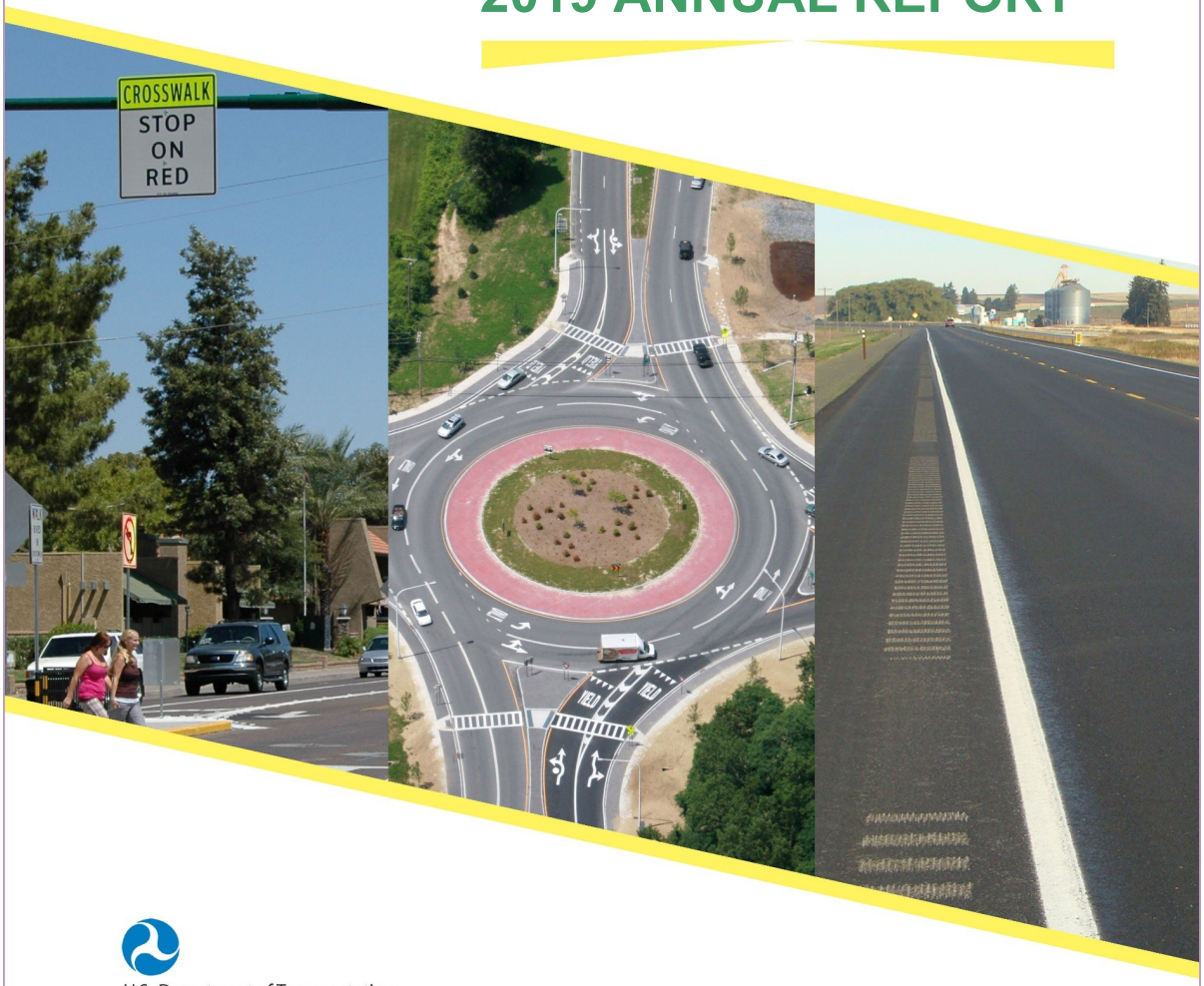
DISTRICT OF COLUMBIA

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2019 ANNUAL REPORT



U.S. Department of Transportation
Federal Highway Administration

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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. 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) 2019 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 2019, up to July 2019.

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 the majority of railway crossings are grade separated from the highway and the relatively few at grade railway crossings no longer feature active railroad traffic. The District has often requested that funds that are 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 was update in 2014 and revised in 2017. Since SHSP follows a five-year cycle, the District is currently in the process of drafting a new SHSP.

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

The HSIP requires a data-driven, strategic approach to improving highway safety on all public roads that focuses on performance. The District Department of Transportation (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 has completed the upgrade of TARAS (Traffic Accident Record and Analysis System). The system will undergo a second update in the coming fiscal year as the District continues to improve this crash data analysis tool that helps DDOT Staff and other stakeholders to access and transfer MPD's crash data. Developed specifically for the District, TARAS automatically accesses and processes MPD's crash data and extracts all the pertinent variables fields, while providing the visualization needs.

The HSIP program and its projects stretches across several administration and divisions in DDOT. However, the core program is administered by the Transportation Operations and Safety Division (TOSD) in the Operations Administration (OA) and supported by the Traffic Engineering and Signals Division (TESD) for construction related projects. The following projects were obligated with HSIP funding in FY19:

- Construction of Fiber Communication Network on Freeways
- Traffic Safety Construction
- Traffic Safety Data Center at Howard University
- Traffic Safety Engineering Support Services
- Constructability and Work Zone Safety Review
- Crash Database
- Southern Ave. from Barnaby Rd. SE to UMC Campus
- Guiderail and Attenuators Repair and Replacement
- Thermoplastic Pavement Markings

The District of Columbia Department of Transportation (DDOT) is continually making efforts to ensure the application of safety analyses, knowledge and methodologies are used to maximize the effectiveness of HSIP

funds. The District of Columbia SHSP seeks to reduce traffic fatalities by 20 percent from 26 (average of 5 years 2008 to 2012, FARS data) to 21 by 2025. The Highway Safety Improvement Program (HSIP) safety efforts and targets are linked directly to the District's SHSP and their 2018 outcomes signifies significant strides in achieving the SHSP goals.

In 2016, the HSIP target setting process established five performance measures as the five-year rolling averages to include:

1. Number of Fatalities, 26.0
2. Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT), 0.7
3. Number of Serious Injuries, 384
4. Rate of Serious Injuries per 100 million VMT, 10.28
5. Number of Non-motorized Fatalities and Non-motorized Serious Injuries, 12 and 131.8, respectively

The five-year rolling average target for the Number of Fatalities was set at 26.0 for calendar year 2018. At the time of this report, the official fatality numbers for 2018 were not yet published in the FARS; however, the District expects that the Number of Fatalities in the FARS for 2018 will not be greater than 33, after each crash is reviewed and properly classified using the Manual on Classification of Motor Vehicle Traffic Accidents. Using the conservative approach, the "actual" five-year rolling average (2014-2018) is 27.4. This is less than two (2) fatalities higher, or seven (7) percent over the estimated target.

The actual traffic fatalities are higher than the 5-year average for the two most recent years (2017 and 2018). It should be noted, however, that while annual traffic fatalities have been increasing in the last five years, the rate of increase has slowed over this time. The rate of annual increase for last three years, 2016, 2017, and 2018, is 17, 14, and 6 percent, respectively.

The five-year rolling average for the Rate of Fatalities was set at 0.7 fatalities per hundred million vehicle miles traveled (HMVMT). At the time of this report, the official fatality numbers for 2018 were not yet published in the FARS; however, the District expects that the Number of Fatalities in the FARS for 2018 will not be greater than 33, after each crash is reviewed and properly classified using the Manual on Classification of Motor Vehicle Traffic Accidents. Using the published vehicle miles traveled, and a conservatively high fatality tally, the "actual" five-year rolling average (2014-2018) is expected to be 0.76 fatalities per HMVMT. This represents an 8 percent difference in actual and projected rates.

The 2018 targets for the Number of Serious Injuries and the Rate of Serious Injuries per 100 HMVMT were 384 and 10.28, respectively. Both of these targets were met. The actual Number of Serious Injuries was 354, or 8 percent lesser than the projection, and the actual Rate of Serious Injuries per 100 HMVMT was 9.77, or 5 percent lesser than the target. It should be noted that these results could have been impacted by an adjustment in serious injury numbers and the projected vehicle miles traveled over the last two years.

The 2018 targets for the Number of Non-motorized Fatalities and Non-motorized Serious Injuries per 100HMVMT were 12.0 and 131.8, respectively. The actual Number of Non-motorized Fatalities was 12.4, or 3 percent over the target, while the actual Non-motorized Serious Injuries per 100 HMVMT was 138.6, which is 5 percent higher than the target.

In general, two (2) of the five (5) performance measure targets were met and three (3) came within 8 percent or less of achieving the target. These percentages are relatively small, and when the magnitude of the differences are considered relative to the sample size of say, fatalities, then it becomes clear that this difference might be within the standard deviation, yearly fluctuations, or even the differences between successive five-year averages of the data normalized to account for year anomalies. The mean and standard deviation of the five-year averages for fatalities, from 2010 to 2017, is approximately 25.48 (approximately the 2018 target) with the standard deviation of 4.7 fatalities. At 27.4, the actual outcome for 2018 is within the margin of the deviations over the years.

The differences in the actual outcomes and targets could also be attributed to the changing transportation landscape of the District. Public transit ridership has fluctuated throughout these years from highs close to 40 (39.6) percent share of commuting residents in as recent as 2011, to a low of 33 (32.7) percent in 2017, partly due to the work being done to Metrorail. The District's walk share has remained relatively flat, while biking has steadily increased in share from about 1 percent of commuting trips in 2000 to 5 percent in 2017. Importantly, in 2000, almost 50 (49.4) percent of District residents commuted to work by car (drive alone and car pool). In 2017 just under 40 (39.8) percent commute to work by car. Last year 2018 saw a further reduction in vehicle miles traveled when compared to 2017, albeit marginal. While this reduction is less than 0.5 percent, and doesn't necessary represent a trend, given that the previous three years saw small increases, it's a slight directional shift that supports, at least anecdotally, the observations that transportation is evolving in the District, and there is possibly of a shift to more diverse modes, particularly micromobility.

Currently, about 420,000 scooter rides are completed in the District every month—that's around 14,000 every day. A Washington Post-Schar School survey suggests that one in six residents of the District say they rode an electric scooter to get from one place to another in the past year, and anecdotal evidence suggests that people are using e-scooters and e-bikes to make short trips that otherwise would be made by car, including ride-hailing services such as Uber and Lyft.

When considering all these mix of modes, exposure can potentially increase by at least 10 to 15 percent per year, although vehicle miles traveled may see lesser increases or even declines. it will require the District and other cities to take a closer a look at various performance measures and safety efforts that address the exposures and challenges associated with the advent of micromobility.

In September, 2018 a 20-year old scooter rider became one of the first e-scooter fatalities nationwide when was struck and killed by a motor vehicle in the District. Since 2010 persons using non-motorized modes of travel (including, pedestrians and bicyclist) have collectively accounted for close to 50 percent of the District's traffic fatalities.

It is clear that the District challenges around safety is complicated, and countermeasures to improve road safety, especially for our most vulnerable road users, must come from activities that reduce:

- Exposure
- Risk of the crash
- Risk of injury

Understanding these challenges, over the past year the District has paid closer attention 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 elimination of dual turn conflicts, left turn hardening, and the targeted prohibition of right turn on red. Early this year the District the process of identifying intersection with dual turn lanes that pose "multiple threat" risks, particularly to pedestrians. A total of 36 intersections were identified for treatment with 6 completed thus far. Additionally, the District identified 101 intersections that would be achieve the most safety benefits associated with restricting right turns on red. Additionally, the District completed 45 left turn hardening treatment to reduce left turn speeds and enforce safe turning behaviors. The treatment is planned for another 40 intersections over the coming months.

Finally, in an effort to advance the goals of the SHSP and HSIP, the DDOT is in the process of developing an SOP that will help to streamline HSIP projects and activities. The SOP, which will include a tool to support the HSIP project selection process 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 selection of projects. This will consider how the project:
    - Addresses one or more priorities (Emphasis Areas) in the District's SHSP
    - Address an identified safety problem
    - Contributes to a reduction of fatalities and serious injuries.
- Help to establish 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 locations, including intersections and roadway segments, where there is a high concentration, or risk, of crashes that results in deaths or injuries. The HSIP in DC is centrally-managed at DDOT, with HSIP-related safety projects spread across various administration and divisions.

HSIP staff fulfills transportation safety planning requirements by producing listings of high severe crash intersections and highway sections. These locations are mainly identified in the annual crash reports, which involves a thorough network screening for the engineering emphasis areas (such fatalities and serious injuries) in the 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 highway safety goals of the District. Locations are also identified through various citizens 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 Transportation Operations and Safety Division (TOSD), Operation Administration. The TOSD would conduct the engineering studies to identify appropriate countermeasures. The project would then be handed off to Traffic Engineering and Safety Division (TESD) under the Project Delivery Administration, and this division would see it through implementation.

In an effort to advance the goals of the SHSP and HSIP, the DDOT is in the process of developing an SOP that will help to streamline HSIP projects and activities. The SOP, which will include a tool to support the HSIP project selection process 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 selection of projects. This will consider how the project:
    - Addresses one or more priorities (Emphasis Areas) in the District's SHSP
    - Address an identified safety problem
    - Contributes to a reduction of fatalities and serious injuries.
- Help to establish prioritization mechanism for the selection of projects.

Where is HSIP staff located within the State DOT?

Other-HSIP staff are primarily located in the Transportation Operations and Safety Division (TOSD)

HSIP staff are primarily located in the Transportation Operations and Safety Division (TOSD) in the Operations Administration.

HSIP staff is located in several administration and divisions in DDOT. However, the core program is administered by the Transportation Operations and Safety Division (TOSD) in the Operations Administration (OA) and supported by the Traffic Engineering and Signals Division (TESD) for some project-related construction activity.

How are HSIP funds allocated in a State?

- Central Office via Statewide Competitive Application Process

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
- Maintenance
- Operations
- Planning
- Traffic Engineering/Safety
- Other-See additional comments

The HSIP requires coordination among many groups and multi-disciplinary teams within the District Department of Transportation. They include, the transportation Operations and Safety Division (TOSD) and Asset Management Division in the Operations Administration (OA), Planning and Sustainability Division (PSD), Traffic Engineering and Signals Division (TESD), an the Infrastructure Project Management Division (IPMD) in the Project Delivery Administration, and the Vision Zero Division in the Office of the Director.

Describe coordination with internal partners.

The HSIP efforts requires coordination among many groups within DDOT and this is primarily achieved through internal meetings. The Agency holds weekly “SafetyStat” meetings where numerous safety projects and issues are discussed and organized, and updates provided by various groups from different divisions on their efforts on projects. In addition to these meetings, ward-based project meetings are also held on a weekly basis to provide updates on design and construction-related projects. Finally, a weekly TranStat meeting is held that includes discussion on performance metric, understanding the needs of the Safety program (including but not limited to HSIP), and which is consistent with many of the performance measures included as our HSIP targets.

Identify which external partners are involved with HSIP planning.

- FHWA
- Governors Highway Safety Office
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)

External partners are involved in various planning- and operations-related issues via scheduled meetings to discuss goals, milestones and safety targets. The meetings are arranged by Transportation Safety Manager of the Transportation Operations Administration at DDOT. They include Metropolitan Police Department (MPD), National Highway Traffic Safety Administration (NHTSA), Washington Metro Area Transit Authority (WMATA), Metropolitan Washington Council Of Governments (MWCOG)/ National Capital Region Transportation Planning Board

Describe coordination with external partners.

External partners are involved in various planning- and operations-related issues via scheduled meetings to discuss goals, milestones and safety targets. The meetings are arranged by Transportation Safety Manager of the Transportation Operations Administration at DDOT.

Although the Governor's Highway Safety Office is listed here as an external partner, the District's Highway Safety Office is located within the District Department of Transportation, so coordination around HSIP efforts is seamless.

Program Methodology

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

No

The District is in the process of developing a SOP and tool to support the HSIP project selection process that will, 1) Guide DDOT internal stakeholders on what qualifies as a project for HSIP funding; 2) Establish key requirements and supporting documents needed to satisfy the requirement for the use of HSIP funding, and 3) Help to establish prioritization mechanism for the selection of projects. In addition, the District will include details on the use of HSM procedures in the development of benefit-to-cost (BC) analyses, via crash modification factors, to support the evaluation of projects and mitigations.

Select the programs that are administered under the HSIP.

- Bicycle Safety
- Intersection
- Left Turn Crash
- Local Safety
- Low-Cost Spot Improvements
- Median Barrier
- Pedestrian Safety
- Red Light Running Prevention
- Right Angle Crash
- Safe Corridor
- Sign Replacement And Improvement
- Skid Hazard
- Other-Sight distance analysis

While the entirety of the selected programs are not administered under the HSIP, many projects are planned, designed and implemented to address safety deficiencies in various projects within these programs through the HSIP.

Program: Bicycle Safety

Date of Program Methodology:10/1/2014

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 Lane miles	Median Horizontal Functional Roadside features	width curvature 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?

Yes

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

Yes

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).

Rank of Priority Consideration

Other-Total Number of Collisions:1

Program: Intersection

Date of Program Methodology:10/1/2015

What is the justification for this program?

What is the funding approach for this program?

What data types were used in the program methodology?

Crashes	Exposure	Roadway
All crashes	Traffic Volume	

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?

Yes

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

Yes

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) in performing safety reviews and analyses for traffic operations and crash data at intersections, corridors and construction work zones

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-Number of injuries :3
Other-Number of injury collisions:2
Other-Total number of collisions:1

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?

Funding set-aside

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	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?

Yes

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

Yes

How are projects under this program advanced for implementation?

- selection committee

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 net benefit:50
Cost Effectiveness:50

Program: Local Safety

Date of Program Methodology:10/1/2014

What is the justification for this program?

What is the funding approach for this program?

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?

Yes

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

Yes

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

Program: Low-Cost Spot Improvements

Date of Program Methodology:10/1/2014

What is the justification for this program?

What is the funding approach for this program?

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?

Yes

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

Yes

How are projects under this program advanced for implementation?

- Other-Projects for Design are automatically implemented through Construction. These projects are advanced by "Decision Lens" and internal review of annual Crash statistics report and Commercial Motor Vehicles (CMV) 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

Program: Median Barrier

Date of Program Methodology:10/1/2014

What is the justification for this program?

What is the funding approach for this program?

What data types were used in the program methodology?

Crashes	Exposure	Roadway

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: Pedestrian Safety

Date of Program Methodology:10/1/2014

What is the justification for this program?

What is the funding approach for this program?

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?

Yes

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

Yes

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

Program: Red Light Running Prevention

Date of Program Methodology:10/1/2014

What is the justification for this program?

What is the funding approach for this program?

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?

Yes

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

Yes

How are projects under this program advanced for implementation?

- Other-Projects for Design are automatically implemented through Construction. These projects are advanced by "Decision Lens" and internal review of annual Crash statistics report and Commercial Motor Vehicles (CMV) 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

Program: Right Angle Crash

Date of Program Methodology:10/1/2014

What is the justification for this program?

What is the funding approach for this program?

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?

Yes

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

Yes

How are projects under this program advanced for implementation?

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

Program: Safe Corridor

Date of Program Methodology:10/1/2014

What is the justification for this program?

What is the funding approach for this program?

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?

Yes

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

Yes

How are projects under this program advanced for implementation?

- Other-Projects for Design are automatically implemented through Construction. These projects are advanced by "Decision Lens" and internal review of annual Crash statistics report and Commercial Motor Vehicles (CMV) 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

Program: Sign Replacement And Improvement

Date of Program Methodology:10/1/2014

What is the justification for this program?

What is the funding approach for this program?

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?

Yes

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

Yes

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 and Commercial Motor Vehicles (CMV) 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

Program: Skid Hazard

Date of Program Methodology:10/1/2014

What is the justification for this program?

What is the funding approach for this program?

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?

Yes

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

Yes

How are projects under this program advanced for implementation?

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

Program: Other-Sight distance analysis

Date of Program Methodology:10/1/2013

What is the justification for this program?

What is the funding approach for this program?

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?

Yes

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

Yes

How are projects under this program advanced for implementation?

- Other-These projects are utilized 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

What percentage of HSIP funds address systemic improvements?

25

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

- Add/Upgrade/Modify/Remove Traffic Signal
- Install/Improve Signing
- Traffic Control Device Rehabilitation

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, 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 analysis for the FY 2018 studies. As DDOT HSIP studies aim to identify low-cost, high-impact safety improvements with an 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 which require geometric or significant construction support are advanced to other DDOT divisions for conceptual design.

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

Federal 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)	$10,858,188	$10,858,188	100%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$0	$0	0%
Penalty Funds (23 U.S.C. 154)	$114,340	$0	0%
Penalty Funds (23 U.S.C. 164)	$0	$0	0%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	$0	$0	0%
Other Federal-aid Funds (i.e. STBG, NHPP)	$0	$0	0%
State and Local Funds	$0	$0	0%
Available De'Obd from SAFETEA-LU HRRR	$0	$54,000	0%
Totals	$10,972,528	$10,912,188	99.45%

The HRRR Funding shown in this table is actually old SAFETEA-LU HRRR program funding that was de-obligated from a completed project and programmed for a new project

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 of Columbia does not have a local (non-state owned and operated) or tribal roads program. All roads are considered for HSIP and
Safety Improvement projects.

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

10%

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

10%

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.

Obligation staff works with various administrations and divisions to ensure that obligations are done in a timely manner. The agency now holds regular obligation meetings with various internal stakeholders to improve upon the obligation process and provide help to engineers and manager where needed. The District is in the process of preparing a SOP for the HSIP that would help to determine eligibility of projects and streamline funding and obligations. The SOP will be implemented in the next fiscal year.

General Listing of Projects

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

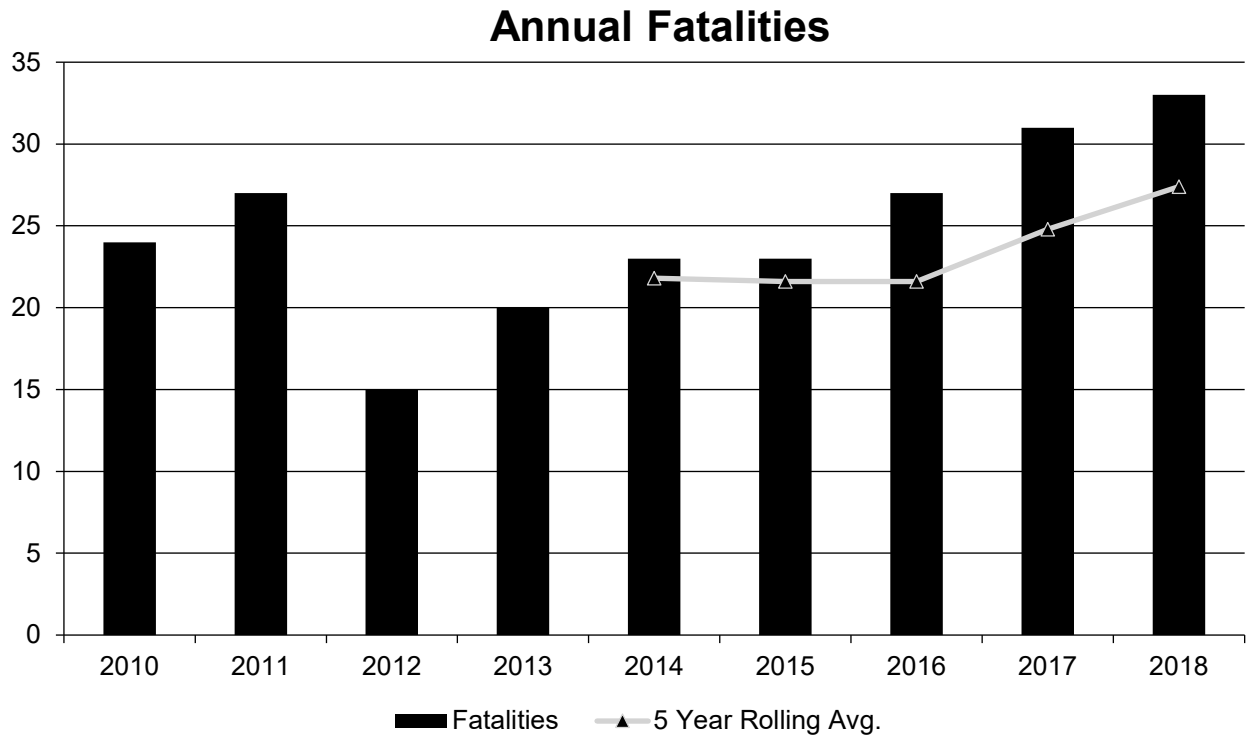
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
Construction of Fiber Communication Network on Freeways	Advanced technology and ITS	Advanced technology and ITS - other					HSIP (23 U.S.C. 148)			0					
Traffic Safety Construction	Intersection geometry						HSIP (23 U.S.C. 148)			0					
Traffic Safety Data Center at Howard University	Non-infrastructure	Data/traffic records					HSIP (23 U.S.C. 148)			0					
Traffic Safety Engineering Support Services	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecified					HSIP (23 U.S.C. 148)			0					
Constructability and Work Zone Safety Review	Non-infrastructure	Transportation safety planning					HSIP (23 U.S.C. 148)			0					
Crash Database	Non-infrastructure	Data/traffic records					HSIP (23 U.S.C. 148)			0					
Southern Ave. from Barnaby Rd. SE to UMC Campus	Roadway	Roadway narrowing (road diet, roadway reconfiguration)					HSIP (23 U.S.C. 148)			0					
Guiderail and Attenuators Repair and Replacement	Roadside	Barrier end treatments (crash cushions, terminals)					HSIP (23 U.S.C. 148)			0					
Thermoplastic Pavement Markings	Roadway delineation	Improve retroreflectivity					HSIP (23 U.S.C. 148)			0					

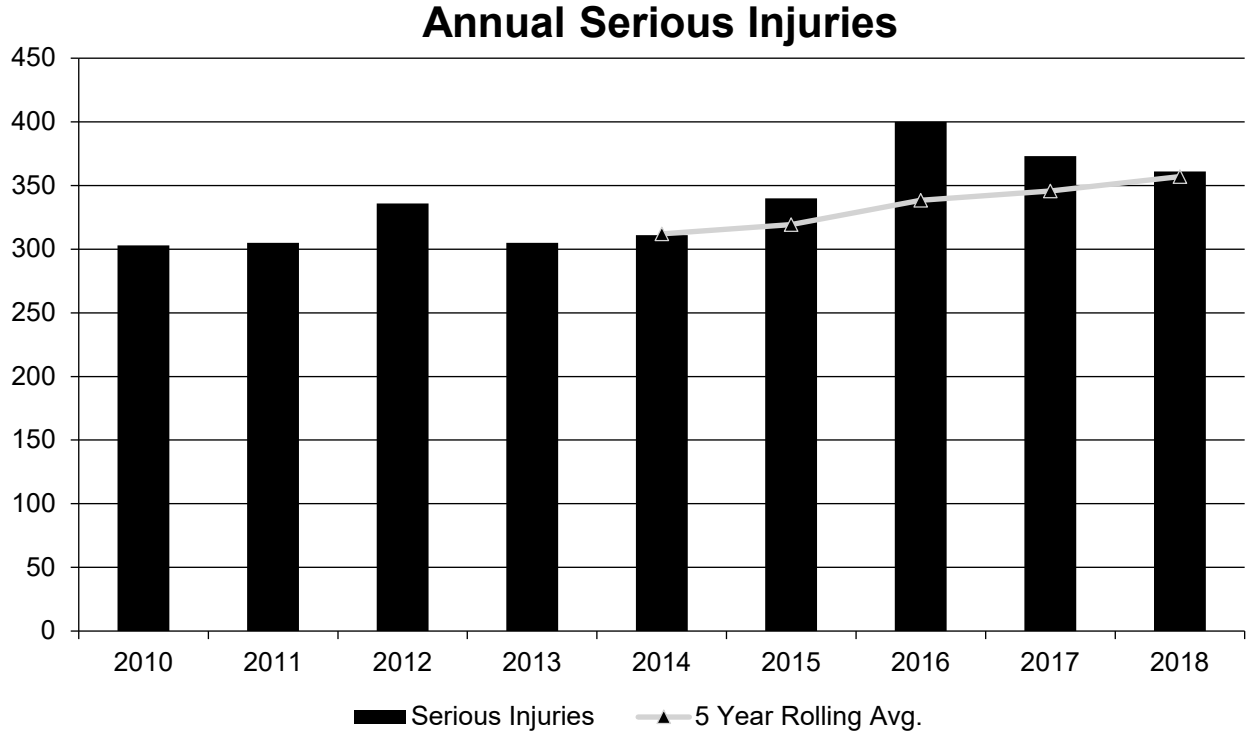
Safety Performance

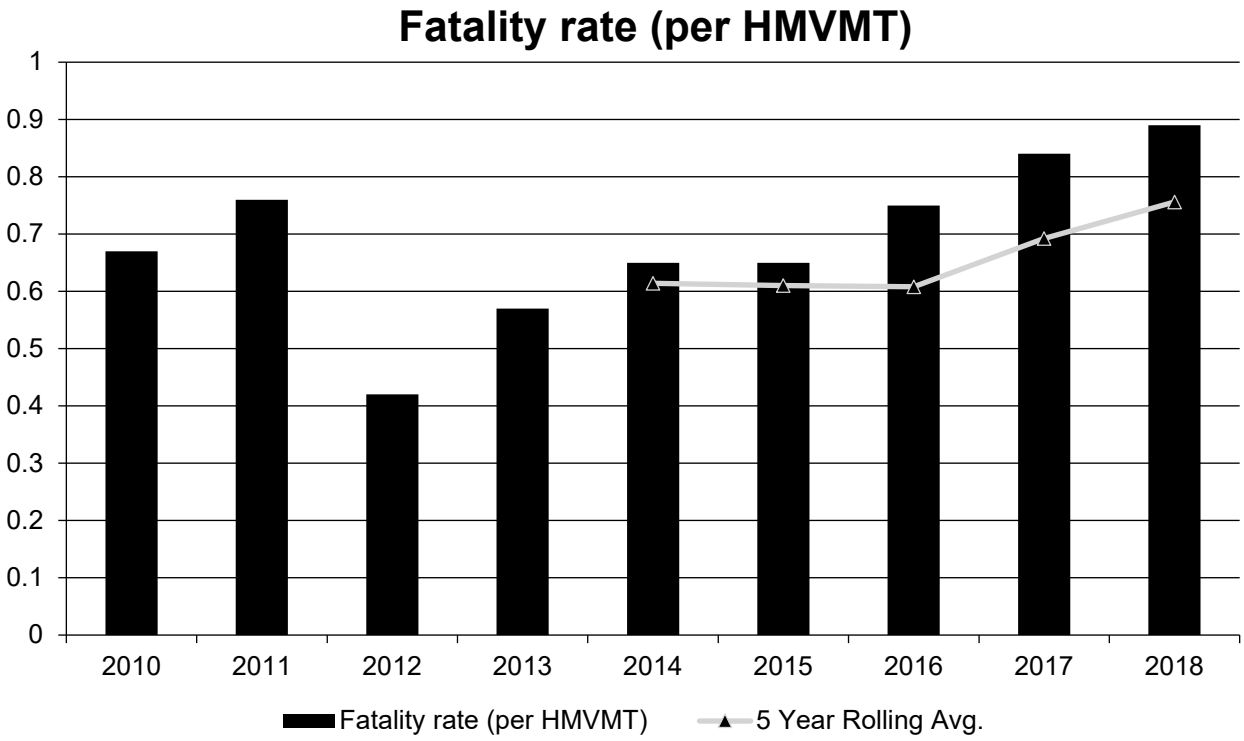
General Highway Safety Trends

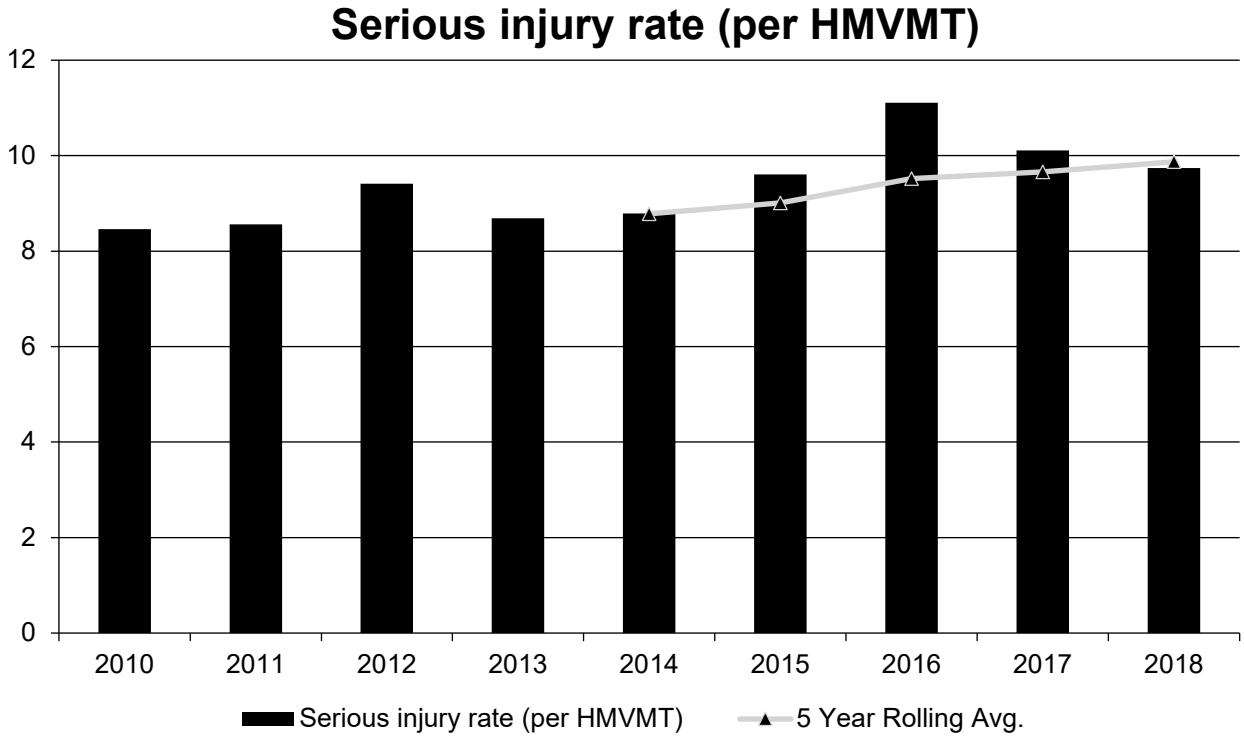
Present data showing the general highway safety trends in the State for the past five years.

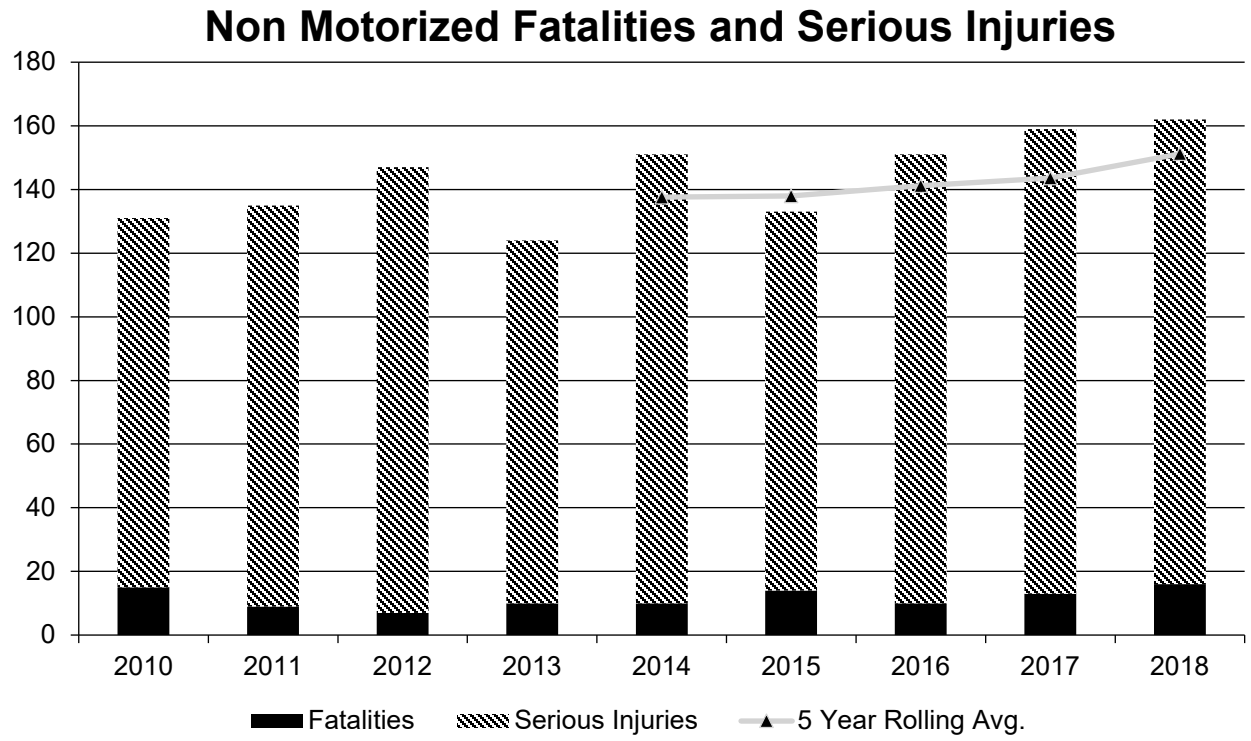
PERFORMANCE MEASURES	2010	2011	2012	2013	2014	2015	2016	2017	2018
Fatalities	24	27	15	20	23	23	27	31	33
Serious Injuries	303	305	336	305	311	340	400	373	361
Fatality rate (per HMVMT)	0.670	0.760	0.420	0.570	0.650	0.650	0.750	0.840	0.890
Serious injury rate (per HMVMT)	8.460	8.560	9.410	8.690	8.790	9.610	11.110	10.110	9.740
Number non-motorized fatalities	15	9	7	10	10	14	10	13	16
Number of non-motorized serious injuries	116	126	140	114	141	119	141	146	146


Annual Fatalities
35
30
25
20
15
10
5
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
450
400
350
300
250
200
150
100
50
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1
0.9
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
12
10
8
6
4
2
0
2010
2011
2012
2013
2014
2015
2016
2017
2018
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 2018

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				
Rural Local Road or Street				

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)
Urban Principal Arterial (UPA) - Interstate	1.2	19.6	0.26	4.19
Urban Principal Arterial (UPA) - Other Freeways and Expressways	1.8	3.2	0.48	0.85
Urban Principal Arterial (UPA) - Other	8.2	102.8	0.79	9.99
Urban Minor Arterial	10.2	110.8	1.44	15.63
Urban Minor Collector				
Urban Major Collector	2.4	40	0.89	14.96
Urban Local Road or Street	5.4	78.4	0.7	10.15

Year 2016

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	21.4	338	0.59	9.36
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				

The 2017 data was updated based on data which became available throughout the year.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2020 Targets *

Number of Fatalities:40.0

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

2019 District Of Columbia Highway Safety Improvement Program
The District of Columbia Strategic Highway Safety Plan (SHSP) Update 2014 (revised 2017) seeks to reduce traffic fatalities by 20 percent from 26 (average of 5 years 2008 to 2012, FARS data) to 21 by 2025. Between 2005 and 2017 the District fatality trend followed the national trend, downward from 48 in 2005 to 15 (lowest) in 2012. The five-year rolling average has been close to the SHSP target for years 2014 through 2016 after a series of relatively low actual fatality numbers in 2012, 2013, and 2014. Over the latest 5 years (2014 to 2018) the District has averaged 28 (27.4) traffic fatalities, with the actual traffic fatalities under the 5-year average for three (2014, 2015, and 2016) of the five years, but is higher than the 5-year average for the two most recent years (2017 and 2018). While annual traffic fatalities have been increasing in the last five years, it is important to note that the rate of increase has slowed over this time. The rate of increase for last three years, 2016, 2017, and 2018, is 17, 14, and 6 percent, respectively. The annual fatality trend and the 5-year rolling average trend projects 45 (44.6) and 36 (35.1) traffic related fatalities respectively in 2020. The District believes that, with the heightened focus on reducing fatalities and serious injuries, the average of both projections is attainable. Projected 2020 estimate = 40 (39.9) traffic-related fatalities.

Number of Serious Injuries:414.0

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

A Serious Injury is defined according to the latest edition of the Model Minimum Uniform Crash Criteria. Currently the trend of crash occurrences and resulting serious injuries is increasing due to the many issues. One issue in particular relates to the newly adopted crash reporting system that captures injury data based on the MMUCC 4th Edition. There is a high probability (based on experiences from other States) that serious injury numbers resulting from a crash will increase as officers are fully trained to identify suspected serious injuries at crash sites, leading to more accurate and consistent coding in the field. Serious injuries have gone from a low of 311 to a high of 388 over the last 5 years. The projections of both annual and 5-year rolling average trend significantly upward to 434 and 393, respectively, in 2020. The District believes that, with the heightened focus on reducing fatalities and serious injuries, the average of both projections is attainable. Projected estimate 2020 = 414 (average of both trends)

Fatality Rate:1.070

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

The Fatality Rate is defined as the number of traffic fatalities per 100 million vehicle miles traveled (VMT). Preliminary numbers indicate an increase in VMT from 3,621,959,278 in 2016 to 3,711,065,230 in 2017, a 2.5 percent increase. With the increases in population, worker trips, tourist visitations, VMT, non-motorized trips, and other trip making activities in the District, exposure is expected to increase by at least 10 to 15 percent per year. However, with the ongoing and planned road safety activities in engineering, enforcement, education and emergency services, the District believes that using an average of both the high and low projections of 1.07 persons is achievable in 2020.

Serious Injury Rate:10.470

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

The District of Columbia SHSP seeks to reduce the serious injuries by 20% between 2013 and 2025. Serious injury rate is the number of serious injuries per 100 million vehicle miles traveled (VMT). The

trend of crash occurrences and resulting serious injuries is increasing due to the many issues. One issue in particular relates to the newly adopted crash reporting system that captures injury data based on the MMUCC 4th Edition. Prior to 2016, the Metropolitan Police Department (MPD) database defined injury data as “disabling and non-disabling.” In 2016, the MPD changed the injury severity level coding in its crash form to correspond with the MMUCC, as per Federal regulation under MAP-21[1]. . There is a high probability (based on experiences from other States) that serious injury numbers resulting from a crash will increase as officers are fully trained to identify suspected serious injuries at crash sites, leading to more accurate and consistent coding in the field. Preliminary numbers indicate an increase in VMT from 3,621,959,278 in 2016 to 3,711,065,230 in 2017, a 2.5 percent increase. In addition, the increases in population, worker trips, tourist visitations, VMT, non-motorized trips, and other trip making activities in the District, exposure is expected to increase by at least 10 to 15 percent per year. However, with the ongoing and planned road safety activities in engineering, enforcement, education and emergency services, the District believes that a rate of 10.47 serious injury rate is achievable in 2020.

Total Number of Non-Motorized Fatalities and Serious Injuries:181.0

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

Pedestrians and bicyclists are among the District’s most vulnerable roadway users and when involved in a crash with a motor vehicle, they suffer more serious injuries than vehicle occupants. Improving pedestrian and bicycle safety is major challenge as they compete with other modes of transportation for limited space. The number of bike and pedestrian trips, e.g., Bikeshare trips, has increased by 6 percent from 3.3 M trips in 2016 to 3.5 M trips in 2018. Additionally, preliminary numbers indicate a 2.5 percent increase in Vehicle Miles Travelled (VMT) from 3,621,959,278 in 2016 to 3,711,065,230 in 2017.There is increased likelihood of exposure and conflicts as the District meets it transportation demand goals. The District is committed to improving the safety of these modes as reflected in the State Highway Safety Plan (SHSP). The challenge is to accelerate implementation of the pedestrian safety strategies to reverse this trend and reduce the impact of crashes on these vulnerable users. Efforts such as the systemic treatments to reduce left turning speeds at intersections with relatively high potential for pedestrian conflict will help to reduce non-motorized fatalities and serious injuries. The District believes that a total of 181 fatalities and serious injury (23 non-motorized fatalities and 158 non-motorized) projections are achievable in 2020.

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

As done in previous years, The District Department of Transportation teams (including stakeholders associated with the Highway Safety Improvement Program, Highway Safety Plan, State Highway Safety Plan, Vision Zero), Metropolitan Washington Council of Governments (MWCOG), and Federal Highways Administration (FHWA) coordinates through email, conference calls, and in-person meetings to establish specific targets based on the variety of data sources mentioned in this report to address the District traffic safety problems. The Team established the methodology and targets for Fatalities, Serious Injuries and Fatality rate per 100 million vehicle-miles travelled; these are identical for the HSP and HSIP. The methodologies were used to establish targets for Serious Injury Rate and Non-motorized fatality and serious injuries.

Does the State want to report additional optional targets?

No

Describe progress toward meeting the State's 2018 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.

The Strategic Highway Safety Plan (SHSP) is a District-wide coordinated safety plan that provides a comprehensive framework to reduce highway fatalities and serious injuries on public roads. The Highway Safety Improvement Program (HSIP) safety efforts and targets are linked directly to the District's SHSP.

Safety Performance Management (Safety PM) is part of the overall Transportation Performance Management (TPM) program, which is defined as a strategic approach that uses system information to make investment and policy decision to achieve national performance goals. The Safety PM Final Rule supports the HSIP, as it establishes safety performance measure requirements for the purpose of carrying out the HSIP and to assess fatalities and serious injuries on all public roads.

The Safety PM Final Rule establishes five performance measures as the five-year rolling averages to include:

1. Number of Fatalities
2. Rate of Fatalities per 100 million Vehicle Miles Traveled (VMT)
3. Number of Serious Injuries
4. Rate of Serious Injuries per 100 million VMT
5. Number of Non-motorized Fatalities and Non-motorized Serious Injuries

The five-year rolling average target for the Number of Fatalities was set at 26.0 for calendar year 2018. At the time of this report, the official fatality numbers for 2018 were not yet published in the FARS; however, the District expects that the Number of Fatalities in the FARS for 2018 will not be greater than 33, after each crash is reviewed and properly classified using the Manual on Classification of Motor Vehicle Traffic Accidents. Using the conservative approach, the "actual" five-year rolling average (2014-2018) is 27.4. This is less than two (2) fatalities higher, or seven (7) percent over the estimated target.

The actual traffic fatalities are higher than the 5-year average for the two most recent years (2017 and 2018). It should be noted, however, that while annual traffic fatalities have been increasing in the last five years, the rate of increase has slowed over this time. The rate of annual increase for last three years, 2016, 2017, and 2018, is 17, 14, and 6 percent, respectively.

The five-year rolling average for the Rate of Fatalities was set at 0.7 fatalities per hundred million vehicle miles traveled (HMVMT). At the time of this report, the official fatality numbers for 2018 were not yet published in the FARS; however, the District expects that the Number of Fatalities in the FARS for 2018 will not be greater than 33, after each crash is reviewed and properly classified using the Manual on Classification of Motor Vehicle Traffic Accidents. Using the published vehicle miles traveled, and a conservatively high fatality tally, the "actual" five-year rolling average (2014-2018) is expected to be 0.76 fatalities per HMVMT. This represents an 8 percent difference in actual and projected rates.

The 2018 targets for the Number of Serious Injuries and the Rate of Serious Injuries per 100 HMVMT were 384 and 10.28, respectively. Both of these targets were met. The actual Number of Serious Injuries was 354, or 8 percent lesser than the projection, and the actual Rate of Serious Injuries per 100 HMVMT was 9.77, or 5 percent lesser than the target. It should be noted that these results could have been impacted by an adjustment in serious injury numbers and the projected vehicle miles traveled over the last two years.

The 2018 targets for the Number of Non-motorized Fatalities and Non-motorized Serious Injuries per 100HMVMT were 12.0 and 131.8, respectively. The actual Number of Non-motorized Fatalities was 12.4, or 3 percent over the target, while the actual Non-motorized Serious Injuries per 100 HMVMT was 138.6, which is 5 percent higher than the target.

In general, two (2) of the five (5) performance measure targets were met and three (3) came within 8 percent

or less of achieving the target. These percentages are relatively small and when these differences are considered relative to the sample size of say, fatalities, then it becomes clear that this difference might be within the standard deviation, yearly fluctuations, or even the differences between successive five-year averages of the data that normalizes the data to account for year anomalies. The mean and standard deviation of the five-year averages for fatalities, from 2010 to 2017, is approximately 25.48 (approximately the 2018 target) with the standard deviation of 4.7 fatalities. At 27.4, the actual outcome for 2018 is within the margin of the deviations over the years.

The differences in the actual outcomes and targets could also be attributed to the changing transportation landscape of the District. Public transit ridership has fluctuated throughout these years from highs close to 40 (39.6) percent share of commuting residents in as recent as 2011, to a low of 33 (32.7) percent in 2017, partly due to the work being done to Metrorail. The District's walk share has remained relatively flat, while biking has steadily increased in share from about 1 percent of commuting trips in 2000 to 5 percent in 2017. Importantly, in 2000, almost 50 (49.4) percent of District residents commuted to work by car (drive alone and car pool). In 2017 just under 40 (39.8) percent commute to work by car. Last year 2018 saw a further reduction in vehicle miles traveled when compared to 2017, albeit marginal. While this reduction is less than 0.5 percent, and doesn't necessary represent a trend, given that the previous three years saw small increases, it's a slight directional shift that supports, at least anecdotally, the observations that transportation is evolving in the District, and there is possibly of a shift to more diverse modes, particularly micromobility.

In September 2017, The District took on a bold experiment: the initiation of a demonstration period in which the DC government would permit private companies to operate dockless bicycle and electric scooter-sharing services on our public streets. From September 2017 through June 2018, the dockless demonstration resulted in over 625,000 dockless trips by riders with approximately 233,700 unique user accounts among the seven companies. Currently, about 420,000 scooter rides are completed in the District every month—that's around 14,000 every day. A Washington Post-Schar School survey suggests that one in six residents of the District say they rode an electric scooter to get from one place to another in the past year, and anecdotal evidence suggests that people are using e-scooters and e-bikes to make short trips that otherwise would be made by car, including ride-hailing services such as Uber and Lyft.

When considering all these mix of modes, exposure can potentially increase by at least 10 to 15 percent per year, although vehicle miles traveled may see lesser increases or even declines. it will require the District and other cities to take a closer a look at various performance measures and safety efforts that address the exposures and challenges associated with the advent of micromobility. In September, 2018 a 20-year old scooter rider became one of the first e-scooter fatalities nationwide when was struck and killed by a motor vehicle in the District.

It is clear that countermeasures to improve road safety must come from activities that reduce:
• Exposure
• Risk of the crash
• Risk of injury

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	2011	2012	2013	2014	2015	2016	2017
Number of Older Driver and Pedestrian Fatalities	4	1	6	2	5	1	5
Number of Older Driver and Pedestrian Serious Injuries	19	18	17	10	21	26	17

The serious injury data for 2015 through 2017 is updated

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 of Columbia challenges around traffic safety is complicated, but DDOT is continually making efforts to improve safety on the roads through the application of safety analysis, knowledge and methodologies, and the effective and efficient use of HSIP funds. The District of Columbia Strategic Highway Safety Plan Update 2014 (revised 2017) seeks to reduce traffic fatalities by 20 percent from 26 (average of 5 years 2008 to 2012, FARS data) to 21 by 2025.

The District has made significant strides in achieving these goals. The five-year rolling average has been close to this target for years 2014 through 2016 after low actual fatality numbers in 2012, 2013, and 2014 (2013 was lowest). Since 2013, the Districts fatalities per year has increased at an average of 2.8 fatalities per year. It should be noted, however, that while annual traffic fatalities have been increasing in the last five years, the rate of increase has slowed over this time. The rate of annual increase for last three years, 2016, 2017, and 2018, is 17, 14, and 6 percent, respectively.

Although automobile trips have decline over the long term, consideration has to be given to the numerous alternate modes and the possibility of exposure increasing by at least 10 to 15 percent per year as the trips made by these modes increase. To this end, the gradual slowing of the rate of increase in fatalities is an indicator of the effectiveness of the program. It is not easy to calculate the lives that may have been saved through the projects under the program, but there is a possibility that without the HSIP program traffic fatalities could have been higher.

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
- Increased focus on local road safety
- More systemic programs
- Organizational change
- Policy change

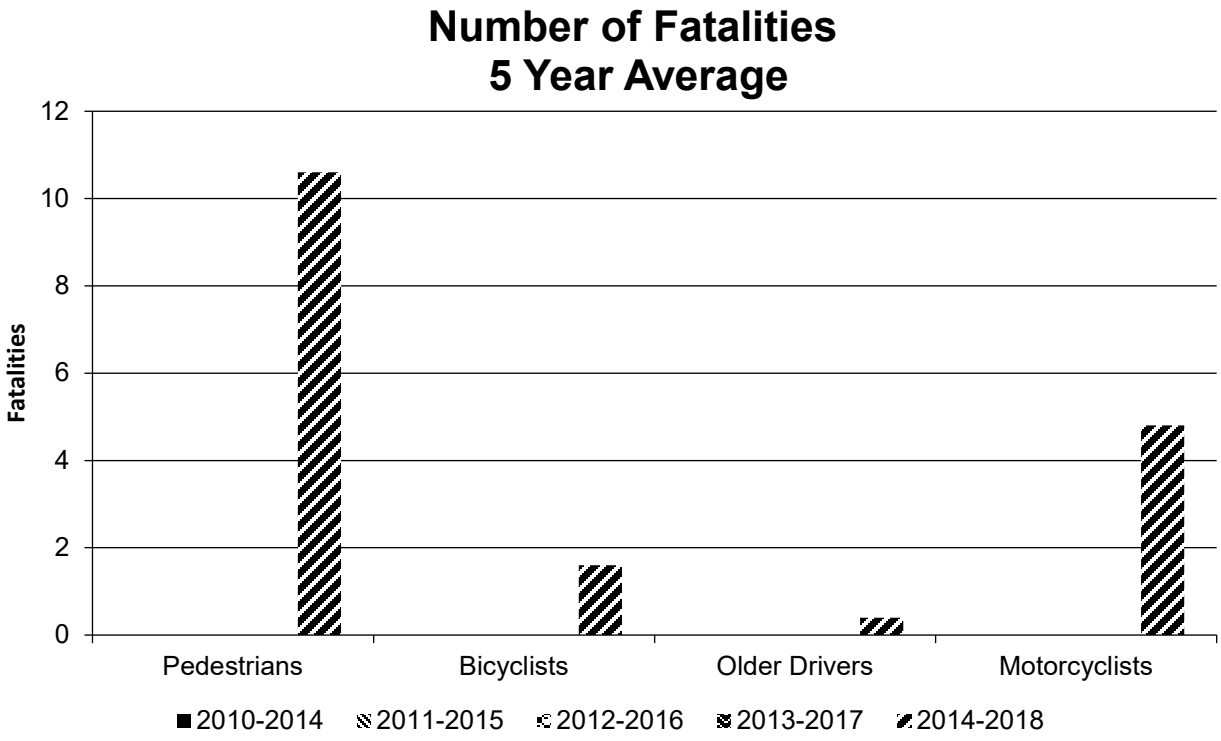
Effectiveness of Groupings or Similar Types of Improvements

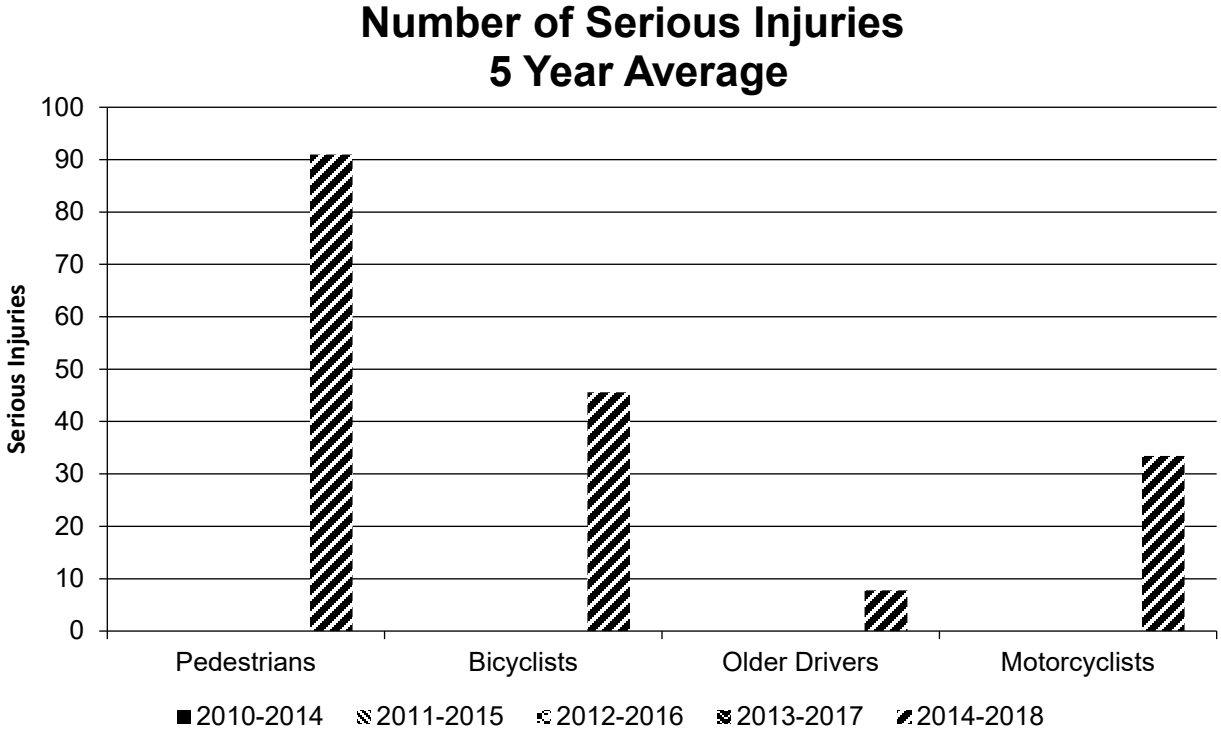
Present and describe trends in SHSP emphasis area performance measures.

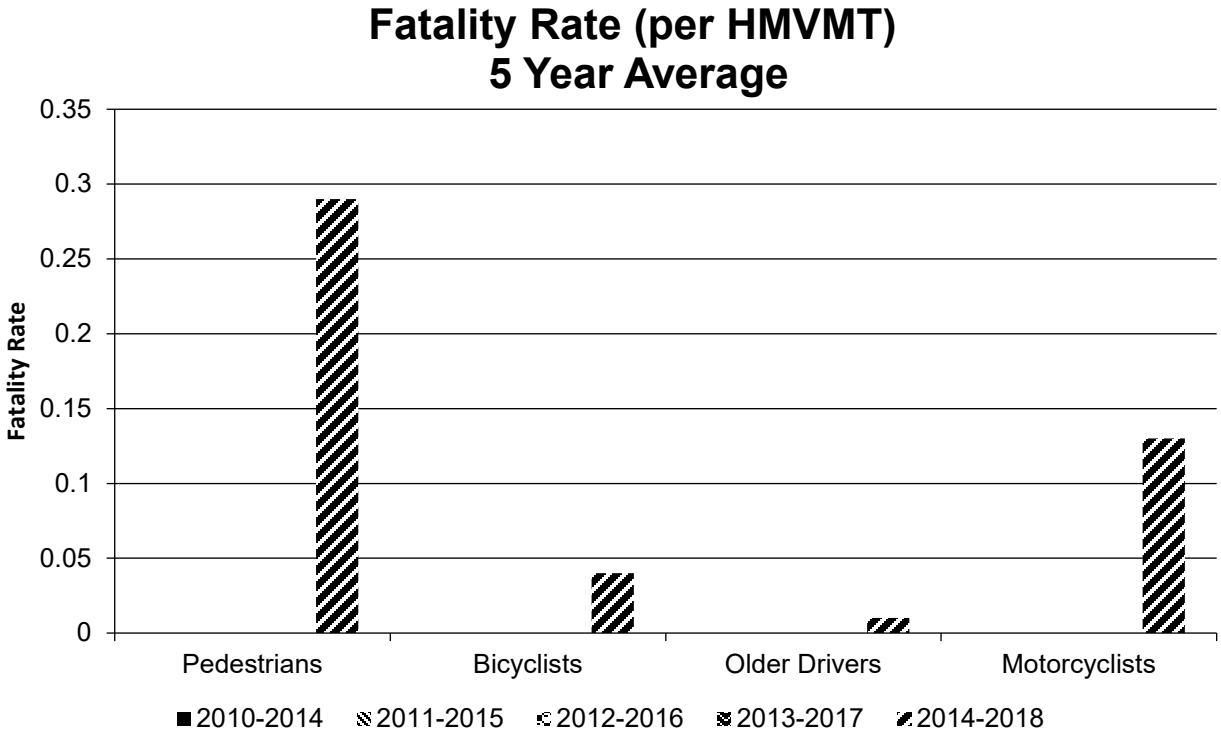
Year 2018

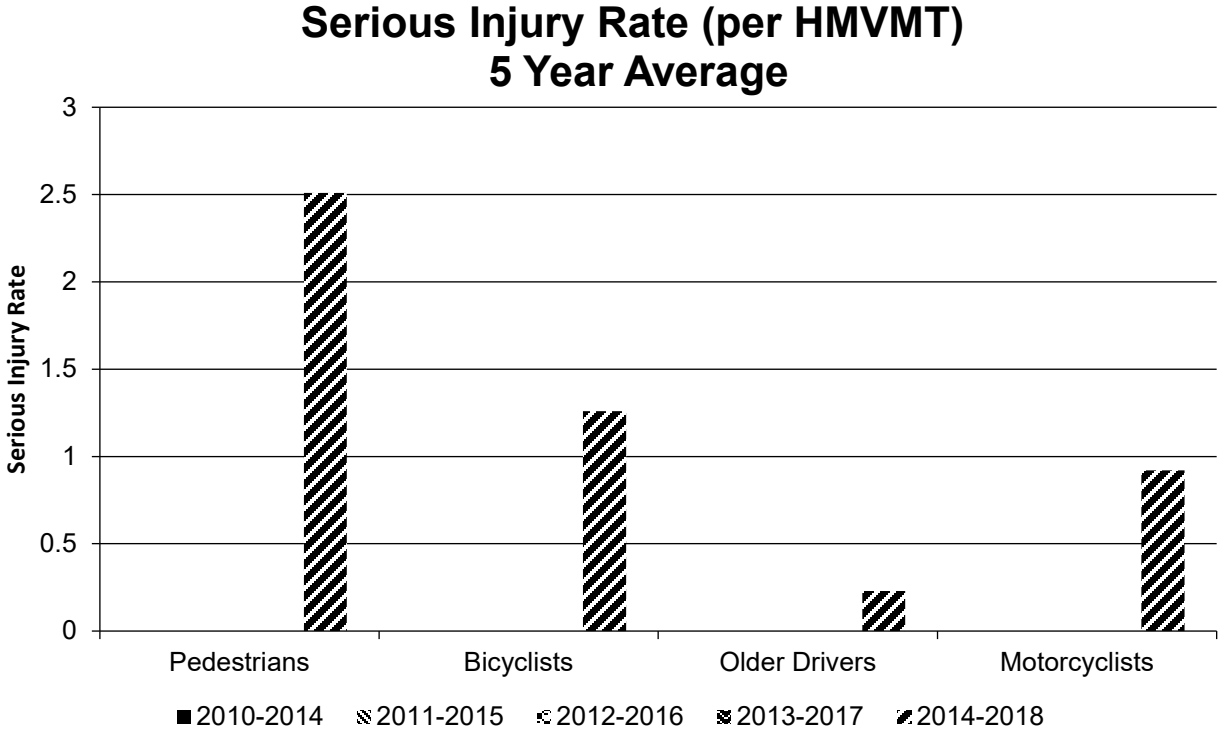
2019 District Of Columbia Highway Safety Improvement Program

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		10.6	91	0.29	2.51
Bicyclists		1.6	45.6	0.04	1.26
Older Drivers		0.4	7.8	0.01	0.23
Motorcyclists		4.8	33.4	0.13	0.92


Number of Fatalities
5 Year Average
Fatalities
12
10
8
6
4
2
0
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
2010-2014
2011-2015
2012-2016
2013-2017
2014-2018


Number of Serious Injuries
5 Year Average
Serious Injuries
100
90
80
70
60
50
40
30
20
10
0
Pedestrians
Bicyclists
Older Drivers
Motorcyclists
2010-2014
2011-2015
2012-2016
2013-2017
2014-2018





Has the State completed any countermeasure effectiveness evaluations during the reporting period?

No

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)
N/A														

Compliance Assessment

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

09/30/2017

What are the years being covered by the current SHSP?

From: 2014 To: 2019

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

2020

A major update of the SHSP is ongoing and due out in early 2020.

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

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	
		NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	
ROADWAY SEGMENT	Segment Identifier (12)	100	100					100	100	100	100
	Route Number (8)	100	100								
	Route/Street Name (9)	100	100								
	Federal Aid/Route Type (21)	100	100								
	Rural/Urban Designation (20)	100	100					100	100		
	Surface Type (23)	100	100					100	100		
	Begin Point Segment Descriptor (10)	100	100					100	100	100	100
	End Point Segment Descriptor (11)	100	100					100	100	100	100
	Segment Length (13)	100	100								
	Direction of Inventory (18)	100	100								
	Functional Class (19)	100	100					100	100	100	100
	Median Type (54)	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	
		NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	
	Access Control (22)	100	100								
	One/Two Way Operations (91)	100	100								
	Number of Through Lanes (31)	100	100					100	100		
	Average Annual Daily Traffic (79)	100	100					100	100		
	AADT Year (80)	100	100								
	Type of Governmental Ownership (4)	100	100					100	100	100	100
INTERSECTION	Unique Junction Identifier (120)			100	100						
	Location Identifier for Road 1 Crossing Point (122)			100	100						
	Location Identifier for Road 2 Crossing Point (123)			100	100						
	Intersection/Junction Geometry (126)			100	100						
	Intersection/Junction Traffic Control (131)			100	100						
	AADT for Each Intersecting Road (79)			100	100						
	AADT Year (80)			100	100						
	Unique Approach Identifier (139)			100	100						
INTERCHANGE/RAMP	Unique Interchange Identifier (178)										
	Location Identifier for Roadway at Beginning of Ramp Terminal (197)					100	100				
	Location Identifier for Roadway at Ending Ramp Terminal (201)					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	
		NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	
	Ramp Length (187)					100	100				
	Roadway Type at Beginning of Ramp Terminal (195)					100	100				
	Roadway Type at End Ramp Terminal (199)					100	100				
	Interchange Type (182)										
	Ramp AADT (191)					100	100				
	Year of Ramp AADT (192)					100	100				
	Functional Class (19)					100	100				
	Type of Governmental Ownership (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

There were no significant changes to the MIRE fundamental data elements collection efforts over the past year.

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 has mostly met the requirement to have complete access to MIRE Fundamental Data Elements. Only the Unique Interchange Identifier (178) needs to be added and this is expected to be completed in the coming year.

Did the State conduct an HSIP program assessment during the reporting period?

No

When does the State plan to complete its next HSIP program assessment.

2020

Optional Attachments

Program Structure:

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.