DISTRICT OF COLUMBIA

HIGHWAY SAFETY
IMPROVEMENT PROGRAM
2021 ANNUAL REPORT

HSIP

U.S. Department of Transportation
Federal Highway Administration

Table of Contents

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. 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. 409 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

This Fiscal Year (FY) 2021 annual report to the Federal Highway Administration (FHWA) describes the District of Columbia Department of Transportation (DDOT)'s strategic use of Fixing America's Surface Transportation Act (FAST Act) funding of the District's Highway Safety Improvement Programs (HSIP) for FY 2021.

The FAST Act requires the development of a Strategic Highway Safety Plan (SHSP) and the Railway-Highway Crossings Program (RHGCP). Due to its urban nature, the District of Columbia transportation system does not contain any rural roads. All roadways within the District are functionally classified as urban roads. In the District of Columbia, most railway crossings are grade-separated from the highway and the relatively few at grade railway crossings no longer carry active railroad traffic. The District has regularly requested that funds allocated for the RHGCP be made available for HSIP in the District of Columbia.

To obligate Safety funds, among other requirements, the District must have in effect a State highway safety improvement program under which the District develops, implements, and updates a Strategic Highway Safety Plan (SHSP). The SHSP identifies and analyzes highway safety problems and opportunities as described under the program. (23 U.S.C. §148(c)(1)(A)). The SHSP Update was approved on March 2, 2021 for years 2020 through 2025.

The District is also required to produce a program of projects or strategies to reduce safety problems, evaluate the HSIP plan on a regular basis, and submit an annual transparency report – which is accomplished by this annual report.

The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focus on performance. DDOT continues to operate the Traffic Safety Data Center at Howard University, which was established to support DDOT and Metropolitan Police Department (MPD) in developing and sustaining an effective process for providing timely, accurate, complete, uniform, and accessible traffic and related transportation data. The Traffic Data Center at Howard University prepares the annual crash report for the District of Columbia, which helps to satisfy federal requirements on reporting traffic crashes, provide a resource for identifying safety trends, aid in the development of countermeasures, and evaluating the results of highway safety programs, projects, and policies. In addition, DDOT continues to upgrade the TARAS (Traffic Accident Record and Analysis System). The system underwent an update in fiscal year 2020 to further support the District's efforts to improve this crash data analysis tool, but incremental improvements to the software continue. Developed specifically for the District, TARAS automatically accesses and processes MPD crash data and extracts all pertinent variables fields, while providing visualization needs.

The HSIP program and its projects stretch across several administrations and divisions in DDOT. The core program, however, is administered by the Traffic Engineering and Safety Division (TESD) in the Project Delivery Administration (PDA). The following projects were obligated with HSIP funding in FY 2021:

· Traffic Safety Construction (for Retroreflective Backplate)

· Traffic Safety Data Center at Howard University

· Traffic Safety Engineering Support Services

· Crash Database

· Overhead Freeway Sign Maintenance

· Thermoplastic Pavement Markings

2021 District Of Columbia Highway Safety Improvement Program

· Traffic Data Collection and Analysis Services

DDOT continually strives to ensure the application of safety analyses, knowledge, and methodologies are used to maximize the effectiveness of HSIP funds. The updated District of Columbia SHSP seeks to ambitiously reduce traffic fatalities by 69 percent—from 36 (estimated in 2020) to 11 by 2030. The District also established a fatality rate goal of 0.27 fatalities per 100 VMT by 2030, compared to 0.85 in 2020, a decrease of 68 percent.

The HSIP's safety efforts and targets are linked directly to the District's SHSP, and their preliminary 2020 outcomes signify significant strides in achieving SHSP goals.

The District's 2020 HSIP target setting process established five performance measures as the five-year rolling averages to include:

1. Number of Fatalities, 40

2. Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT), 1.07

3. Number of Serious Injuries, 414

4. Rate of Serious Injuries per 100 million VMT, 10.470

5. Number of Non-motorized Fatalities and Non-motorized Serious Injuries,181

The five-year rolling average target for the Number of Fatalities was set at 40 for calendar year 2020. At the time of this report, the official FARS fatality numbers for 2020 were not yet available; however, based on the 36 fatalities reported on TARAS, the District expects the Number of Fatalities in FARS for 2020 will not exceed the target.

The five-year rolling average for the Rate of Fatalities per hundred million vehicle miles traveled (HMVMT) was set at 1.07 for 2020. Due to a significant reduction in VMT because of the COVID pandemic (i.e., 31.63 HMVMT - 2020 SHSP Report), the Rate of Fatalities is estimated at 1.14 and is expected to exceed the 2020 target.

The 2020 targets for the Number of Serious Injuries and the Rate of Serious Injuries per HMVMT were 414 and 10.47, respectively. Based on serious injury data queried on TARAS, there were 354 serious injuries in the District, which meets the 2020 target. However, due to the significant reduction in VMT, the Rate of Serious Injuries is estimated at 11.19 and is expected to exceed the 2020 target.

The 2020 targets for the Number of Non-motorized Fatalities and Serious Injuries were 181.0. The District met these targets based on the 115 non-motorized fatalities and serious injuries reported on TARAS.

The official FARS fatality numbers, as well as the final vehicle miles traveled (VMT) numbers for 2020, are likely to become available at the time the Federal Highway Administration assesses the District's performance relative to the targets, so these numbers and the outcomes might change.

Differences in the actual outcomes and targets could be attributed, at least in part, to the oddity of the year 2020 with the pandemic, and to a changing transportation landscape in the District. During the pandemic, it is widely reported that many states had an increase in fatalities and serious injury crashes while the VMT levels and even the number of crashes were lower. On the surface, it appears that decreases in volume can have a greater than proportional effects on crashes. Additionally, the District has seen an increase in the number of residents and large increases in micro-mobility modes (bikes and e-scooters), which are more exposed to fatal and serious injuries than vehicle occupants.

2021 District Of Columbia Highway Safety Improvement Program

The District safety challenges are complicated, and countermeasures -- especially for our most vulnerable road users -- must come from activities that reduce:

· Motor vehicle exposure

· Risk of crash

· Risk of injury

Mindful of these challenges, the District has paid closer attention over the past year to addressing safety through a systemic approach. The systemic approach is meant to be a data-driven safety analysis (DDSA) that is complementary and supplemental to the standard site analysis approach and provides an expanded comprehensive and proactive approach to road safety efforts. The analyses provide scientifically sound, data-driven strategies to identifying high-risk roadway features and executing the most beneficial projects with limited resources to achieve fewer fatal and serious injury crashes.

Using a systemic analysis approach, the District has identified introduced a number of countermeasures and safety initiatives, including the elimination of dual turn conflicts, left turn hardening treatments, and the targeted prohibition of right turn on red. Over the last two years, the District went through the process of identifying locations and reconfigure the operations of intersections with dual-turn lanes that pose "multiple threat" risks, particularly to pedestrians. Over the past year, the District has also kicked off the program of identifying intersections and corridors that could benefit from installing backplates with retroreflective borders. This includes identifying HSIP funding, conducting network screening analysis, and identifying contract vehicles that could implement these in a short time. The installation of these backplates should begin in fall 2021.

As part of the District's Summer Safety Campaign – a mayoral effort to rapidly deploy multi-modal safety improvements at multiple locations across the District – HSIP projects (Traffic Safety Engineering Support Services, Traffic Safety Construction, and others) were used to identify locations that would benefit from quick fixes that advance the safety of all modes.

In another proactive approach, the District also launched the Roadway Safety Improvement Program (RSIP, Pedestrian & Traffic Calming Improvements). Under the Roadway Safety Improvement Program, the District has selected street segments from the 2021 Paving Plan for safety review, and where warranted, updates and upgrades the pavement markings and signing. Street segments within the pavement plan were screened and selected based on factors such as crash history, proximity to schools, pedestrian & bicycle safety, and general TSI (Traffic Safety Investigation) 311 service requests. This year 20 roadway segments were identified and re-engineered as part of the RSIP, and most of the improvements were installed through the District's Summer Safety Campaign – a mayoral effort to rapidly deploy multi-modal safety improvements at multiple locations across the District.

As part of the District's Summer Safety Campaign, other HSIP safety improvements were also quickly advanced through design and implementation started over the summer months and will continue into fall 2021. The HSIP Project, which uses network screening analyses to identify locations that would benefit from Embedded Light Emitting Diodes (LED) in sign faces to enhance driver awareness of traffic-control signs. During late summer and into the fall of 2021, the District will be installing pedestrian flashers at 20 high pedestrian risk intersections throughout the city to improve pedestrian safety at uncontrolled crossings. In addition to this, The District is also installing driver speed feedback signs at 25 locations throughout the city to improve pedestrian and bike safety. The HSIP funded Traffic Safety Construction project is also the vehicle through which the District is also completing 14 recommendations from past livability studies. These recommendations include but are not limited to: improved signs, marking, signal hardware, Rectangular Rapid Flashing Beacons (RRFB), ADA ramps, APS (accessible pedestrian signals), installation of curb extensions, median, channelization, etc. primarily to improve pedestrian traffic safety.

Finally, in an effort to advance the goals of the SHSP and HSIP, DDOT has developed an SOP that will help to streamline HSIP projects and activities. The SOP originally included a tool to support the HSIP project selection process, however, because the HSIP funded projects are mostly programmatic in nature, this tool will not be developed further. The SOP will:

· Guide DDOT internal stakeholders on what qualifies as a project for HSIP funding

· Establish key requirements and supporting documents needed to satisfy the requirement for the use of HSIP funding

· Collect/gather details for each requested use of HSIP funds and generate a prioritization mechanism (for example a relative score) for the selection of projects if needed at any time.

This will consider how the project:

· Addresses one or more priorities (Emphasis Areas) in the District's SHSP

· Addresses an identified safety problem

· Contributes to a reduction of fatalities and serious injuries

· Helps to establish a prioritization mechanism for the selection of projects

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.

The Safe, Accountable, Flexible, Efficient Transportation Equity Act – A Legacy for Users (SAFETEA-LU) established the HSIP as a core Federal-aid program under 23 U.S.C. 148. The specific purpose of the HSIP is to achieve a significant reduction in traffic fatalities and serious injuries on public roads.

Each year the District Department of Transportation (DDOT) utilizes HSIP funds to identify, study, and improve safety at roadway locations, including intersections and roadway segments, that either have high concentrations of crashes that results in fatalities and/or injuries, or present a risk of severe crashes. The HSIP in the District of Columbia is centrally-managed at DDOT, with HSIP-related safety projects spread across various administrations and divisions.

HSIP staff fulfills transportation safety planning requirements by producing listings of intersections and roadway segments with histories of severe crashes. These locations are mainly identified in the annual crash reports, which involve a thorough network screening for the engineering emphasis areas included in the District's Strategic Highway Safety Plan (SHSP). This network screening process considers all roadway classifications and is critical for identifying safety problems and trends, as well as for determining the level of success in achieving - or making significant progress toward achieving - the District's highway safety goals. Locations are also identified through various citizen and road user requests.

Priority SHSP emphasis area maps, tables and matrices are generated to rank intersection-related crash locations and routes (High-Hazardous Locations). Several methods are used to identify high hazardous locations based on the traffic crash data, exposure and location characteristics. The methods used include crash frequency, crash rate, crash severity, and crash trend (delta change). The District also utilizes a composite crash index, which is a weighted combination of the crash rate, severity, and frequency of traffic crashes at a specific location. The District uses this data-driven approach with local knowledge to identify and initiate engineering studies of the locations with abnormal crash experience.

Once candidate locations have been identified, programmed, and funds have been allocated, HSIP staff in different administrations monitor the projects from scoping through design, and construction. For example, intersection-related projects are often identified through a core HSIP funded program in the Traffic Engineering and Safety Division (TESD) under the Project Delivery Administration (PDA). The TOSD would conduct engineering studies to identify appropriate countermeasures.

In an effort to advance the goals of the SHSP and HSIP, the DDOT developed an SOP that helpso streamline HSIP projects and activities. The SOP includes a tool to support the HSIP project selection process, which willl:

- Guide DDOT internal stakeholders on what qualifies as a project for HSIP funding.

- Establish key requirements and supporting documents needed to satisfy the requirement for the use of HSIP funding
- Collect/gather details for each requested use of HSIP funds and generate a prioritization mechanism (for example a relative score) for the selection of projects. This will consider how the project:
    o Addresses one or more priorities (Emphasis Areas) in the District's SHSP
    o Address an identified safety problem
    o Contributes to a reduction of fatalities and serious injuries.
- Help to establish a prioritization mechanism for the selection of projects.

The District will continue to assess the SOP tool during the initial years of use and will make refinements as needed.

Where is HSIP staff located within the State DOT?

Other-HSIP staff are primarily located in the Transportation Engineering and Safety Division

Some construction activities related to the HSIP projects are in other divisions.

How are HSIP funds allocated in a State?

- SHSP Emphasis Area Data

The SHSP Emphasis Area, derived from fatalities and serious injury trends, drives the funding allocations of the HSIP. The District allocates HSIP funds using a combination of programmatic, systemic, and spot-project approaches with the goal of leveraging HSIP funds to achieve the maximum impact on SHSP emphasis areas, thereby reducing fatal and serious injury crashes.

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

The District of Columbia does not have a local or Tribal roads program. All roads are considered for HSIP and Safety Improvement projects.

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

- Design
- Governors Highway Safety Office
- Maintenance
- Operations
- Planning
- Traffic Engineering/Safety

Describe coordination with internal partners.

The HSIP effort requires extensive coordination among many groups within DDOT, which is primarily accomplished through internal meetings. DDOT holds weekly "SafetyStat" meetings at which numerous safety projects and issues are discussed and organized. At these meetings, various groups from different divisions within DDOT provide updates on their safety projects. In addition to these meetings, Ward-based project meetings are held on a weekly basis to provide updates on design and construction-related projects. Finally, a

weekly "TranStat" meeting is held that includes discussions on performance metrics, and understanding the needs of the Safety program (including, but not limited to, HSIP). The performance metrics discussed at TranStat meetings are largely consistent with the performance measures that form the basis for HSIP targets.

Identify which external partners are involved with HSIP planning.

- Academia/University
- FHWA
- Law Enforcement Agency
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)

Describe coordination with external partners.

External partners are involved in various planning and operations-related issues via scheduled meetings to discuss goals, milestones, safety targets, and progress in achieving safety targets. The meetings are arranged by DDOT's Transportation Safety Manager . External partners also provide input into the preparation of, and updates to, the SHSP.

Program Methodology

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

Yes
The District finalized the SOP and tool to support the HSIP project selection process. This was finalized in September 2020.

Select the programs that are administered under the HSIP.

- Bicycle Safety
- Intersection
- Left Turn Crash
- Low-Cost Spot Improvements
- Pedestrian Safety
- Red Light Running Prevention
- Sign Replacement And Improvement
- Skid Hazard

<u>Program: Bicycle Safety</u>

Date of Program Methodology:10/1/2020

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes
- All crashes
- Other-Bicycle crashes

Exposure
- Traffic
- Volume
- Lane miles
- Other-speed

Roadway
- Functional classification
- Other-cross section

What project identification methodology was used for this program?

- Crash frequency
- Probability of specific crash types

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

No

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

How are projects under this program advanced for implementation?

- Other-Separate funds are allocated to implement bike safety projects

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).

Program: Intersection

Date of Program Methodology:10/1/2020

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes
- All crashes
- Other-intersection crashes

Exposure
- Traffic
- Volume

Roadway
- Median width
- Functional classification

- Other-cross section

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Probability of specific crash types

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

No

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

How are projects under this program advanced for implementation?

- Other-DDOT Safety Team utilizes the annual reports on Crash statistics and Commercial Motor Vehicles (CMV)

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).

Program: Left Turn Crash

Date of Program Methodology:1/31/2019

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	Exposure	Roadway
• Other-pedestrian-vehicle crashes	• Traffic • Volume • Other-pedestrian activity and interaction with vehicles	• Functional classification • Other-general intersection geometry

What project identification methodology was used for this program?

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

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

How are projects under this program advanced for implementation?

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).

Program: Low-Cost Spot Improvements

Date of Program Methodology:10/1/2020

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

Exposure

- Traffic
- Volume

Roadway

- Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate

Are local roads (non-state owned and operated) included or addressed in this program?
No

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

How are projects under this program advanced for implementation?

- Other-Projects for Design are automatically implemented through Construction. Advanced by Decision Lens

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).

Program: Pedestrian Safety

Date of Program Methodology:10/1/2020

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?
Competes with all projects

What data types were used in the program methodology?

Crashes

- All crashes
- Other-pedestrian crashes

Exposure

- Traffic
- Volume
- Other-speed

Roadway

- Functional classification
- Other-cross section

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Probability of specific crash types

Are local roads (non-state owned and operated) included or addressed in this program?
No

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

How are projects under this program advanced for implementation?

- Other-These projects are advanced by "Decision Lens" program utilized by all DDOT Managers

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
Other-total number of collisions:1

These projects are advanced by "Decision Lens" program utilized by all DDOT Managers.

Program: Red Light Running Prevention

Date of Program Methodology:10/1/2020

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
- Other-red light running crashes

Exposure
- Traffic
- Volume

Roadway
- Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Probability of specific crash types

Are local roads (non-state owned and operated) included or addressed in this program?
No

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

How are projects under this program advanced for implementation?

- Other-Projects for Design are automatically implemented through Construction. . Advanced by Decision Lens

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).

Program: Sign Replacement And Improvement

Date of Program Methodology:10/1/2020

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	Exposure	Roadway
• All crashes	• Traffic • Volume	• Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate

Are local roads (non-state owned and operated) included or addressed in this program?
No

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

How are projects under this program advanced for implementation?

- Other-These projects are advanced by "Decision Lens" and internal review of annual Crash statistics report

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

Other-total number of collisions:1

Traffic signs provide critical information, legal requirements, and guidance for drivers and other road users. Missing or damaged devices, such as STOP signs, can create a potential safety hazard. Maintaining traffic signs is, thus, essential for helping to prevent fatal and serious injury crashes.

Program: Skid Hazard

Date of Program Methodology:10/1/2020

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
- Other-wet pavement crashes

Exposure
- Traffic

Roadway
- Horizontal curvature
- Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Probability of specific crash types

Are local roads (non-state owned and operated) included or addressed in this program?
No

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

How are projects under this program advanced for implementation?

- Other-Skid improvement projects are implemented by "Decision Lens" software program used by DDOT Managers

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

Other-total number of collisions:1

Skid resistance is widely recognized as an important element of State DOT highway safety programs. Skid resistance is an important pavement evaluation parameter because inadequate skid resistance contributes to friction-related vehicle crashes.

Although Skid Hazard does not appear to be an SHSP priority or emphasis area, Skid Hazard activity is relevant to the following two Emphasis Areas: Minimizing Consequences of Leaving the Road; Reducing Head-On and Cross-Median Crashes.

What percentage of HSIP funds address systemic improvements?
45

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

- Add/Upgrade/Modify/Remove Traffic Signal
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- Other-Data Collection
- Other-Pedestrian & Traffic Calming Improvements
- Other-Retroreflective Backplates
- Other-Skid testing
- Other-Traffic Safety Engineering & Support Service (TSES)

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
- Other-Design Review, Capital Project Review, Sight Distance Analysis, Roadway Geometry, Accident Analysis

Does the State HSIP consider connected vehicles and ITS technologies?
Yes

Describe how the State HSIP considers connected vehicles and ITS technologies.
The District has been implementing ITS projects and improving its ITS infrastructure through the use of HSIP funds. These projects include live CCTV cameras, dynamic message boards, traffic signal controller upgrades, and other ITS infrastructure improvements. HSIP funds have not been specifically targeted toward other connected vehicle technologies.

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.

DDOT has formalized the HSM benefit-cost methodology as the preferred method of analysis. As DDOT HSIP studies aim to identify low-cost, high-impact safety improvements with a short installation timeframe, the benefit-cost methodology allows for simple cost comparison for a series of identified improvements.

The predictive method was reviewed for five intersections under the FY 2017 HSIP Intersection analysis project. Based on these studies, and considering the level of effort behind the analysis, it was determined that the benefit-cost methodology better supports the intended goals of DDOT HSIP studies. Alternatives that require geometric or significant construction support are advanced to other DDOT divisions for conceptual design.

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)	$10,165,500	$10,165,500	100%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$0	$0	0%
Penalty Funds (23 U.S.C. 154)	$0	$0	0%
Penalty Funds (23 U.S.C. 164)	$0	$0	0%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	$1,225,000	$0	0%
Other Federal-aid Funds (i.e. STBG, NHPP)	$0	$0	0%
State and Local Funds	$0	$0	0%
Totals	$11,390,500	$10,165,500	89.25%

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

0%

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

0%

The District does not contain local roads that are non-state owned.

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

29%

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

29%

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.

District of Columbia obligation staff work with various DDOT administrations and divisions to ensure HSIP funds are obligated in a timely manner. DDOT conducts regular obligation meetings with various internal stakeholders to continually improve the obligation process and provide help to engineers and managers where needed. The District is in the process of preparing a SOP for the HSIP that would help to determine the eligibility of projects and streamline funding and obligations. The SOP will be implemented during the current fiscal year.

The first version of the SOP tool will be available at the end of September 2020. The District will assess the SOP tool during the initial year of use and make refinements as needed.

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	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
Thermoplastic Pavement Markings - installation of thermoplastic markings on Federal and supporting roadways.	Intersection traffic control	Pavement markings	190	Locations	$1800000	$1800000	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0		State Highway Agency	Systemic	pavement markings	
Traffic Safety Construction - implements traffic engineering and highway engineering countermeasures at high crash locations.	Intersection traffic control	Intersection traffic control - other	19	Locations	$293688.81	$293688.81	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0		State Highway Agency	Spot	Safety countermeasures	
Traffic Engineering Design - provides traffic engineering analysis and design for high crash/problem intersections.	Intersection geometry	Intersection geometry - other	66	Locations	$83150	$83150	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0		State Highway Agency	Spot	Intersections	
Traffic Safety Data Center at Howard University - maintains District-wide crash data, speed data, traffic volume data.	Miscellaneous	Data collection	150	Data requests	$772899.75	$772899.75	HSIP (23 U.S.C. 148)	Urban	N/A	0		State Highway Agency	Spot	Data	
Overhead Freeway Sign Maintenance - Replacement of damaged, faded, and obsolete	Roadway signs and traffic control	Sign sheeting - upgrade or replacement	5000	Square feet	$1620000	$1620000	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0		State Highway Agency	Spot	Roadway signs	

| PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
freeway signs to promote safety.															
Traffic Safety Engineering & Support Service (TSES)	Intersection traffic control	Intersection traffic control - other			$2200000	$2200000	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0		State Highway Agency	Spot	Intersections	Pedestrian and Bicyclist Safety; Engineering / Facilities Infrastructure, and High-Risk Drivers
Crash Database (TARAS)	Miscellaneous	Data analysis			$90000	$90000	HSIP (23 U.S.C. 148)	Urban	N/A	0		State Highway Agency	Systemic	Data	
Data Collection	Miscellaneous	Data collection			$150000	$150000	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0		State Highway Agency	Spot	Data	
Retroreflective Backplates	Roadway signs and traffic control	Roadway signs and traffic control - other			$500000	$500000		Urban	Multiple/Varies	0		State Highway Agency	Spot	Lane Departure	
Pedestrian & Traffic Calming Improvements	Roadway signs and traffic control	Roadway signs and traffic control - other			$1500000	$1500000	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	0		State Highway Agency	Spot	Pedestrian and bicyclist safety	

Safety Performance
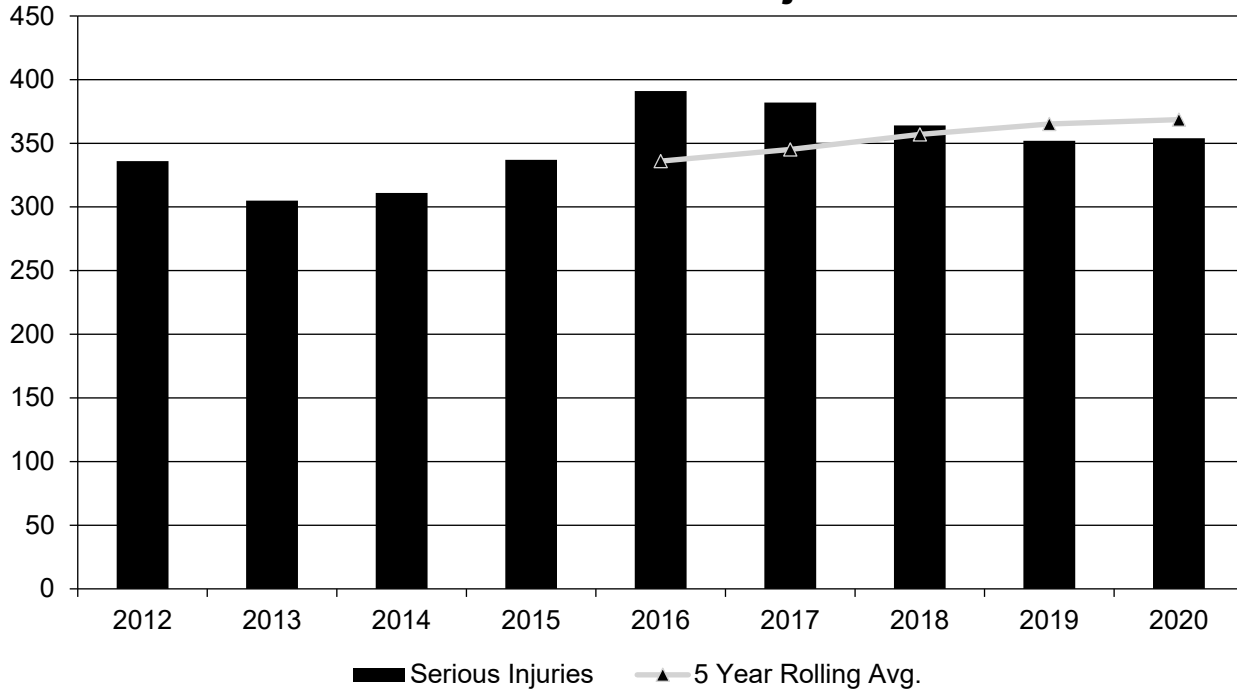
General Highway Safety Trends

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

PERFORMANCE MEASURES	2012	2013	2014	2015	2016	2017	2018	2019	2020
Fatalities	15	20	23	23	27	31	31	23	36
Serious Injuries	336	305	311	337	391	382	364	352	354
Fatality rate (per HMVMT)	0.420	0.570	0.650	0.650	0.750	0.830	0.840	0.610	1.140
Serious injury rate (per HMVMT)	9.410	8.690	8.790	9.520	10.860	10.230	9.860	9.370	11.190
Number non-motorized fatalities	7	10	10	14	9	13	14	11	11
Number of non-motorized serious injuries	140	114	141	119	141	146	146	144	104

Annual Fatalities

Fatalities ▲ 5 Year Rolling Avg.
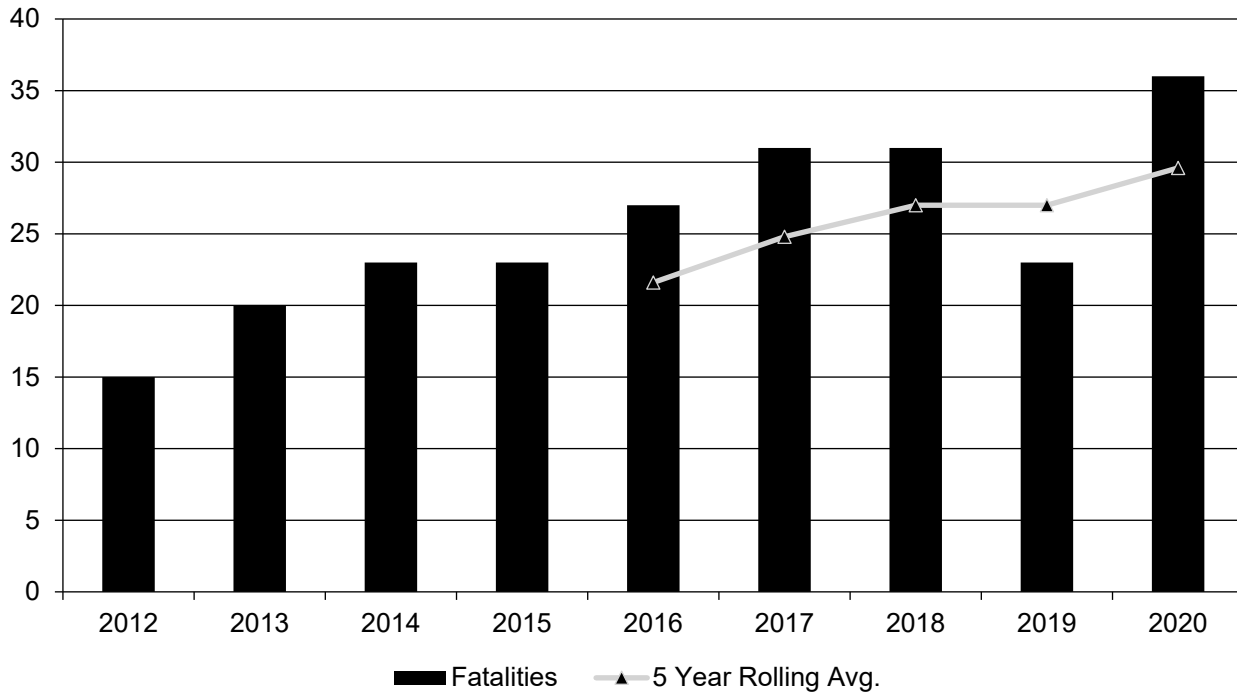
Annual Serious Injuries

Serious Injuries ▲ 5 Year Rolling Avg.

Fatality rate (per HMVMT)

Fatality rate (per HMVMT)   5 Year Rolling Avg.

Serious injury rate (per HMVMT)
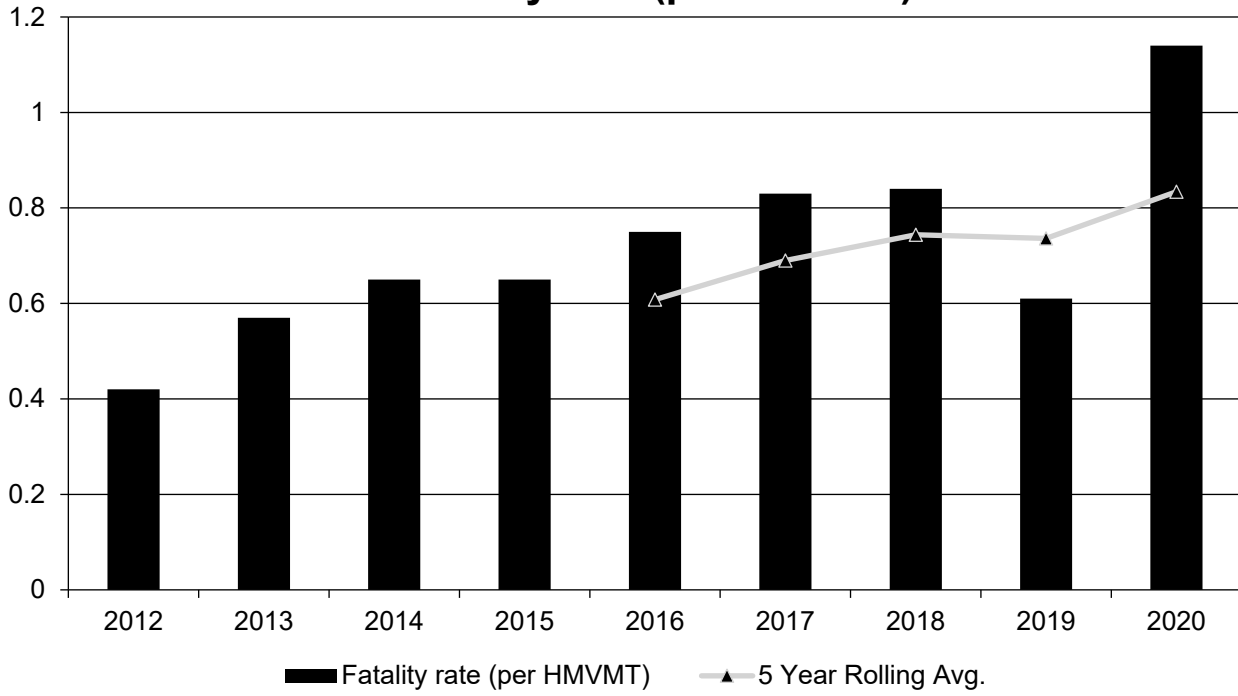
Serious injury rate (per HMVMT)   5 Year Rolling Avg.
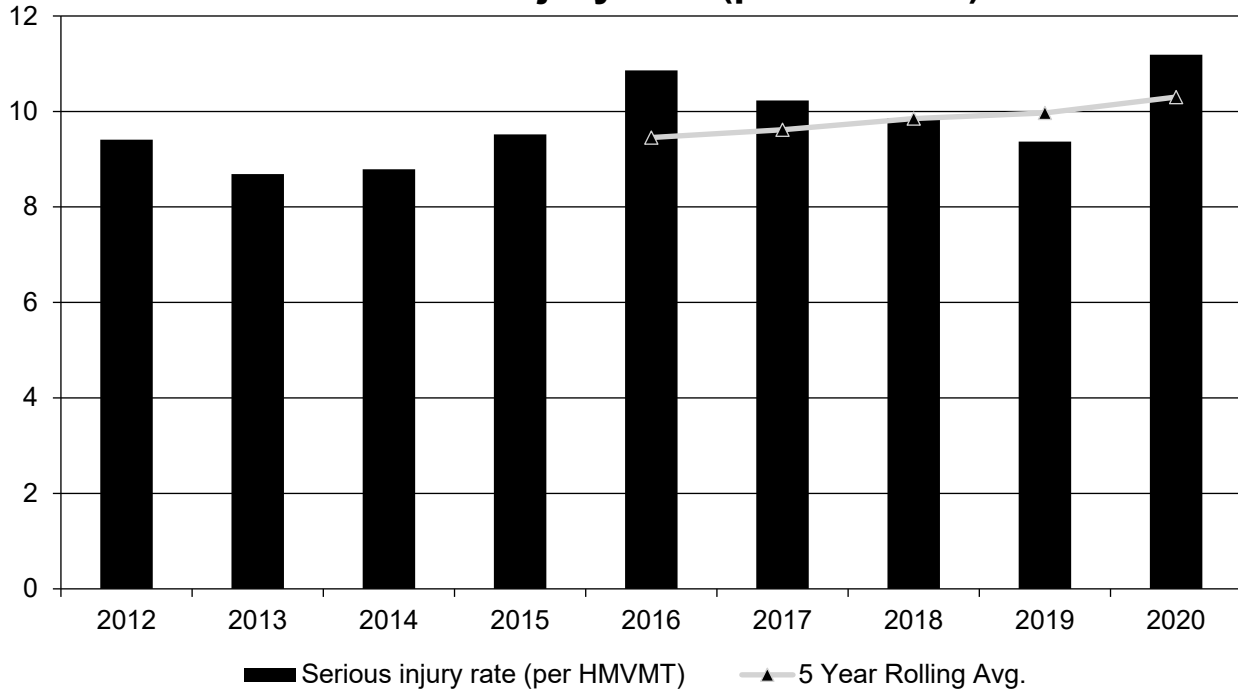
Non Motorized Fatalities and Serious Injuries
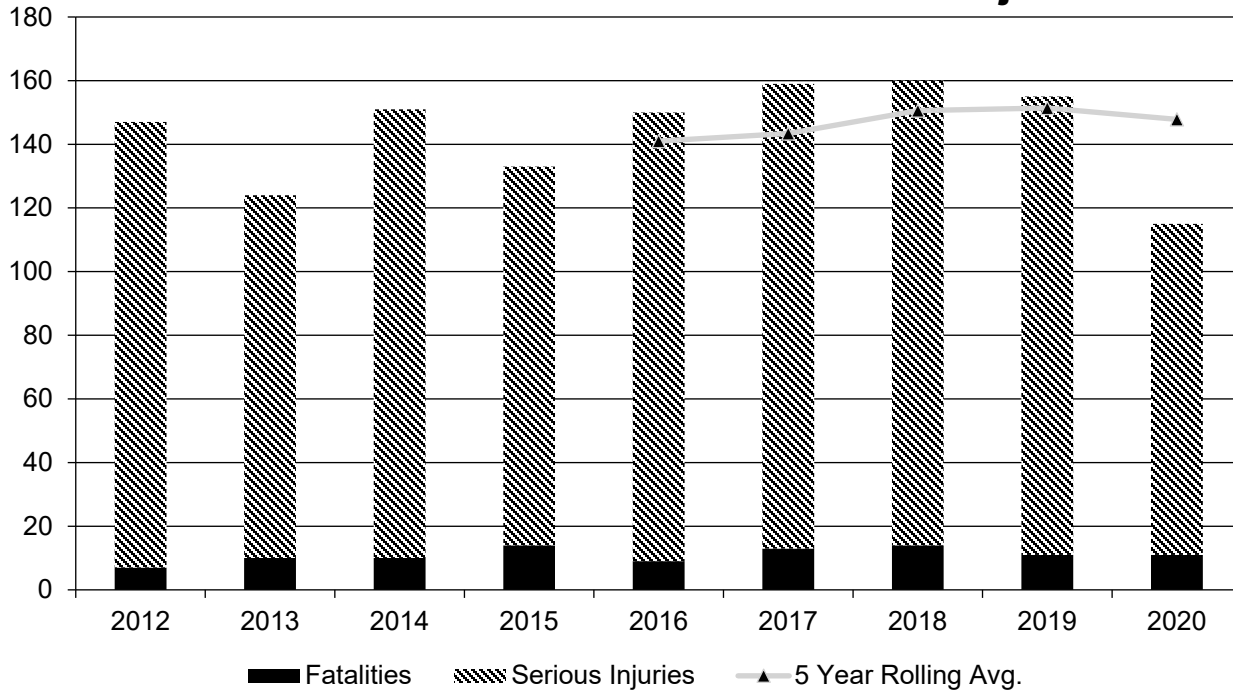
Describe fatality data source.

FARS

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

Year 2020

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				
Rural Principal Arterial (RPA) - Other Freeways and Expressways				
Rural Principal Arterial (RPA) - Other				
Rural Minor Arterial				
Rural Minor Collector				
Rural Major Collector				

2021 District Of Columbia Highway Safety Improvement Program

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 Local Road or Street				
Urban Principal Arterial (UPA) - Interstate	1	16	0.23	3.63
Urban Principal Arterial (UPA) - Other Freeways and Expressways	1	1	0.32	0.32
Urban Principal Arterial (UPA) - Other	13	84	1.44	9.33
Urban Minor Arterial	11	115	1.78	18.64
Urban Minor Collector				
Urban Major Collector	2	40	2.05	16.44
Urban Local Road or Street	5	70	0.76	10.69

Year 2020

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	26	326	0.96	8.68
County Highway Agency				
Town or Township Highway Agency				
City or Municipal Highway Agency				
State Park, Forest, or Reservation Agency				
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency				
Private (Other than Railroad)				
Railroad				
State Toll Authority				
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				

HMVMT in 2020 by functional class is not available. Therefore, 2019 VMT data is used.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2022 Targets *

Number of Fatalities:29.0

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

Using the 5-year rolling average and a power model (R2 = 0.99), the District has the 2022 goal to maintain the number of fatalities at 29 by December 31, 2022, approximately decrease by 7 (19 percent) from the 2020 total

**Please note that the HSP Performance Target prepopulated here does not reflect the 2022 target.

Number of Serious Injuries:343.0

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

Serious injuries have consistently decreased since 2016.

Using the 5-year rolling average and a power model (R2 = 0.97), the District 2022 goal would be to reduce the number of traffic-related serious injuries to 343, approximate decrease by 11 (3 percent) from the 2020 total.

**Please note that the HSP Performance Target prepopulated here does not reflect the 2022 target.

Fatality Rate:1.070

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

With the increase in fatalities, population, worker trips, tourist visits, VMT, nonmotorized trips, and other trip-making activities in the District, exposure is expected to increase. Using the 5-year rolling average and a power model (R2 = 0.99), the District 2022 goal would be to maintain the fatality rate to 1.07.

**Please note that the HSP Performance Target prepopulated here does not reflect the 2022 target.

Serious Injury Rate:9.110

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

The Serious Injury Rate performance target follows anticipated trends in the number of serious injuries. Serious injuries have decreased slightly since 2019. However, all trends indicate a slight increase in future years. Using the 5-year rolling average and a power model (R2 = 0.97), the District 2022 goal will be to reduce the serious injury rate to 9.11.

Total Number of Non-Motorized Fatalities and Serious Injuries:133.0

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

In the District of Columbia, Nonmotorists account for a majority of traffic fatalities and a significant proportion of serious injures. Anticipated trends in the Number of Non-Motorized Fatalities and Serious Injuries reflect increasing pedestrian and bicycle activity, which increase exposure to crashes, as well as efforts by the District to implement strategies to reduce the number of fatal and serious injuries. The District's goal for 2022 is to keep the number of non-motorized fatalities and serious injuries to 133 by December 31st, 2022

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

In addition to the involvement of numerous administrations and offices within DDOT, multiple external stakeholders are actively engaged in the safety performance target setting process in the District of Columbia, including the Metropolitan Police Department, the Metropolitan Washington Council of Governments (MPO), the District of Columbia Department of Health, and the FHWA Division Office.

Does the State want to report additional optional targets?

No

Describe progress toward meeting the State's 2020 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	40.0	29.6
Number of Serious Injuries	414.0	368.6
Fatality Rate	1.070	0.834
Serious Injury Rate	10.470	10.302
Non-Motorized Fatalities and Serious Injuries	181.0	147.8

The District is reporting actual outcomes for all five performance measures that are below targets. The numbers are five-year averages.

Applicability of Special Rules

Does the HRRR special rule apply to the State for this reporting period?
No

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	2014	2015	2016	2017	2018	2019	2020
Number of Older Driver and Pedestrian Fatalities	2	5	1	5	3	2	2
Number of Older Driver and Pedestrian Serious Injuries	10	21	26	17	22	30	21

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

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

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

The District has generally found that infrastructure safety improvements are associated with reductions in targeted crashes or improvements in road user behavior, such as conflicts.

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

- Increased awareness of safety and data-driven process
- More systemic programs
- Organizational change
- Policy change

Effectiveness of Groupings or Similar Types of Improvements
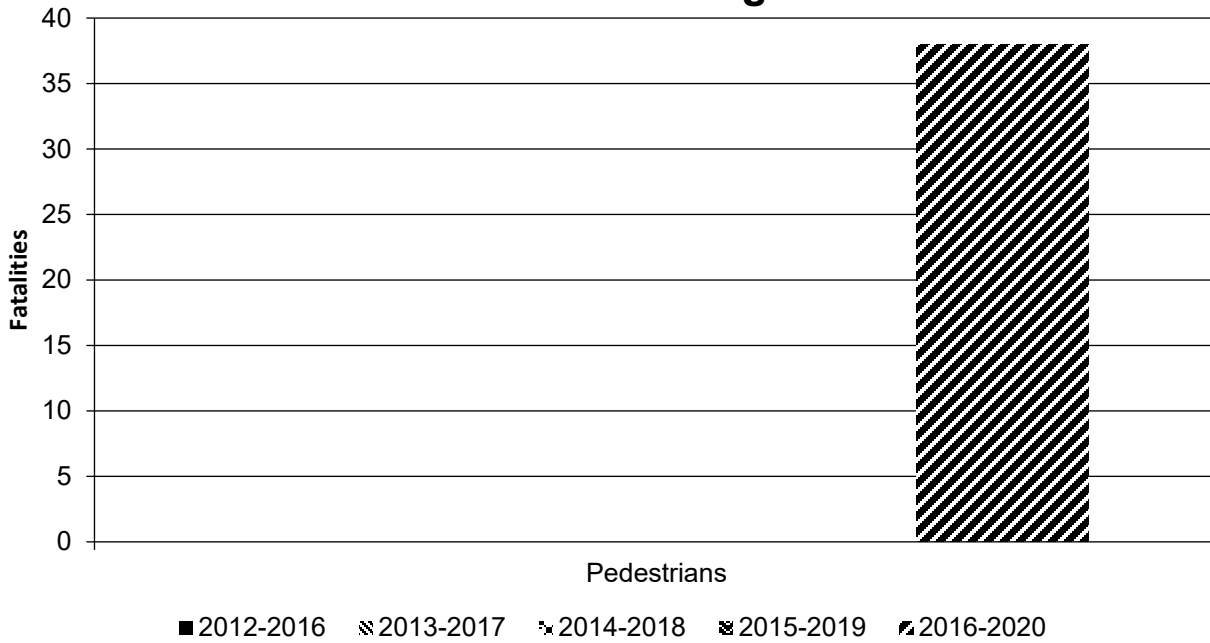
Present and describe trends in SHSP emphasis area performance measures.

Year 2020

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)
Pedestrians	All	38	361	321	361

Number of Fatalities
5 Year Average

Pedestrians

■ 2012-2016 ⫽ 2013-2017 ⩘ 2014-2018 ⬚ 2015-2019 ⫻ 2016-2020

Number of Serious Injuries
5 Year Average
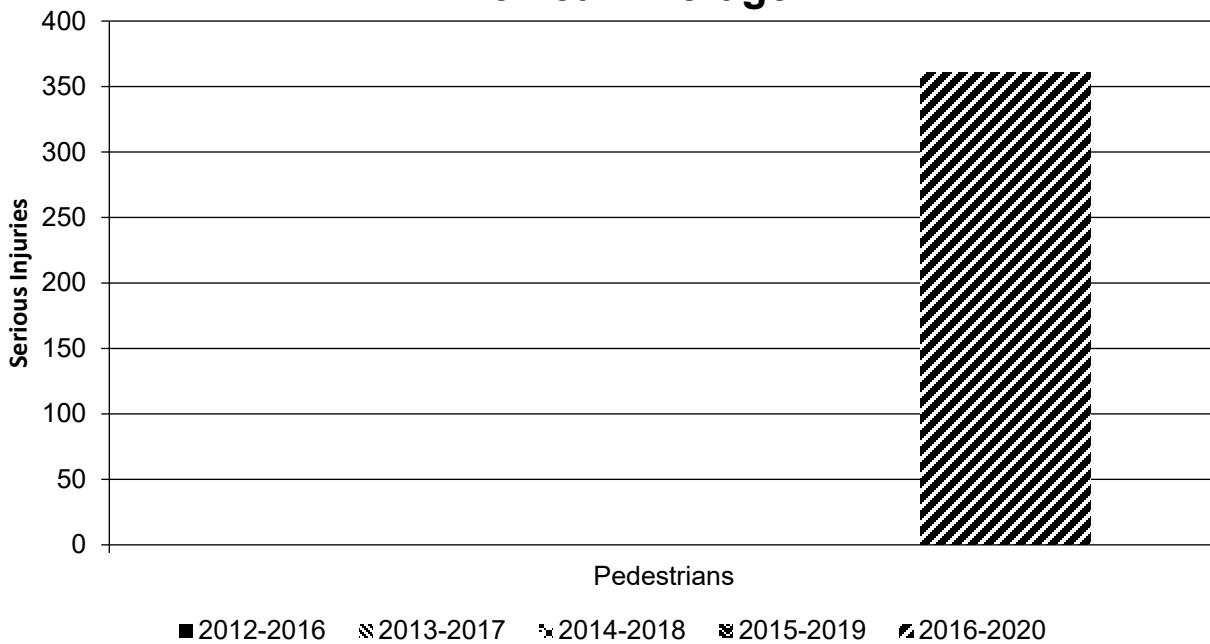
Pedestrians

■ 2012-2016 ⫽ 2013-2017 ⩘ 2014-2018 ⬚ 2015-2019 ⫻ 2016-2020

Fatality Rate (per HMVMT)
5 Year Average

■ 2012-2016 ⊠ 2013-2017 ⟍ 2014-2018 ⊠ 2015-2019 ⊿ 2016-2020

Serious Injury Rate (per HMVMT)
5 Year Average

■ 2012-2016 ⊠ 2013-2017 ⟍ 2014-2018 ⊠ 2015-2019 ⊿ 2016-2020
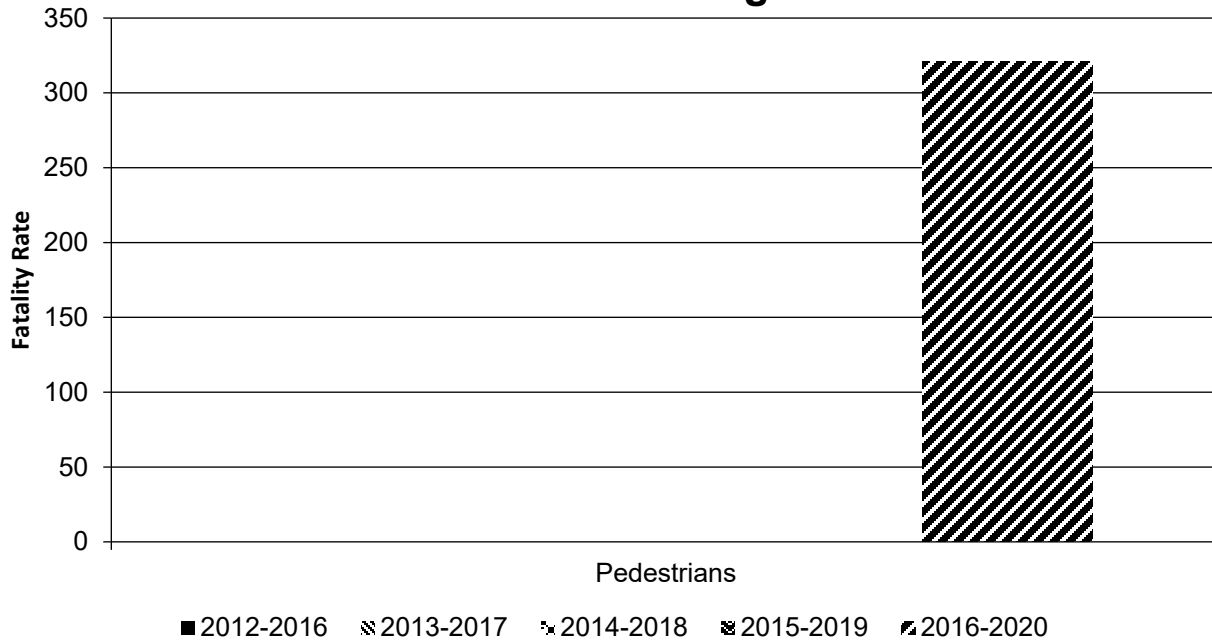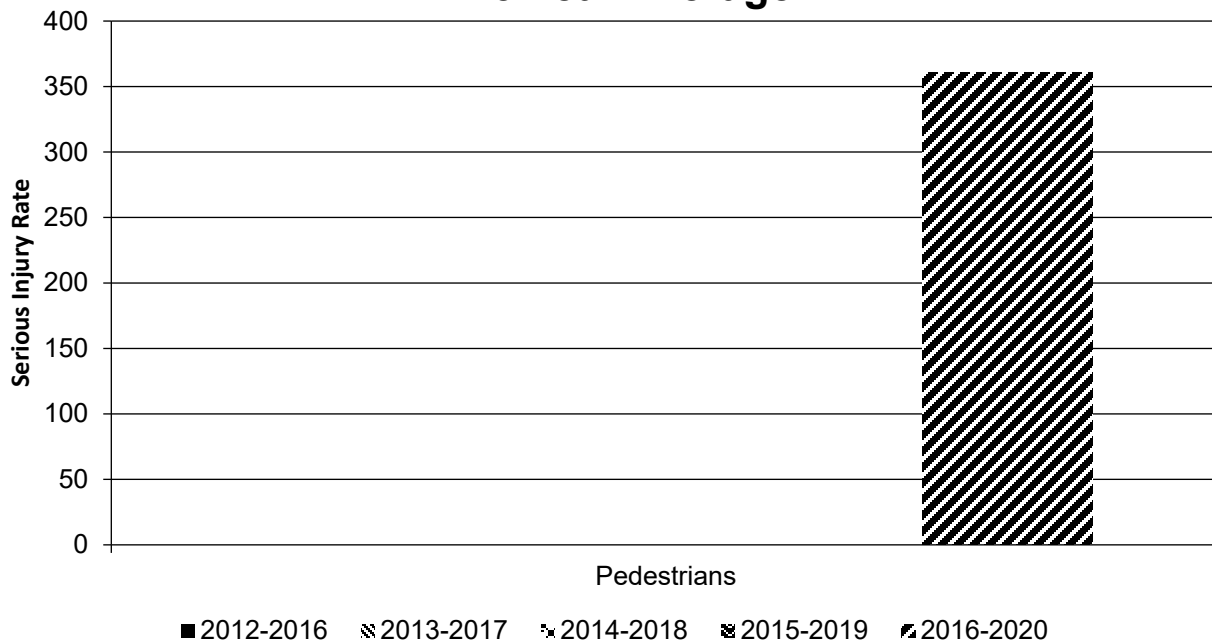
Project Effectiveness

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

Compliance Assessment

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

03/02/2021

What are the years being covered by the current SHSP?

From: 2020 To: 2025

When does the State anticipate completing it's next SHSP update?

2026

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	100								
	Rural/Urban Designation (20) [20]	100	100					100	100		
	Surface Type (23) [24]	100	100					100	100		
	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								
	Functional Class (19) [19]	100	100					100	100	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
	Median Type (54) [55]	100	100								
	Access Control (22) [23]	100	100								
	One/Two Way Operations (91) [93]	100	100								
	Number of Through Lanes (31) [32]	100	100					100	100		
	Average Annual Daily Traffic (79) [81]	100	100					100	100		
	AADT Year (80) [82]	100	100								
	Type of Governmental Ownership (4) [4]	100	100					100	100	100	100
INTERSECTION	Unique Junction Identifier (120) [110]			100	100						
	Location Identifier for Road 1 Crossing Point (122) [112]			100	100						
	Location Identifier for Road 2 Crossing Point (123) [113]			100	100						
	Intersection/Junction Geometry (126) [116]			100	100						
	Intersection/Junction Traffic Control (131) [131]			100	100						
	AADT for Each Intersecting Road (79) [81]			100	100						
	AADT Year (80) [82]			100	100						
	Unique Approach Identifier (139) [129]			100	100						
INTERCHANGE/RAMP	Unique Interchange Identifier (178) [168]										
	Location Identifier for Roadway at					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
	Beginning of Ramp Terminal (197) [187]										
	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]										
	Ramp AADT (191) [181]					100	100				
	Year of Ramp AADT (192) [182]					100	100				
	Functional Class (19) [19]					100	100				
	Type of Governmental Ownership (4) [4]					100	100				
Totals (Average Percent Complete):		100.00	100.00	100.00	100.00	81.82	81.82	100.00	100.00	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.

The District of Columbia's Traffic Records Coordinating Committee (TRCC) is working with multidisciplinary partners, including the Metropolitan Police Department, DDOT, and our crash data consultant team to meet the requirement to have complete access to the MIRE fundamental data elements on all public roads by September 30, 2026.

Optional Attachments

Program Structure:

HSIP Program Handbook - Final.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.