



# DISTRICT OF COLUMBIA HIGHWAY SAFETY IMPROVEMENT PROGRAM 2017 ANNUAL REPORT



U.S. Department of Transportation  
Federal Highway Administration

Photo source: Federal Highway Administration

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## DISCLAIMER

### **Protection of Data from Discovery Admission into Evidence**

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

23 U.S.C. 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

The District of Columbia's Safety Program is the focal point of the HSIP program. The Safety Program has continued to evolve since 2011. The Department took a major initiative in 2010 by aligning Divisions and staff to ensure that Safety becomes the core of every activity performed by the District Department of Transportation (DDOT). As a result, the Safety Division was expanded to handle the added responsibilities. The Safety Team at DDOT reviews all transportation planning and engineering studies, traffic control plans and design plans at all stages of design and construction. The new alignment has helped with the integration of Safety into all tasks and activities performed within the District of Columbia.

The DDOT Executive Management has adopted the Six Sigma for process improvements. Six Sigma principles have been used as a foundation in shaping the new Safety Team. Six Sigma is a proven disciplined approach for improving measurable results for any organization. Using these tools has helped with the coordination performed by in-house staff, other District of Columbia agencies and residents of the District. Using data and applying Six Sigma methodologies has positively impacted all road users by helping the Safety Team be able to address issues using the appropriate data over the last year.

The Agency 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. In addition, DDOT has completed the upgrade of TARAS Traffic Accident Record and Analysis System) to TARAS 2.0 in collaboration with the MPD. These efforts have assisted in access and transfer of MPD's crash data to DDOT and Howard University. Developed by DDOT, TARAS 2.0 automatically accesses and processes MPD's crash data and extracts all the pertinent variables fields from the PD-10 form. DDOT also participated in all the major safety campaigns as mandated by the NHTSA.

Further, the DDOT Safety Team utilizes the Annual Crash Statistics and Commercial Motor Vehicles (CMV) Reports to perform safety reviews and analyses for traffic operations and crash data at intersections, corridors and construction work zones. The Safety Program has been a success in reducing the accident and fatality rates for pedestrians and bicyclists in the District of Columbia by implementing innovative safety approaches. The overall goal is to reduce serious and fatal injuries in the District by 50% by the year 2025.

DDOT has also implemented several transportation safety initiatives in the District including but not limited to the following:

i. MoveDC ([www.movedc.org](http://www.movedc.org))

Develop a coordinated, multimodal long range transportation plan, addressing all modes of transportation in the District of Columbia.

ii. goDCgo ([www.godcgo.com](http://www.godcgo.com))

Provides information and website links on regional buses, DC Circulator, Metrobus and Metrorail as well as information on walking and biking in the District of Columbia

iii. Streetcar Safety ([www.dcstreetcar.com](http://www.dcstreetcar.com))

DC Streetcar vehicles began carrying passengers on the H/Benning line on February 27, 2016. As motorists, pedestrians and bicyclists share the road, our safety efforts ensure that the interactions among these modes is a safe and positive experience. As construction continues at the Car Barn Training Center on the eastern end of the line, the DC Streetcar Team sends regular construction and

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safety updates that encompass all aspects of DC Streetcar system's functions, including Traffic Control Plans (TCP's) during construction. In addition, the DDOT Safety Team reviews plans and drawings for final design, new traffic signals, traffic signage and pavement markings for the Streetcar system. The Safety page of the DC Streetcar website provide many meaningful safety guidance for a variety of users including , pedestrians, bicyclist, motorists, and kids.

### iv. Safety Matters

Safety Matters projects are high impact, low cost improvements to neighborhood streets such as new pavement markings, signs, signals, curb changes, or lighting to improve bicycle, pedestrian, and driver safety

### v. Safe Routes To School

The DC Safe Routes to School (SRTS) Program works to:

- Improve safety for students who walk and bicycle to school
- Encourage students and their parents to walk and bicycle to school fuel consumption, and reduce pollution and traffic congestion near schools

### vi. Crash Data Improvement Program

DDOT has established a new Crash Data Improvement Program (CDIP) that would identify metrics in terms of timeliness, accuracy and completeness of the crash data

DDOT organized a CDIP workshop within the last year that included participants from DDOT Divisions, MPD, Federal Highway Administration (FHWA), National Highway Traffic Safety Administration (NHTSA), Highway Safety Office (HSO) and private consultants to familiarize the collectors, processors, maintainers and users with the concept of data quality and how it improves safety decisions

The CDIP workshop organized by DDOT is TOA staff mainly focused on:

- Crash Data Collection
- Crash Data Reporting, and,
- Crash Data Processing

In addition, this group has held several meetings throughout the year as the MPD upgrades it crash database. The MPD database is now becoming more compliant with the standard of reporting required under the Model Minimum Uniform Crash Criteria (MMUCC)

### vii. Traffic Incident Management Program

DDOT continued with the new Traffic Incident Management (TIM) program that involves the effective planning and coordination of multidisciplinary processes to detect, respond to and clear traffic incidents so that traffic flow may be restored safely and quickly as possible.

DDOT organized a TIM workshop that included participants from MPD, FHWA, NHTSA, HSO, Fire, Emergency Medical Services (EMS), Virginia Department of Transportation (VDOT), Homeland Security and Emergency Management Agency (HSEMA), Maryland State Highway Administration (MDSHA), Maryland Police, Virginia Police, Howard University, Department of Public Works (DPW) and several other agencies

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TOA staff at DDOT followed up on the legislation for Move Over Law and the Memorandum of Understanding (MOU) with other participating agencies to implement and enforce laws for Traffic Incident Management program in the District

### viii. Vision Zero Initiative

Vision Zero is a part of Mayor Bowser's response to the US Department of Transportation's Mayor's Challenge for Safer People and Safer Streets, which aims to improve pedestrian and bicycle transportation safety by showcasing effective local actions, empowering local leaders to take action, and promoting partnerships to advance pedestrian and bicycle safety.

Vision Zero Initiative aims to improve pedestrian and bicycle transportation safety by showcasing effective local actions, empowering local leaders to take actions, and promoting partnerships to advance pedestrian and bicycle safety

As part of the Vision Zero effort, the District identifies a number of high crash intersections through an effort between the District Department of Transportation (DDOT) and Councilmember Mary Cheh. Site visits are conducted and involves engaging of the local Advisory Neighborhood Commissions (ANCs), Business Improvement Districts (BIDs) and other business groups, members of the Bicycle and Pedestrian Advisory Councils (BAC and PAC), the Washington Area Bicyclist Association (WABA), All Walks DC and other concerned stakeholders. Technical staff is also on hand to start to identify issues and determine the best possible solutions

DDOT is partnering with more than twenty (20) District government agencies in the Vision Zero Initiative, as MPD, Fire, EMS, HSEMA, Department of Health (DOH), Office of the Attorney General (OAG), Office of the Chief Technology Officer (OCTO), Office of Planning (OP), City Administrator, etc. to identify effective strategies on education, enforcement, and engineering related to the Vision Zero Initiative

In addition, DDOT has also implemented the following strategies to improve the safety of pedestrians and bicyclists in the District:

- Installed High-Intensity Activated Crosswalk (HAWK) traffic signals at 5 locations in FY 2017
- Implemented Leading Pedestrian Intervals (LPI) improvement at 50 intersections in FY 2014
- Implemented Leading Pedestrian Intervals (LPI) improvement at 14 intersections in FY 2015
- Reviewed and approved 9 miles of bike lanes

## 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 HSIP in DC is centrally-managed at DDOT, with HSIP-related safety projects spread across various administration and divisions.

**Where is HSIP staff located within the State DOT?**

Other-Variou Administration & Divisions

**Enter additional comments here to clarify your response for this question or add supporting information.**

Operations Admin. (OA), including Parking and Ground Transportation Division, Maintenance Division, Traffic Operations and Safety Division, Parking and Ground Transportation Division; Project Delivery Admin., including Infrastructure Project Management Div. (IPMD), Planning and Sustainability Division (PSD), Traffic Engineering and Signals Division (TESD)

**How are HSIP funds allocated in a State?**

Central Office via Statewide Competitive Application Process

**Enter additional comments here to clarify your response for this question or add supporting information.**

HSIP funds are Centrally administered within the District of Columbia by the Department of Transportation through our Resource Administration and our Office of the Chief Financial Officer for the District of Columbia.

**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.**

Traffic Engineering/Safety

Design

Planning

Maintenance

Operations

Other-See additional comments

**Enter additional comments here to clarify your response for this question or add supporting information.**

The HSIP requires coordination among many groups and multi-disciplinary teams within DDOT, such as: Operations Administration (OA), Planning and Sustainability Division (PSD), Transit Delivery Division (TDD), Urban Forestry Division (UFD), Infrastructure Project Management Division (IPMD), Citywide Program Support Division, Streetlights Operations Branch, Safe Routes to School, and the Vision Zero Team

**Describe coordination with internal partners.**

The HSIP requires coordination among many groups within DDOT and this is primarily achieved through internal meetings. The Agency holds bi-weekly "SafetyStat" meetings where numerous safety projects and issues are

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discussed and organized, and updates provided by groups from different division. 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 discussion on our Vision Zero efforts, which is consistent with many of the performance measures included as our HSIP targets. The meetings described above include many multi-disciplinary teams, including

### 1. Operations Administration (OA)

OA team includes designers, traffic engineers, transportation technicians, parking specialists, signal operation engineers, maintenance staff and street light specialists

OA team identifies issues related to the vehicular safety, accidents, vehicle queuing, sight distance obstructions and other traffic safety concerns

OA team performs traffic analysis, engineering design and develops recommendations addressing traffic safety concerns

### 2. Planning and Sustainability Division (PSD)

PSD team includes ward planners, pedestrian and bicycle planners

PSD team identifies pedestrian and bike issues and develops recommendations to improve pedestrian and bike safety

### 3. Transit Delivery Division (TDD)

TDD team includes transportation planners for transit and metro

TDD team provides estimates for transit ridership and identifies issues related to transit circulation and capacity and develops appropriate recommendations

### 4. Urban Forestry Division (UFD)

UFD team includes ward arborists

UFD team identifies streetscaping issues and provides appropriate recommendations

### 5. Infrastructure Project Management Division (IPMD)

IPMD team consists of engineers, technicians and field operations personnel

IPMD team is responsible for the design, engineering and construction of roadways, bridges, traffic signals and alley projects in the District of Columbia

IPMD also manages special construction projects and all roadway assets

### 6. Citywide Program Support Division

Parking Operations Branch manages operations and conditions of all parking meters

Parking Operations Branch consists of managers and technicians

### 7. Streetlights Operations Branch

Streetlights Operations Branch manages operations and condition of the District's street, alley, bridge, tunnel and navigation lighting systems through a streetlight asset management contract

Streetlights Operations Branch consists of managers, engineers, technicians and field operations personnel

### 8. Safe Routes to School

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- DC Safe Routes to School (SRTS) program receives funding from the Federal Highway Administration (FHWA)
- DC Safe Routes to School Program works to:
  - a. Improve safety for students who walk and bicycle to school
  - b. Encourage students and their parents to walk and bicycle to school
  - c. Boost student physical activity, reduce parents' fuel consumption, and reduce pollution and traffic congestion near schools

To help achieve those goals, DDOT offers Safe Routes to School planning assistance for DC Schools that are interested in improving safety for student walkers and cyclist

### **Identify which external partners are involved with HSIP planning.**

Regional Planning Organizations (e.g. MPOs, RPOs, COGs)

Governors Highway Safety Office

Other-Metropolitan Police Department (MPD), National Highway Traffic Safety Administration (NHTSA), Federal Highway Administration (FHWA) DC Division, Washington Metro Area Transit Authority (WMATA), Metropolitan Washington Council Of Governments (MWCOG)/ National Capital Region Transportation Planning Board

### **Enter additional comments here to clarify your response for this question or add supporting information.**

### **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

### **Have any program administration practices used to implement the HSIP changed since the last reporting period?**

Yes

**Describe HSIP program administration practices that have changed since the last reporting period.**

There is now a multi-disciplinary safety projects team that meets regularly on safety projects. Safety teams from the Operations Administration and Project Delivery Administration conduct weekly meetings that discuss HSIP and other safety-related efforts.

**Are there any other aspects of HSIP Administration on which the State would like to elaborate?**

No

PROGRAM METHODOLOGY

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

No

**Enter additional comments here to clarify your response for this question or add supporting information.**

The District is currently working on SOPs for HSIP projects that would detail and follow HSM procedures in the development of benefit-to-cost (BC) analyses, via crash modification factors, to support the selection of preferred alternative for crash mitigation

**Select the programs that are administered under the HSIP.**

Median Barrier

Intersection

Safe Corridor

Bicycle Safety

Skid Hazard

Red Light Running Prevention

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Low-Cost Spot Improvements

Sign Replacement And Improvement

Local Safety

Pedestrian Safety

Right Angle Crash

Other-Sight distance analysis

**Enter additional comments here to clarify your response for this question or add supporting information.**

**Program:** Bicycle Safety

**Date of Program Methodology:** 10/1/2014

**What is the justification for this program? [Check all that apply]**

Addresses SHSP priority or emphasis area

**What is the funding approach for this program? [Check one]**

Competes with all projects

**What data types were used in the program methodology? [Check all that apply]**

**Crashes**

**Exposure**

**Roadway**

All crashes

Traffic

Median width  
Horizontal curvature

Volume  
Lane miles

Functional classification  
Roadside features

**What project identification methodology was used for this program? [Check all that apply]**

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

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

**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**

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Other-Total Number of Collisions : 1

**Enter additional comments here to clarify your response for this question or add supporting information.**

**Program:** Intersection

**Date of Program Methodology:** 10/1/2015

**What is the justification for this program? [Check all that apply]**

**What is the funding approach for this program? [Check one]**

**What data types were used in the program methodology? [Check all that apply]**

| <b>Crashes</b> | <b>Exposure</b>   | <b>Roadway</b> |
|----------------|-------------------|----------------|
| All crashes    | Traffic<br>Volume |                |

**What project identification methodology was used for this program? [Check all that apply]**

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

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

**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

**Enter additional comments here to clarify your response for this question or add supporting information.**

**Program:** Local Safety

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Date of Program Methodology: 10/1/2014

What is the justification for this program? [Check all that apply]

What is the funding approach for this program? [Check one]

What data types were used in the program methodology? [Check all that apply]

| Crashes     | Exposure       | Roadway                   |
|-------------|----------------|---------------------------|
| All crashes | Traffic Volume | Functional classification |

What project identification methodology was used for this program? [Check all that apply]

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

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

**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

**Enter additional comments here to clarify your response for this question or add supporting information.**

**Program:** Low-Cost Spot Improvements

**Date of Program Methodology:** 10/1/2014

**What is the justification for this program? [Check all that apply]**

**What is the funding approach for this program? [Check one]**

**What data types were used in the program methodology? [Check all that apply]**

| <b>Crashes</b> | <b>Exposure</b>   | <b>Roadway</b>            |
|----------------|-------------------|---------------------------|
| All crashes    | Traffic<br>Volume | Functional classification |

**What project identification methodology was used for this program? [Check all that apply]**

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

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

**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

**Enter additional comments here to clarify your response for this question or add supporting information.**

**Program:** Median Barrier

**Date of Program Methodology:** 10/1/2014

**What is the justification for this program? [Check all that apply]**

**What is the funding approach for this program? [Check one]**

**What data types were used in the program methodology? [Check all that apply]**

**Crashes**

**Exposure**

**Roadway**

**What project identification methodology was used for this program? [Check all that apply]**

**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?**

Yes

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

**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).**

**Enter additional comments here to clarify your response for this question or add supporting information.**

**Program:** Pedestrian Safety

**Date of Program Methodology:** 10/1/2014

**What is the justification for this program? [Check all that apply]**

**What is the funding approach for this program? [Check one]**

**What data types were used in the program methodology? [Check all that apply]**

| <b>Crashes</b> | <b>Exposure</b>   | <b>Roadway</b>            |
|----------------|-------------------|---------------------------|
| All crashes    | Traffic<br>Volume | Functional classification |

**What project identification methodology was used for this program? [Check all that apply]**

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

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

**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

Enter additional comments here to clarify your response for this question or add supporting information.

**Program:** Red Light Running Prevention

**Date of Program Methodology:** 10/1/2014

What is the justification for this program? [Check all that apply]

What is the funding approach for this program? [Check one]

What data types were used in the program methodology? [Check all that apply]

| <b>Crashes</b> | <b>Exposure</b> | <b>Roadway</b>            |
|----------------|-----------------|---------------------------|
| All crashes    | Traffic Volume  | Functional classification |

What project identification methodology was used for this program? [Check all that apply]

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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

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

**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

**Enter additional comments here to clarify your response for this question or add supporting information.**

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**Program:** Right Angle Crash

**Date of Program Methodology:** 10/1/2014

**What is the justification for this program? [Check all that apply]**

**What is the funding approach for this program? [Check one]**

**What data types were used in the program methodology? [Check all that apply]**

| <b>Crashes</b> | <b>Exposure</b>   | <b>Roadway</b>            |
|----------------|-------------------|---------------------------|
| All crashes    | Traffic<br>Volume | Functional classification |

**What project identification methodology was used for this program? [Check all that apply]**

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

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

**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

**Enter additional comments here to clarify your response for this question or add supporting information.**

**Program:** Safe Corridor

**Date of Program Methodology:** 10/1/2014

**What is the justification for this program? [Check all that apply]**

**What is the funding approach for this program? [Check one]**

**What data types were used in the program methodology? [Check all that apply]**

| <b>Crashes</b> | <b>Exposure</b>   | <b>Roadway</b>            |
|----------------|-------------------|---------------------------|
| All crashes    | Traffic<br>Volume | Functional classification |

**What project identification methodology was used for this program? [Check all that apply]**

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

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

**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

Enter additional comments here to clarify your response for this question or add supporting information.

**Program:** Sign Replacement And Improvement

**Date of Program Methodology:** 10/1/2014

What is the justification for this program? [Check all that apply]

What is the funding approach for this program? [Check one]

What data types were used in the program methodology? [Check all that apply]

| Crashes     | Exposure       | Roadway                   |
|-------------|----------------|---------------------------|
| All crashes | Traffic Volume | Functional classification |

What project identification methodology was used for this program? [Check all that apply]

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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

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

**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

**Enter additional comments here to clarify your response for this question or add supporting information.**

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**Program:** Skid Hazard

**Date of Program Methodology:** 10/1/2014

**What is the justification for this program? [Check all that apply]**

**What is the funding approach for this program? [Check one]**

**What data types were used in the program methodology? [Check all that apply]**

| <b>Crashes</b> | <b>Exposure</b>   | <b>Roadway</b>            |
|----------------|-------------------|---------------------------|
| All crashes    | Traffic<br>Volume | Functional classification |

**What project identification methodology was used for this program? [Check all that apply]**

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

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

**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

**Enter additional comments here to clarify your response for this question or add supporting information.**

**Program:** Other-Sight distance analysis

**Date of Program Methodology:** 10/1/2013

**What is the justification for this program? [Check all that apply]**

**What is the funding approach for this program? [Check one]**

**What data types were used in the program methodology? [Check all that apply]**

| <b>Crashes</b> | <b>Exposure</b>   | <b>Roadway</b>            |
|----------------|-------------------|---------------------------|
| All crashes    | Traffic<br>Volume | Functional classification |

**What project identification methodology was used for this program? [Check all that apply]**

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

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

**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

**Enter additional comments here to clarify your response for this question or add supporting information.**

**What percentage of HSIP funds address systemic improvements?**

75

**HSIP funds are used to address which of the following systemic improvements? Please check all that apply.**

Traffic Control Device Rehabilitation

Install/Improve Signing

Install/Improve Pavement Marking and/or Delineation

Upgrade Guard Rails

Install/Improve Lighting

Add/Upgrade/Modify/Remove Traffic Signal

**Enter additional comments here to clarify your response for this question or add supporting information.**

**What process is used to identify potential countermeasures? [Check all that apply]**

Engineering Study

Road Safety Assessment

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Crash data analysis

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

**Enter additional comments here to clarify your response for this question or add supporting information.**

**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.

**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.**

The District follows the HSM procedures in the development of benefit-to-cost (BC) analyses, via crash modification factors, to support the selection of preferred alternative for crash mitigation. BC analyses were performed for all intersection treatment alternatives studied under the 2016 HSIP high crash location effort and will continue to be for forthcoming HSIP studies. In addition, DDOT performed predictive method analyses, applying the Empirical Bayes (EB) method, to determine the usefulness of this approach. At this time, it has not been determined if the EB method will be applied to all reviews moving forward.

**Have any program methodology practices used to implement the HSIP changed since the last reporting period?**

- Yes

**Describe program methodology practices that have changed since the last reporting period.**

- Highway Safety Manual
- Road Safety audits

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- Other-Highway Capacity Manual (HCM), MUTCD, AASHTO Green Book, DDOT Design

**Are there any other aspects of the HSIP methodology on which the State would like to elaborate?**

No

## PROJECT IMPLEMENTATION

FUNDS PROGRAMMED

### Reporting period for HSIP funding.

Federal Fiscal Year

Enter additional comments here to clarify your response for this question or add supporting information.

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

| FUNDING CATEGORY                               | PROGRAMMED          | OBLIGATED           | % OBLIGATED/PROGRAMMED |
|--|---------------------|---------------------|------------------------|
| HSIP (23 U.S.C. 148)                           | \$9,012,248         | \$8,462,732         | 93.9%                  |
| 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)) | \$3,141,392         | \$3,141,392         | 100%                   |
| Other Federal-aid Funds (i.e. STBG, NHPP)      | \$0                 | \$0                 | 0%                     |
| State and Local Funds                          | \$0                 | \$0                 | 0%                     |
| <b>Totals</b>                                  | <b>\$12,153,640</b> | <b>\$11,604,124</b> | <b>95.48%</b>          |

Enter additional comments here to clarify your response for this question or add supporting information.

Reporting FY17 which is not yet completed.

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**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%

**Enter additional comments here to clarify your response for this question or add supporting information.**

Reporting FY17 which is not yet completed.

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

0%

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

0%

**Enter additional comments here to clarify your response for this question or add supporting information.**

Reporting FY17 which is not yet completed.

**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%

**Enter additional comments here to clarify your response for this question or add supporting information.**

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

DDOT has been working 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.

**Does the State want to elaborate on any other aspects of it's progress in implementing HSIP projects?**

No

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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 | FUNCTIONAL CLASSIFICATION | AADT | SPEED | OWNERSHIP | METHOD FOR SITE SELECTION | RELATIONSHIP TO SHSP |          |
|---|----------------------|-------------|---------|-------------|-----------------------|------------------------|------------------|---------------------------|------|-------|-----------|---------------------------|----------------------|----------|
|   |                      |             |         |             |                       |                        |                  |                           |      |       |           |                           | EMPHASIS AREA        | STRATEGY |
| New Jersey/New York Aves., Mass. Ave. to N Street Safety, construction/CE |                      |             |         |             | \$14,145,000          |                        |                  |                           | 0    |       |           |                           |                      |          |
| Blair/Cedar/4th Street NW, construction/CE                                |                      |             |         |             | \$2,430,000           |                        |                  |                           | 0    |       |           |                           |                      |          |
| 15th St. NW Safety Improvements, construction                             |                      |             |         |             | \$155,000             |                        |                  |                           | 0    |       |           |                           |                      |          |
| I-395 Sign Structure Improvements (CM/Con)                                |                      |             |         |             | \$3,841,000           |                        |                  |                           | 0    |       |           |                           |                      |          |
| 15th St, NW Intersection Safety Improvements (Project Change)             |                      |             |         |             | \$76,000              |                        |                  |                           | 0    |       |           |                           |                      |          |
| Guardrails and Impact Attenuators Replacements and Upgrades               |                      |             |         |             | \$133,000             |                        |                  |                           | 0    |       |           |                           |                      |          |
| Guardrails and Impact Attenuators Replacements and Upgrades (CM/Con)      |                      |             |         |             | \$2,308,000           |                        |                  |                           | 0    |       |           |                           |                      |          |
| CCTV Camera Installation at Locations Citywide                            |                      |             |         |             | \$1,196,000           |                        |                  |                           | 0    |       |           |                           |                      |          |
| Thermoplastic Pavements Markings  |                      |             |         |             | \$1,427,000           |                        |                  |                           | 0    |       |           |                           |                      |          |

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|   |                      |             |         |             |                       |                        |                  |                           |      |       |           |                           | RELATIONSHIP TO SHSP |          |
|---|----------------------|-------------|---------|-------------|-----------------------|------------------------|------------------|---------------------------|------|-------|-----------|---------------------------|----------------------|----------|
| PROJECT NAME  | IMPROVEMENT CATEGORY | SUBCATEGORY | OUTPUTS | OUTPUT TYPE | HSIP PROJECT COST(\$) | TOTAL PROJECT COST(\$) | FUNDING CATEGORY | FUNCTIONAL CLASSIFICATION | AADT | SPEED | OWNERSHIP | METHOD FOR SITE SELECTION | EMPHASIS AREA        | STRATEGY |
| Traffic Safety Data Center at Howard University                       |                      |             |         |             | \$500,000             |                        |                  |                           | 0    |       |           |                           |                      |          |
| South Dakota Ave NE and New York Ave NE Interchange Improvement Study |                      |             |         |             | \$52,000              |                        |                  |                           | 0    |       |           |                           |                      |          |
| Traffic Safety IDIQ Construction                                      |                      |             |         |             | \$1,620,000           |                        |                  |                           | 0    |       |           |                           |                      |          |

Enter additional comments here to clarify your response for this question or add supporting information.

Incomplete FY17 reporting.

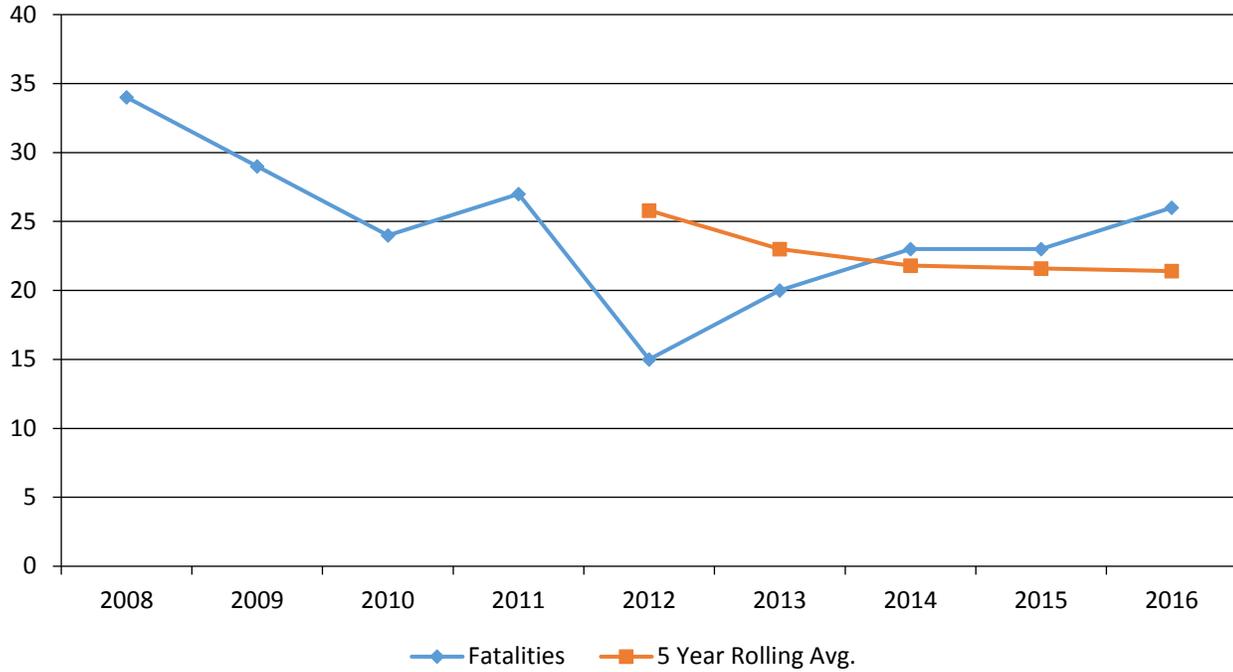
## SAFETY PERFORMANCE

### GENERAL HIGHWAY SAFETY TRENDS

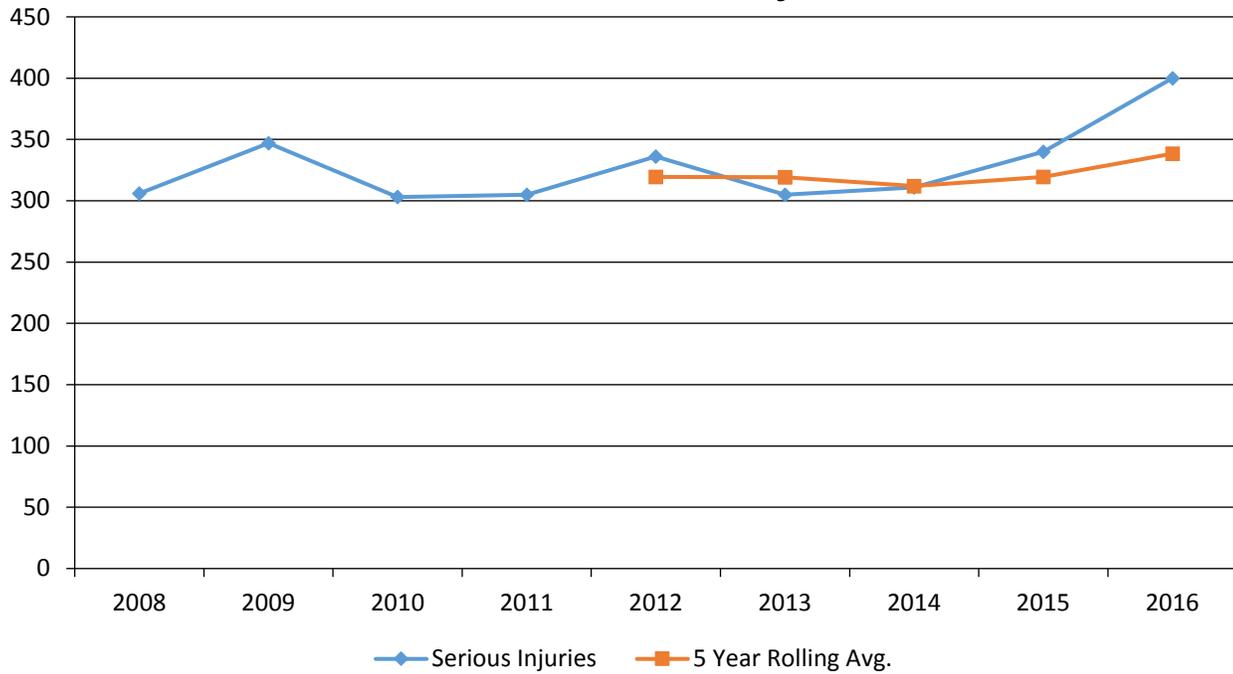
Present data showing the general highway safety trends in the State for the past five years.

| PERFORMANCE MEASURES                     | 2008  | 2009  | 2010  | 2011  | 2012  | 2013  | 2014  | 2015  | 2016   |
|--|-------|-------|-------|-------|-------|-------|-------|-------|--------|
| Fatalities                               | 34    | 29    | 24    | 27    | 15    | 20    | 23    | 23    | 26     |
| Serious Injuries                         | 306   | 347   | 303   | 305   | 336   | 305   | 311   | 340   | 400    |
| Fatality rate (per HMVMT)                | 0.940 | 0.800 | 0.670 | 0.760 | 0.420 | 0.570 | 0.650 | 0.650 | 0.670  |
| Serious injury rate (per HMVMT)          | 8.470 | 9.570 | 8.460 | 8.560 | 9.410 | 8.690 | 8.790 | 9.610 | 10.310 |
| Number non-motorized fatalities          | 10    | 14    | 15    | 9     | 7     | 10    | 10    | 14    | 10     |
| Number of non-motorized serious injuries | 66    | 113   | 116   | 126   | 140   | 114   | 141   | 119   | 152    |

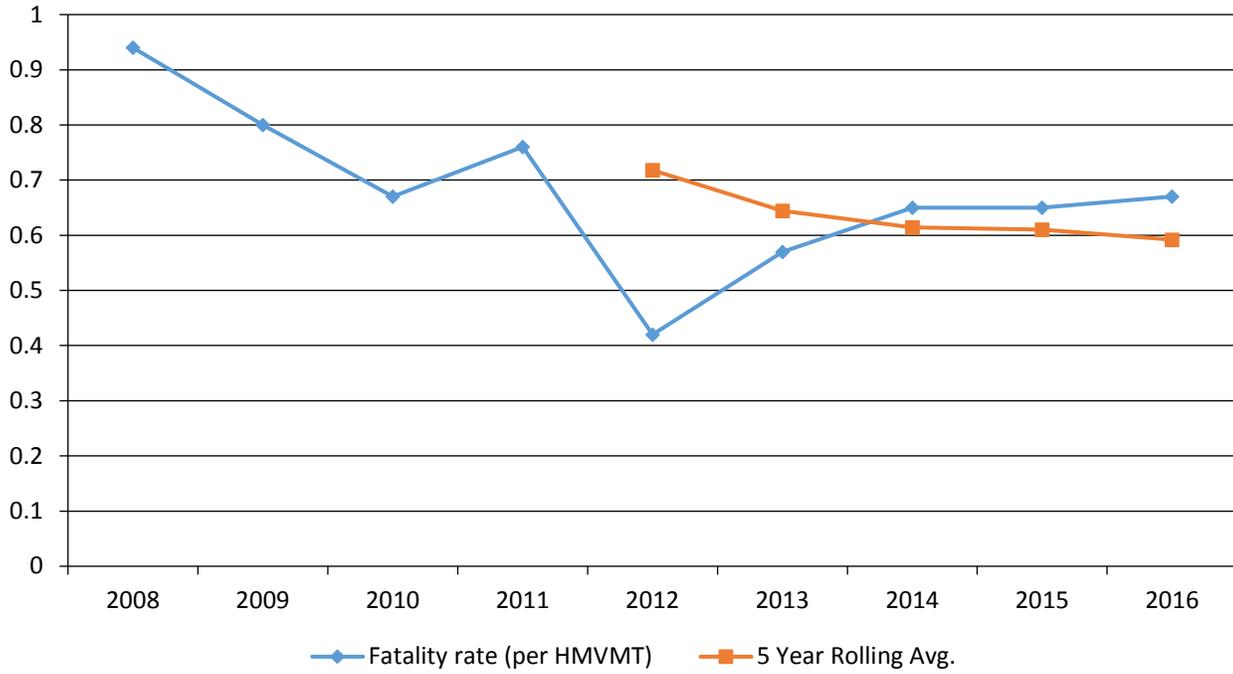
### Annual Fatalities



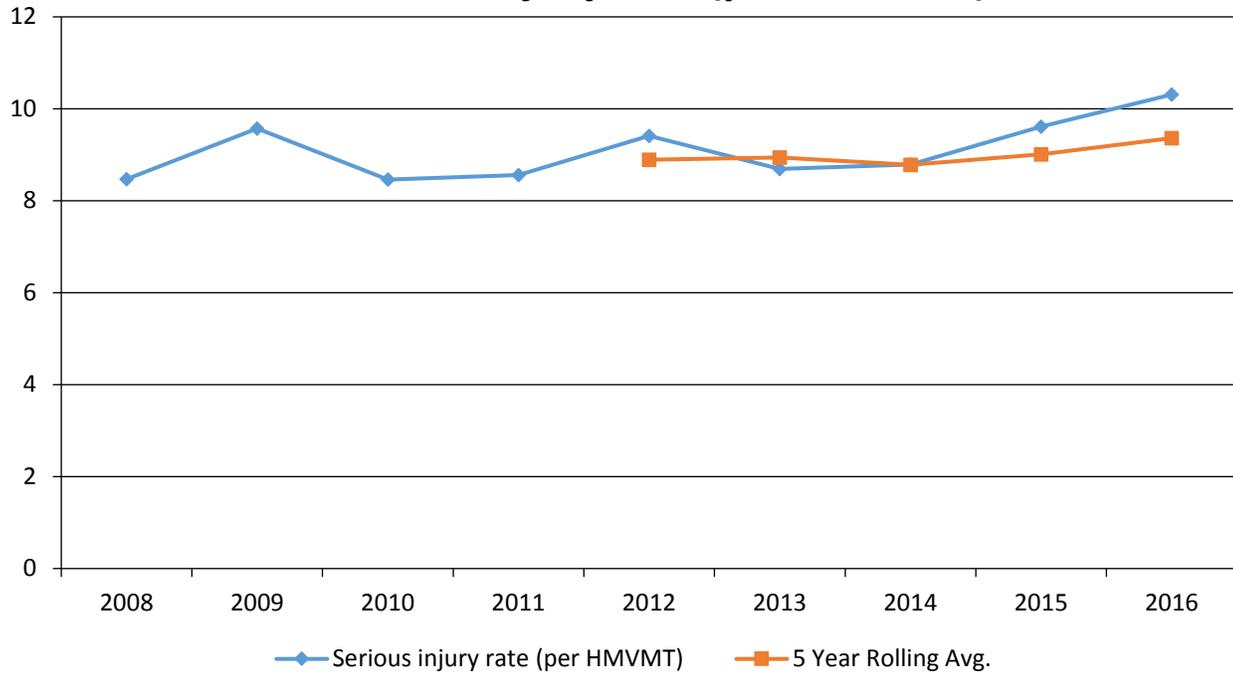
### Annual Serious Injuries



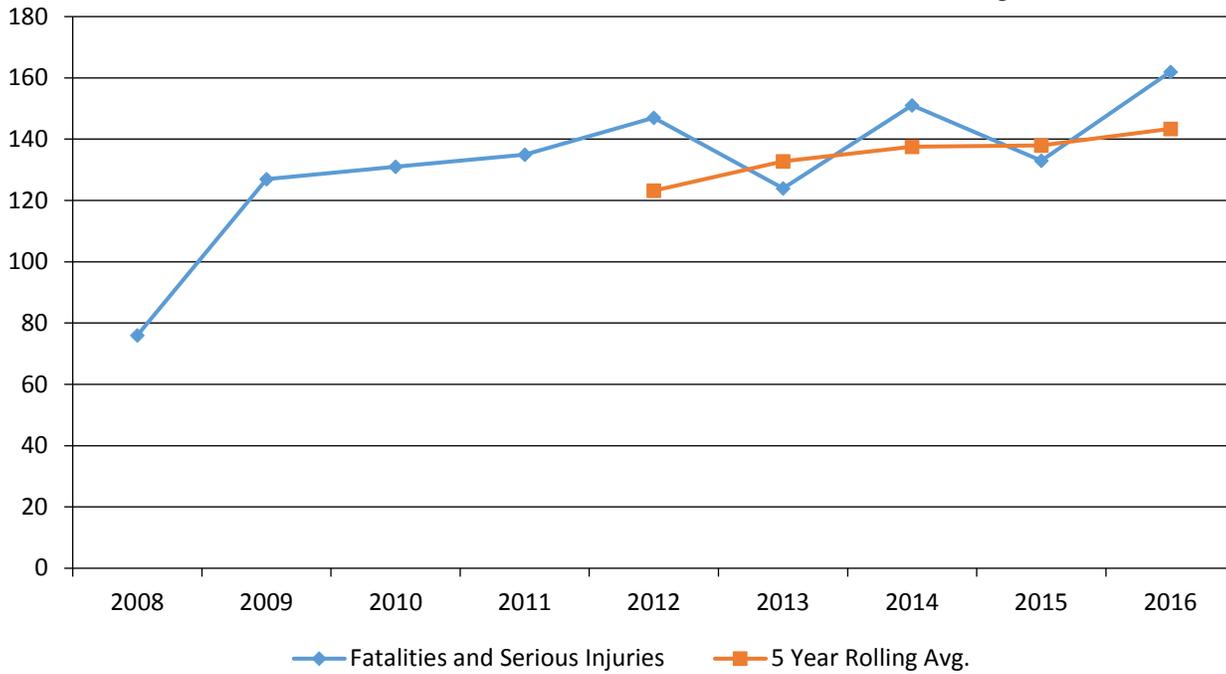
### Fatality rate (per HMVMT)



### Serious injury rate (per HMVMT)



## Non Motorized Fatalities and Serious Injuries



Enter additional comments here to clarify your response for this question or add supporting information.

Describe fatality data source.

FARS

Enter additional comments here to clarify your response for this question or add supporting information.

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

Year 2016

2017 District Of Columbia Highway Safety Improvement Program

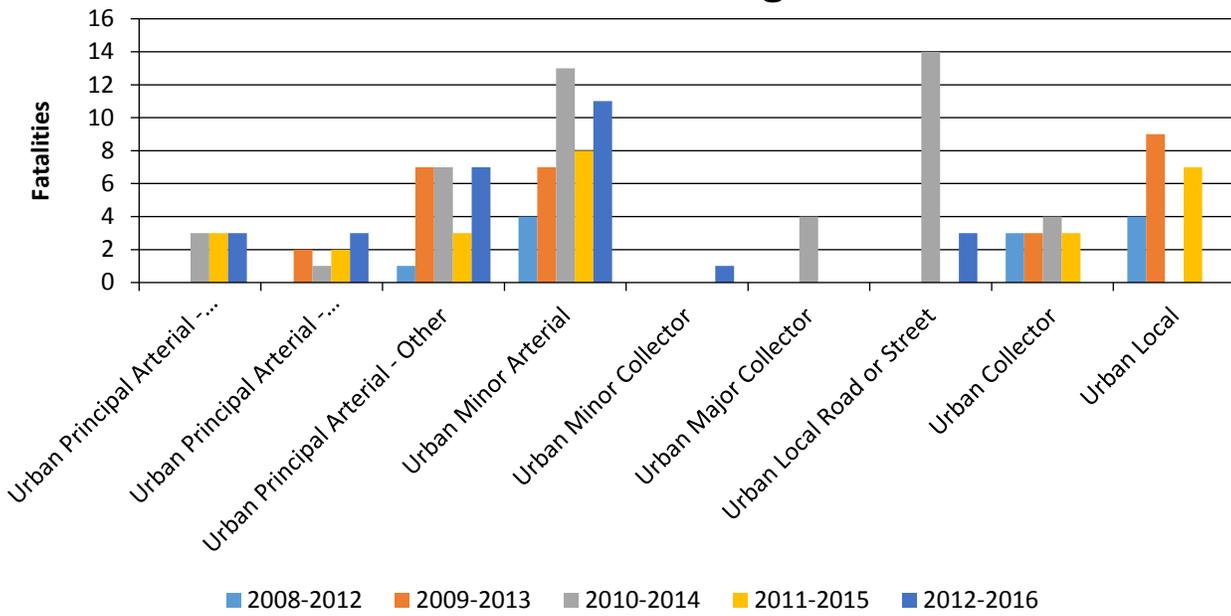
| Functional Classification                                 | Number of Fatalities<br>(5-yr avg) | Number of Serious<br>Injuries<br>(5-yr avg) | Fatality Rate<br>(per HMVMT)<br>(5-yr avg) | Serious Injury Rate<br>(per HMVMT)<br>(5-yr avg) |
|---|------------------------------------|---|--|--|
| Rural Principal Arterial - Interstate                     |                                    |   |  |  |
| Rural Principal Arterial - Other Freeways and Expressways |                                    |   |  |  |
| Rural Principal Arterial - Other                          |                                    |   |  |  |
| Rural Minor Arterial                                      |                                    |   |  |  |
| Rural Minor Collector                                     |                                    |   |  |  |
| Rural Major Collector                                     |                                    |   |  |  |
| Rural Local Road or Street                                |                                    |   |  |  |
| Urban Principal Arterial - Interstate                     | 3                                  |   | 0.7  |  |
| Urban Principal Arterial - Other Freeways and Expressways | 3                                  |   | 0.83                                       |  |
| Urban Principal Arterial - Other                          | 7                                  |   | 0.69                                       |  |
| Urban Minor Arterial                                      | 11                                 |   | 1.59                                       |  |
| Urban Minor Collector                                     | 1                                  |   | 0.39                                       |  |
| Urban Major Collector                                     |                                    |   |  |  |
| Urban Local Road or Street                                | 3                                  |   | 0.79                                       |  |

2017 District Of Columbia Highway Safety Improvement Program

Year 2016

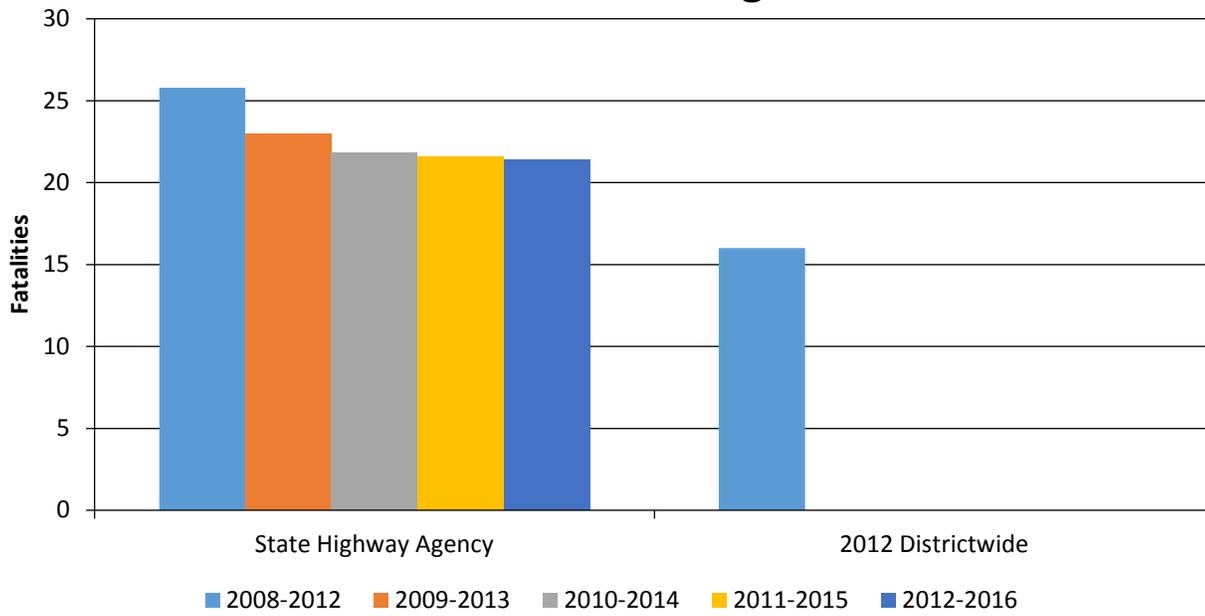
| Roadways  | Number of Fatalities<br>(5-yr avg) | Number of Serious<br>Injuries<br>(5-yr avg) | Fatality Rate<br>(per HMVMT)<br>(5-yr avg) | Serious Injury Rate<br>(per HMVMT)<br>(5-yr avg) |
|---|------------------------------------|---|--|--|
| State Highway Agency  | 21.4                               | 338   | 0.59                                       | 9.36   |
| County Highway Agency   |                                    |   |  |  |
| Town or Township<br>Highway Agency                                    |                                    |   |  |  |
| City or Municipal Highway<br>Agency                                   |                                    |   |  |  |
| State Park, Forest, or<br>Reservation Agency                          |                                    |   |  |  |
| Local Park, Forest or<br>Reservation Agency                           |                                    |   |  |  |
| Other State Agency  |                                    |   |  |  |
| Other Local Agency  |                                    |   |  |  |
| Private (Other than<br>Railroad)                                      |                                    |   |  |  |
| Railroad  |                                    |   |  |  |
| State Toll Authority  |                                    |   |  |  |
| Local Toll Authority  |                                    |   |  |  |
| Other Public<br>Instrumentality (e.g.<br>Airport, School, University) |                                    |   |  |  |
| Indian Tribe Nation   |                                    |   |  |  |

## Number of Fatalities by Functional Classification 5 Year Average

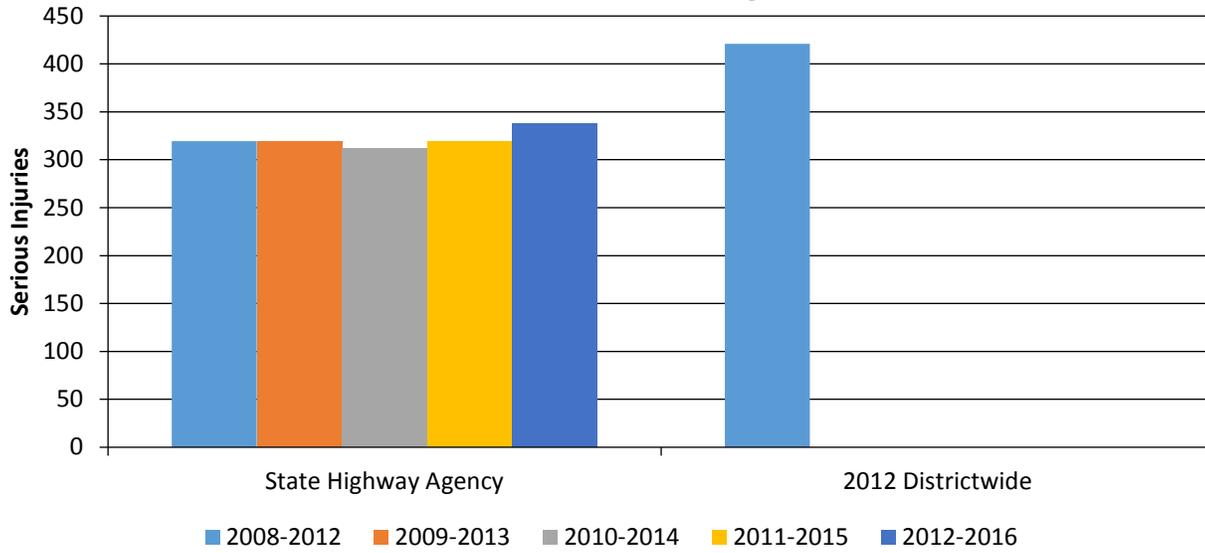




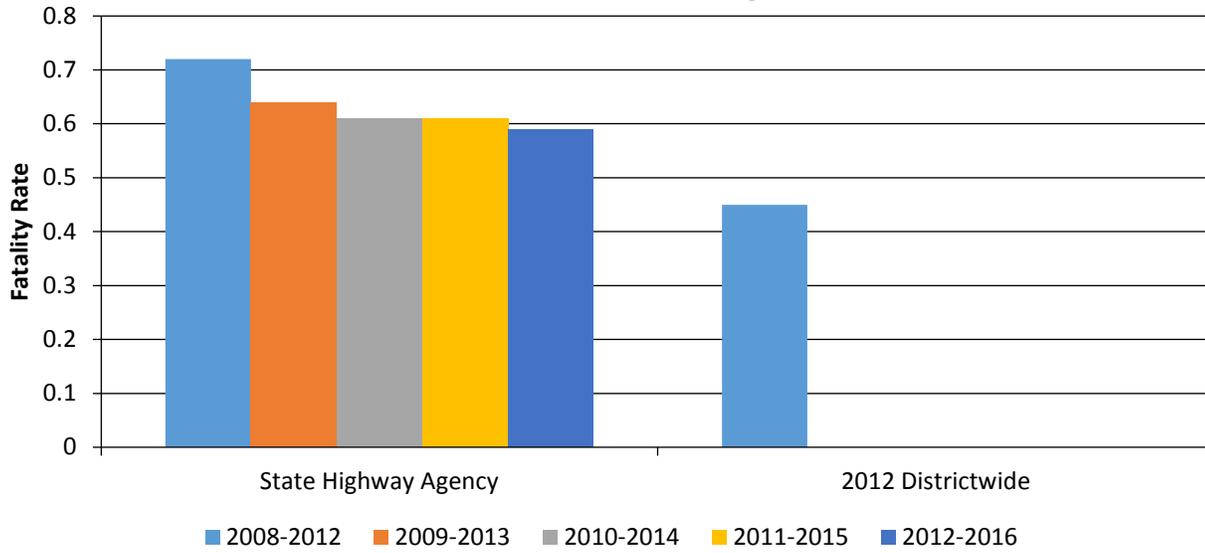
## Number of Fatalities by Roadway Ownership 5 Year Average



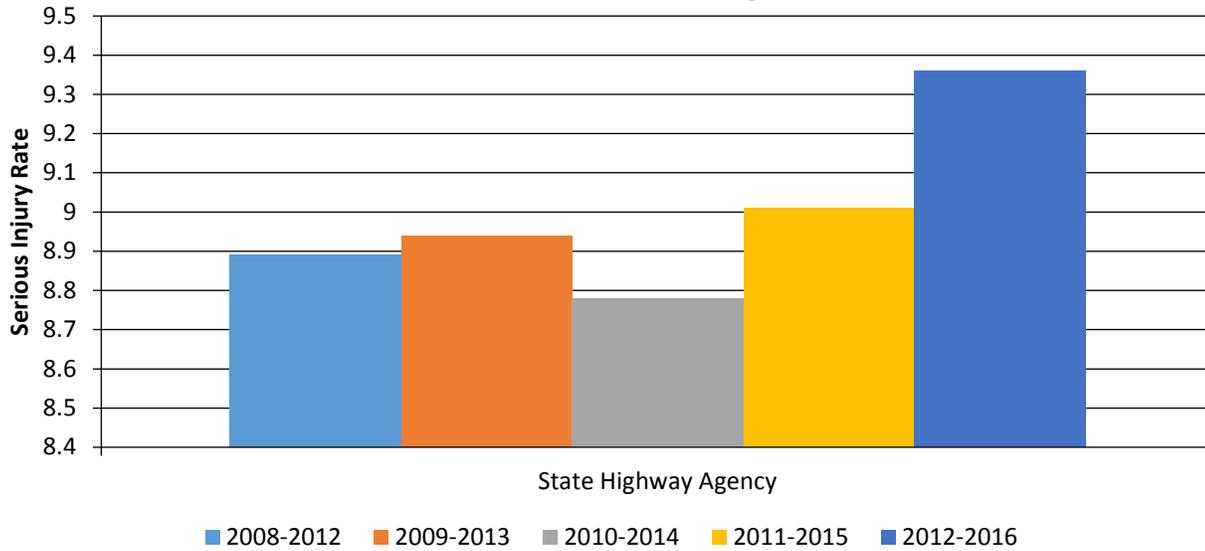
## Number of Serious Injuries by Roadway Ownership 5 Year Average



## Fatality Rate (per HMVMT) by Roadway Ownership Ownership 5 Year Average



## Serious Injury Rate (per HMVMT) by Roadway Ownership 5 Year Average



Enter additional comments here to clarify your response for this question or add supporting information.

Are there any other aspects of the general highway safety trends on which the State would like to elaborate?

No

SAFETY PERFORMANCE TARGETS

**Safety Performance Targets**

**Calendar Year 2018 Targets \***

**Number of Fatalities**

26.0

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

The District's traffic fatalities fluctuates from year to year. Between 2005 and 2016 the District annual fatality trend followed the national trend, generally downward from 48 in 2005 to 15 (lowest) in 2012, followed by an generally upward trend to 2016 of 26 traffic fatalities (Preliminary FARS data\*). This upward trend, based on actual traffic fatalities (FARS), gives a projected value of 31 traffic fatalities in 2018. Now given that the District fatality numbers are relatively low, a single random incident can result in significant changes from year to year, and it is almost impossible to distinguish between random fluctuations from year to year or true trends/changes. To address this issue, we combine the fatality numbers over several years so that the analysis is based on a larger number of fatalities. A five-year moving average was used to derive the projections for the target year. Using the 5 year rolling average trend to even out the yearly fluctuation, a projected value of 26 (actual 26.2) traffic fatalities is anticipated for the 2018 based on the 5-year average. This lower target is consistent with the goal of the District's SHSP to reduce the number of fatalities and serious injuries by 20 percent by 2025.

**Number of Serious Injuries** 420.0

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

The District's serious injuries fluctuate from year to year. Between 2007 and 2016 the District's serious injury numbers fluctuated from year to year, but was generally flat between 2008 and 2013, followed by an generally upward trend to 2016. This upward trend is partially due to the District's effort to implement a new crash-reporting system that captures injury data based on the MMUCC 4th Edition. This trend, however, gives a projected value of 455 (454.58) serious injury cases in 2018. Using the 5 year rolling average trend a projected value of 384 (actual 384.12) serious injuries are anticipated for the 2018 based on the 5-year average. An average of the annual projection and the 5-year rolling was used to establish a target of 420.0 Now, there is a high probability (based on experiences from other States) that future serious injury numbers resulting from a crash will increase as officers complete training and more accurately and consistently code in the field. However, this lower target is consistent with the goal of the District's SHSP to reduce the number of fatalities and serious injuries by 20 percent by 2025.

**Fatality Rate** 0.703

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

Fatality rate target was established similar to that of fatalities.

**Serious Injury Rate** 10.200

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

Serious Injury rate was established similar to that of Serious Injuries.

**Total Number of Non-Motorized Fatalities  
and Serious Injuries** 148.5

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

Total Number of Non-Motorized Fatalities and Serious Injuries was established using a similar methodologies to fatalities and serious injuries, respectively.

**Enter additional comments here to clarify your response for this question or add supporting information.**

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

Team comprised of DDOT teams (including Highway Safety Improvement Program, Highway Safety Plan, State Highway Safety Plan, Vision Zero), MPD, Metropolitan Washington Council of Governments (MWCOCG), and Federal Highways Administration (FHWA) met on May 16th, 2017, and established 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 for FY2018. 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

**Enter additional comments here to clarify your response for this question or add supporting information.**

APPLICABILITY OF SPECIAL RULES

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

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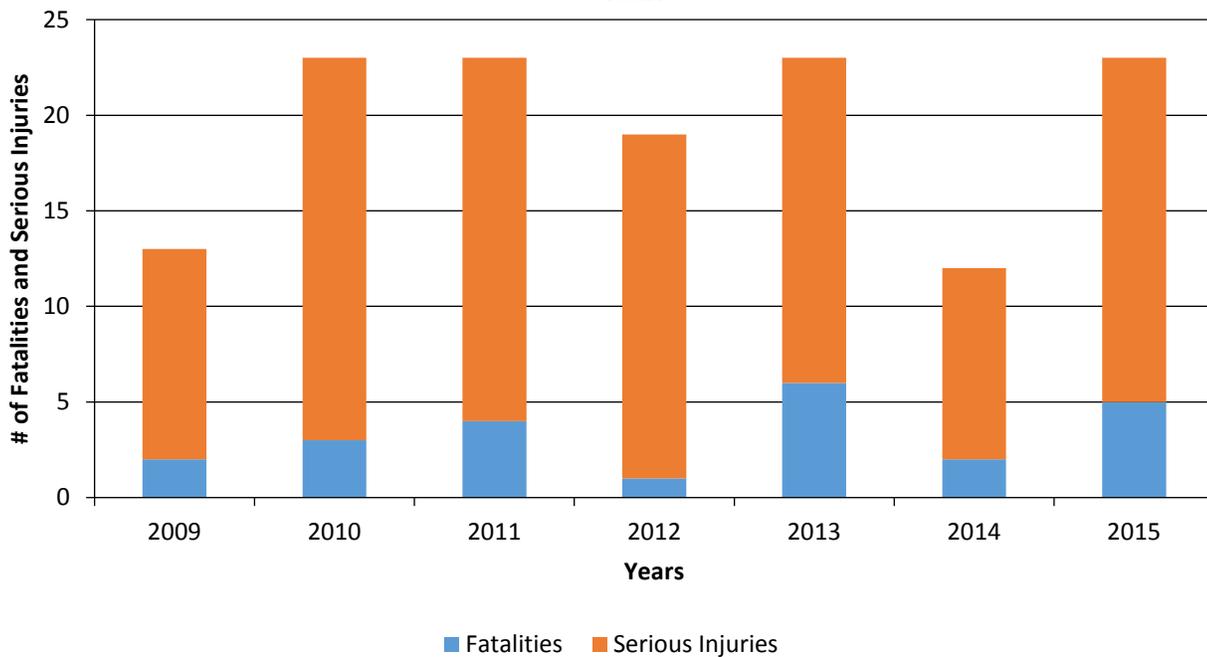
No

Enter additional comments here to clarify your response for this question or add supporting information.

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

| PERFORMANCE MEASURES                                   | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 |
|--|------|------|------|------|------|------|------|
| Number of Older Driver and Pedestrian Fatalities       | 2    | 3    | 4    | 1    | 6    | 2    | 5    |
| Number of Older Driver and Pedestrian Serious Injuries | 11   | 20   | 19   | 18   | 17   | 10   | 18   |

**Number of Older Driver and Pedestrian Fatalities and Serious Injuries by Year.**



2017 District Of Columbia Highway Safety Improvement Program

**Enter additional comments here to clarify your response for this question or add supporting information.**

2016 Data

Number of Older Driver and Pedestrian Fatalities -

Number of Older Driver and Pedestrian Serious Injuries - 40

In August 2015, the District implemented a new crash-reporting system that captures injury data based on the 4th edition of the Model Minimum Uniform Crash Criteria (MMUCC). It is likely that the higher serious injury reported for 2016 was due to more details reports being generated. There is a high probability that future serious injury numbers resulting from a crash will increase as officers are fully trained to more accurately and consistently code in the field.

## EVALUATION

### PROGRAM EFFECTIVENESS

#### **How does the State measure effectiveness of the HSIP?**

Change in fatalities and serious injuries

Benefit/Cost Ratio

#### **Enter additional comments here to clarify your response for this question or add supporting information.**

DDOT followed the HSM procedures in the development of benefit-to-cost (BC) analyses, via crash modification factors, to support the selection of preferred alternative for crash mitigation. BC analyses were performed for intersection treatment alternatives studied under the HSIP effort and will continue to be for forthcoming HSIP studies. In addition, DDOT performed predictive method analyses, applying the Empirical Bayes (EB) method.

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

These methodologies were recently adopted. The District will be in a better position to determine result in future reports.

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

More systemic programs

Policy change

Organizational change

Increased awareness of safety and data-driven process

Increased focus on local road safety

#### **Enter additional comments here to clarify your response for this question or add supporting information.**

**Are there any significant programmatic changes that have occurred since the last reporting period?**

No

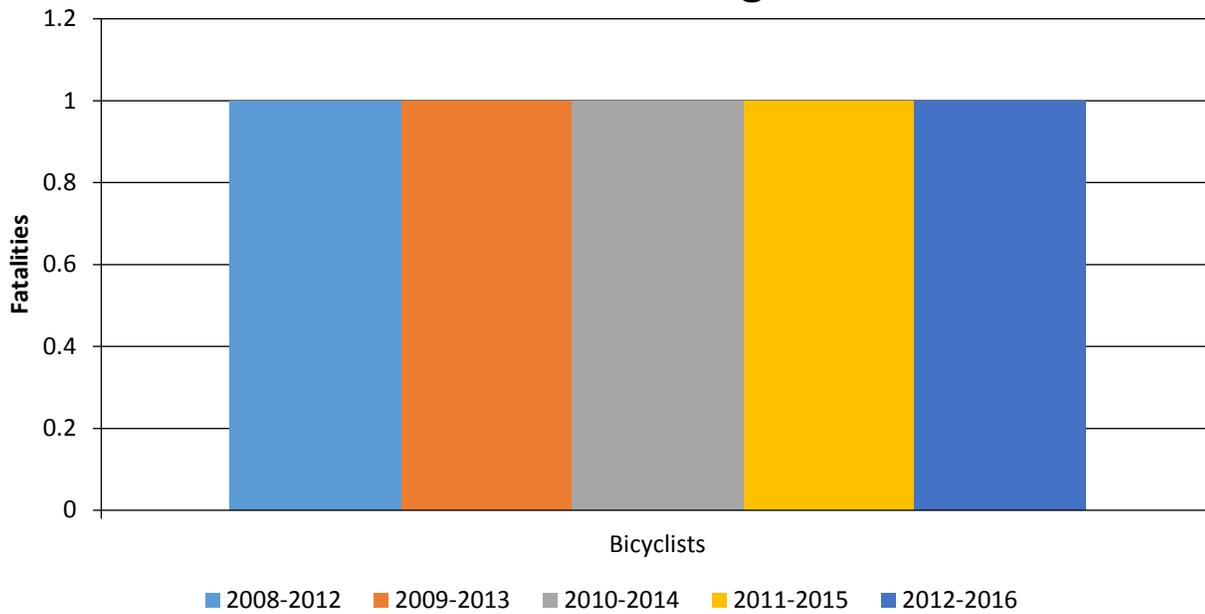
EFFECTIVENESS OF GROUPINGS OR SIMILAR TYPES OF IMPROVEMENTS

**Present and describe trends in SHSP emphasis area performance measures.**

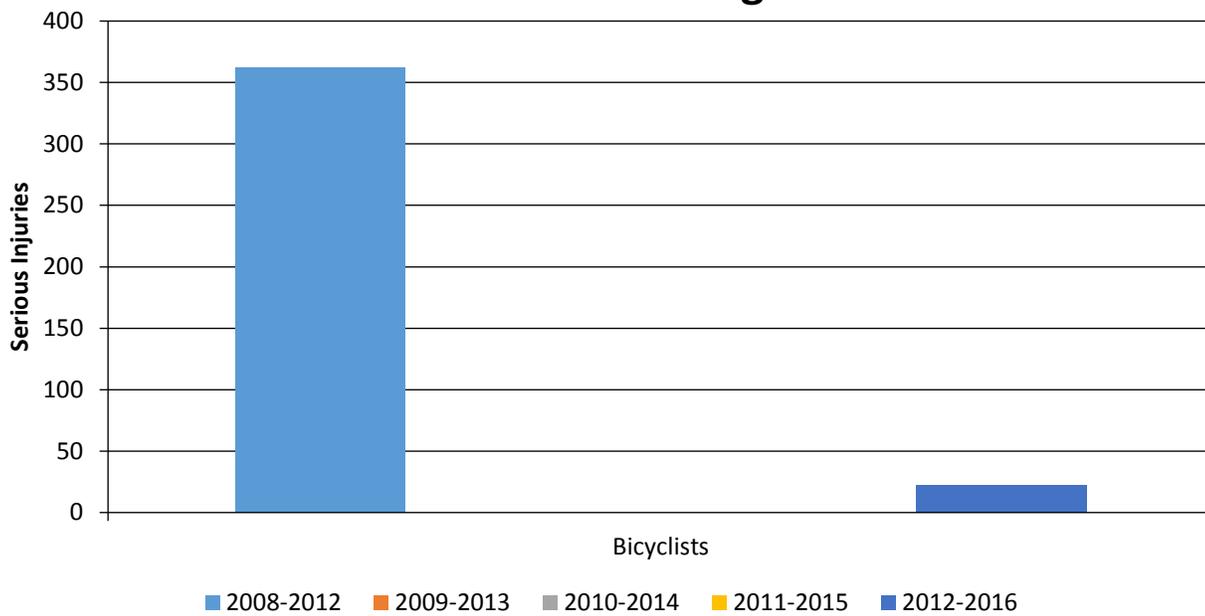
**Year 2016**

| 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) | Other 1 | Other 2 | Other 3 |
|--------------------|---------------------|---------------------------------|---------------------------------------|--------------------------------------|--|---------|---------|---------|
| Bicyclists         | bicyclist           | 1                               | 22                                    | 1                                    | 22   |         |         |         |

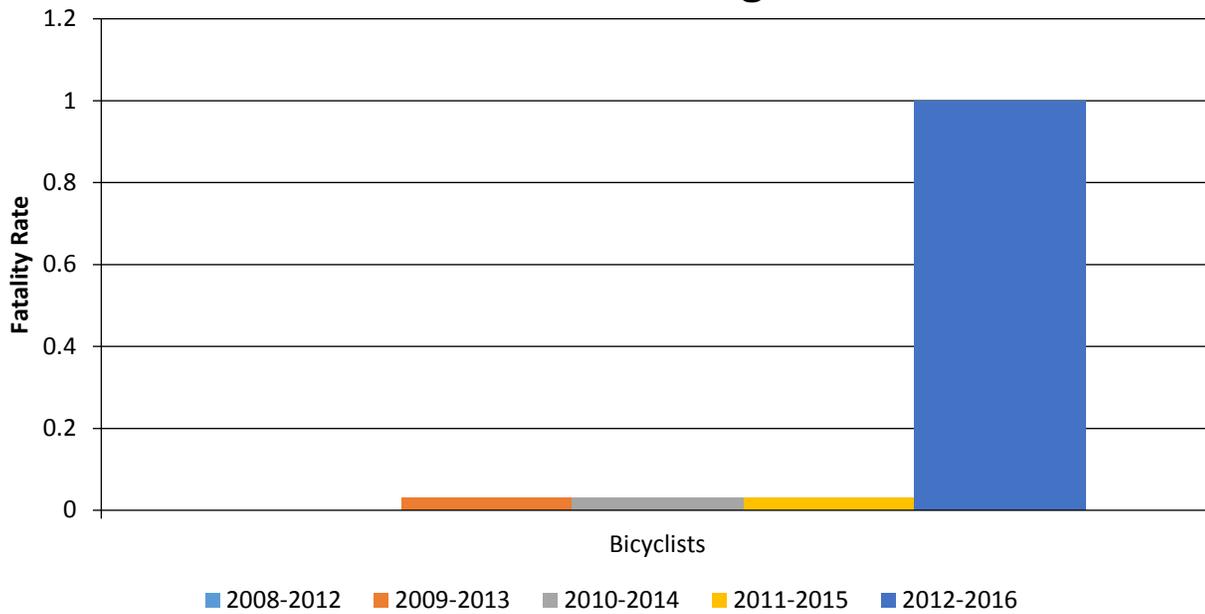
### Number of Fatalities 5 Year Average



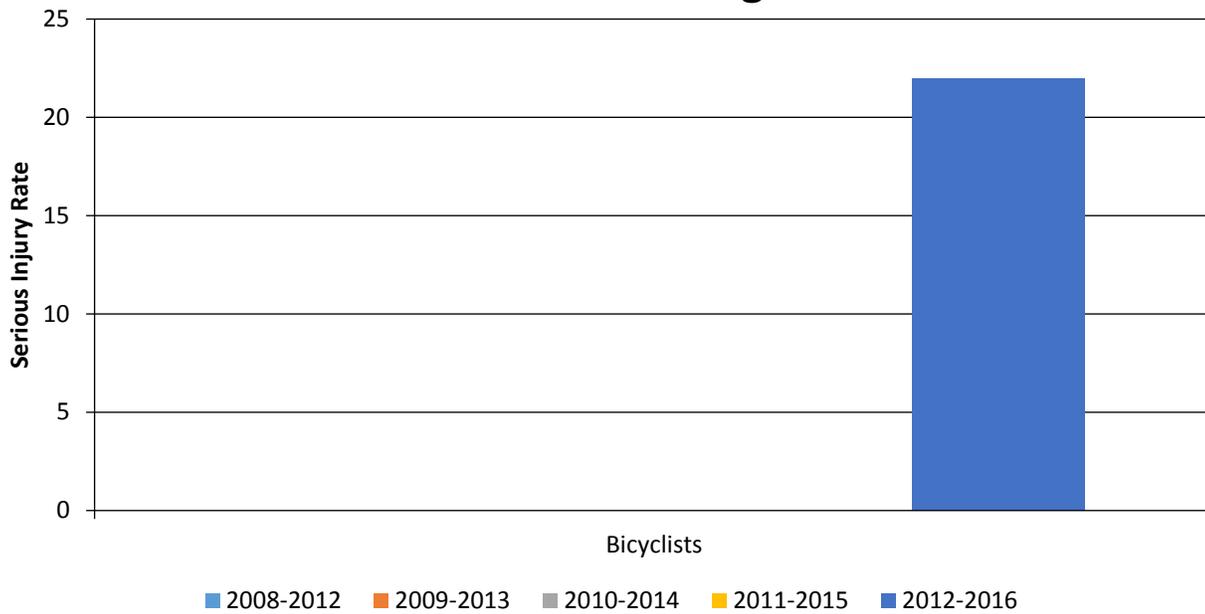
### Number of Serious Injuries 5 Year Average



### Fatality Rate (per HMVMT) 5 Year Average



### Serious Injury Rate (per HMVMT) 5 Year Average



Enter additional comments here to clarify your response for this question or add supporting information.

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

No

**Enter additional comments here to clarify your response for this question or add supporting information.**

**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 INJURY BEFORE | ALL INJURY AFTER | TOTAL BEFORE | TOTAL AFTER | EVALUATION RESULTS (BENEFIT/COST RATIO) |
|----------|------------------|----------------------|------------------|------------|-----------|-----------------|----------------|-----------------------|----------------------|-------------------|------------------|--------------|-------------|---|
| Optional |                  |                      |                  |            |           |                 |                |                       |                      |                   |                  |              |             |   |

**Enter additional comments here to clarify your response for this question or add supporting information.**

DDOT has not documented the impacts of improvements under previously implemented projects. The District, however, is embarking on a project to establish Crash Modification Factors (CMFs) specifically for the District. The study, which will focus on high crash locations (HCL) and improvements that has been implemented over years, will help to establish the impacts of the improvement on fatalities, serious injuries and property damage crashes. The District will rely on crash records over the past 5 years and implemented countermeasures/safety improvement at intersections (from HSIP projects), roadway geometry, traffic control, among other factors to establish the impacts of various HSIP measures and improvements.

**Are there any other aspects of the overall HSIP effectiveness on which the State would like to elaborate?**

No

## COMPLIANCE ASSESSMENT

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

10/09/2014

**What are the years being covered by the current SHSP?**

From: 2015 To: 2020

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

2020

Enter additional comments here to clarify your response for this question or add supporting information.

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

| 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 |
| <b>ROADWAY SEGMENT</b>  |                                 |           |                                      |           |                               |           |                   |           |               |           |
| Segment Identifier (12) | 10                              | 0         |                                      |           |                               |           | 10                | 0         | 0             | 0         |
| Route Number (8)        | 10                              | 0         |                                      |           |                               |           |                   |           |               |           |
| Route/Street Name (9)   | 10                              | 0         |                                      |           |                               |           |                   |           |               |           |

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| 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 |
| Federal Aid/Route Type (21)         | 10                              | 0         |                                      |           |                               |           |                   |           |               |           |
| Rural/Urban Designation (20)        | 0                               | 0         |                                      |           |                               |           | 0                 | 0         |               |           |
| Surface Type (23)                   | 10                              | 0         |                                      |           |                               |           | 10                | 0         |               |           |
| Begin Point Segment Descriptor (10) | 10                              | 0         |                                      |           |                               |           | 10                | 0         | 0             | 0         |
| End Point Segment Descriptor (11)   | 10                              | 0         |                                      |           |                               |           | 10                | 0         | 0             | 0         |
| Segment Length (13)                 | 10                              | 0         |                                      |           |                               |           |                   |           |               |           |
| Direction of Inventory (18)         | 10                              | 0         |                                      |           |                               |           |                   |           |               |           |
| Functional Class (19)               | 10                              | 0         |                                      |           |                               |           | 10                | 0         | 0             | 0         |
| Median Type (54)                    | 10                              | 0         |                                      |           |                               |           |                   |           |               |           |
| Access Control (22)                 | 10                              | 0         |                                      |           |                               |           |                   |           |               |           |
| One/Two Way Operations (91)         | 10                              | 0         |                                      |           |                               |           |                   |           |               |           |
| Number of Through Lanes (31)        | 10                              | 0         |                                      |           |                               |           | 10                | 0         |               |           |
| Average Annual Daily Traffic (79)   | 10                              | 0         |                                      |           |                               |           | 10                | 0         |               |           |
| AADT Year (80)                      | 10                              | 0         |                                      |           |                               |           |                   |           |               |           |
| Type of Governmental Ownership (4)  | 10                              | 0         |                                      |           |                               |           | 10                | 0         | 0             | 0         |
| <b>INTERSECTION</b>                 |                                 |           |                                      |           |                               |           |                   |           |               |           |
| Unique Junction Identifier (120)    |                                 |           | 10                                   | 0         |                               |           |                   |           |               |           |

| MIRE NAME (MIRE NO.)  | NON LOCAL PAVED ROADS - SEGMENT |           | NON LOCAL PAVED ROADS - INTERSECTION |           | NON LOCAL PAVED ROADS - RAMPS |           | LOCAL PAVED ROADS |           | UNPAVED ROADS |           |
|---|---------------------------------|-----------|--------------------------------------|-----------|-------------------------------|-----------|-------------------|-----------|---------------|-----------|
|   | STATE                           | NON-STATE | STATE                                | NON-STATE | STATE                         | NON-STATE | STATE             | NON-STATE | STATE         | NON-STATE |
| Location Identifier for Road 1 Crossing Point (122)                 |                                 |           | 10                                   | 0         |                               |           |                   |           |               |           |
| Location Identifier for Road 2 Crossing Point (123)                 |                                 |           | 10                                   | 0         |                               |           |                   |           |               |           |
| Intersection/Junction Geometry (126)                                |                                 |           | 10                                   | 0         |                               |           |                   |           |               |           |
| Intersection/Junction Traffic Control (131)                         |                                 |           | 10                                   | 0         |                               |           |                   |           |               |           |
| AADT for Each Intersecting Road (79)                                |                                 |           | 10                                   | 0         |                               |           |                   |           |               |           |
| AADT Year (80)  |                                 |           | 10                                   | 0         |                               |           |                   |           |               |           |
| Unique Approach Identifier (139)                                    |                                 |           | 10                                   | 0         |                               |           |                   |           |               |           |
| <b>INTERCHANGE/RAMP</b>   |                                 |           |                                      |           |                               |           |                   |           |               |           |
| Unique Interchange Identifier (178)                                 |                                 |           |                                      |           | 10                            | 0         |                   |           |               |           |
| Location Identifier for Roadway at Beginning of Ramp Terminal (197) |                                 |           |                                      |           | 10                            | 0         |                   |           |               |           |
| Location Identifier for Roadway at Ending Ramp Terminal (201)       |                                 |           |                                      |           | 10                            | 0         |                   |           |               |           |
| Ramp Length (187)   |                                 |           |                                      |           | 10                            | 0         |                   |           |               |           |
| Roadway Type at Beginning of Ramp Terminal (195)                    |                                 |           |                                      |           | 10                            | 0         |                   |           |               |           |
| Roadway Type at End Ramp Terminal (199)                             |                                 |           |                                      |           | 10                            | 0         |                   |           |               |           |
| Interchange Type (182)  |                                 |           |                                      |           | 10                            | 0         |                   |           |               |           |

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| 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   |
| Ramp AADT (191)                           |                                 |             |                                      |             | 10                            | 0           |                   |             |               |             |
| Year of Ramp AADT (192)                   |                                 |             |                                      |             | 10                            | 0           |                   |             |               |             |
| Functional Class (19)                     |                                 |             |                                      |             | 10                            | 0           |                   |             |               |             |
| Type of Governmental Ownership (4)        |                                 |             |                                      |             | 10                            | 0           |                   |             |               |             |
| <b>Totals (Average Percent Complete):</b> | <b>9.44</b>                     | <b>0.00</b> | <b>10.00</b>                         | <b>0.00</b> | <b>10.00</b>                  | <b>0.00</b> | <b>8.89</b>       | <b>0.00</b> | <b>0.00</b>   | <b>0.00</b> |

Enter additional comments here to clarify your response for this question or add supporting information.

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.

In the summer of 2017, the District began collecting detailed lane data in support of FHWA's MIRE safety data specification. The data is being collected using the District's linear referencing system (LRS): Roads and Highways Roadway Characteristics Editor.

Below is a list of MIRE Fundamental Data Elements (FDE) being collected or gathered via GIS, in an effort to meet FHWA requirement:

**For Roadway Segment:**

- Segment Identifier (12)
- Route Number (8)
- Route/street Name (9)
- Federal Aid/ Route Type (21)
- Rural/Urban Designation (20)
- Surface Type (23)\*\*
- Begin Point Segment Descriptor (10)
- End Point Segment Descriptor (11)
- Segment Length (13)
- Direction of Inventory (18)

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- Functional Class (19)
- Median Type (54)\*\*
- Access Control (22)
- One/Two-Way Operations (91)\*\*
- Number of Through Lanes (31)\*\*
- Average Annual Daily Traffic (AADT) (79)
- AADT Year (80)
- Type of Governmental Ownership (4)

**For Intersections:**

- Unique Junction Identifier (120)
- Location Identifier for Road 1 Crossing Point (122)
- Location Identifier for Road 2 Crossing Point (123)
- Intersection/Junction Geometry (126)
- Intersection/Junction Traffic Control (131)
- AADT (79) [for Each Intersecting Road]
- AADT Year (80) [for Each Intersecting Road]
- Unique Approach Identifier (139)

**Interchange Ramp:**

- Unique Interchange Identifier (178)
- Location Identifier for Roadway at Beginning Ramp Terminal (197)
- Location Identifier for Roadway at Ending Ramp Terminal (201)
- Type of Governmental Ownership (4)
- Ramp Length (187)
- Roadway Type at Beginning Ramp Terminal (195)
- Roadway Type at Ending Ramp Terminal (199)
- Interchange Type (182)
- Ramp AADT (191)
- Year of Ramp AADT (192)
- Functional Class (19)
- Type of Governmental Ownership (4)

**Other Types:**

- Sidewalk Type + L/R (DDOT Type)
- Sidewalk Width (the generalized width in feet of the sidewalk)
- Lane Type (DDOT Type) (through lane, bike lane, right turn only, etc)
- Dividers (includes medians (54), centerline striping type, etc)
- Street Buffers (protections that do not divide opposing traffic, e.g. continuous painted, curbed protections)
- Lane Directionality (DDOT Type) (direction of traffic as the centerline geometry ascends)
- Lane Width (DDOT Type) (width in feet of a given travel lane)

**Provide the suspected serious injury identifier, definition and attributes used by the State for both the crash report form and the crash database using the table below. Please also indicate whether or not these elements are compliant with the MMUCC 4th edition criteria for data element P5. Injury Status, suspected serious injury.**

| CRITERIA                             | SUSPECTED SERIOUS INJURY IDENTIFIER(NAME) | MMUCC 4TH EDITION COMPLIANT * | SUSPECTED SERIOUS INJURY DEFINITION  | MMUCC 4TH EDITION COMPLIANT * | SUSPECTED SERIOUS INJURY ATTRIBUTES(DESCRIPTORS)   | MMUCC 4TH EDITION COMPLIANT * |
|--------------------------------------|---|-------------------------------|--|-------------------------------|--|-------------------------------|
| Crash Report Form                    | Serious Injury                            | Yes                           | N/A  | Yes                           | N/A  | Yes                           |
| Crash Report Form Instruction Manual | Serious Injury                            | Yes                           | Any injury other than fatal that results in one or more of the following:<br>-Severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood<br>-Broken or distorted extremity (arm or leg)<br>-Crush injuries<br>-Suspected skull, chest, or abdominal injury other than bruises or minor lacerations<br>-Significant burns (second and third degree burns over 10% or more of the body)<br>-Unconsciousness when taken from the crash scene<br>-Paralysis | Yes                           | Apparent Broken Bones<br>Concussion<br>Loss of Teeth<br>Other Major Injury<br>Severe Laceration<br>Unconsciousness | Yes                           |
| Crash Database                       | Serious Injury                            | Yes                           | N/A  | Yes                           | N/A  | Yes                           |

| CRITERIA                       | SUSPECTED SERIOUS INJURY IDENTIFIER(NAME) | MMUCC 4TH EDITION COMPLIANT * | SUSPECTED SERIOUS INJURY DEFINITION  | MMUCC 4TH EDITION COMPLIANT * | SUSPECTED SERIOUS INJURY ATTRIBUTES(DESCRIPTORS)  | MMUCC 4TH EDITION COMPLIANT * |
|--------------------------------|---|-------------------------------|--|-------------------------------|---|-------------------------------|
| Crash Database Data Dictionary | Serious Injury                            | Yes                           | Any injury other than fatal that results in one or more of the following:<br><br>-Severe laceration resulting in exposure of underlying tissues/muscle/organs or resulting in significant loss of blood<br><br>-Broken or distorted extremity (arm or leg)<br><br>-Crush injuries<br><br>-Suspected skull, chest, or abdominal injury other than bruises or minor lacerations<br><br>-Significant burns (second and third degree burns over 10% or more of the body)<br><br>-Unconsciousness when taken from the crash scene<br><br>-Paralysis | Yes                           | Apparent Broken Bones Concussion Loss of Teeth Other Major Injury Severe Laceration Unconsciousness | Yes                           |

Enter additional comments here to clarify your response for this question or add supporting information.

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

No

When does the State plan to complete it's next HSIP program assessment.

2018

Enter additional comments here to clarify your response for this question or add supporting information.

## 2017 District Of Columbia Highway Safety Improvement Program

### OPTIONAL ATTACHMENTS

Program Structure:

Project Implementation:

Safety Performance:

Evaluation:

Compliance Assessment:

GLOSSARY

|   |   |
|---|---|
| <b>5 year rolling average</b>               | means the average of five individuals, consecutive annual points of data (e.g. annual fatality rate).   |
| <b>Emphasis area</b>                        | means a highway safety priority in a State's SHSP, identified through a data-driven, collaborative process.   |
| <b>Highway safety improvement project</b>   | 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.  |
| <b>HMVMT</b>                                | means hundred million vehicle miles traveled.   |
| <b>Non-infrastructure projects</b>          | 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.                                  |
| <b>Older driver special rule</b>            | 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. |
| <b>Performance measure</b>                  | means indicators that enable decision-makers and other stakeholders to monitor changes in system condition and performance against established visions, goals, and objectives.  |
| <b>Programmed funds</b>                     | mean those funds that have been programmed in the Statewide Transportation Improvement Program (STIP) to be expended on highway safety improvement projects.  |
| <b>Roadway Functional Classification</b>    | 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.   |
| <b>Strategic Highway Safety Plan (SHSP)</b> | 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.  |
| <b>Systematic</b>                           | refers to an approach where an agency deploys countermeasures at all locations across a system.   |
| <b>Systemic safety improvement</b>          | means an improvement that is widely implemented based on high risk roadway features that are correlated with specific severe crash types.   |
| <b>Transfer</b>                             | 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.   |