-day workshops and two-day workshops. The SCR team delivered ninety-two classes during FY 2024. They consisted of fifty-four half-day workshops and thirty-eight full-day workshops. The program reached 1,445 students and generated 5,878 contact hours. The SCR team conducted four roundtables, which included VDOT Safety Tools, Road Safety Assessments, Virginia Highway Safety Improvement Program. The SCR team presented during the VASITE annual conference in Virginia Beach. They raised awareness about the Safety Circuit Rider Program to approximately 200 transportation professionals in attendance.

The Safety Circuit Rider Program continues to deliver the Road Safety Champion Program, which is an initiative of the National Center for Rural Road Safety to eliminate fatal and serious injuries on rural and urban roads. To become a Road Safety Champion students must complete seven core subjects and complete the classes in one of the career pathways (Maintenance & Construction, Planning & Engineering, First Responder or Emergency Services). Virginia currently has over two hundred candidates registered in the program. Virginia has produced forty-nine Road Safety Champions, eighteen in FY 2024. We offered the Road Safety Champion Program to VDOT employees during FY 2024 and it has added another level of safety sharing to the training. Five VDOT personnel became Road Safety Champions during FY2024.

Identify which internal partners (e.g., State departments of transportation (DOTs) Bureaus, Divisions) are involved with HSIP planning.

- Design
- Districts/Regions
- Local Aid Programs Office/Division
- Maintenance
- Operations
- Planning
- Traffic Engineering/Safety

Describe coordination with internal partners.

In Fall 2022, the VDOT decided to merge the former Operations Division and Traffic Engineering Division, now known as the Traffic Operation Division (TOD). Its mission states, "Through Outstanding customer service and innovative technology, the Traffic Operation Division serves the traveling public through providing the highest standards in traffic safety, operational efficient, and reliability of the transportation system". Central Office Traffic Operation Division (COTOD) VHSIP staff communicates with District staff regarding VHSIP activities, such as sharing information on requirements, emphasis areas, prioritization, funding, and safety data. In FY

2024, VDOT COTOD VHSIP staff have been in frequent coordination through monthly office hour meetings with District VHSIP staff to discuss project progress, issues, concerns, technical support, and partnerships. Also, to track VHSIP progress, COTOD works with District VHSIP staff to develop and maintain inventories of implementation progress by location for the eight systemic countermeasure initiatives from Phase I and three initiatives from Phase II. The inventories are mapped in ArcGIS, and then published as web maps on VDOT's ArcGIS Online account.

VDOT emphasizes the importance of a data-driven decision-making approach to improve safety in the Commonwealth of Virginia. Putting this emphasis into practice, VDOT developed state-specific Safety Performance Functions (SPFs) and ranked intersections and segments throughout Virginia by largest Potential for Safety Improvements (PSI). The SPF and PSI analyses are accessible to District staff as well as the general public through VDOT's Open Data Portal .

VDOT also uses its Strategically Targeted Affordable Roadway Solutions (STARS) Program, managed by the Transportation Mobility and Planning Division, to address congestion and safety concerns throughout the Commonwealth. STARS projects typically result in multiple recommended improvements that may be eligible for funding and implementation under maintenance budgets, applications in the SMART SCALE process, applications for the VHSIP, State of Good Repair budgets, and/or applications for revenue sharing.

The VHSIP projects are programmed through Virginia's Six-Year Improvement Program (SYIP). HSIP projects in the SYIP are programmed by Fiscal Year (FY) with allocations for each specific phase of project implementation. VHSIP projects in the SYIP are tracked internally across appropriate divisions during their relevant phase of the project.

Identify which external partners are involved with HSIP planning.

- FHWA
- Local Government Agency
- Other-District/Design/Pe and Planning Staff
- Other-Virginia Local Technical Assistance Program (LTAP)

Describe coordination with external partners.

VDOT Districts are responsible for communicating with localities regarding any VHSIP related projects, and each district office has its own local liaison. All external local partners must coordinate with their Local Liaison for the development and submission of a safety proposal. In addition, VDOT's Local Technical Assistance Program (LTAP) provides technical workshops, seminars, and short courses covering transportation related topics for local government staff.

VDOT participates in the Local Programs Workshop with local government representatives every year. The focus of this workshop is to communicate with external stakeholders on various VHSIP information and tools, such as reviewing the information on funding eligibility, the process of applying for appropriate safety funding, application and project selection process, and available safety data and resources. In 2024, VDOT held several meetings and roundtables in co-ordination with Safety Circuit Rider (SCR) program covering topics such as VHSIP program overview, systemic safety, and VHSIP application submission process to prepare local agencies in submitting their VHSIP applications when VHSIP funding opens up.

VDOT emphasizes the importance of a data-driven decision-making approach to improve safety in the Commonwealth of Virginia. In order to make data-driven decisions on the use of public funding for safety improvements, VDOT developed a state-specific Safety Performance Functions (SPFs) and a prioritized list of intersections and segments with the largest Potential for Safety Improvements (PSI). The SPF and PSI analyses are shared across the Districts and localities. Along with other safety data and analysis, the SPF and

PSI analyses can be used for project consideration and selection. The localities also have full access to crash data from VDOT's Power BI crash analysis tool. VDOT Power BI crash analysis tool pulls the crash data from Virginia Department of Motor Vehicles (DMV)'s crash data source as DMV owns and maintains the main source of the crash data.

VDOT coordinates with local government partners, such as Metropolitan Planning Organizations (MPOs) and Planning District Commissions (PDCs), through meetings and webinars to set an obtainable target that coincides with VDOT's Strategic Highway Safety Plan (SHSP) goals.

Virginia's Commonwealth Transportation Board (CTB) oversees transportation projects and initiatives for the Commonwealth of Virginia. VDOT has the responsibility for construction, maintenance, and operation of Virginia's roadways under the overall guidance of the CTB. VDOT Central Office VHSIP staff coordinates with CTB staff for prioritization of VHSIP projects and through final VHSIP project selection.

Describe other aspects of HSIP Administration on which the State would like to elaborate.

VDOT is on it's fourth iteration of the Pedestrian Safety Action Plan which was initiated in 2018 when pedestrian fatalities increased by 19 percent since 2012. VDOT worked with a multidisciplinary group of stakeholders to identify and address pedestrian safety concerns through a data driven approach. This approach included identifying and addressing locations with a history of pedestrian safety crashes along with proactively addressing pedestrian crash risk through the identification of priority corridors. This report complements other pedestrian safety efforts in the Commonwealth, including the new 2022–2026 Strategic Highway Safety Plan (SHSP), VDOT VHSIP, SMART SCALE, Transportation Alternatives Program, and Safe Routes to School program. Local, regional, and state agencies should review this report to identify and implement potential countermeasures, update design policies, and supplement other State pedestrian safety initiatives.

The following are the list of updates in the PSAP over the years

- In 2020 VDOT updated the plan, PSAP-2, with most recent crash and transportation equity data, generating new priority corridors and crash clusters. The corridors were screened based upon various factors including traffic volumes, speed, transit proximity, vehicle ownership levels by household, state Health Opportunity Index (HOI), and etc.
- In February 2022, , PSAP-3, became available with most recent crash data between 2016 and 2020 with two notable changes: 1) both pedestrian and bicycle crashes are used in the screening analysis, and 2) in addition to the statewide and regional priority corridors, the Version 3 also provides district-level priority segments.
- In 2023, VDOT updated the priority locations for pedestrian and bicyclist safety improvements again and introduced PBSAP 4.0.

The outputs of this PBSAP 4.0 are a series of segments that represent the top 1 and 5 percent of statewide priority locations for reviewing for safety projects and other planning needs. This version used average annual daily traffic (AADT), roadway configuration, posted speed limit, transit stops, schools & universities, parks, Health Opportunity Index (HOI), proportion of zero vehicle households, employment density, urban area, population density, and pedestrian and bicycle crash history to develop risk score.

Program Methodology

Does the State have an HSIP manual or similar that clearly describes HSIP planning, implementation and evaluation processes?

Yes

VDOT has recently updated the VDOT VHSIP Implementation Manual in August 2024.

Select the programs that are administered under the HSIP.

- HRRR
- HSIP (no subprograms)
- Local Safety
- Vulnerable Road Users

Program: HRRR

Date of Program Methodology:8/22/2018

What is the justification for this program?

- FHWA focused approach to safety

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes

- Fatal and serious injury crashes only

Exposure

- Traffic
- Volume

Roadway

- Functional classification

What project identification methodology was used for this program?

- Excess expected crash frequency using SPFs

Are local roads (non-state owned and operated) included or addressed in this program?

Yes

Are local road projects identified using the same methodology as state roads?

Yes

How are projects under this program advanced for implementation?

- Competitive application process

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Relative Weight in Scoring

Other-B/C Ranking:40
Other-Project in PSI or District SHSP Listing:25
Other-High Number of Targeted Crashes:10
Other-Cost Estimate and Project Schedule:10
Other-Other:15
Total Relative Weight:100

Program: HSIP (no subprograms)

Date of Program Methodology:12/1/2019

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes

- All crashes
- Fatal and serious injury crashes only

Exposure

- Traffic
- Volume
- Lane miles

Roadway

- Median width
- Horizontal curvature
- Functional classification
- Roadside features

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Excess expected crash frequency with the EB adjustment
- Other-Systemic initiative analysis

Are local roads (non-state owned and operated) included or addressed in this program?

Yes

Are local road projects identified using the same methodology as state roads?

No

Describe the methodology used to identify local road projects as part of this program.

Localities must conduct analysis using a data-driven approach following the HSIP guidelines. Applications should include the crash history and cost estimate(s) for all proposed project locations.

How are projects under this program advanced for implementation?

- Competitive application process

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Relative Weight in Scoring

Other-Systemic Analysis:100
Total Relative Weight:100

Program: Local Safety

Date of Program Methodology:7/1/2022

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- Other-Systemic Safety for Local Roads

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• All crashes		• Median width • Horizontal curvature • Functional classification • Roadside features

What project identification methodology was used for this program?

- Other-Systemic Risk Factors
- Probability of specific crash types

Are local roads (non-state owned and operated) included or addressed in this program?

Yes

Are local road projects identified using the same methodology as state roads?

Yes

How are projects under this program advanced for implementation?

- Competitive application process

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Ranking based on B/C:1
Available funding:2

Program: Vulnerable Road Users

Date of Program Methodology:1/1/2024

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- Other-VRU Special Rule

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes	Exposure	Roadway
• Other-VRU		

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Other-Risk for VRU
- Probability of specific crash types

Are local roads (non-state owned and operated) included or addressed in this program?

Yes

Are local road projects identified using the same methodology as state roads?

Yes

How are projects under this program advanced for implementation?

- Competitive application process

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

Rank of Priority Consideration

Available funding:1

What percentage of HSIP funds address systemic improvements?

65

HSIP funds are used to address which of the following systemic improvements?

- Other-Flashing Yellow Arrow
- Other-High Visibility Backplates
- Other-Pedestrian Crossing Improvements
- Other-Unsignalized Intersection Improvements
- Rumble Strips
- Safety Edge

It should be noted that this percentage will fluctuate in coming years, as more funding is dedicated to hybrid and spot projects. VDOT uses the systemic approach methodology which provides a consistent framework for addressing risk using the VHSIP process by identifying system-wide roadway safety concerns and strategies to address these concerns. Applying a systemic approach to addressing safety is beneficial to proactively address widespread safety issues and cost-effectively minimize crash potential. Rather than focus on specific crash locations, a systemic approach targets consistent crash trends and common risk factors in crashes throughout the roadway network.

In June 2019, the Commonwealth Transportation Board (CTB) adopted Safety Performance Targets for CY 2020 and found the anticipated safety outcomes associated with the Safety Performance Targets to be unacceptable, and further directed the Office of Intermodal Planning and Investment (OIPI), working collaboratively with VDOT and Department of Motor Vehicles (DMV), to analyze and develop a plan resulting in a net reduction in fatal and serious injury crashes. A key finding from this data-driven analysis demonstrated that systemic and hybrid corridor safety projects provide greater potential crash reduction benefits for lower cost (better return on investment- ROI) than traditional spot improvement projects, and this finding was presented to the CTB during multiple workshop meetings. In September 2019, the CTB approved an amendment to FY 2020-2025 Six-Year Improvement Program (SYIP) to begin deployment of systemic safety improvements included in an initial Systemic Improvement Plan. This initial Systemic Improvement Plan identified $136.7 million in potential funding through FY 2025 to implement eight systemic countermeasure initiatives at VDOT-maintained roadways.

The **“Phase I” VDOT Systemic Improvement Plan** countermeasures, $152 million, included the following:

· High-Visibility Signal Backplates (HVSB)

· Flashing Yellow Arrow (FYA)

· Pedestrian Accommodations Improvements at Signalized Intersections

· Centerline Rumble Strip

· Edgeline Rumble Strip/Stripes

· Curve Delineation

· Improvements at Unsignalized Intersections

· Pavement Shoulder Wedge (funded by pavement maintenance)

The Phase I systemic countermeasure implementation projects were estimated to save 61 lives and 1,174 injuries per year statewide once implemented. This initial Systemic Improvement Plan also:

· Established goals and schedules for deploying the eight systemic countermeasures across VDOT’s network.

· Included a risk-based assessment of eight systemic countermeasures to include the locations, appropriate improvements, cost estimates, and schedules on all public roads.

· Aligned with emphasis areas in Virginia’s Strategic Highway Safety Plan (SHSP).

· Was planned to be updated periodically to advance additional systemic improvements.

The implementation of the Phase I Systemic Improvement Plan is ongoing, with project locations identified and implementation of systemic initiatives recently completed in many locations. Additional information on the initial HSIP Systemic Implementation Plan is provided on-line at:

What process is used to identify potential countermeasures?

- Crash data analysis
- Data-driven safety analysis tools (HSM, CMF Clearinghouse, SafetyAnalyst, usRAP)
- Engineering Study
- Road Safety Assessment
- SHSP/Local road safety plan
- Stakeholder input

Does the State HSIP consider connected vehicles and ITS technologies?

Yes

Describe how the State HSIP considers connected vehicles and ITS technologies.

In the Virginia’s Strategic Highway Safety Plan (SHSP), VDOT considers Connected Vehicle/Autonomous Vehicles as a special area of focus. The SHSP provides a strategy in providing future technology regarding this

specific topic: Ensure that future connected and autonomous vehicle technology deployments maximize potential safety benefits for all users by supporting necessary planning and research activities.

Intelligent Transportation Systems (ITS) technologies are part of HSIP projects as there can be cost-effective ITS projects that improve safety.

Examples of ITS technologies applicable for HSIP:

· Real-time Adaptive Signal Controllers,

· Advance Transportation Controllers

· Signal Optimization

· Dynamic Message Sign (DMS), Overhead Message Boards, and Closed-Circuit Television (CCTV)

· Fiber Optic Lines and Connection.

· Incident Management: Signs and Camera

· Real-time Performance Measuring Software: iPeMS (Iteris Performance Measurement System)

· Retrofit Pedestrian signal heads with pedestrian countdown signals, Accessible Pedestrian Signal (APS) and Accessible Pedestrian signal Detectors (APD)

· Controller Actuated Beacon / flasher (CAB)

· Pilot Pedestrian Project – “Dwell On Red” on overnight hours to reduce speed and improve pedestrian safety.

· All-red extension.

· Dwell-on-Red.

Does the State use the Highway Safety Manual to support HSIP efforts?

Yes

Please describe how the State uses the HSM to support HSIP efforts.

VDOT emphasizes data-driven decision-making to improve transportation safety and safety data. To make data-driven decisions on the use of public funding for safety improvements, VDOT developed state-specific Safety Performance Functions (SPFs) and prioritized list of locations with the largest Potential for Safety Improvements (PSI). The use of SPFs and PSI for network screening and project prioritization are well documented throughout the HSM Part B.

VDOT’s comprehensive set of state-specific SPFs cover 98 percent of its state-maintained roadway locations. VDOT developed state-specific SPFs using historical crash locations, traffic volumes, and roadway inventory layers. SPF developers worked collaboratively alongside engineers to evaluate whether each SPF was implementable for all types of improvements (spot, corridor, and systemic). To date, VDOT has developed 24 SPFs covering most roadway facilities, including two-lane roads, intersections, and freeways/multi-lane highways.

For the development of its PSI data, VDOT incorporates the comparisons of actual- to predicted-crash frequencies in its network screening. The top 100 intersections and top 100 miles of segments, plus the Roadway Departure segments with the largest PSI over the last five years are then published for VHSIP use by VDOT staff, safety partners and stakeholders. This list is sent to the district engineers, who can then determine which site(s) to prioritize based on their practical experience and knowledge of the area.

Benefits of VDOT's data-driven approach, such as the creation of state-specific SPFs and PSIs, include:

· Streamlined prioritization of systemic countermeasure implementation locations at a District-level

· Use of public funding in a more cost-effective manner

· Measure quantifiable benefits for both systemic and spot improvements

· Program transparency and response to public comments or concerns

The state-specific SPFs and PSIs are useful beyond just VHSIP efforts and are also used to develop project prioritization in VTran's Long-Range Transportation Plan and related mid-term surface transportation needs, which feeds the Statewide Project Prioritization (SMART SCALE - SS). VTrans mid-term needs measures and methods is a major milestone in a performance-based planning framework. It established a direct link between planning (VTrans) and funding SS which is a statewide program that distributes funding based on transparent and objective evaluation of projects to effectively support the Commonwealth to achieve its transportation goals. In the SMART SCALE application process, data-driven safety benefit analysis is one of the weighting factors in the selection process, and a project with PSI is more likely to be screened for assessment and receive a higher score for Safety. Highway PSI and concentrations of fatal and injury crashes are more likely to be given a higher safety score.

Another way that VDOT has employed the use of the Highway Safety Manual (HSM) is through a statewide evaluation of systemic improvement projects. This evaluation involved a simple before-and-after evaluation of all eligible systemic projects funded through the VHSIP program. Also, this effort involved preparations for future systemic evaluations, including collection of project-level data and modification of the HSIP project application forms. Additionally, VDOT uses the Economic Assessment (benefit-cost ratio analysis) and Project Prioritization from the HSM.

Describe other aspects of the HSIP methodology on which the State would like to elaborate.

VDOT Central Office Traffic Operation Division administers the VHSIP and provides the VDOT District Offices with Targeted Safety Needs (TSN) intersections and segments based on the Highway Safety Manual (HSM) network screening methodology. TSN locations indicate intersections or segments that have a positive Potential for Safety Improvements (PSI) value in three or more years of the five-year period, indicating recurring safety issues. VDOT districts use this information with local knowledge to initiate further engineering studies of the locations and scope projects to be submitted for inclusion in its Six-Year Improvement Program (SYIP).

Depending on the scale and complexity of the projects, VDOT district offices conduct Roadway Safety Assessments (RSA) as determined by the VDOT District Traffic Engineer. To assist the District Traffic Engineer with conducting these RSAs, VDOT's Highway Safety Program developed Virginia specific guidelines for performing these assessments.

VDOT Central Office is responsible for establishing the process and conducting network screening, scoring, and selection of VHSIP systemic improvement projects. VHSIP projects are selected based upon the risk

factors across an entire roadway network or all locations where investments of VHSIP funds may yield highest rate of return in terms of reducing deaths and serious injuries.

Once the final HSIP projects are prioritized and selected by Central Office, the selected HSIP projects are included in Virginia's Six-Year Improvement Program (SYIP), which is then presented to the Commonwealth Transportation Board (CTB) for approval. Once the HSIP projects are approved, programmed, and have received allocated funds, the VHSIP staff monitor the projects from scoping through construction to the final voucher. Cost, schedule, and scope are monitored and measured to ensure that the VHSIP projects are being delivered on time and on budget. VHSIP project schedules and cost both directly affect the Federal Strategy and VDOT's ability to meet their Obligation Authority for the VHSIP Program.

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State Fiscal Year

Enter the programmed and obligated funding for each applicable funding category.

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$75,754,385	$100,629,260	132.84%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$0	$5,263,966	0%
VRU Safety Special Rule (23 U.S.C. 148(g)(3))	$0	$0	0%
Penalty Funds (23 U.S.C. 154)	$0	$12,374,257	0%
Penalty Funds (23 U.S.C. 164)	$0	$0	0%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	$4,852,353	$4,792,290	98.76%
Other Federal-aid Funds (i.e. STBG, NHPP)	$0	$0	0%
State and Local Funds	$1,296,353	$0	0%
Totals	$81,903,091	$123,059,773	150.25%

VDOT is required to follow the VRU Special Safety Rule for Federal FY 24 to obligate not less than 15% of the amount of funds apportioned to Virginia for FHWA. This does not show up in this reporting period because VDOT will program and obligate in the first quarter of State FY25 (July 1, 2024 to September 30th, 2024).

How much funding is programmed to local (non-state owned and operated) or tribal safety projects?

$12,665,430

How much funding is obligated to local or tribal safety projects?

$13,996,610

How much funding is programmed to non-infrastructure safety projects?

$7,868,174

How much funding is obligated to non-infrastructure safety projects?

$20,831,705

Each VDOT district utilizes prescoping projects for safety assessments and RSAs and the VDOT Central Office Safety program has projects set up to support the development of HSIP tools and resources, SHSP implementation support and Crash Data Analysis support.

How much funding was transferred in to the HSIP from other core program areas during the reporting period under 23 U.S.C. 126?

$0

How much funding was transferred out of the HSIP to other core program areas during the reporting period under 23 U.S.C. 126?

$0

Discuss impediments to obligating HSIP funds and plans to overcome this challenge in the future.

Having realistic and attainable project schedules may be an impediment to obligating HSIP funds. Some Districts and localities struggle with project development of HSIP funded safety projects, resulting in delay. To overcome these project delivery issues, the HSIP staff are working with the District Traffic Engineers and Local Assistance Program staff to track the milestones of HSIP projects and assistance is also available to localities to better prepare and administer HSIP projects. This will help District and local agency project managers stay on schedule and deliver the safety improvement projects on time.

Inflation of project materials and labor costs are also becoming a big issue in project delivery along with contractor capacity.

VDOT will continue to work through its District offices to provide guidance and support to District and local agency staff in the project development phase of these safety projects.

Describe any other aspects of the State’s progress in implementing HSIP projects on which the State would like to elaborate.

In September 2019, the CTB approved an amendment to FY 2020-2025 Six-Year Improvement Program (SYIP) to begin deployment of systemic safety improvements included in an initial Systemic Improvement Plan with the eight systemic countermeasures initiatives.

Of the eight systemic safety initiatives, VDOT completed the High Visibility Signal Backplates (HVSB) and Flashing Yellow Arrow (FYA) initiatives first. Below is the progress of the eight systemic countermeasure initiatives from Phase One as of July 2024:

· High-Visibility Signal Backplates (HVSB): 100% Complete – 3031 Locations

· Flashing Yellow Arrow (FYA): 100% Complete – 1140 Locations

· Pedestrian Accommodations Improvements at Signalized Intersections: 57.4% Complete – 276 Locations

· Centerline Rumble Strip: 58.1% Complete – 1,085 Miles

· Edgeline Rumble Strip/Stripes: 35.8% Complete – 1,028 Miles

· Curve Delineation: 85.5% Complete – 1,345 Locations

· Improvements at Unsignalized Intersections: 73.7% Complete – 1,115 Locations

· Safety Edge: 3.5% Complete – 1,119 Miles

Detailed Implementation Criteria for each initiative found here: https://www.vdot.virginia.gov/doing-business/technical-guidance-and-support/traffic-operations/vhsip/

In January 2022, the Commonwealth Transportation Board (CTB) approved the Virginia Highway Safety Investment Strategy that continued deployment of proven systemic and hybrid safety countermeasures across the Commonwealth. The next systemic safety initiatives for VDOT-maintained roads, $186 million planned, include the following:

· Expanded Flashing Yellow Arrow

· Pedestrian Crossings

· Two-Lane Rural Roads

The systemic safety initiatives for locally maintained streets and roads, $110 million planned, include the following:

· Flashing Yellow Arrow (FYA)

· High-Visibility Signal Backplates (HVSB)

· Pedestrian Crossings

· Curve Signage

· Unsignalized Intersections

· Road Reconfiguration (Road Diet)

SMART Portal will open for localities to submit safety applications for VHSIP funding consideration beginning August 1st through October 31st, 2023 for remaining funds. The funding will be awarded through a competitive application process with application that have a higher return on investment and other factors.

VDOT also developed the Virginia-specific comprehensive crash costs for use in highway safety project evaluation. This crash costs should be used by practitioners in Virginia when calculating the benefit-cost ratio for specific safety treatments. The detail information’s is provided in the following link: https://www.vdot.virginia.gov/media/vdotvirginiagov/doing-business/technical-guidance-and-support/traffic-operations/vhsip/VDOT-Crash-Costs-Memo_acc050222.pdf

General Listing of Projects

List the projects obligated using HSIP funds for the reporting period.

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
FedID:9611097 ,Project Description: -109511-Safety Prescoping - Bristol (MOD)	Miscellaneous	Road safety audits	1	Various	$456093	$4350218	HSIP (23 U.S.C. 148)	Multiple/ Varies	Multiple/ Varies	1	Vario	State Highway Agency	Systemic	Data	Implement innovative solutions and utilize current and emerging technologies
FedID:9677077 ,Project Description: -109682-SAFETY PRESCOPING - CULPEPER (MOD)	Miscellaneous	Road safety audits	1	Various	$400467	$3789578	HSIP (23 U.S.C. 148)	Multiple/ Varies	Multiple/ Varies	1	Vario	State Highway Agency	Systemic	Data	Implement innovative solutions and utilize current and emerging technologies
FedID:9633051 ,Project Description: -109817-SAFETY PRESCOPING - LYNCHBURG (MOD)	Miscellaneous	Road safety audits	1	Various	$250988	$3766929	HSIP (23 U.S.C. 148)	Multiple/ Varies	Multiple/ Varies	1	Vario	State Highway Agency	Systemic	Data	Implement innovative solutions and utilize current and emerging technologies
FedID:9622109 ,Project Description: -113235-SAFETY PRESCOPING FOR HIGH RISK RURAL ROAD PROJECTS- SALEM (MOD)	Miscellaneous	Road safety audits	1	Various	$315734	$1292615	HSIP (23 U.S.C. 148)	Multiple/ Varies	Multiple/ Varies	1	Vario	State Highway Agency	Systemic	Data	Implement innovative solutions and utilize current and emerging technologies
FedID:9622110 ,Project Description: -116077-SAFETY PRESCOPING - SALEM (MOD)	Miscellaneous	Road safety audits	1	Various	$694626	$1591573	HSIP (23 U.S.C. 148)	Multiple/ Varies	Multiple/ Varies	1	Vario	State Highway Agency	Systemic	Data	Implement innovative solutions and utilize current and emerging technologies
FedID:000S375 ,Project Description: -117200-Support for HSIP Program and Planning (MOD)	Miscellaneous	Data analysis	1	Various	$7218920	$19855354	HSIP (23 U.S.C. 148)	Multiple/ Varies	Multiple/ Varies	1	Vario	State Highway Agency	Systemic	Data	Implement innovative solutions and utilize current and emerging technologies
FedID:000S376 ,Project Description: -117201-SHSP DEVELOPMENT AND IMPLEMENTATION (MOD)	Miscellaneous	Data analysis	1	Various	$4829535	$7491313	HSIP (23 U.S.C. 148)	Multiple/ Varies	Multiple/ Varies	1	Vario	State Highway Agency	Systemic	Data	Implement innovative solutions and utilize current and emerging technologies

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
FedID:000S377 ,Project Description: -117202-Support for HSIP Crash and Data Analysis (MOD)	Miscellaneous	Data analysis	1	Various	$4555651	$7921884	HSIP (23 U.S.C. 148)	Multiple/ Varies	Multiple/ Varies	1	Vario	State Highway Agency	Systemic	Data	Implement innovative solutions and utilize current and emerging technologies
FedID:9655099 ,Project Description: -117345-SAFETY PRESCOPING - HAMPTON ROADS (MOD)	Miscellaneous	Road safety audits	1	Various	$562880	$2000000	HSIP (23 U.S.C. 148)	Multiple/ Varies	Multiple/ Varies	1	Vario	State Highway Agency	Systemic	Data	Implement innovative solutions and utilize current and emerging technologies
FedID:9666100 ,Project Description: -118231-SAFETY PRESCOPING UPC - FREDERICKSBURG (MOD)	Miscellaneous	Road safety audits	1	Various	$1094971	$1143549	HSIP (23 U.S.C. 148)	Multiple/ Varies	Multiple/ Varies	1	Vario	State Highway Agency	Systemic	Data	Implement innovative solutions and utilize current and emerging technologies
FedID:TS09318 ,Project Description: -124490-APS RETROFITS NORTHERN VIRGINIA - FY24 (SYS)	Pedestrians and bicyclists	Pedestrian signal - other	1	Signal heads	$1364802	$8629208	HSIP (23 U.S.C. 148)	Multiple/ Varies	Multiple/ Varies	0	0	State Highway Agency	Systemic	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0802031 ,Project Description: -111066-Pedestrian Bridge over Rt. 311 - Roanoke County (MOD)	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	0.199999999999999	Miles	$2076414	$6229242	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	9,000	55	State Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0733053 ,Project Description: -122725-HRRR DISTRICTWIDE-SHOULDER WIDENING & SLOPE GRADING (MOD)	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	1	Various	$1199634	$4798536	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Minor Arterial	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0655037 ,Project Description: -1850-TE 602 - RECONSTRUCTION (MOD)	Alignment	Horizontal and vertical alignment	1.14	Miles	$644313	$1486392	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	1,600	45	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:5167003 ,Project Description: -1852-SMART18 - RTE 602 - RECONSTRUCTION (MOD)	Alignment	Horizontal and vertical alignment	0.55	Miles	$13730	$4593671	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	1,600	45	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5118318 ,Project Description: -107063-Rt. 221 Bedford Co. - Pedestrian Safety Improvements (MOD)	Pedestrians and bicyclists	Install sidewalk	3.67000000000002	Miles	$221132	$1494221	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	25,000	45	State Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5A03977 ,Project Description: -108798-Portsmouth Systematic FYA (MOD)	Intersection traffic control	Modify traffic signal – add flashing yellow arrow	1	Various	$274850	$947659	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	City or Municipal Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5A03979 ,Project Description: -108800-Citywide Systematic Replacement of Non-MUTCD Compliant Signs (MOD)	Roadway signs and traffic control	Roadway signs and traffic control - other	1	Various	$530476	$1146489	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	City or Municipal Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5115209 ,Project Description: -108810-#HB2.FY17 Route 11 S. Valley Pike Roadway Improvements (MOD)	Roadway	Roadway widening - add lane(s) along segment	1.19999999999999	Miles	$3567173	$32856206	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	19,000	45	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0554035 ,Project Description: -108886-CURVE REALIGNMENT - RTE 675 - LUNENBURG COUNTY (MOD)	Alignment	Horizontal curve realignment	0.089999999999999	Miles	$132184	$797258	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	600	45	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:5118304 ,Project Description: -108914-#HB2.FY17 Route 221 Congestion and Safety Improvements (MOD)	Intersection geometry	Intersection geometry - other	0.310000000000002	Miles	$2763733	$4963962	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	27,000	45	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5102198 ,Project Description: -109509-Piedmont Avenue Pedestrian Heads (MOD)	Pedestrians and bicyclists	Pedestrian signal	0	Miles	$144108	$144108	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	3,600	25	City or Municipal Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0567032 ,Project Description: -109587-#SMART20 - ROUTE 29/662 RCUT AT SHELBY HSIP (MOD)	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.399999999999977	Miles	$519333	$4278113	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	1,700	60	State Highway Agency	Spot	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5A04021 ,Project Description: -111000-Portsmouth Boulevard Sidewalk Segment 3 (MOD)	Pedestrians and bicyclists	Install sidewalk	0.27	Miles	$100000	$655118	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	City or Municipal Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5A04098 ,Project Description: -111023-Install and upgrade Countdown Pedestrian Signals (MOD)	Pedestrians and bicyclists	Pedestrian signal	1	Various	$920000	$1919978	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	City or Municipal Highway Agency	Systemic	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5A04271 ,Project Description: -111035-Jefferson Avenue@ Pavilion Place New Traffic Signal (MOD)	Intersection traffic control	Modify control – new traffic signal	0.020000000000014	Miles	$1261468	$1261468	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	46,000	45	City or Municipal Highway Agency	Spot	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:9688126 ,Project Description: -112901-PROVIDE ADVANCED SIGNAL DETECTION (MOD)	Advanced technology and ITS	Advanced technology and ITS - other	1	Various	$858000	$873329	Penalty Funds (23 U.S.C. 154)	Rural	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5113037 ,Project Description: -113319-Downtown Main Street Pedestrian Improvements - City of Galax (MOD)	Pedestrians and bicyclists	Install new crosswalk	0.089999999999999	Miles	$462605	$942496	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	2,700	25	City or Municipal Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5128528 ,Project Description: -113322-Hardy Road/Dillon Woods Crosswalk (MOD)	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	0.29	Miles	$282466	$298984	HSIP (23 U.S.C. 148)	Urban	Major Collector	12,000	35	Town or Township Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5B03911 ,Project Description: -113413-INTERSECTION IMPROVEMENTS AT RT 17/216 (MOD)	Intersection traffic control	Modify traffic signal – add flashing yellow arrow	0.200000000000003	Miles	$878866	$5182370	Penalty Funds (23 U.S.C. 154)	Urban	Principal Arterial-Other	33,000	45	State Highway Agency	Spot	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5A04066 ,Project Description: -113746-Systemic Retroreflective Backplate Improvements (MOD)	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	1	Various	$723000	$741336	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	City or Municipal Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5A27909 ,Project Description: -113772-SYSTEMIC SIGNAL TIMING OPTIMIZATION #3 - DISTRICTWIDE (MOD)	Intersection traffic control	Modify traffic signal timing – signal coordination	1	Various	$727800	$727800	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:5111430 ,Project Description: -113838-RIVERSIDE MANOR CONNECTOR -- SIDEWALKS (MOD)	Pedestrians and bicyclists	Install sidewalk	0.24	Miles	$140734	$429710	Penalty Funds (23 U.S.C. 154)	Urban	Major Collector	1	1	State Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5104316 ,Project Description: -113861-WASHINGTON PARK/MADISON AVENUE BICYCLE CONNECTOR TRAIL (MOD)	Pedestrians and bicyclists	Pedestrians and bicyclists – other	0.01	Miles	$13450	$468250	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	280	25	City or Municipal Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5118307 ,Project Description: -114064-GRAVES MILL ROAD - INSTALL ADAPTIVE SIGNAL CONTROLS (MOD)	Advanced technology and ITS	Adaptive Signal Control System	1.49	Miles	$19027	$461230	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	19,000	35	City or Municipal Highway Agency	Spot	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0413074 ,Project Description: -114096-HSIP21 - ROUTE 360 - SHOULDER WIDENING, RUMBLE STRIPS, & GR (MOD)	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	2.790000000000001	Miles	$928763	$4004740	Penalty Funds (23 U.S.C. 154)	Rural	Principal Arterial-Other	5,800	60	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9633072 ,Project Description: -114097-HSIP18 DISTRICTWIDE - HIGH FRICTION SURFACE TREATMENT (MOD)	Roadway	Pavement surface – high friction surface	1	Various	$2229744	$11148720	Penalty Funds (23 U.S.C. 154)	Rural	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5A27886 ,Project Description: -114200-INSTALL SIDEWALK - DEER RUN ROAD - CHESTERFIELD (MOD)	Pedestrians and bicyclists	Install sidewalk	0.2	Miles	$198014	$1070142	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	1	1	State Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:9677083 ,Project Description: -114299-ROUTE 29 AND WOODBROOK INTERSECTION MODIFICATION (MOD)	Intersection traffic control	Modify control – other	1	Miles	$192	$6711427	Penalty Funds (23 U.S.C. 154)	Rural	Principal Arterial-Other	45,000	45	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9677083 ,Project Description: -114401-Signal Performance Metric - ATSC (MOD)	Intersection traffic control	Modify traffic signal – modernization/replacement	8.28999999999999	Various	$243733	$6711427	Penalty Funds (23 U.S.C. 154)	Urban	Principal Arterial-Other	18,000	45	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9677083 ,Project Description: -116005-District-wide Flashing Yellow Arrows Installations (MOD)	Intersection traffic control	Modify traffic signal – add flashing yellow arrow	1	Various	$127638	$6711427	HSIP (23 U.S.C. 148)	Rural	Major Collector	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9677099 ,Project Description: -116007-District-wide Pedestrian Crossings Installations (MOD)	Pedestrians and bicyclists	Install new crosswalk	1	Various	$93823	$1997113	HSIP (23 U.S.C. 148)	Urban	Major Collector	1	1	State Highway Agency	Systemic	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9677083 ,Project Description: -116485-Rtes. 29 and 605 Intersection Modification (SYS)	Intersection traffic control	Modify control – other	1	Miles	$20000	$6711427	HSIP (23 U.S.C. 148)	N/A	Principal Arterial-Other	45,000	45	State Highway Agency	Spot	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5115240 ,Project Description: -116507-REGIONAL ON-CALL RUMBLE STRIPS CONTRACT (MOD)	Roadway	Rumble strips – edge or shoulder	0	Miles	$1193463	$1193463	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:TS09291 ,Project Description: -116606-NOVA SYSTEMIC HIGH VISIBILITY BACKPLATES PH1B (MOD)	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	1	Various	$794975	$4921166	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:TS09301 ,Project Description: -116626-NOVA SYSTEMIC FLASHING YELLOW ARROWS PH2 (MOD)	Intersection traffic control	Modify traffic signal – add flashing yellow arrow	1	Various	$3307	$7756762	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9611139 ,Project Description: -116648-EDGE LINE RUMBLE STRIPS - BRISTOL DISTRICT WIDE (MOD)	Roadway	Rumble strips – edge or shoulder	1	Various	$400862	$801724	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9611140 ,Project Description: -116649-CENTERLINE RUMBLE STRIPS-BRISTOL DISTRICT WIDE (MOD)	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	1	Various	$1256627	$3769881	Penalty Funds (23 U.S.C. 154)	Rural	Major Collector	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9688115 ,Project Description: -116686-STAUNTON DISTRICT UNSIGNALIZED INTERSECTION IMPROVEMENTS (MOD)	Intersection traffic control	Systemic improvements – stop-controlled	1	Various	$152	$1333229	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:TS09300 ,Project Description: -116721-NOVA SYSTEMIC PEDESTRIAN CROSSINGS PH1 (MOD)	Pedestrians and bicyclists	Install new crosswalk	1	Various	$1464741	$12783590	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:TS09318 ,Project Description: -116723-NOVA SYSTEMIC PEDESTRIAN CROSSINGS PH3 (MOD)	Pedestrians and bicyclists	Install new crosswalk	1	Various	$1737950	$17258416	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9611138 ,Project Description: -118122-UNSIGNALIZED INTERSECTIONS - BRISTOL DISTRICTWIDE (MOD)	Intersection traffic control	Systemic improvements – stop-controlled	1	Various	$1519013	$4557039	Penalty Funds (23 U.S.C. 154)	Urban	Major Collector	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0143043 ,Project Description: -119676-HSIP20 - RTE 15 - SHOULDER WIDENING / RUMBLE STRIPS (MOD)	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	6.39	Miles	$2622926	$2675237	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	5,400	55	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:96A9168 ,Project Description: -120286-NOVA SYSTEMIC UNSIGNALIZED INTERSECTION PH2 (MOD)	Intersection traffic control	Systemic improvements – stop-controlled	1	Various	$689337	$689337	Penalty Funds (23 U.S.C. 154)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9655104 ,Project Description: -120334-HAMPTON ROADS HSIP UNSIGNALIZED INTERSECTIONS 2 (MOD)	Intersection traffic control	Systemic improvements – stop-controlled	0.01	Miles	$1151982	$1151982	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9622124 ,Project Description: -120899-FY 23 Curve Delineation (MOD)	Roadway signs and traffic control	Curve-related warning signs and flashers	1	Various	$1604684	$4619128	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:9622123 ,Project Description: -120900-FY 23 Unsignalized Intersections (MOD)	Intersection traffic control	Systemic improvements – stop-controlled	1	Various	$1663590	$2043094	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:PM09376 ,Project Description: -122205-NOVA SYSTEMIC PEDESTRIAN CROSSINGS PH4 (MOD)	Pedestrians and bicyclists	Install new crosswalk	1	Various	$1658065	$7026215	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0027064 ,Project Description: -122394-ROUTE 250 - RUNAWAY TRUCK RAMP (MOD)	Intersection traffic control	Modify control – Modern Roundabout	1	Miles	$3963454	$5463454	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	8,800	55	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9611154 ,Project Description: -122704-HRRR 2023 - INTERSECTION IMPROVEMENTS (MOD)	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Various	$19196	$19196	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9611153 ,Project Description: -122705-HRRR 2023 - ROADWAY IMPROVEMENTS (MOD)	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Various	$29888	$29888	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9633079 ,Project Description: -122796-HSIP DISTRICTWIDE SHOULDER WIDENING W/ EDGE RUMBLES & GUARDR (MOD)	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	5.28	Miles	$126800	$3701255	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:9644150 ,Project Description: -122808-RTE 711 - RUMBLE STRIPES (MOD)	Roadway	Rumble strips – edge or shoulder	6.05	Miles	$2813091	$7410822	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	2,700	55	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9644152 ,Project Description: -122810-SR 288 (US 1 to I-95) LANE REALLOCATIONS/SIGNING ENHANCEMENT (MOD)	Interchange design	Interchange design - other	1	Interchanges	$-404490	$2179356	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	39,000	65	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:TS04290 ,Project Description: -122811-INSTALL TRAFFIC SIGNAL - US 60 & MARKET PLACE DR (MOD)	Intersection traffic control	Modify control – new traffic signal	0.18	Miles	$961368	$7388218	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	11,000	45	State Highway Agency	Spot	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:PM04516 ,Project Description: -122812-BRYAN PARK INTERCHANGE LANE IMPROVEMENTS (MOD)	Interchange design	Acceleration / deceleration / merge lane	1	Miles	$623000	$110000000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	131,000	55	State Highway Agency	Spot	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:TS05311 ,Project Description: -122836-HAMPTON ROADS HSIP FY 23 UNSIGNALIZED INT IMP (MOD)	Intersection traffic control	Systemic improvements – stop-controlled	1.01	Miles	$34234	$3079142	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	14,000	45	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:TS05318 ,Project Description: -122838-HAMPTON ROADS HSIP FY23 ROUTE 58 & SNOWDEN (MOD)	Access management	Median crossover - relocate/close crossover	0.02	Miles	$33723	$1868218	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	78,000	60	State Highway Agency	Spot	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:9677116 ,Project Description: -122878-INT. CONFLICT WARNING SYSTEMS & ADVANCED ACTUATED FLASHER (MOD)	Advanced technology and ITS	Intersection Conflict Warning System (ICWS)	1	Various	$50000	$2742431	Penalty Funds (23 U.S.C. 154)	Rural	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9677114 ,Project Description: -122880-CY24 DISTRICTWIDE TRENCH WIDENING PM7T-24 (MOD)	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	1	Various	$25246	$4182934	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9622111 ,Project Description: -122902-HIGH-VISIBILITY BACKPLATES - TOWN OF CHRISTIANSBURG (MOD)	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	1	Various	$251877	$11255755	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	Town or Township Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9677111 ,Project Description: -123015-DISTRICTWIDE SAFETY IMPROVEMENTS (MOD)	Roadway signs and traffic control	Curve-related warning signs and flashers	0.23	Miles	$-110669	$255294	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Major Collector	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:TS05308 ,Project Description: -123215-HR HSIP FY23 ROUTE 58 & SNOWDEN ST CLOSURE (MOD)	Access management	Change in access - close or restrict existing access	0.02	Miles	$302388	$19618188	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	78,000	60	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9622140 ,Project Description: -123373-FY24 Extended FYA Improvements (MOD)	Intersection traffic control	Modify traffic signal – add flashing yellow arrow	1	Various	$432000	$7214094	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:TS02264 ,Project Description: -124150-DISTRICTWIDE RUMBLE STRIP INSTALL - PRIMARY & SECONDARY (MOD)	Roadway	Rumble strips – edge or shoulder	1	Various	$248211	$2595242	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9666112 ,Project Description: -124223-DISTRICTWIDE SHOULDER RUMBLE STRIPS - TASK ORDER 5 (MOD)	Roadway	Rumble strips – edge or shoulder	1	Various	$1048116	$5776460	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9666113 ,Project Description: -124225-UNSIGNALIZED INTERSECTIONS - TASK ORDER 5 (MOD)	Intersection traffic control	Systemic improvements – stop-controlled	1	Various	$276033	$2045638	HSIP (23 U.S.C. 148)	Urban	Major Collector	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9644182 ,Project Description: -124302-SR 288 (US 1 to I-95) LANE REALLOCATIONS/MARKING ENHANCEMENT (MOD)	Interchange design	Interchange improvements	0.35	Miles	$18688	$779334	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	39,000	65	State Highway Agency	Spot	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9666125 ,Project Description: -124382-PEDESTRIAN SIGNAL INSTALL - FALL HILL AVE / CARL SILVER PKWY (MOD)	Pedestrians and bicyclists	Pedestrian signal	1	Signal heads	$731708	$12035188	Penalty Funds (23 U.S.C. 154)	Urban	Major Collector	18,000	35	State Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9666113 ,Project Description: -124879-HSIP - UNSIGNALIZED INTERSECTIONS (TASK ORDER 6) (MOD)	Intersection traffic control	Systemic improvements – stop-controlled	1	Various	$305959	$6136914	HRRR Special Rule (23 U.S.C. 148(g)(1))	Urban	Major Collector	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:9677116 ,Project Description: -122879-SIGNAL REBUILD AT ROUTES 250/240/635 (MOD)	Intersection traffic control	Modify control – new traffic signal	1	Intersections	$1146879	$8227293	HRRR Special Rule (23 U.S.C. 148(g)(1))	Urban	Minor Arterial	11,000	55	State Highway Agency	Spot	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9644160 ,Project Description: -107038-REPLACE TRAFFIC SIGNALS - DISTRICTWIDE (NEW)	Intersection traffic control	Modify control – new traffic signal	1	Various	$2249859	$11772081	Penalty Funds (23 U.S.C. 154)	Urban	Minor Arterial	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5B03111 ,Project Description: -111034-Citywide Flashing Yellow Arrow Upgrades (NEW)	Intersection traffic control	Modify traffic signal – add flashing yellow arrow	1	Various	$1155404	$2364758	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	City or Municipal Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5132186 ,Project Description: -111425-WAYNESBORO SOUTH RIVER GREENWAY TRAIL PHASE 3 (NEW)	Pedestrians and bicyclists	Pedestrians and bicyclists – other	0.17999999999993	Miles	$702474	$819801	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	0	0	State Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0218024 ,Project Description: -112899-ROUTE 7 - SHOULDER WIDENING AND RUMBLE STRIPS (NEW)	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	2.51	Miles	$2292095	$9168380	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	39,000	55	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0813210 ,Project Description: -112900-I-81 - INSTALL HIGH TENSION CABLE BARRIER (NEW)	Roadside	Barrier – cable	23.95	Miles	$876015	$2434843	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Interstate	56,000	70	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:5B27037 ,Project Description: -113813-Bus Transfer Center - Pedestrian Improvements @US360 SR161 (NEW)	Pedestrians and bicyclists	Install new crosswalk	0.140000000000015	Miles	$1390011	$1596780	HSIP (23 U.S.C. 148)	Urban	Major Collector	19,000	35	City or Municipal Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5A27688 ,Project Description: -113867-WRONG WAY MITIGATION AT RAMPS - DISTRICTWIDE (NEW)	Interchange design	Interchange improvements	0.43	Miles	$958130	$3349215	Penalty Funds (23 U.S.C. 154)	Urban	Principal Arterial-Interstate	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0861082 ,Project Description: -113893-Appalachian Trail Crossing (NEW)	Pedestrians and bicyclists	Pedestrians and bicyclists – other	1	Various	$36029	$36029	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	1	1	State Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9644188 ,Project Description: -115888-SYSTEMIC PEDESTRIAN CROSSINGS - DISTRICTWIDE (NEW)	Pedestrians and bicyclists	Install new crosswalk	1	Various	$1057774	$2998556	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9644216 ,Project Description: -116693-SYSTEMIC UNSIGNALIZED INTERSECTION TREATMENTS - DISTRICTWIDE (NEW)	Intersection traffic control	Systemic improvements – stop-controlled	1	Various	$1347981	$1347981	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0831058 ,Project Description: -117767-SAFTEY IMPROVEMENTS - RTE 615 RUSSELL CO (NEW)	Roadway signs and traffic control	Curve-related warning signs and flashers	4.8	Miles	$56417	$68103	HSIP (23 U.S.C. 148)	Rural	Major Collector	590	45	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:0921077 ,Project Description: -117768-SAFETY IMPROVEMENTS - ROUTE 16 - TAZEWELL CO. (NEW)	Roadway signs and traffic control	Curve-related warning signs and flashers	13.1	Miles	$30388	$63702	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,300	55	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0921078 ,Project Description: -117770-INSTALL GUARDRAIL UPGRADES - RTE 67 TAZEWELL CO (NEW)	Roadside	Barrier- metal	6.66	Miles	$327471	$654942	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,500	55	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0921079 ,Project Description: -117771-INSTALL GUARDRAIL UPGRADES - ROUTE 16 TAZWELL CO (NEW)	Roadside	Barrier- metal	13.1	Miles	$306211	$612422	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,300	55	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0831056 ,Project Description: -117772-INSTALL GUARDRAIL - ROUTE 82 RUSSELL CO (NEW)	Roadside	Barrier- metal	0	Miles	$47874	$95748	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,200	55	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0831057 ,Project Description: -117773-INSTALL GUARDRAIL - ROUTE 615 RUSSELL CO (NEW)	Roadside	Barrier- metal	4.8	Miles	$64543	$129086	HSIP (23 U.S.C. 148)	Rural	Major Collector	590	45	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0038167 ,Project Description: -122780-CONSTRUCT SHOULDER ON RTE 687 (NEW)	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	0.5	Miles	$78000	$78000	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	1,700	40	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:9633078 ,Project Description: -122795-VHSIP DISTRICTWIDE-ICWS & OVERHEAD LIGHTING (NEW)	Advanced technology and ITS	Intersection Conflict Warning System (ICWS)	1	Various	$405209	$782239	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	1	1	State Highway Agency	Systemic	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:0623154 ,Project Description: -122797-HSIP RTE 29 - SHOULDER WIDENING W/ EDGE RUMBLES & GUARDRAIL (NEW)	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	5.88	Miles	$5231777	$10696506	Penalty Funds (23 U.S.C. 154)	Rural	Principal Arterial-Other	16,000	60	State Highway Agency	Spot	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5111477 ,Project Description: -122883-HRRR - DISTRICTWIDE SAFETY IMPROVEMENTS (RURAL ROADS) (NEW)	Shoulder treatments	Widen shoulder – paved or other (includes add shoulder)	1	Various	$1560674	$6242696	HRRR Special Rule (23 U.S.C. 148(g)(1))	Urban	Major Collector	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9666134 ,Project Description: -122984-HRRR - DISTRICTWIDE SAFETY IMP - WARNING SIGNS/MARKINGS (NEW)	Roadway signs and traffic control	Roadway signs (including post) - new or updated	1	Various	$1814325	$7344788	HRRR Special Rule (23 U.S.C. 148(g)(1))	Urban	Major Collector	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:9644201 ,Project Description: -123086-HRRR SEGMENT IMPROVEMENTS (NEW)	Roadway signs and traffic control	Roadway signs (including post) - new or updated	0.43	Miles	$938400	$1876800	HSIP (23 U.S.C. 148)	Urban	Major Collector	1	1	State Highway Agency	Systemic	Roadway Departure	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.
FedID:5128495 ,Project Description: -97171-#HB2.FY17 WRRG Phase 1, Kingsmill Drive to New Trailhead (NEW)	Pedestrians and bicyclists	Pedestrians and bicyclists – other	0.52	Miles	$630149	$18281414	Penalty Funds (23 U.S.C. 154)	Urban	Minor Collector	5,800	30	City or Municipal Highway Agency	Spot	Pedestrians	Implement road improvements that ensure human mistakes and vulnerabilities do not result in

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/ AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED OR SPEED RANGE	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
															serious injuries or fatalities.
FedID:5A04298 ,Project Description: -113750-Int. Imprv. upgrade traffic signal & ped facilities (NEW)	Intersection traffic control	Modify traffic signal – modernization/replacement	0.019999999999999 6	Miles	$883805	$1179816	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	7,100	30	City or Municipal Highway Agency	Spot	Intersections	Implement road improvements that ensure human mistakes and vulnerabilities do not result in serious injuries or fatalities.

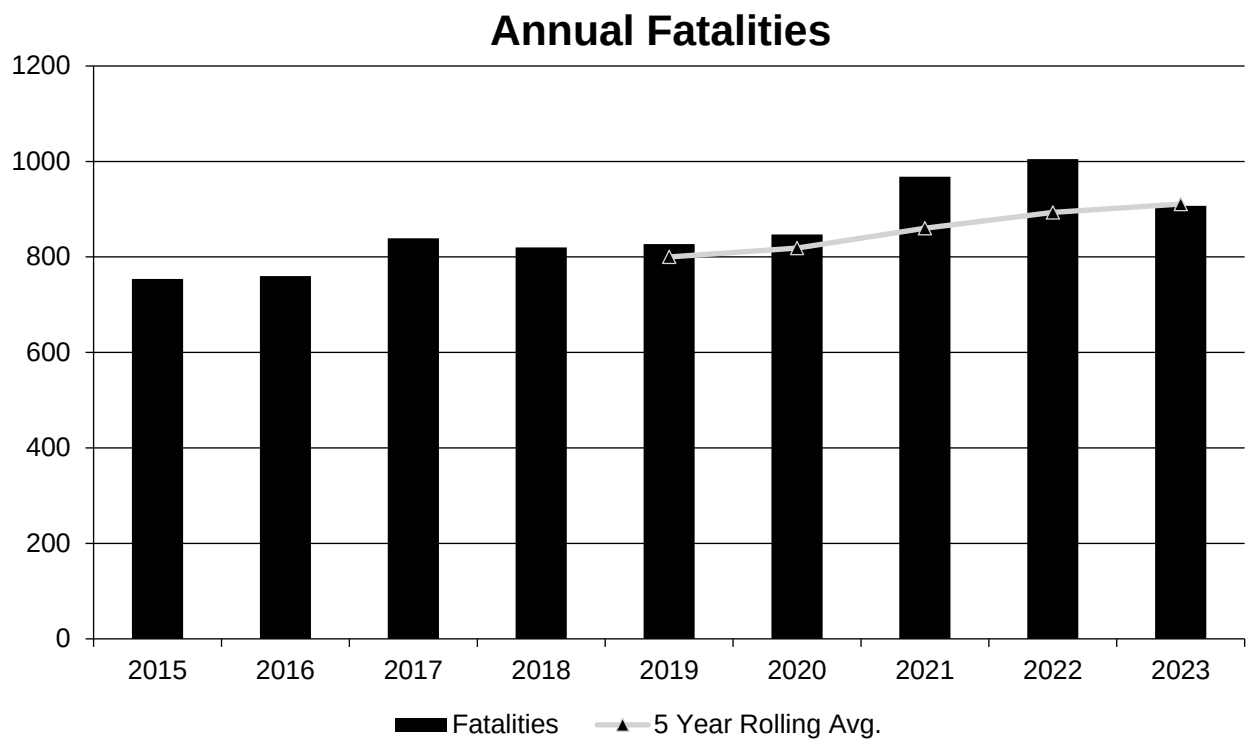
Please note that for the Infrastructure projects listed under this question, the dollar amounts represent construction costs only and does not include Preliminary Engineering or ROW costs. This results in the total amount being different from the amount entered in for Question #23. The project listing also includes non-infrastructure projects such as pre-scoping, RSAs, data analysis, network screening, and program support for HSIP/SHSP. The HSIP project cost column is the HSIP obligations for the reporting period so it is common for projects to be reported over multiple years (especially for phased projects)

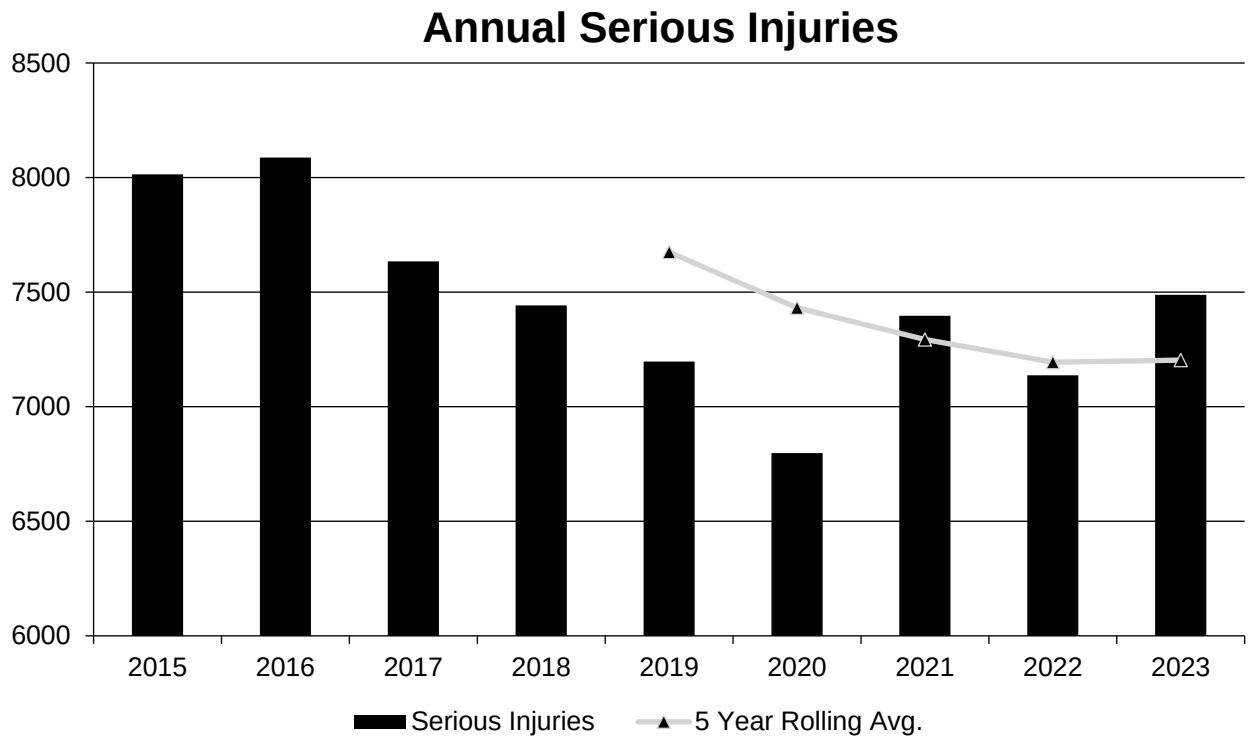
Safety Performance

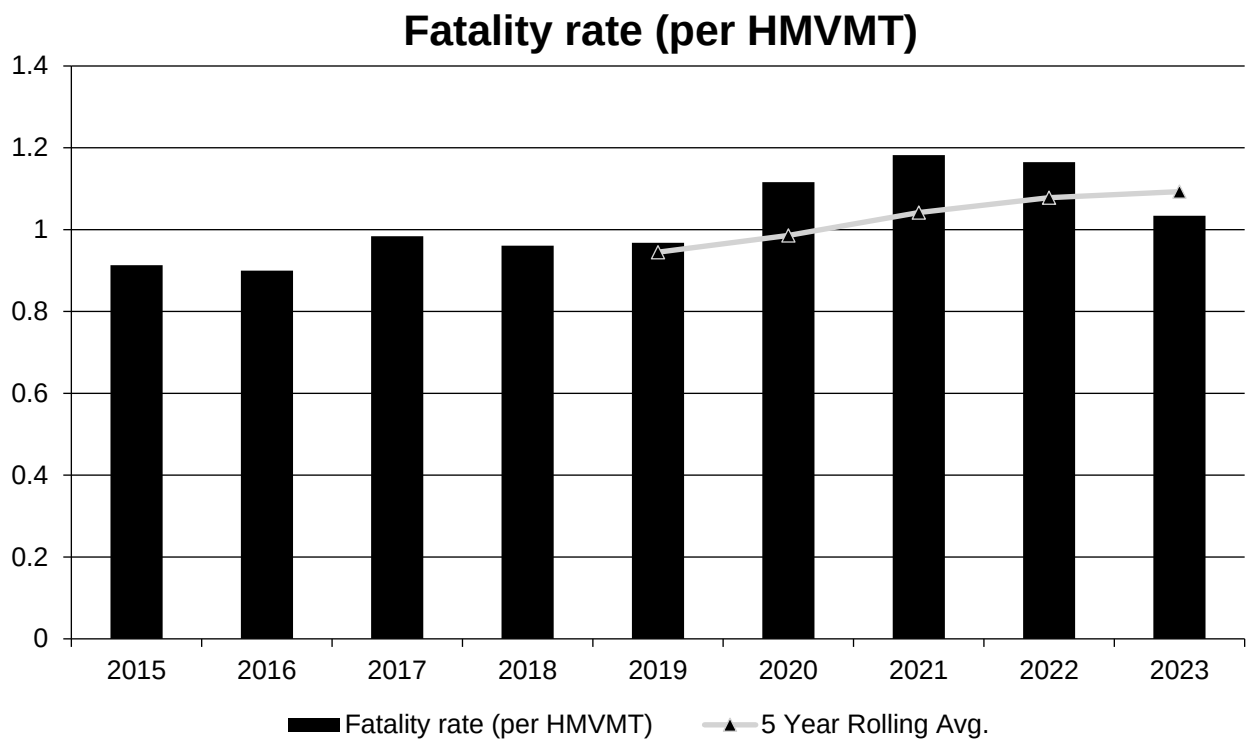
General Highway Safety Trends

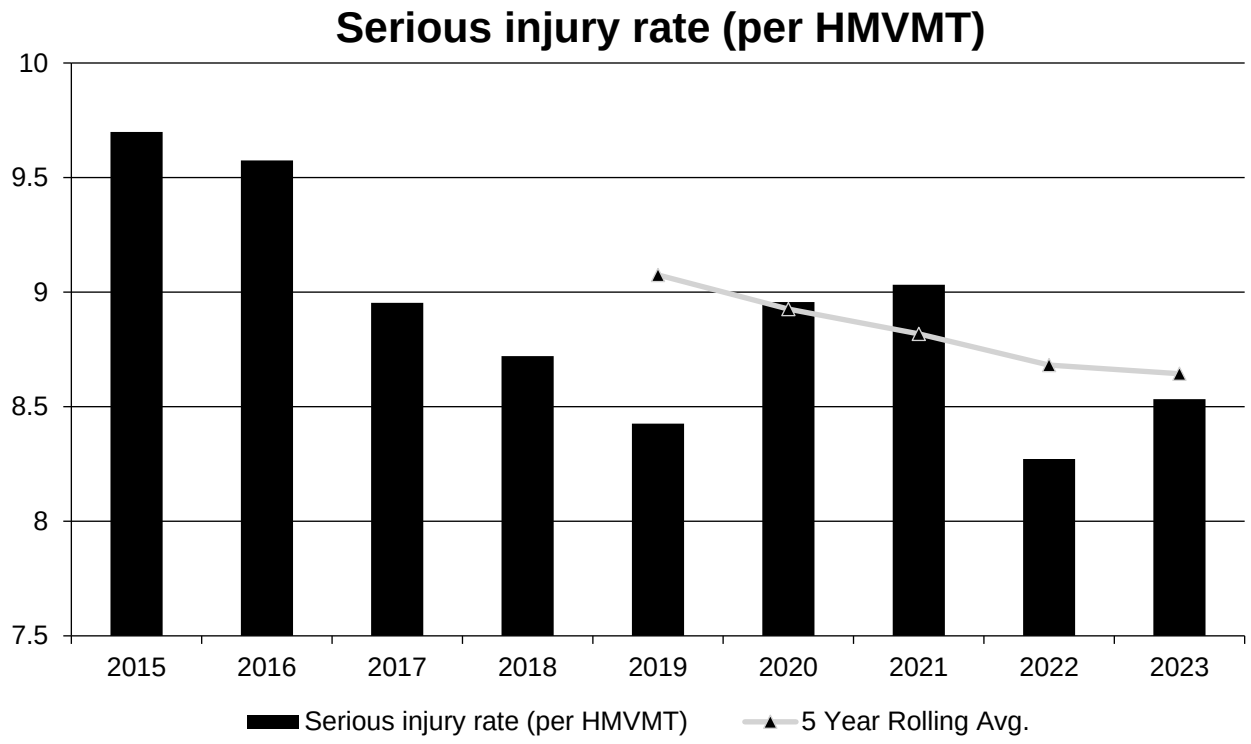
Present data showing the general highway safety trends in the State for the past five years.

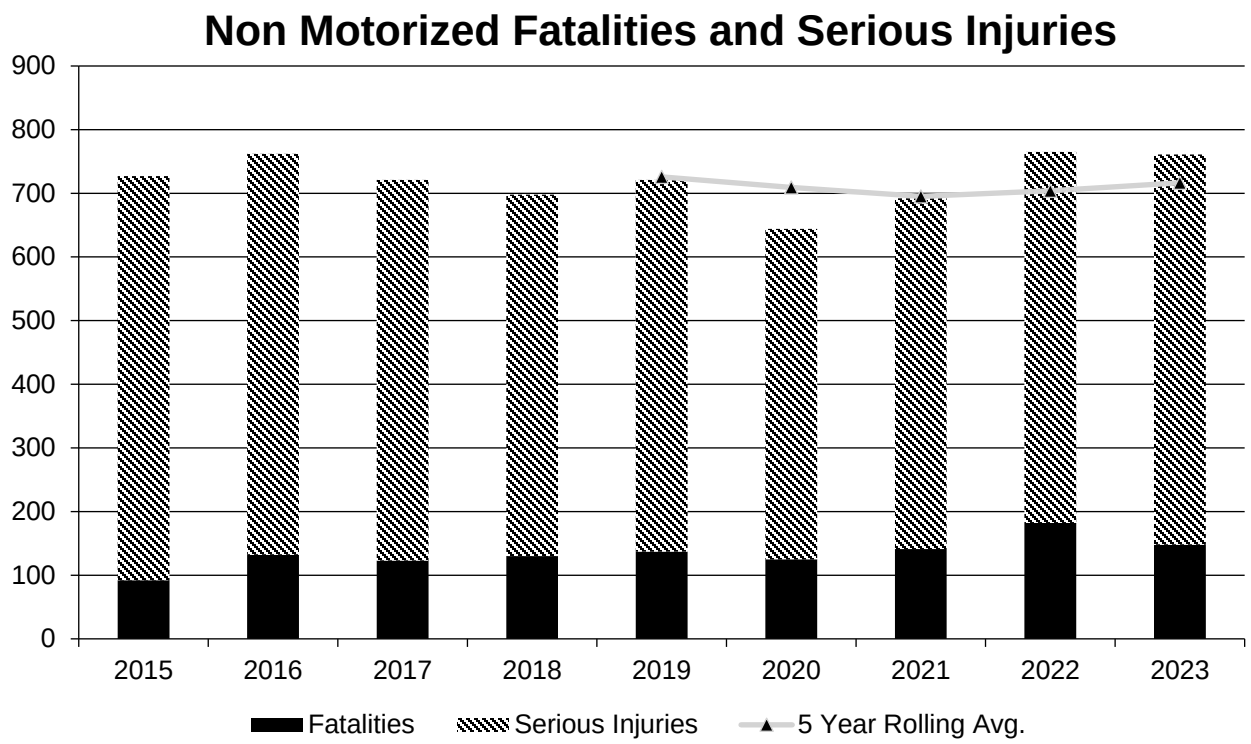
PERFORMANCE MEASURES	2015	2016	2017	2018	2019	2020	2021	2022	2023
Fatalities	754	760	839	820	827	847	968	1,005	907
Serious Injuries	8,014	8,087	7,634	7,442	7,197	6,798	7,397	7,137	7,488
Fatality rate (per HMVMT)	0.913	0.900	0.984	0.961	0.968	1.116	1.182	1.165	1.034
Serious injury rate (per HMVMT)	9.699	9.575	8.953	8.721	8.426	8.957	9.032	8.272	8.533
Number non-motorized fatalities	92	132	123	130	137	125	141	182	148
Number of non-motorized serious injuries	635	630	598	568	584	519	551	583	613


Annual Fatalities
1200
1000
800
600
400
200
0
2015
2016
2017
2018
2019
2020
2021
2022
2023
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
8500
8000
7500
7000
6500
6000
2015
2016
2017
2018
2019
2020
2021
2022
2023
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2015
2016
2017
2018
2019
2020
2021
2022
2023
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
10
9.5
9
8.5
8
7.5
2015
2016
2017
2018
2019
2020
2021
2022
2023
Serious injury rate (per HMVMT)
5 Year Rolling Avg.



Describe fatality data source.

FARS

To the maximum extent possible, present this data by functional classification and ownership.

Year 2023

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Principal Arterial (RPA) - Interstate	58.2	351	0.67	4.03
Rural Principal Arterial (RPA) - Other Freeways and Expressways				
Rural Principal Arterial (RPA) - Other	98.6	564.8	1.43	8.17
Rural Minor Arterial	109	622.8	1.96	11.08
Rural Minor Collector	21	166.4	1.57	13.16
Rural Major Collector	117.8	744	2.79	17.91
Rural Local Road or Street	54	384	1.73	12.33
Urban Principal Arterial (UPA) - Interstate	80.6	717.8	0.62	5.57
Urban Principal Arterial (UPA) - Other Freeways and Expressways	19.2	157.6	0.36	2.93
Urban Principal Arterial (UPA) - Other	136.6	1,197.4	1.27	11.38
Urban Minor Arterial	106.4	1,096.6	1.18	12.13
Urban Minor Collector	29.6	331.4	0.77	8.84
Urban Major Collector				
Urban Local Road or Street	24.2	310.6	0.4	5.09

Year 2023

Roadways	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
State Highway Agency	715.8	4,940	1.18	8.27
County Highway Agency	10.8	98.6	17.17	7.24
Town or Township Highway Agency	6.8	73.6	0.65	5.25
City or Municipal Highway Agency	144.2	1,650.4	1	14.52
State Park, Forest, or Reservation Agency			6.25	0.46
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency				
Private (Other than Railroad)				
Railroad				
State Toll Authority				
Local Toll Authority	0.8	3	0.53	2.48
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				
Other - Blank	30	428.8	0.34	3.85

Safety Performance Targets

Safety Performance Targets

Calendar Year 2025 Targets *

Number of Fatalities:913.8

Describe the basis for established target, including how it supports SHSP goals.

Five Year Rolling Average above is based on projected annual value of 862 fatalities in 2024 and 819 fatalities in 2025. These values were determined to meet the NHTSA CFR requirement of constant target (with 2023 five-year average) since VDOT safety measure prediction models did not provide values meeting the constant requirement. The five-year average 2025 target represents a decrease that began in 2023 and is anticipated into 2025. The continued reductions in fatalities remains uncertain, previous year numbers were increasing since 2014, but early 2024 is a good indication of further reductions towards pre-pandemic values. Additional information on the prediction method used and collaboration with the Virginia Governor's Highway Safety Office (GHSO) is described in Question 35. Without intense intervention to improve travel technology and safety culture, continuing the recent decline will be difficult. With the SHSP actions and goals gaining more support, with policy focus on safety, the reprioritization of VHSIP on more cost-effective systemic countermeasures, and new additional state funding of safety improvements further reduction in severe crash outcomes is expected.

Number of Serious Injuries:7200.4

Describe the basis for established target, including how it supports SHSP goals.

Five Year Rolling Average above is based on projected annual value of 7,151 Serious Injury (SI) in 2024 and 6,829 SI in 2025. These values were determined to meet the NHTSA CFR requirement of constant target (with 2023 five-year average) since VDOT safety measure prediction models did not provide values meeting the constant requirement. The model predicted annual values were level; however, the five-year averages were calculated to increase. The annual values have generally been declining since 2016, but have level fluctuations in recent years. These future year reductions are a 9 percent decline from 2023 that is similar to the trends from 2018 to 2020 with the pandemic. While the 5-year average targets represent a distinct leveling that began in 2021 after a long period of declines, the leveling is anticipated to continue into 2025. Additional information on the prediction method used and collaboration with the Virginia GHSO is described in Question 35. Without intense intervention to improve travel technology and safety culture, reversing the recent trends will be difficult. With the SHSP actions and goals gaining more support, with policy focus on safety, the reprioritization of VHSIP on more cost-effective systemic countermeasures, and new additional state funding of safety improvements further reduction in severe crash outcomes is expected.

Fatality Rate:1.048

Describe the basis for established target, including how it supports SHSP goals.

Five Year Rolling Average above, a slight decrease from 1.096 estimated for 2023, is based on projected annual value of 0.957 fatalities per HMVMT in 2024 and 0.894 fatalities per HMVMT in 2025, based on projected annual VMT growth of 2 percent per year from 2022. These values were determined to meet the NHTSA CFR requirement of constant target (with 2023 five-year average) since VDOT safety measure prediction models did not provide values meeting the constant or declining (in this case) requirement. The annual targets represent a decrease that began in 2023, after a rate increase from 2019, and is anticipated into

2025, particularly with the uncertainty of VMT growth after the pandemic. The five-year average rates are projected to level to 1.094 in 2024 and then decline to 1.048 in 2025. Additional information on the prediction method used and collaboration with the GHSO is described in Question 35. With the SHSP actions and goals gaining more support, with policy focus on safety, the reprioritization of VHSIP on more cost-effective systemic countermeasures, and new additional state funding of safety improvements further reduction in severe crash outcomes is expected.

Serious Injury Rate:8.242

Describe the basis for established target, including how it supports SHSP goals.

Five Year Rolling Average above is based on projected annual value of 7.942 fatalities per HMVMT in 2024 and 7.457 fatalities per HMVMT in 2025, declining from 8.506 estimated in 2023. These values were determined to meet the NHTSA CFR requirement of constant target (with 2023 five-year average) since VDOT safety measure prediction models did not provide values meeting the constant or declining (in this case) requirement. The three values are based on estimated 2 percent growth in VMT each year. The annual values began increasing in 2020 and 2021 after a long period of declines but are predicted to decline slightly again to 2025. The 5-year average targets represent a new period of declines with SI reductions, particularly with the uncertainty of VMT growth after the pandemic. Additional information on the prediction method used and collaboration with the GHSO is described in Question 35. With the SHSP actions and goals gaining more support, with policy focus on safety, the reprioritization of VHSIP on more cost-effective systemic countermeasures, and new additional state funding of safety improvements further reduction in severe crash outcomes is expected.

Total Number of Non-Motorized Fatalities and Serious Injuries:704.2

Describe the basis for established target, including how it supports SHSP goals.

Five Year Rolling Average above is based on predicted annual value of 687 and then 619 non-motorized fatalities and serious injuries in 2024 and 2025, respectively, after a slight decrease to 761 in 2023. These values were determined to meet the NHTSA CFR requirement of constant target (with 2023 five-year average) since VDOT safety measure prediction models did not provide values meeting the constant requirement. The annual and 5-year averages were declining until 2021 but have been increasing since then. Additional information on the prediction method used and collaboration with the GHSO are described in Question 35. Pedestrian fatalities declined by almost 40 in 2023, while SI increased by almost the same amount, resulting in a slight decrease in the non-motorized measure. With the prediction model indicating a slight decline until 2025, reducing our non-motorized deaths and SI will provide an important part of the SHSP mission and objectives. Support of SHSP (and VRUSA) non-motorized safety actions identified for additional funding of infrastructure improvements and education initiatives within VDOT and across our safety partner organizations will lead us towards these targets (objectives).

Describe efforts to coordinate with other stakeholders (e.g. MPOs, SHSO) to establish safety performance targets.

During the 2019 safety target setting coordination with Virginia’s GHSO (at DMV) and then new Commonwealth Transportation Board (CTB) approval process, the Board requested that VDOT investigate a more robust and data-driven methodology than using previous measure data trend (projection) lines or optimistic targets based on the SHSP.

VDOT HSIP staff investigated best practices (e.g., NCHRP 17-67) and prepared a work plan to develop a log-linear regression model to obtain baseline count predictions of future year safety count measures and then adjust the baseline by assessing the expected benefits (crash modifications) of transportation projects to be

completed the years prior. The new method was tested for setting 2019 targets, as a comparison, but first utilized for the 2020 safety targets. The rate measures would then be determined based on VMT forecasts used in the count measure prediction model. Multiple social, economic, population, infrastructure and behavioral program spending and Vehicle-Miles Traveled (VMT) factors were tested each year for significance in predicting the count measures.

VDOT began coordination with the Virginia Department of Motor Vehicles (DMV) State Highway Safety Offices (SHSO) early in the process to obtain their vehicle and license data and input on predictions since the first 2020 target setting using this method. Several years of SHSO grant program spending was obtained to determine if crash modifications could be determined at the jurisdictional level for each program or in aggregate. Strong correlation between program spending and measure rates could not be produced, but a downward trend in rates was observed with increased spending for several programs. A Transportation Research Board published paper (https://journals.sagepub.com/eprint/HY7SGYAVUKKNGAA6G4TD/full) explains the methodology first used for target setting model development. In the past five years there have been refinements of the inputs and the model validation methods.

Starting with model development as significant factors for 2024 predictions the fatality, serious injury models added % monthly unemployment to the regression models. Roadway maintenance spending was laso included in the fatality model. To follow the previous baseline predictions plus the reductions from SMART SCALE (capital improvement) and HSIP projects, for 2025, rather than assess each project to be completed in 2024 and early 2025, annual average reduction from previous year project assessments were used. These annualized project benefits were then subtracted from the baseline predictions to determine the final 2025 targets. The 2025 annual targets were then used, with the 2024 interim year targets using the same methods, to determine the 5-year average targets as entered in Question #34.

The baseline target models were developed using VDOT district and monthly aggregated data where available. This construct, combined with the consideration of programmed projects completed, includes the local and regional agency priorities for capital and behavioral program spending. The models could be used to test different spending scenarios. As such, the jurisdictional and regional mobility and safety initiatives are directly incorporated into the target setting methodology.

Since the predicted annual count measures and calculated rates did not meet the objective of submitting constant or declining values from 2023 estimates, through coordination with the SHSO, the annual values to calculate constant five-year targets were developed. The three calculated count measures were less than 2023 values necessary for constant 2025 five-year values. The resultant rate five-year averages decline based on lower counts and higher VMT.

Since 2017, VDOT continues to hold quarterly Metropolitan Planning Organization (MPO) coordination meetings to include all FHWA (and optional FTA) performance measures and target setting. These meetings provide the MPO safety target setting resources each year after the statewide targets are set and reported. An Excel workbook with regional safety measures and VMT data showing linear predictions is provided. This updated data and prediction tool has been provided since setting their 2018 MPO targets. A SharePoint site was developed and introduced for obtaining the workbook and submitting the targets. The workbook update required refining the Fatality Analysis Reporting System (FARS) geospatial data with Virginia fatality data to provide fatalities that occurred in Virginia for the multi-state MPOs. VDOT also provided a submittal letter template for MPOs to indicate if they will support the State or choose their own targets. All MPOs submittals have been received since the 2018 target setting. Three (of 15) of the larger MPOs have decided to set at least one independent targets from the State percent reductions. Updates and outreach for MPO 2025 target setting will occur in September or October 2024.

Does the State want to report additional optional targets?

No

Describe progress toward meeting the State's 2023 Safety Performance Targets (based on data available at the time of reporting). For each target, include a discussion of any reasons for differences in the actual outcomes and targets.

PERFORMANCE MEASURES	TARGETS	ACTUALS
Number of Fatalities	926.4	910.8
Number of Serious Injuries	7211.8	7203.4
Fatality Rate	1.134	1.093
Serious Injury Rate	8.822	8.644
Non-Motorized Fatalities and Serious Injuries	663.2	716.6

The above 2023 five-year average safety targets were the third year that the above (Question 35) prediction model and project benefit methods were used. The ACTUALS values in the above table are based on Virginia safety measure counts and VMT estimates available in July 2024 (HPMS 2024 VMT is not available at the time of this report).

Three measure targets (Number of Fatalities, Fatality Rate, and Number of Serious Injuries) are expected to meet the target set for 2023. Two measure targets (Serious Injury Rate and Non-Motorized Fatalities and Serious Injuries) submitted are anticipated to be exceeded (not met) based on the available 2023 data. The upward trend in fatalities observed in 2021 and 2022 began to slow in 2023, leading to a decrease in fatality rates as well. Serious injuries (SI) were predicted to continue to increase slightly resulting in the same for the 2023 five-year average targets. However, actual SI increases were larger with a rebound after the pandemic.. Increases in pedestrian fatalities and SI also outpaced predictions so the associated non-motorized target is expected to also not be met.

At the request of the CTB, Virginia's VHSIP and Highway Safety Plans (HSP) project plans were reviewed in 2023 to focus on critical emphasis areas. New and additional funding of systemic safety infrastructure improvements are being programmed, adding in local jurisdictions, with some spot projects on the VDOT maintained network. In addition to NHTSA HSP behavioral programs, additional Virginia state funds are being focused on speeding, occupant protection and non-motorized campaigns.

Applicability of Special Rules

Does the HRRR special rule apply to the State for this reporting period?

No

Virginia's fatality rate on rural roads has not increased over the most recent two-year period, and therefore, VDOT is not required to obligate a specified amount of funds towards HRRR eligible routes. The HRRR Special Rule does not apply in VA for this fiscal year.

Does the VRU Safety Special Rule apply to the State for this reporting period?

Yes

All of the funding obligations will occur in State FY 25 (July 1, 2024 to Sept 30 2024). This coincides with the end of the Federal Fiscal Year. VDOT obligated more than 15% of HSIP funds on VRU projects.

Provide the number of older driver and pedestrian fatalities and serious injuries 65 years of age and older for the past seven years.

PERFORMANCE MEASURES	2017	2018	2019	2020	2021	2022	2023
Number of Older Driver and Pedestrian Fatalities	224	193	231	196	263	264	236
Number of Older Driver and Pedestrian Serious Injuries	1,337	1,347	1,398	1,187	1,358	1,374	1,467

The rate of traffic fatalities and rate of serious injuries for drivers and pedestrians 65 years of age and older have not increased during the most recent 2-year period (two time periods of 5-year rolling average rates of fatalities and serious injuries using a 2-year spread), and therefore, the Older Drivers and Pedestrians Special Rule does not apply in VA for this fiscal year.

In the 2024 Annual Report, VHSIP's definition for Older Driver has been changed to include drivers 65 years and older (previously 66 years and older). Additionally, the table has been updated to represent total fatalities and injuries rather than total crashes involving fatalities and injuries.

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Benefit/Cost Ratio
- Change in fatalities and serious injuries
- Lives saved

Based on the measures of effectiveness selected previously, describe the results of the State's program level evaluations.

VDOT is programming more systemic safety projects and is in interested in understanding the effectiveness of these projects. In 2018, VDOT began an effort to evaluate all HSIP-funded systemic improvement projects. Because systemic projects are usually deployed in several locations over one or multiple jurisdictions, it has proven to be difficult to gather accurate data or perform analysis on the overall effectiveness of these systemic improvement projects. As a result of the challenges encountered in previous evaluation efforts, VDOT established a project tracking tool designed to track newly implemented or planned HSIP-funded systemic projects. VDOT coordinates with all nine districts through monthly ‘office hours’, and VDOT districts provide updates to the systemic tracking inventory on a quarterly basis. These updates are the published to VDOT’s Open Data portal.

Systemic projects completed between 2018-2019 were evaluated using a simple before and after crash analysis. The results were inconclusive due to missing information on treatment sites. Based on the limitations of this evaluation, VDOT has created a robust tracking database of specific systemic treatment locations and installation dates. Once enough “post installation” time has passed, VDOT plans on using this new database to conduct a more extensive effectiveness analysis of the systemic improvements.

What other indicators of success does the State use to demonstrate effectiveness and success of the Highway Safety Improvement Program?

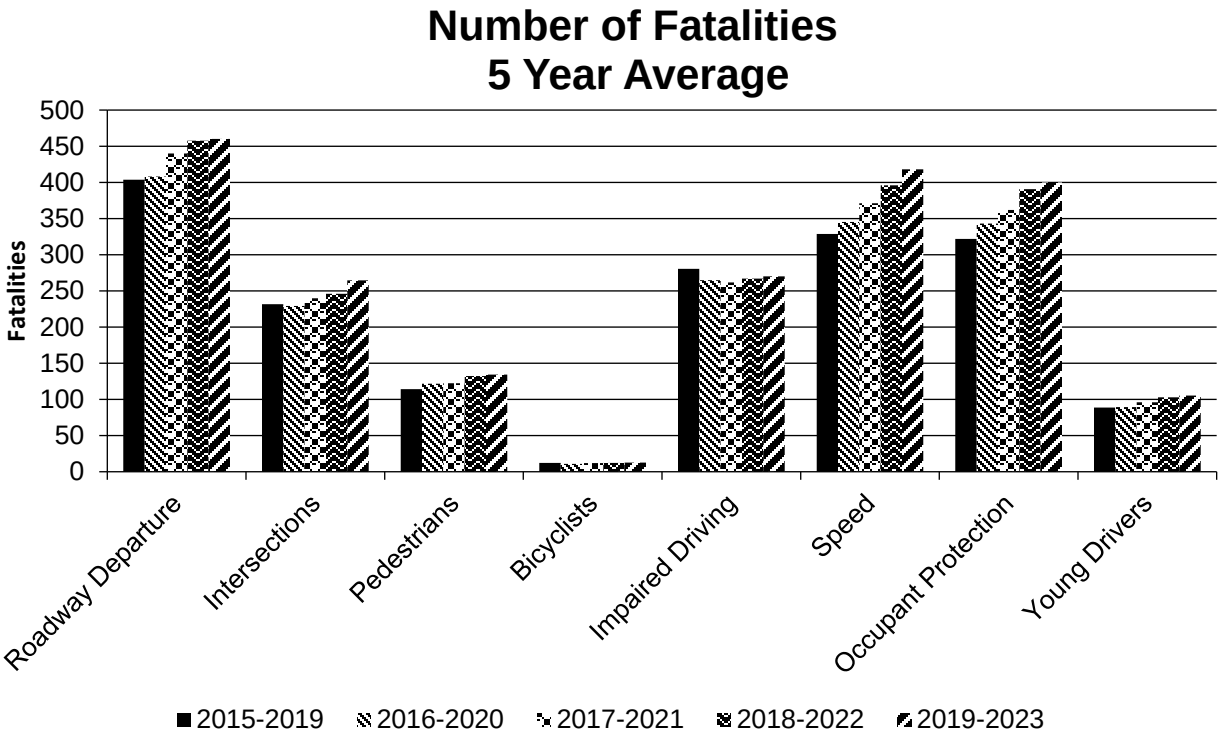
- # miles improved by HSIP
- HSIP Obligations
- More systemic programs

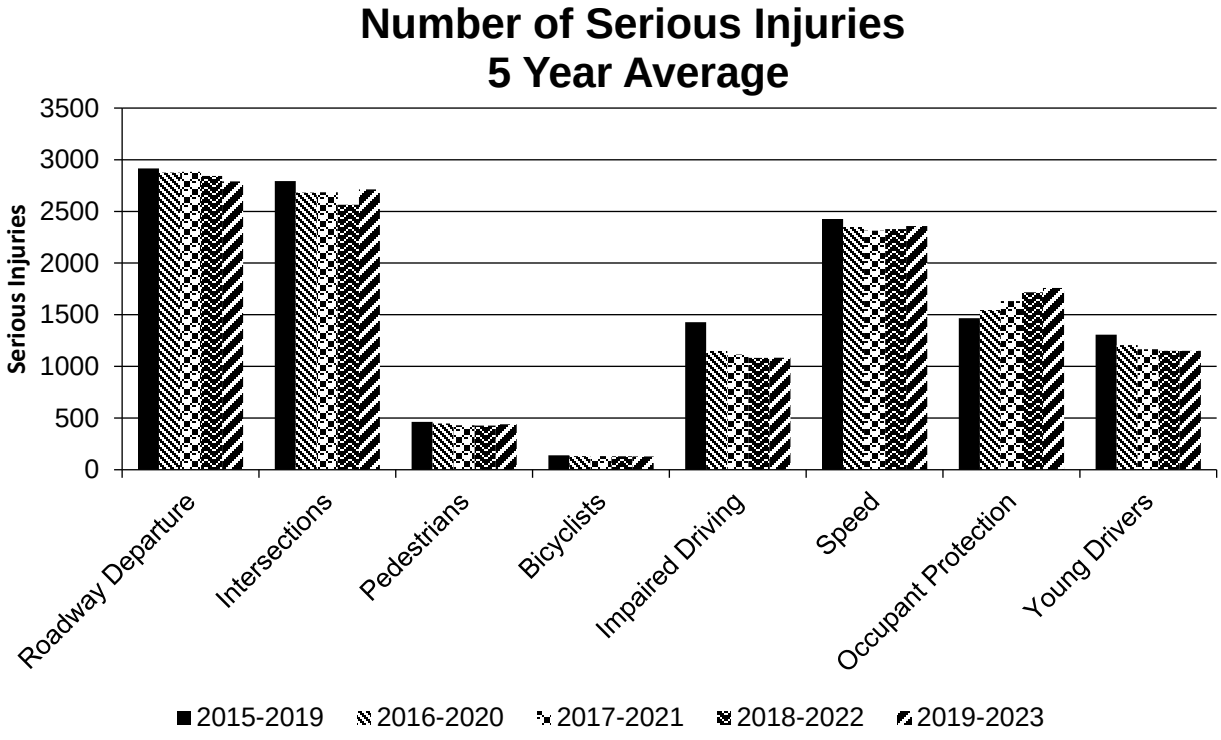
Effectiveness of Groupings or Similar Types of Improvements

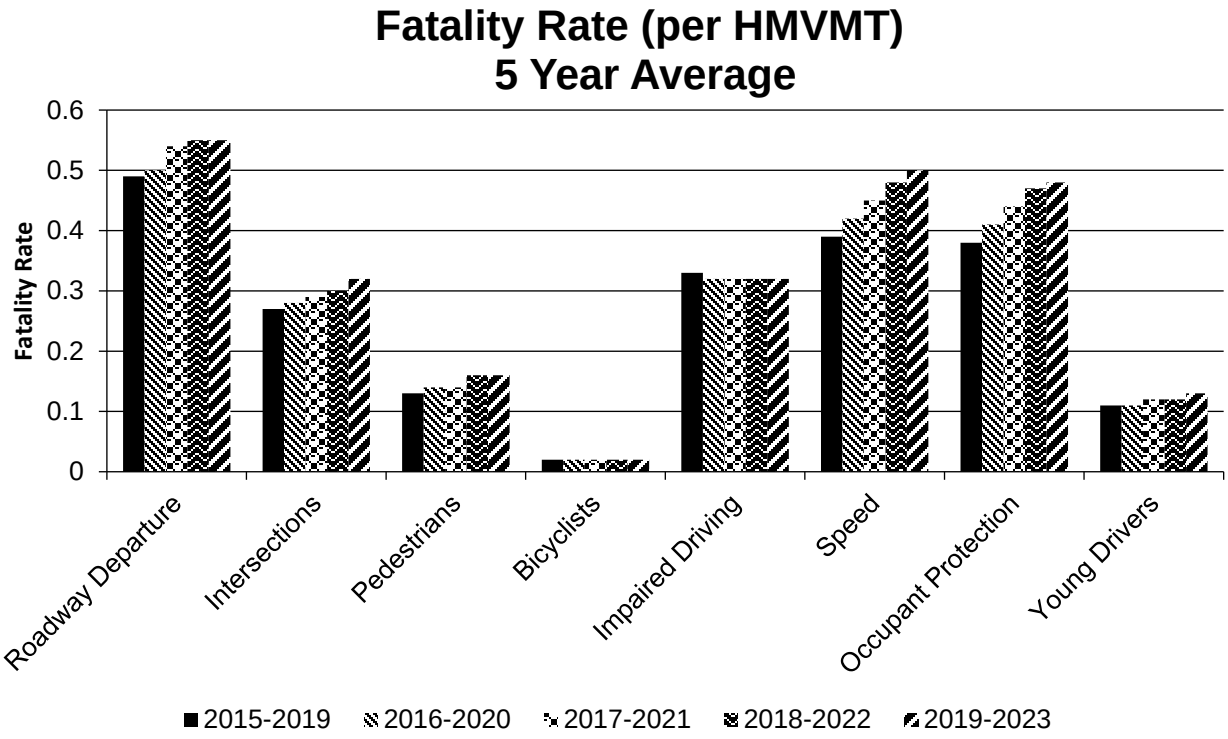
Present and describe trends in SHSP emphasis area performance measures.

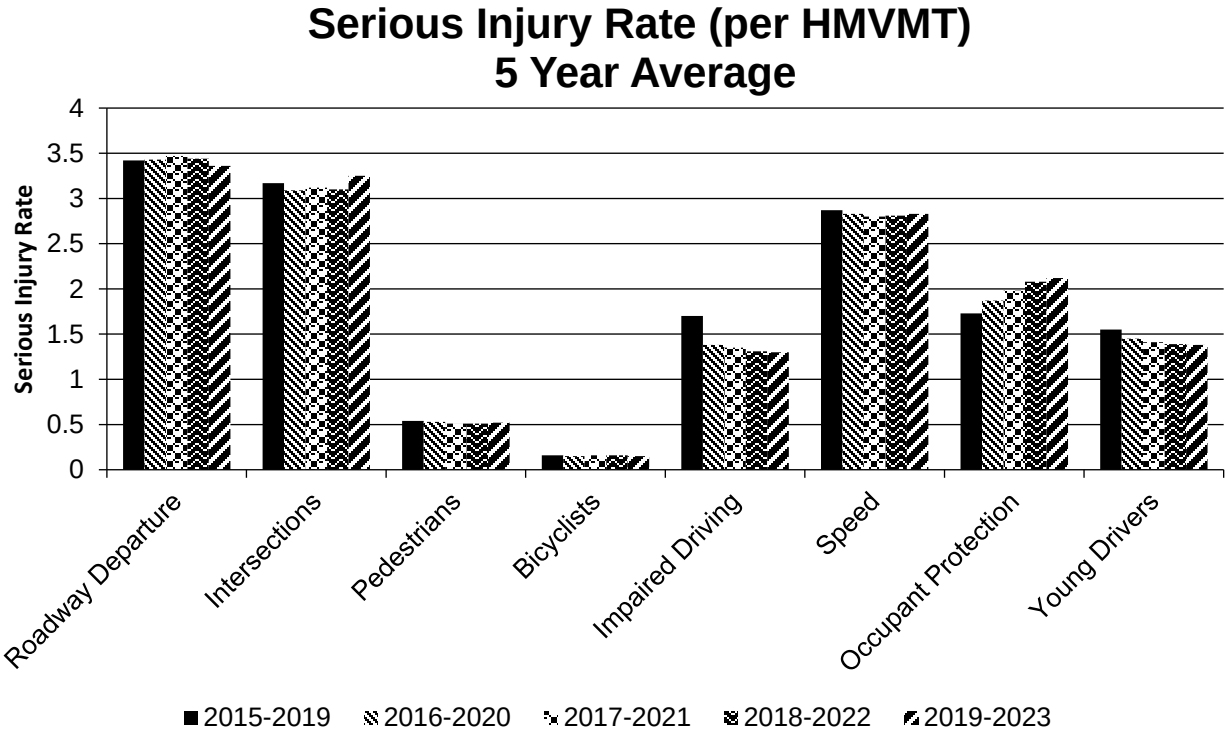
Year 2023

SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Roadway Departure		460	2,790.2	0.55	3.36
Intersections		264.6	2,712.6	0.32	3.25
Pedestrians		134.4	440	0.16	0.52
Bicyclists		12.6	128.6	0.02	0.15
Impaired Driving		270	1,083.6	0.32	1.3
Speed		418	2,358.2	0.5	2.83
Occupant Protection		400	1,758.4	0.48	2.12
Young Drivers		105.4	1,150.8	0.13	1.38


Number of Fatalities
5 Year Average
Fatalities
500
450
400
350
300
250
200
150
100
50
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Impaired Driving
Speed
Occupant Protection
Young Drivers
2015-2019
2016-2020
2017-2021
2018-2022
2019-2023


Number of Serious Injuries
5 Year Average
Serious Injuries
3500
3000
2500
2000
1500
1000
500
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Impaired Driving
Speed
Occupant Protection
Young Drivers
2015-2019
2016-2020
2017-2021
2018-2022
2019-2023


Fatality Rate (per HMVMT)
5 Year Average
Fatality Rate
0.6
0.5
0.4
0.3
0.2
0.1
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Impaired Driving
Speed
Occupant Protection
Young Drivers
2015-2019
2016-2020
2017-2021
2018-2022
2019-2023


Serious Injury Rate (per HMVMT)
5 Year Average
Serious Injury Rate
4
3.5
3
2.5
2
1.5
1
0.5
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Impaired Driving
Speed
Occupant Protection
Young Drivers
2015-2019
2016-2020
2017-2021
2018-2022
2019-2023

Project Effectiveness

Provide the following information for previously implemented projects that the State evaluated this reporting period.

LOCATION	FUNCTIONAL CLASS	IMPROVEMENT CATEGORY	IMPROVEMENT TYPE	PDO BEFORE	PDO AFTER	FATALITY BEFORE	FATALITY AFTER	SERIOUS INJURY BEFORE	SERIOUS INJURY AFTER	ALL OTHER INJURY BEFORE	ALL OTHER INJURY AFTER	TOTAL BEFORE	TOTAL AFTER	EVALUATION RESULTS (BENEFIT/COST RATIO)
108793	Other Principal Arterial	Intersection traffic control		30.00	22.00				2.00	43.00	33.00	73.00	57.00	
108796	Other Principal Arterial	Pedestrians and bicyclists				3.00	1.00	6.00	8.00	18.00	16.00	27.00	25.00	
13558	Interstate	Interchange design		2.00	8.00						2.00	2.00	10.00	
77384	Other Principal Arterial	Interchange design		5.00	2.00							5.00	2.00	
96938	Major Collector	Intersection geometry		4.00	1.00					4.00		8.00	1.00	
104189	Minor Arterial	Roadway		4.00								4.00		
104661	Other Principal Arterial	Intersection traffic control		113.00	68.00		3.00	11.00	5.00	40.00	16.00	164.00	92.00	
106485	Minor Arterial	Shoulder treatments		1220.00	1152.00	2.00	6.00	80.00	58.00	556.00	448.00	1858.00	1664.00	
107020	Freeway and Expressway	Shoulder treatments		22.00	17.00			3.00	3.00	10.00	6.00	35.00	26.00	
107021	Major Collector	Shoulder treatments		2.00					1.00	2.00	1.00	4.00	2.00	
107034	Minor Arterial	Intersection traffic control		101.00	270.00		2.00	11.00	14.00	65.00	148.00	177.00	434.00	
107041	Other Principal Arterial	Roadway												
107045	Minor Arterial	Roadway signs and traffic control		7.00	6.00				1.00	1.00	1.00	8.00	8.00	
107073	Other Principal Arterial	Shoulder treatments		15.00	15.00			7.00	2.00	7.00	13.00	29.00	30.00	
107074	Other Principal Arterial	Shoulder treatments		5.00	4.00			2.00		2.00	3.00	9.00	7.00	
107097	Minor Arterial	Intersection traffic control		177.00	239.00		9.00	19.00	32.00	93.00	115.00	289.00	395.00	

LOCATION	FUNCTIONAL CLASS	IMPROVEMENT CATEGORY	IMPROVEMENT TYPE	PDO BEFORE	PDO AFTER	FATALITY BEFORE	FATALITY AFTER	SERIOUS INJURY BEFORE	SERIOUS INJURY AFTER	ALL OTHER INJURY BEFORE	ALL OTHER INJURY AFTER	TOTAL BEFORE	TOTAL AFTER	EVALUATION RESULTS (BENEFIT/COST RATIO)
107121	Major Collector	Roadway delineation		94.00	88.00	5.00	5.00	16.00	24.00	55.00	45.00	170.00	162.00	
107796	Interstate	Roadway		80.00	54.00				1.00	27.00	20.00	107.00	75.00	
108004	Interstate	Roadway		22.00	26.00		1.00	1.00		8.00	8.00	31.00	35.00	
108005	Interstate	Roadway		5.00	5.00					5.00	1.00	10.00	6.00	
108165	Minor Collector	Pedestrians and bicyclists												
108790	Freeway and Expressway	Shoulder treatments			6.00					1.00		1.00	6.00	
108888	Other Principal Arterial	Access management		3.00	3.00							3.00	3.00	
108896	Minor Arterial	Pedestrians and bicyclists		7.00	1.00			1.00				8.00	1.00	
109261	Interstate	Advanced technology and ITS		439.00	523.00	4.00	8.00	36.00	43.00	165.00	180.00	644.00	754.00	
109507	Major Collector	Pedestrians and bicyclists									1.00		1.00	
109513	Minor Arterial	Shoulder treatments		10.00	21.00		3.00	4.00	5.00	7.00	4.00	21.00	33.00	
109571	Other Principal Arterial	Pedestrians and bicyclists						4.00	7.00	5.00	3.00	9.00	10.00	
109579	Other Principal Arterial	Access management		6.00	7.00			2.00	2.00	4.00	1.00	12.00	10.00	
109580	Other Principal Arterial	Shoulder treatments		13.00	13.00			1.00	2.00	7.00	2.00	21.00	17.00	
109588	Major Collector	Intersection geometry		9.00				4.00		4.00		17.00		
109591	Major Collector	Intersection traffic control		18.00	6.00				2.00	13.00	1.00	31.00	9.00	
109920	Interstate	Shoulder treatments		29.00	57.00	1.00	1.00	3.00	4.00	13.00	11.00	46.00	73.00	
109921	Minor Arterial	Shoulder treatments		4.00	4.00	1.00					1.00	5.00	5.00	
109922	Minor Arterial	Shoulder treatments												

LOCATION	FUNCTIONAL CLASS	IMPROVEMENT CATEGORY	IMPROVEMENT TYPE	PDO BEFORE	PDO AFTER	FATALITY BEFORE	FATALITY AFTER	SERIOUS INJURY BEFORE	SERIOUS INJURY AFTER	ALL OTHER INJURY BEFORE	ALL OTHER INJURY AFTER	TOTAL BEFORE	TOTAL AFTER	EVALUATION RESULTS (BENEFIT/COST RATIO)
109924	Minor Arterial	Shoulder treatments		24.00	19.00			3.00	2.00	7.00	5.00	34.00	26.00	
111026	Other Principal Arterial	Advanced technology and ITS		5.00	5.00					3.00	7.00	8.00	12.00	
111360	Other Principal Arterial	Pedestrians and bicyclists							1.00	1.00		1.00	1.00	
111426	Shared Use Path	Pedestrians and bicyclists												
112104	Other Principal Arterial	Roadway delineation		103.00	110.00	1.00	2.00	23.00	38.00	44.00	72.00	171.00	222.00	
112468	Minor Arterial	Intersection traffic control		3.00	1.00					8.00		11.00	1.00	
112472	Minor Arterial	Intersection traffic control		13.00	5.00					8.00	2.00	21.00	7.00	
112480	Urban Principal Arterial (UPA) - Other	Intersection traffic control		16.00	8.00			1.00		5.00	6.00	22.00	14.00	
112489	Major Collector	Intersection traffic control		4.00	1.00			1.00		1.00		6.00	1.00	
112709	Minor Collector	Shoulder treatments												
112893	Major Collector	Roadway signs and traffic control												
113435	Major Collector	Intersection traffic control		8.00	2.00					10.00	1.00	18.00	3.00	
113572	Other Principal Arterial	Shoulder treatments		4.00	2.00					2.00		6.00	2.00	
113847	Interstate	Shoulder treatments		11.00	1.00			1.00		2.00	1.00	14.00	2.00	
113920	Minor Arterial	Intersection traffic control		1.00						4.00	2.00	5.00	2.00	
114093	Other Principal Arterial	Shoulder treatments		27.00	23.00			3.00	5.00	7.00	9.00	37.00	37.00	
114094	Other Principal Arterial	Shoulder treatments		12.00	6.00			3.00		2.00	1.00	17.00	7.00	

LOCATION	FUNCTIONAL CLASS	IMPROVEMENT CATEGORY	IMPROVEMENT TYPE	PDO BEFORE	PDO AFTER	FATALITY BEFORE	FATALITY AFTER	SERIOUS INJURY BEFORE	SERIOUS INJURY AFTER	ALL OTHER INJURY BEFORE	ALL OTHER INJURY AFTER	TOTAL BEFORE	TOTAL AFTER	EVALUATION RESULTS (BENEFIT/COST RATIO)
114326	Major Collector	Intersection traffic control		9.00	2.00					2.00		11.00	2.00	
114638	Minor Arterial	Intersection traffic control		3.00	5.00			3.00		3.00	7.00	9.00	12.00	
114651	Minor Arterial	Pedestrians and bicyclists								1.00		1.00		
114652	Minor Arterial	Pedestrians and bicyclists												
114666	Other Principal Arterial	Pedestrians and bicyclists				1.00		1.00			2.00	2.00	2.00	
114671	Minor Arterial	Pedestrians and bicyclists									1.00		1.00	
114672	Other Principal Arterial	Pedestrians and bicyclists												
114718	Other Principal Arterial	Pedestrians and bicyclists												
114719	Minor Arterial	Pedestrians and bicyclists												
114721	Other Principal Arterial	Pedestrians and bicyclists							1.00	1.00	3.00	1.00	4.00	
114729	Minor Arterial	Pedestrians and bicyclists												
114732	Other Principal Arterial	Pedestrians and bicyclists												
114734	Minor Arterial	Pedestrians and bicyclists				1.00						1.00		
114737	Minor Arterial	Pedestrians and bicyclists												
114766	Minor Arterial	Pedestrians and bicyclists									1.00		1.00	
114859	Other Principal Arterial	Roadway		7.00	4.00		2.00	4.00	4.00	20.00	8.00	31.00	18.00	
115757	Interstate	Roadway signs and traffic control		45.00	59.00	2.00		11.00	7.00	23.00	19.00	81.00	85.00	
115912	Other Principal Arterial	Pedestrians and bicyclists				1.00					2.00	1.00	2.00	

LOCATION	FUNCTIONAL CLASS	IMPROVEMENT CATEGORY	IMPROVEMENT TYPE	PDO BEFORE	PDO AFTER	FATALITY BEFORE	FATALITY AFTER	SERIOUS INJURY BEFORE	SERIOUS INJURY AFTER	ALL OTHER INJURY BEFORE	ALL OTHER INJURY AFTER	TOTAL BEFORE	TOTAL AFTER	EVALUATION RESULTS (BENEFIT/COST RATIO)
115919	Other Principal Arterial	Roadway signs and traffic control		238.00	235.00	1.00	1.00	16.00	10.00	200.00	186.00	455.00	432.00	
115920	Other Principal Arterial	Intersection traffic control		17.00	18.00				2.00	14.00	16.00	31.00	36.00	
116484	Major Collector	Roadway signs and traffic control		649.00	605.00	1.00	4.00	33.00	31.00	235.00	190.00	918.00	830.00	
116606	Other Principal Arterial	Roadway signs and traffic control		1126.00	970.00	5.00	6.00	33.00	30.00	535.00	385.00	1699.00	1391.00	
117387	Other Principal Arterial	Roadway signs and traffic control		182.00	240.00	1.00	2.00	12.00	10.00	146.00	107.00	341.00	359.00	
117388	Other Principal Arterial	Intersection traffic control		3.00	4.00			1.00	1.00	2.00	2.00	6.00	7.00	
117453	Minor Arterial	Intersection traffic control		23.00	31.00			2.00	4.00	8.00	10.00	33.00	45.00	
117454	Minor Arterial	Roadway signs and traffic control		47.00	56.00			2.00	1.00	17.00	15.00	66.00	72.00	

Compliance Assessment

What date was the State's current SHSP approved by the Governor or designated State representative?

03/22/2023

What are the years being covered by the current SHSP?

From: 2022 To: 2026

When does the State anticipate completing its next SHSP update?

2026

The Virginia Strategic Highway Safety Plan (SHSP) was updated in 2022 and has been approved. To read the Virginia 2022-2026 Strategic Highway Safety Plan, please visit: Strategic Highway Safety Plan | Virginia Department of Transportation https://www.virginiadot.org/info/resources/SHSP/FR1_VA_SHSP_2022_acc061622.pdf

Provide the current status (percent complete) of MIRE fundamental data elements collection efforts using the table below.

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
ROADWAY SEGMENT	Segment Identifier (12) [12]	100	100					100	100	100	100
	Route Number (8) [8]	100	100								
	Route/Street Name (9) [9]	100	100								
	Federal Aid/Route Type (21) [21]	100	99								
	Rural/Urban Designation (20) [20]	100	100					100	100		
	Surface Type (23) [24]	100	97					100	6		
	Begin Point Segment Descriptor (10) [10]	100	100					100	100	100	100
	End Point Segment Descriptor (11) [11]	100	100					100	100	100	100
	Segment Length (13) [13]	100	100								
	Direction of Inventory (18) [18]	100	100								

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Functional Class (19) [19]	100	100					100	100	100	100
	Median Type (54) [55]	96	93								
	Access Control (22) [23]	100	100								
	One/Two Way Operations (91) [93]	99	96								
	Number of Through Lanes (31) [32]	97	94					99	6		
	Average Annual Daily Traffic (79) [81]	98	97					94	4		
	AADT Year (80) [82]	98	97								
	Type of Governmental Ownership (4) [4]	100	100					100	100	100	100
INTERSECTION	Unique Junction Identifier (120) [110]			95	80						
	Location Identifier for Road 1 Crossing Point (122) [112]			95	80						
	Location Identifier for Road 2 Crossing Point (123) [113]			95	80						
	Intersection/Junction Geometry (126) [116]			95	80						
	Intersection/Junction Traffic Control (131) [131]			75	25						
	AADT for Each Intersecting Road (79) [81]			92	56						
	AADT Year (80) [82]			92	56						
	Unique Approach Identifier (139) [129]			100	100						
INTERCHANGE/RAMP	Unique Interchange Identifier (178) [168]					100	100				

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Location Identifier for Roadway at Beginning of Ramp Terminal (197) [187]					100	100				
	Location Identifier for Roadway at Ending Ramp Terminal (201) [191]					100	100				
	Ramp Length (187) [177]					100	100				
	Roadway Type at Beginning of Ramp Terminal (195) [185]					100	100				
	Roadway Type at End Ramp Terminal (199) [189]					100	100				
	Interchange Type (182) [172]					100	100				
	Ramp AADT (191) [181]					80	75				
	Year of Ramp AADT (192) [182]					80	75				
	Functional Class (19) [19]					100	100				
	Type of Governmental Ownership (4) [4]					100	100				
Totals (Average Percent Complete):		**99.33**	**98.50**	**92.38**	**69.63**	**96.36**	**95.45**	**99.22**	**68.44**	**100.00**	**100.00**

*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

Describe actions the State will take moving forward to meet the requirement to have complete access to the MIRE fundamental data elements on all public roads by September 30, 2026.

VDOT follows the 10-step VDOT MIRE FDE Implementation Plan to meet the requirement to have complete access to the MIRE Fundamental Data Elements (FDE) on all public roads. VDOT has completed steps 5 and 6 which include a detailed data collection plan and the cost estimate for collecting the remaining data, and has moved forward to step 7,8 and 9 to start the data collection based on available funding resources. This fiscal year, VDOT completed statewide Interchange and Ramp Inventory and related MIRE FDE data attributes. VDOT is in the process of completing statewide Intersection inventory and associated data elements. VDOT has also initiated a data procurement task to use mobile source AADT estimates for low-volume public roadways not covered by state and local traffic count programs. The responses to Question 49 have been updated based on recent data collection. As more funding sources have been identified, VDOT will continue to collect all remaining data needed to have complete access to the MIRE fundamental data elements on all public roads.

Optional Attachments

Program Structure:

VHSIP Reference Guide.pdf
Project Implementation:

Safety Performance:

Evaluation:

Compliance Assessment:

Glossary

5 year rolling average: means the average of five individuals, consecutive annual points of data (e.g. annual fatality rate).

Emphasis area: means a highway safety priority in a State's SHSP, identified through a data-driven, collaborative process.

Highway safety improvement project: means strategies, activities and projects on a public road that are consistent with a State strategic highway safety plan and corrects or improves a hazardous road location or feature or addresses a highway safety problem.

HMVMT: means hundred million vehicle miles traveled.

Non-infrastructure projects: are projects that do not result in construction. Examples of non-infrastructure projects include road safety audits, transportation safety planning activities, improvements in the collection and analysis of data, education and outreach, and enforcement activities.

Older driver special rule: applies if traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65 in a State increases during the most recent 2-year period for which data are available, as defined in the Older Driver and Pedestrian Special Rule Interim Guidance dated February 13, 2013.

Performance measure: means indicators that enable decision-makers and other stakeholders to monitor changes in system condition and performance against established visions, goals, and objectives.

Programmed funds: mean those funds that have been programmed in the Statewide Transportation Improvement Program (STIP) to be expended on highway safety improvement projects.

Roadway Functional Classification: means the process by which streets and highways are grouped into classes, or systems, according to the character of service they are intended to provide.

Strategic Highway Safety Plan (SHSP): means a comprehensive, multi-disciplinary plan, based on safety data developed by a State Department of Transportation in accordance with 23 U.S.C. 148.

Systematic: refers to an approach where an agency deploys countermeasures at all locations across a system.

Systemic safety improvement: means an improvement that is widely implemented based on high risk roadway features that are correlated with specific severe crash types.

Transfer: means, in accordance with provisions of 23 U.S.C. 126, a State may transfer from an apportionment under section 104(b) not to exceed 50 percent of the amount apportioned for the fiscal year to any other apportionment of the State under that section.