## 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.”
<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disclaimer</td>
<td>ii</td>
</tr>
<tr>
<td>Executive Summary</td>
<td>1</td>
</tr>
<tr>
<td>Introduction</td>
<td>3</td>
</tr>
<tr>
<td>Program Structure</td>
<td>3</td>
</tr>
<tr>
<td>Program Administration</td>
<td>3</td>
</tr>
<tr>
<td>Program Methodology</td>
<td>5</td>
</tr>
<tr>
<td>Progress in Implementing Projects</td>
<td>34</td>
</tr>
<tr>
<td>Funds Programmed</td>
<td>34</td>
</tr>
<tr>
<td>General Listing of Projects</td>
<td>37</td>
</tr>
<tr>
<td>Progress in Achieving Safety Performance Targets</td>
<td>45</td>
</tr>
<tr>
<td>Overview of General Safety Trends</td>
<td>45</td>
</tr>
<tr>
<td>Application of Special Rules</td>
<td>59</td>
</tr>
<tr>
<td>Assessment of the Effectiveness of the Improvements (Program Evaluation)</td>
<td>63</td>
</tr>
<tr>
<td>SHSP Emphasis Areas</td>
<td>65</td>
</tr>
<tr>
<td>Groups of similar project types</td>
<td>70</td>
</tr>
<tr>
<td>Systemic Treatments</td>
<td>75</td>
</tr>
<tr>
<td>Project Evaluation</td>
<td>81</td>
</tr>
<tr>
<td>Glossary</td>
<td>83</td>
</tr>
</tbody>
</table>
Executive Summary

Summary Maryland Highway Safety Improvement Program (HSIP) CY 2014

- HSIP is administered centrally
- Local roads are not allocated HSIP funds
- The Maryland Highway Safety Office (MHSO) along with the Maryland Transportation Authority (MDTA) and the Maryland Institute for Emergency Medical Services are important internal partners with the Maryland State Highway Administration (SHA) in the HSIP process. Several regional planning organizations also coordinate with the SHA as external partners.
- Programs administered under the HSIP
  - Median Barrier
  - Horizontal Curve
  - Skid Hazard
  - Roadway Departure
  - Left-turn crash
  - Intersection Crash Data
  - Low Cost Spot Improvements
  - Pedestrian Safety
  - Rural State Highway
  - Right Angle Crash
  - Highway Sections
    - The data types used in the HSIP program methodology are vehicle crashes, traffic volume and highway mileage
    - The project identification methodology used in the HSIP program are crash frequency and relative severity index
    - The HSIP projects are advanced for implementation by an SHA selection committee. The criteria considered are Safety, Congestion, Operations and Local Support
    - The proportion of HSIP program Funds used in CY 2014 for funding systemic improvements is 80%
    - The types of systemic improvements include
      - Cable median barriers
      - Rumble strips
      - Traffic control device rehabilitation
      - Pavement installation and improvement
        - Engineering studies are used to identify potential countermeasures
        - The HSIP funding for CY 2014
      - Programmed - $37,556,765
Non-infrastructure portion - $6,434,995

- Obligated - $43,369,755

  Non-infrastructure portion - $8,723,537

- Additional site specific information is expected to be available in future years for individual HSIP related projects.
- The General listing of projects includes various traffic control, roadside, intersection geometry and non-infrastructure projects.
- The Overview of safety trends indicates that the reported number of fatalities have decreased from 581 in 2010 to 481 in 2014 (rolling average format) and that the number of serious injuries have decreased from 4,925 in 2010 to 3,456 in 2014 (rolling average format).
- The Roadway ownership indicates that in 2014 the top four road systems experienced the following number of fatalities:
  - MD State Highways – 197
  - County Roads – 103
  - US Highways – 53
  - Interstate Highways – 49

- Older Driver (65+) Fatal and Severe Injury per capita rate has decreased from 2007-11 (3.0) as compared with 2009-2011 (2.6)
- The effectiveness of the HSIP program will be indicated by the crash data trends. Additional site specific data is expected to become available in subsequent HSIP reports.
- The significant programmatic change in the HSIP program is that efforts have progressed in response to the projected MAP-21 Safety Target Setting Methodologies. Additionally work on the 2016-20 SHSP will be completed later this year.
- Overall yearly crash trends for the individual SHSP (Strategic Highway Safety Program) areas along with the HSIP Sub-Program areas are shown in tables in the annual report.
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 MAP-21 Reporting Guidance dated February 13, 2013 and consists of four sections: program structure, progress in implementing HSIP projects, progress in achieving safety performance targets, and assessment of the effectiveness of the improvements.

Program Structure

Program Administration

How are Highway Safety Improvement Program funds allocated in a State?

- [x] Central
- [ ] District
- [ ] Other

Describe how local roads are addressed as part of Highway Safety Improvement Program.

Local Roads are not given HSIP funds from the State

Identify which internal partners are involved with Highway Safety Improvement Program planning.

- [ ] Design
- [ ] Planning
Briefly describe coordination with internal partners.

The Traffic Development and Support Division (TDSD) along with the Maryland Highway Safety Office (MHSO) (Note: MHSO moved from SHA in 2012 and is now part of MVA) and other Office of Traffic and Safety (OOTS) divisions provided leadership, support, and coordination for Maryland's highway safety projects in CY 2014. Part of TDSD and MHSO’s responsibility is to work with other State agencies to address highway safety issues. This effort results in a multi agency approach which includes the Motor Vehicle Administration, the Maryland Transportation Authority, the Maryland Institute for Emergency Medical Services and others that have roles in highway safety problems. The seven SHA District Offices also provide a network of field personnel willing to coordinate and provide technical assistance to local agencies. There is a continuing relationship between OOTS and the Federal Highway Administration (FHWA) along with National Highway Traffic Safety Administration and Federal Motor Carrier Safety Administration.

Identify which external partners are involved with Highway Safety Improvement Program planning.

☒ Metropolitan Planning Organizations

☒ Governors Highway Safety Office

☐ Local Government Association

☒ Other: Other:- External partners including MPOs, local government, police agencies and academic organizations are included in the 2016-20 SHSP planning process
Identify any program administration practices used to implement the HSIP that have changed since the last reporting period.

☐ Multi-disciplinary HSIP steering committee
☐ Other: Other-Work the 2016-20 SHSP is will be finished later this year

Describe any other aspects of Highway Safety Improvement Program Administration on which you would like to elaborate.

none at this time

Program Methodology
Select the programs that are administered under the HSIP.

☒ Median Barrier  ☑ Intersection  ☐ Safe Corridor
☒ Horizontal Curve  ☐ Bicycle Safety  ☑ Rural State Highways
☒ Skid Hazard  ☑ Crash Data  ☐ Red Light Running Prevention
☒ Roadway Departure  ☑ Low-Cost Spot Improvements  ☐ Sign Replacement And Improvement
☐ Local Safety  ☑ Pedestrian Safety  ☑ Right Angle Crash
☒ Left Turn Crash  ☐ Shoulder Improvement  ☑ Segments
☐ Other:
Program: Median Barrier
Date of Program Methodology: 1/1/2010

What data types were used in the program methodology?

<table>
<thead>
<tr>
<th>Crashes</th>
<th>Exposure</th>
<th>Roadway</th>
</tr>
</thead>
<tbody>
<tr>
<td>All crashes</td>
<td>Traffic</td>
<td>Median width</td>
</tr>
<tr>
<td>Fatal crashes only</td>
<td>Volume</td>
<td>Horizontal curvature</td>
</tr>
<tr>
<td>Fatal and serious injury crashes only</td>
<td>Population</td>
<td>Functional classification</td>
</tr>
<tr>
<td>Other</td>
<td>Lane miles</td>
<td>Roadside features</td>
</tr>
<tr>
<td>Other</td>
<td>Other-Highway mileage</td>
<td>Other</td>
</tr>
</tbody>
</table>

What project identification methodology was used for this program?

- Crash frequency
- Expected crash frequency with EB adjustment
- Equivalent property damage only (EPDO Crash frequency)
- EPDO crash frequency with EB adjustment
- Relative severity index
- Crash rate
- Critical rate
- Level of service of safety (LOSS)
- Excess expected crash frequency using SPF
- Excess expected crash frequency with the EB adjustment
- Excess expected crash frequency using method of moments
- Probability of specific crash types
Excess proportions of specific crash types

Other

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

Yes
No

How are highway safety improvement projects advanced for implementation?

Competitive application process
Selection committee
Other

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

Relative Weight in Scoring
Rank of Priority Consideration

Ranking based on B/C
Available funding
Incremental B/C
Ranking based on net benefit
Other
Safety 60
Congestion / Operations 30
Program: Intersection

Date of Program Methodology: 1/1/2010

What data types were used in the program methodology?

**Crashes**
- All crashes
- Fatal crashes only
- Fatal and serious injury crashes only
- Other

**Exposure**
- Traffic
- Volume
- Population
- Lane miles
- Other

**Roadway**
- Median width
- Horizontal curvature
- Functional classification
- Roadside features
- Other

What project identification methodology was used for this program?

- Crash frequency
- Expected crash frequency with EB adjustment
- Equivalent property damage only (EPDO Crash frequency)
- EPDO crash frequency with EB adjustment
- Relative severity index
- Crash rate
- Critical rate
- Level of service of safety (LOSS)
Excess expected crash frequency using SPF

Excess expected crash frequency with the EB adjustment

Excess expected crash frequency using method of moments

Probability of specific crash types

Excess proportions of specific crash types

Other

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

☐ Yes
☑ No

How are highway safety improvement projects advanced for implementation?

☐ Competitive application process

☒ Selection committee

☐ Other

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

☒ Relative Weight in Scoring

☐ Rank of Priority Consideration

☐ Ranking based on B/C

☐ Available funding

☐ Incremental B/C
Ranking based on net benefit

☐ Other

☒ Safety  60

☒ Congestion / Operations  30

☒ Support / Opportunity  10

Program: Horizontal Curve

Date of Program Methodology: 1/1/2010

What data types were used in the program methodology?

Crashes

☒ All crashes

☐ Fatal crashes only

☐ Fatal and serious injury crashes only

☐ Other

Exposure

☐ Traffic

☒ Volume

☐ Population

Roadway

☐ Median width

☐ Horizontal curvature

☐ Functional classification

☐ Roadside features

☒ Other-Highway mileage

☐ Other

What project identification methodology was used for this program?

☒ Crash frequency

☐ Expected crash frequency with EB adjustment

☐ Equivalent property damage only (EPDO Crash frequency)

☐ EPDO crash frequency with EB adjustment
☐ Relative severity index
☐ Crash rate
☐ Critical rate
☐ Level of service of safety (LOSS)
☐ Excess expected crash frequency using SPFs
☐ Excess expected crash frequency with the EB adjustment
☐ Excess expected crash frequency using method of moments
☐ Probability of specific crash types
☐ Excess proportions of specific crash types
☐ Other

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

How are highway safety improvement projects advanced for implementation?
☐ Competitive application process
☒ Selection committee
☐ Other

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

☒ Relative Weight in Scoring
☐ Rank of Priority Consideration
Ranking based on B/C

Available funding

Incremental B/C

Ranking based on net benefit

Other

Safety 60

Congestion / Operations 30

Support / Opportunity 10

Program: Rural State Highways

Date of Program Methodology: 1/1/2010

What data types were used in the program methodology?

Crashes

- All crashes
- Fatal crashes only
- Fatal and serious injury crashes only
- Other

Exposure

- Traffic
- Volume
- Population
- Lane miles
- Other-Highway mileage

Roadway

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

What project identification methodology was used for this program?

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

☐ Yes
☒ No

How are highway safety improvement projects advanced for implementation?

☐ Competitive application process
☒ Selection committee
☐ Other

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

Rank of Priority Consideration

- Ranking based on B/C
- Available funding
- Incremental B/C
- Ranking based on net benefit
- Other

Safety 60
Congestion / Operations 30
Support / Opportunity 10

Program: Skid Hazard

Date of Program Methodology: 1/1/2012

What data types were used in the program methodology?

**Crashes**
- All crashes
- Fatal crashes only
- Fatal and serious injury crashes only
- Other

**Exposure**
- Traffic
- Volume
- Population
- Lane miles
- Other-Highway mileage

**Roadway**
- Median width
- Horizontal curvature
- Functional classification
- Roadside features
- Other
What project identification methodology was used for this program?

- Crash frequency
- Expected crash frequency with EB adjustment
- Equivalent property damage only (EPDO Crash frequency)
- EPDO crash frequency with EB adjustment
- Relative severity index
- Crash rate
- Critical rate
- Level of service of safety (LOSS)
- Excess expected crash frequency using SPF's
- Excess expected crash frequency with the EB adjustment
- Excess expected crash frequency using method of moments
- Probability of specific crash types
- Excess proportions of specific crash types
- Other

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

- Yes
- No

How are highway safety improvement projects advanced for implementation?

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

- Relative Weight in Scoring
- Rank of Priority Consideration

- Ranking based on B/C
- Available funding
- Incremental B/C
- Ranking based on net benefit
- Other

| Safety  | 60 |
| Congestion / Operations | 30 |
| Support / Opportunity    | 10 |

Program: Crash Data

Date of Program Methodology: 1/1/2010

What data types were used in the program methodology?

<table>
<thead>
<tr>
<th>Crashes</th>
<th>Exposure</th>
<th>Roadway</th>
</tr>
</thead>
<tbody>
<tr>
<td>All crashes</td>
<td>Traffic</td>
<td>Median width</td>
</tr>
<tr>
<td>Fatal crashes only</td>
<td>Volume</td>
<td>Horizontal curvature</td>
</tr>
</tbody>
</table>
What project identification methodology was used for this program?

- ✔ Crash frequency
- ❌ Expected crash frequency with EB adjustment
- ❌ Equivalent property damage only (EPDO Crash frequency)
- ❌ EPDO crash frequency with EB adjustment
- ✔ Relative severity index
- ✔ Crash rate
- ❌ Critical rate
- ❌ Level of service of safety (LOSS)
- ❌ Excess expected crash frequency using SPFs
- ❌ Excess expected crash frequency with the EB adjustment
- ❌ Excess expected crash frequency using method of moments
- ❌ Probability of specific crash types
- ❌ Excess proportions of specific crash types
- ❌ Other

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

- ❌ Yes
- ✔ No

How are highway safety improvement projects 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).

- **Relative Weight in Scoring**

- **Rank of Priority Consideration**

  - [ ] Ranking based on B/C
  - [ ] Available funding
  - [ ] Incremental B/C
  - [ ] Ranking based on net benefit
  - [ ] Other

  - Safety: 60
  - Congestion / Operations: 30
  - Support / Opportunity: 10

**Program:** Roadway Departure

**Date of Program Methodology:** 1/1/2010

**What data types were used in the program methodology?**
<table>
<thead>
<tr>
<th>Crashes</th>
<th>Exposure</th>
<th>Roadway</th>
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</thead>
<tbody>
<tr>
<td>☒ All crashes</td>
<td>☐ Traffic</td>
<td>☐ Median width</td>
</tr>
<tr>
<td>☐ Fatal crashes only</td>
<td>☒ Volume</td>
<td>☐ Horizontal curvature</td>
</tr>
<tr>
<td>☐ Fatal and serious injury crashes only</td>
<td>☐ Population</td>
<td>☐ Functional classification</td>
</tr>
<tr>
<td>☐ Other</td>
<td>☐ Lane miles</td>
<td>☐ Roadside features</td>
</tr>
<tr>
<td></td>
<td>☒ Other-Highway mileage</td>
<td>☐ Other</td>
</tr>
</tbody>
</table>

What project identification methodology was used for this program?

- ☒ Crash frequency
- ☐ Expected crash frequency with EB adjustment
- ☐ Equivalent property damage only (EPDO Crash frequency)
- ☒ EPDO crash frequency with EB adjustment
- ☒ Relative severity index
- ☒ Crash rate
- ☐ Critical rate
- ☐ Level of service of safety (LOSS)
- ☐ Excess expected crash frequency using SPF
- ☒ Excess expected crash frequency with the EB adjustment
- ☒ Excess expected crash frequency using method of moments
- ☐ Probability of specific crash types
- ☐ Excess proportions of specific crash types
- ☐ Other

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

How are highway safety improvement projects advanced for implementation?

☐ Competitive application process
☒ Selection committee
☐ Other

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

☒ Relative Weight in Scoring
☐ Rank of Priority Consideration

☐ Ranking based on B/C
☐ Available funding
☐ Incremental B/C
☐ Ranking based on net benefit
☐ Other

☒ Safety 60
☒ Congestion / Operations 30
☒ Support / Opportunity 10
Program: Low-Cost Spot Improvements

Date of Program Methodology: 1/1/2010

What data types were used in the program methodology?

<table>
<thead>
<tr>
<th>Crashes</th>
<th>Exposure</th>
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<tbody>
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<tr>
<td>Fatal crashes only</td>
<td>Volume</td>
<td>Horizontal curvature</td>
</tr>
<tr>
<td>Fatal and serious injury</td>
<td>Population</td>
<td>Functional classification</td>
</tr>
<tr>
<td>crashes only</td>
<td>Lane miles</td>
<td>Roadside features</td>
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<td>Other</td>
<td>Other-Highway mileage</td>
<td>Other</td>
</tr>
</tbody>
</table>

What project identification methodology was used for this program?

<table>
<thead>
<tr>
<th>Crash frequency</th>
<th>Expected crash frequency with EB adjustment</th>
<th>Equivalent property damage only (EPDO Crash frequency)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EPDO crash frequency with EB adjustment</td>
<td>EPDO crash frequency with EB adjustment</td>
<td>Relative severity index</td>
</tr>
<tr>
<td>Crash rate</td>
<td>Critical rate</td>
<td>Level of service of safety (LOSS)</td>
</tr>
<tr>
<td>Excess expected crash frequency using SPF</td>
<td>Excess expected crash frequency with the EB adjustment</td>
<td>Excess expected crash frequency using method of moments</td>
</tr>
<tr>
<td>Probability of specific crash types</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>


Excess proportions of specific crash types

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

Yes
No

How are highway safety improvement projects advanced for implementation?

Competitive application process
Selection committee
Other

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

Relative Weight in Scoring
Rank of Priority Consideration

Ranking based on B/C
Available funding
Incremental B/C
Ranking based on net benefit
Other

Safety 60
Congestion / Operations 30
Program: Pedestrian Safety

Date of Program Methodology: 1/1/2012

What data types were used in the program methodology?

<table>
<thead>
<tr>
<th>Crashes</th>
<th>Exposure</th>
<th>Roadway</th>
</tr>
</thead>
<tbody>
<tr>
<td>All crashes</td>
<td>Traffic</td>
<td>Median width</td>
</tr>
<tr>
<td>Fatal crashes only</td>
<td>Volume</td>
<td>Horizontal curvature</td>
</tr>
<tr>
<td>Fatal and serious injury</td>
<td>Population</td>
<td>Functional classification</td>
</tr>
<tr>
<td>crashes only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Lane miles</td>
<td>Roadside features</td>
</tr>
<tr>
<td></td>
<td>Other-Highway mileage</td>
<td>Other</td>
</tr>
</tbody>
</table>

What project identification methodology was used for this program?

- Crash frequency
- Expected crash frequency with EB adjustment
- Equivalent property damage only (EPDO Crash frequency)
- EPDO crash frequency with EB adjustment
- Relative severity index
- Crash rate
- Critical rate
- Level of service of safety (LOSS)
Are local roads (non-state owned and operated) included or addressed in this program?

☐ Yes
☒ No

How are highway safety improvement projects advanced for implementation?

☐ Competitive application process
☒ Selection committee
☐ Other

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

☒ Relative Weight in Scoring
☐ Rank of Priority Consideration

☐ Ranking based on B/C
☐ Available funding
☐ Incremental B/C
Ranking based on net benefit

Other

Safety 60

Congestion / Operations 30

Support / Opportunity 10

Program: Right Angle Crash

Date of Program Methodology: 1/1/2010

What data types were used in the program methodology?

Crashes

- All crashes
- Fatal crashes only
- Fatal and serious injury crashes only
- Other

Exposure

- Traffic
- Volume
- Population
- Lane miles
- Other

Roadway

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

What project identification methodology was used for this program?

- Crash frequency
- Expected crash frequency with EB adjustment
- Equivalent property damage only (EPDO Crash frequency)
- EPDO crash frequency with EB adjustment
Relative severity index

Crash rate

Critical rate

Level of service of safety (LOSS)

Excess expected crash frequency using SPFs

Excess expected crash frequency with the EB adjustment

Excess expected crash frequency using method of moments

Probability of specific crash types

Excess proportions of specific crash types

Other

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

Yes

No

How are highway safety improvement projects advanced for implementation?

Competitive application process

Selection committee

Other

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

Relative Weight in Scoring

Rank of Priority Consideration
Program: Left Turn Crash

Date of Program Methodology: 1/1/2010

What data types were used in the program methodology?

- **Crashes**
  - All crashes
  - Fatal crashes only
  - Fatal and serious injury crashes only
  - Other

- **Exposure**
  - Traffic
  - Volume
  - Population

- **Roadway**
  - Median width
  - Horizontal curvature
  - Functional classification
  - Roadside features
  - Other

What project identification methodology was used for this program?

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

☑ No

How are highway safety improvement projects advanced for implementation?

☑ Selection committee

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

Rank of Priority Consideration

- Ranking based on B/C
- Available funding
- Incremental B/C
- Ranking based on net benefit
- Other

- Safety 60
- Congestion / Operations 30
- Support / Opportunity 10

Program: Segments

Date of Program Methodology: 1/1/2010

What data types were used in the program methodology?

<table>
<thead>
<tr>
<th>Crashes</th>
<th>Exposure</th>
<th>Roadway</th>
</tr>
</thead>
<tbody>
<tr>
<td>All crashes</td>
<td>Traffic</td>
<td>Median width</td>
</tr>
<tr>
<td>Fatal crashes only</td>
<td>Volume</td>
<td>Horizontal curvature</td>
</tr>
<tr>
<td>Fatal and serious injury</td>
<td>Population</td>
<td>Functional classification</td>
</tr>
<tr>
<td>crashes only</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Lane miles</td>
<td>Roadside features</td>
</tr>
<tr>
<td></td>
<td>OtherHighway mileage</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other</td>
</tr>
</tbody>
</table>
What project identification methodology was used for this program?

- Crash frequency
- Expected crash frequency with EB adjustment
- Equivalent property damage only (EPDO Crash frequency)
- EPDO crash frequency with EB adjustment
- Relative severity index
- Crash rate
- Critical rate
- Level of service of safety (LOSS)
- Excess expected crash frequency using SPF
- Excess expected crash frequency with the EB adjustment
- Excess expected crash frequency using method of moments
- Probability of specific crash types
- Excess proportions of specific crash types
- Other

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

- Yes
- No

How are highway safety improvement projects advanced for implementation?

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

- Relative Weight in Scoring
- Rank of Priority Consideration

- Ranking based on B/C
- Available funding
- Incremental B/C
- Ranking based on net benefit
- Other

- Safety  60
- Congestion / Operations  30
- Support / Opportunity  10

What proportion of highway safety improvement program funds address systemic improvements?

80

Highway safety improvement program funds are used to address which of the following systemic improvements?

- Cable Median Barriers
- Rumble Strips
- Traffic Control Device Rehabilitation
- Pavement/Shoulder Widening
What process is used to identify potential countermeasures?

- Engineering Study
- Road Safety Assessment
- Other:
Describe any other aspects of the Highway Safety Improvement Program methodology on which you would like to elaborate.

none at this time
**Progress in Implementing Projects**

**Funds Programmed**

Reporting period for Highway Safety Improvement Program funding.

- [ ] Calendar Year
- [ ] State Fiscal Year
- [ ] Federal Fiscal Year

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

<table>
<thead>
<tr>
<th>Funding Category</th>
<th>Programmed*</th>
<th>Obligated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HSIP (Section 148)</strong></td>
<td>9302545.2</td>
<td>10628055</td>
</tr>
<tr>
<td></td>
<td>25 %</td>
<td>25 %</td>
</tr>
<tr>
<td><strong>HRRRP (SAFETEA-LU)</strong></td>
<td>3055939.25</td>
<td>3172321.13</td>
</tr>
<tr>
<td></td>
<td>8 %</td>
<td>7 %</td>
</tr>
<tr>
<td><strong>HRRR Special Rule</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Penalty Transfer - Section 154</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Penalty Transfer – Section 164</strong></td>
<td>2592345.13</td>
<td>4427319</td>
</tr>
<tr>
<td></td>
<td>7 %</td>
<td>10 %</td>
</tr>
<tr>
<td><strong>Incentive Grants - Section 163</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Incentive Grants (Section 406)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Other Federal-aid Funds (i.e. STP, NHPP)</strong></td>
<td>912131.26</td>
<td>9999999</td>
</tr>
<tr>
<td></td>
<td>2 %</td>
<td>2 %</td>
</tr>
<tr>
<td><strong>State and Local Funds</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Maryland Highway Safety Improvement Program

<table>
<thead>
<tr>
<th></th>
<th>Programmed</th>
<th>Obligated</th>
<th>Programmed</th>
<th>Obligated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other HSIP (SAFETEA-LU)</td>
<td>11618368.47</td>
<td>31 %</td>
<td>12539890</td>
<td>29 %</td>
</tr>
<tr>
<td>Other HSIP (MAP 21)</td>
<td>10075436.04</td>
<td>27 %</td>
<td>11602171</td>
<td>27 %</td>
</tr>
<tr>
<td>Totals</td>
<td>37556765.35</td>
<td>100%</td>
<td>43369755.13</td>
<td>100%</td>
</tr>
</tbody>
</table>

**How much funding is programmed to local (non-state owned and maintained) safety projects?**

$0.00

**How much funding is obligated to local safety projects?**

$0.00

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

$6,434,995.00

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

$8,723,537.00
How much funding was transferred in to the HSIP from other core program areas during the reporting period?

$0.00

How much funding was transferred out of the HSIP to other core program areas during the reporting period?

$2,592,345.00

Discuss impediments to obligating Highway Safety Improvement Program funds and plans to overcome this in the future.

None at this time

Describe any other aspects of the general Highway Safety Improvement Program implementation progress on which you would like to elaborate.

Additional site specific information is expected to be available in CY 2015 for individual HSIP related projects
## General Listing of Projects

List each highway safety improvement project obligated during the reporting period.

<table>
<thead>
<tr>
<th>Project</th>
<th>Improvement Category</th>
<th>Output</th>
<th>HSIP Cost</th>
<th>Total Cost</th>
<th>Funding Category</th>
<th>Functional Classification</th>
<th>AADT</th>
<th>Speed</th>
<th>Roadway Ownership</th>
<th>Relationship to SHSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>#00DB(094)</td>
<td>Roadway delineation Raised pavement markers</td>
<td>Miles</td>
<td>1541519</td>
<td>1712776</td>
<td>HSIP (Map 21)</td>
<td>areawide</td>
<td>16451</td>
<td>65</td>
<td>State Highway Agency</td>
<td>Roadway Departure analyze data to identify system wide improvements to reduce the number and severity of infrastructure crashes</td>
</tr>
<tr>
<td>#0682(048)</td>
<td>Roadside Barrier-metal</td>
<td>2.95 Miles</td>
<td>500000</td>
<td>1801666</td>
<td>HSIP (Map 21)</td>
<td>Rural Principal Arterial - Interstate</td>
<td>16451</td>
<td>65</td>
<td>State Highway Agency</td>
<td>Roadway Departure analyze data to identify system wide improvements to reduce the number and severity of infrastructure crashes</td>
</tr>
<tr>
<td>#1066(009)</td>
<td>Roadway Roadway - other</td>
<td>1.37 Miles</td>
<td>537841</td>
<td>591652</td>
<td>HSIP (Map 21)</td>
<td>Rural Minor Arterial</td>
<td>6462</td>
<td>40</td>
<td>State Highway Agency</td>
<td>Roadway Departure</td>
</tr>
<tr>
<td>------------</td>
<td>-------------------------</td>
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<td>--------</td>
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<td>---------------</td>
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<td>---------------------</td>
<td>----------------</td>
</tr>
<tr>
<td>#3003(009)</td>
<td>Roadside Barrier - other</td>
<td>5.46 Miles</td>
<td>119168 5</td>
<td>119168 5</td>
<td>HSIP (Map 21)</td>
<td>Urban Principal Arterial - Other Freeways and Expressways</td>
<td>51621</td>
<td>55</td>
<td>State Highway Agency</td>
<td>Roadway Departure</td>
</tr>
<tr>
<td>#3121(011)</td>
<td>Pedestrians and bicyclists Miscellaneous pedestrians and bicyclists</td>
<td>1.59 Miles</td>
<td>1522100</td>
<td>1522100</td>
<td>HSIP (Map 21)</td>
<td>Urban Minor Arterial</td>
<td>10782</td>
<td>40</td>
<td>State Highway Agency</td>
<td>Pedestrians</td>
</tr>
<tr>
<td>#5030(010)</td>
<td>Intersection geometry</td>
<td>Miles</td>
<td>7569726</td>
<td>8914953</td>
<td>HSIP (Section 148) (Map 21)</td>
<td>Urban Principal Arterial - Other</td>
<td>16960</td>
<td>40</td>
<td>State Highway Agency</td>
<td>Intersection geometry - other</td>
</tr>
<tr>
<td>#6956(347)</td>
<td>Interchange design</td>
<td>Miles</td>
<td>3190802</td>
<td>3256743</td>
<td>HSIP (Section 148) (Map 21)</td>
<td>Urban Principal Arterial - Interstate</td>
<td>19551</td>
<td>55</td>
<td>State Highway Agency</td>
<td>Interchange design - other</td>
</tr>
<tr>
<td>#2361(037)</td>
<td>Roadside Barrier</td>
<td>6.24 Miles</td>
<td>801595</td>
<td>801595</td>
<td>HSIP (Map 21)</td>
<td>Urban Principal</td>
<td>41171</td>
<td>55</td>
<td>State Highway Agency</td>
<td>Roadway Departure</td>
</tr>
<tr>
<td>#2881(006)</td>
<td>Intersection traffic control Modify control - no control to roundabout</td>
<td>Miles</td>
<td>764460</td>
<td>849400</td>
<td>HRRRP (SAFETE A-LU)</td>
<td>Rural Minor Arterial</td>
<td>7123</td>
<td>50</td>
<td>State Highway Agency</td>
<td>Data locations (intersection and locations) and make safety improvements statewide</td>
</tr>
<tr>
<td>#2391(005)</td>
<td>Intersection geometry Intersection geometry - other</td>
<td>Miles</td>
<td>1998087</td>
<td>1998087</td>
<td>HRRRP (SAFETE A-LU)</td>
<td>Rural Minor Arterial</td>
<td>14731</td>
<td>50</td>
<td>State Highway Agency</td>
<td>Data intersections to identify system wide improvements to reduce the number and severity of infrastructure crashes</td>
</tr>
<tr>
<td>#2571(016)</td>
<td>Intersection geometry</td>
<td>Miles</td>
<td>290834 7</td>
<td>293978 9</td>
<td>HRRRP (SAFETE A-LU) (Map 21)</td>
<td>Rural Minor Arterial</td>
<td>18702</td>
<td>50</td>
<td>State Highway Agency</td>
<td>Intersection geometry - other</td>
</tr>
<tr>
<td>#000A(712)</td>
<td>Roadside Barrier - other</td>
<td>Miles</td>
<td>447465</td>
<td>447465</td>
<td>HSIP (Section 148) (SAFETE A-LU)</td>
<td>areawide</td>
<td>State Highway Agency</td>
<td>Roadway Departure</td>
<td>Roadside Barrier - other</td>
<td>analyze data to identify system wide improvements to reduce the number and severity of infrastructure crashes</td>
</tr>
<tr>
<td>#000A(813)</td>
<td>Roadside Barrier - other</td>
<td>Miles</td>
<td>1096704</td>
<td>1096704</td>
<td>HSIP (Section 148) (SAFETE A-LU)</td>
<td>areawide</td>
<td>State Highway Agency</td>
<td>Roadway Departure</td>
<td>Roadside Barrier - other</td>
<td>analyze data to identify system wide improvements to reduce the number and severity of infrastructure crashes</td>
</tr>
<tr>
<td>#000A(726)</td>
<td>Non-infrastructure Transportatio safety planning</td>
<td>Miles</td>
<td>1341900</td>
<td>1491000</td>
<td>HSIP (SAFETE A-LU)</td>
<td>areawide</td>
<td>State Highway Agency</td>
<td>Data</td>
<td>analyze data to identify system wide improvements to reduce the number and severity of infrastructure crashes</td>
<td></td>
</tr>
<tr>
<td>-----------</td>
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<td>------</td>
<td>-----------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>#000A(731)</td>
<td>Non-infrastructure Transportatio safety planning</td>
<td>Miles</td>
<td>1588619</td>
<td>1805219</td>
<td>HSIP (SAFETE A-LU)</td>
<td>areawide</td>
<td>State Highway Agency</td>
<td>Data</td>
<td>analyze data to identify system wide improvements to reduce the number and severity of infrastructure crashes</td>
<td></td>
</tr>
<tr>
<td>#000A(754)</td>
<td>Roadway Pavement surface - high</td>
<td>Miles</td>
<td>2877158</td>
<td>2877158</td>
<td>HSIP (SAFETE A-LU)</td>
<td>areawide</td>
<td>State Highway Agency</td>
<td>Highway Infrastructure</td>
<td>analyze data to identify system wide improvements to reduce the number and severity of infrastructure crashes</td>
<td></td>
</tr>
<tr>
<td>Project Number</td>
<td>Description</td>
<td>Miles</td>
<td>HSI/SAFETY Code</td>
<td>Type of Improvements</td>
<td>Funding Authority</td>
<td>Funding Source</td>
<td>Notes</td>
<td></td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
<tr>
<td>#1191(029)</td>
<td>Intersection geometry - other</td>
<td>407105</td>
<td>508855</td>
<td>HSIP (SAFETY A-LU)</td>
<td>Urban Principal Arterial - Other</td>
<td>55582</td>
<td>50</td>
<td>State Highway Agency</td>
<td>Data to identify system wide improvements to reduce the number and severity of infrastructure crashes</td>
<td></td>
</tr>
<tr>
<td>#000B(053)</td>
<td>Pedestrians and bicyclists Modify existing crosswalk</td>
<td>3767177</td>
<td>4134975</td>
<td>HSIP (SAFETY A-LU)</td>
<td>areawide</td>
<td>State Highway Agency</td>
<td>Pedestrians</td>
<td>Develop and evaluate model approaches to engineering built environments that accommodate safe</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td>Maryland</td>
<td>Highway Safety Improvement Program</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
</tbody>
</table>

|  |  |  |  |  |  |  | pedestrian travel |

|  |  |  |  |  |  |  |                   |

|  |  |  |  |  |  |  |                   |

|  |  |  |  |  |  |  |                   |

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|  |  |  |  |  |  |  |                   |
Progress in Achieving Safety Performance Targets

Overview of General Safety Trends

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

<table>
<thead>
<tr>
<th>Performance Measures*</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of fatalities</td>
<td>581</td>
<td>548</td>
<td>527</td>
<td>502</td>
<td>481</td>
</tr>
<tr>
<td>Number of serious injuries</td>
<td>4925</td>
<td>4439</td>
<td>4030</td>
<td>3714</td>
<td>3456</td>
</tr>
<tr>
<td>Fatality rate (per HMVMT)</td>
<td>1.03</td>
<td>0.97</td>
<td>0.94</td>
<td>0.9</td>
<td>0.85</td>
</tr>
<tr>
<td>Serious injury rate (per HMVMT)</td>
<td>8.75</td>
<td>7.9</td>
<td>7.19</td>
<td>6.62</td>
<td>6.13</td>
</tr>
</tbody>
</table>

*Performance measure data is presented using a five-year rolling average.
Number of Fatalities and Serious Injuries for the Last Five Years

<table>
<thead>
<tr>
<th>Years</th>
<th>Fatalities</th>
<th>Serious Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>481</td>
<td>540</td>
</tr>
<tr>
<td>2013</td>
<td>502</td>
<td>540</td>
</tr>
<tr>
<td>2012</td>
<td>527</td>
<td>540</td>
</tr>
<tr>
<td>2011</td>
<td>548</td>
<td>580</td>
</tr>
<tr>
<td>2010</td>
<td>581</td>
<td>5000</td>
</tr>
</tbody>
</table>
Rate of Fatalities and Serious Injuries for the Last Five Years

![Graph showing the rate of fatalities and serious injuries per HMVMT from 2010 to 2014. The trend line indicates a decrease in fatalities and serious injuries over the years.](image-url)
To the maximum extent possible, present performance measure* data by functional classification and ownership.

### Year - 2014

<table>
<thead>
<tr>
<th>Function Classification</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>RURAL PRINCIPAL ARTERIAL - INTERSTATE</td>
<td>23.8</td>
<td>73.4</td>
<td>0.74</td>
<td>2.29</td>
</tr>
<tr>
<td>RURAL PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>RURAL PRINCIPAL ARTERIAL - OTHER</td>
<td>29.2</td>
<td>185.4</td>
<td>0.92</td>
<td>5.98</td>
</tr>
<tr>
<td>RURAL MINOR ARTERIAL</td>
<td>34</td>
<td>173.8</td>
<td>1.54</td>
<td>7.84</td>
</tr>
<tr>
<td>RURAL MINOR COLLECTOR</td>
<td>16.6</td>
<td>76.4</td>
<td>1.4</td>
<td>6.51</td>
</tr>
<tr>
<td>RURAL MAJOR COLLECTOR</td>
<td>32.2</td>
<td>182.6</td>
<td>1.69</td>
<td>9.6</td>
</tr>
<tr>
<td>RURAL LOCAL ROAD OR STREET</td>
<td>19.6</td>
<td>113.4</td>
<td>1.19</td>
<td>6.87</td>
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<tr>
<td>URBAN PRINCIPAL</td>
<td>62.8</td>
<td>382</td>
<td>0.45</td>
<td>2.76</td>
</tr>
<tr>
<td>Category</td>
<td>Value1</td>
<td>Value2</td>
<td>Value3</td>
<td>Value4</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
<td>--------</td>
</tr>
<tr>
<td>URBAN PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS</td>
<td>41.2</td>
<td>232.6</td>
<td>0.7</td>
<td>3.97</td>
</tr>
<tr>
<td>URBAN PRINCIPAL ARTERIAL - OTHER</td>
<td>119.8</td>
<td>1063</td>
<td>1.17</td>
<td>10.39</td>
</tr>
<tr>
<td>URBAN MINOR ARTERIAL</td>
<td>60</td>
<td>475.2</td>
<td>0.95</td>
<td>7.5</td>
</tr>
<tr>
<td>URBAN MINOR COLLECTOR</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>URBAN MAJOR COLLECTOR</td>
<td>27.6</td>
<td>243.8</td>
<td>0.77</td>
<td>6.82</td>
</tr>
<tr>
<td>URBAN LOCAL ROAD OR STREET</td>
<td>17</td>
<td>239.4</td>
<td>0.56</td>
<td>7.91</td>
</tr>
</tbody>
</table>
# Fatalities by Roadway Functional Classification

![Bar chart showing the number of fatalities by roadway functional classification from 2010 to 2014. The chart displays the distribution of fatalities across different types of roadways, including major collector, minor collector, principal arterial, minor arterial, local road or street, principal arterial - other, and other freeways and expressways. The y-axis represents the number of fatalities, and the x-axis represents the roadway functional classification. The chart indicates a decline in fatalities over the years.]
# Serious Injuries by Roadway Functional Classification

2010
2011
2012
2013
2014

# of Serious Injuries

Roadway Functional Classification
Fatality Rate by Roadway Functional Classification

Roadway Functional Classification:
- MAJOR COLLECTOR (U)
- MINOR COLLECTOR (U)
- MAJOR ROAD OR STREET (R)
- PRINCIPAL ARTERIAL (R)
- MINOR ARTERIAL (R)
- PRINCIPAL ARTERIAL - OTHER (R)
- PRINCIPAL ARTERIAL - OTHER FREEWAYS AND EXPRESSWAYS (R)
- PRINCIPAL ARTERIAL - INTERSTATE (R)
- INTERSTATE (U)
- OTHER FREEWAYS AND EXPRESSWAYS (U)
- OTHER (U)

Fatality Rate (per HMVMT):
- 2010
- 2011
- 2012
- 2013
- 2014
Serious Injury Rate by Roadway Functional Classification

Roadway Functional Classification

## Year - 2014

<table>
<thead>
<tr>
<th>Roadway Ownership</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>STATE HIGHWAY AGENCY</td>
<td>333.6</td>
<td>2101.4</td>
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<tr>
<td>COUNTY HIGHWAY AGENCY</td>
<td>113.6</td>
<td>935</td>
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<tr>
<td>TOWN OR TOWNSHIP HIGHWAY AGENCY</td>
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<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>CITY OF MUNICIPAL HIGHWAY AGENCY</td>
<td>14.8</td>
<td>260.2</td>
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<tr>
<td>STATE PARK, FOREST, OR RESERVATION AGENCY</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>LOCAL PARK, FOREST OR RESERVATION AGENCY</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OTHER STATE AGENCY</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>OTHER LOCAL AGENCY</td>
<td>0.6</td>
<td>11.8</td>
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<td>0</td>
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<tr>
<td>PRIVATE (OTHER THAN RAILROAD)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>RAILROAD</td>
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<td>0</td>
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<td>0</td>
</tr>
<tr>
<td>STATE TOLL AUTHORITY</td>
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<td>0</td>
</tr>
<tr>
<td>LOCAL TOLL AUTHORITY</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, UNIVERSITY)</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Number of Fatalities by Roadway Ownership

- **2010**: State, County, Town, City
- **2011**: State, County, Town
- **2012**: State, County, Town
- **2013**: State, County
- **2014**: State, County

**Roadway Functional Classification**

- State
- County
- Town
- City
- State Park
- Other State
- Other Local
- Private
- Railroad
- State Toll
- Local Toll
- Other
Number of Serious Injuries by Roadway Ownership

- 2010
- 2011
- 2012
- 2013
- 2014

# of Serious Injuries

Roadway Functional Classification

- STATE
- COUNTY
- TOWN
- CITY
- LOCAL PARK
- OTHER STATE
- PRIVATE
- RAILROAD
- STATE TOLL
- LOCAL TOLL
- OTHER
Describe any other aspects of the general highway safety trends on which you would like to elaborate.

none at this time

**Application of Special Rules**

Present the rate of traffic fatalities and serious injuries per capita for drivers and pedestrians over the age of 65.

<table>
<thead>
<tr>
<th>Older Driver Performance Measures</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatality rate (per capita)</td>
<td>0.594</td>
<td>0.546</td>
<td>0.518</td>
<td>0.522</td>
<td>0.49</td>
</tr>
<tr>
<td>Serious injury rate (per capita)</td>
<td>2.838</td>
<td>2.57</td>
<td>2.438</td>
<td>2.266</td>
<td>2.116</td>
</tr>
<tr>
<td>Fatality and serious injury rate (per capita)</td>
<td>3.434</td>
<td>3.118</td>
<td>2.958</td>
<td>2.786</td>
<td>2.604</td>
</tr>
</tbody>
</table>

*Performance measure data is presented using a five-year rolling average.

**2005 to 2013 Driver and Pedestrian Fatal 65 and older**

**Fatality**

<table>
<thead>
<tr>
<th>Year</th>
<th>Drivers</th>
<th>Peds</th>
<th>Combined</th>
<th>Pop Figure</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>55</td>
<td>24</td>
<td>79</td>
<td>112</td>
<td>0.71</td>
</tr>
<tr>
<td>2006</td>
<td>63</td>
<td>13</td>
<td>76</td>
<td>115</td>
<td>0.66</td>
</tr>
<tr>
<td>2007</td>
<td>40</td>
<td>11</td>
<td>51</td>
<td>118</td>
<td>0.43</td>
</tr>
<tr>
<td>2008</td>
<td>51</td>
<td>13</td>
<td>64</td>
<td>121</td>
<td>0.53</td>
</tr>
<tr>
<td>2009</td>
<td>57</td>
<td>21</td>
<td>78</td>
<td>121</td>
<td>0.64</td>
</tr>
<tr>
<td>2010</td>
<td>42</td>
<td>16</td>
<td>58</td>
<td>123</td>
<td>0.47</td>
</tr>
<tr>
<td>2011</td>
<td>47</td>
<td>18</td>
<td>65</td>
<td>126</td>
<td>0.52</td>
</tr>
<tr>
<td>2012</td>
<td>39</td>
<td>19</td>
<td>58</td>
<td>130</td>
<td>0.45</td>
</tr>
<tr>
<td>2013</td>
<td>35</td>
<td>14</td>
<td>49</td>
<td>134</td>
<td>0.37</td>
</tr>
</tbody>
</table>

**Severe Injury**

<table>
<thead>
<tr>
<th>Year</th>
<th>Drivers</th>
<th>Peds</th>
<th>Combined</th>
<th>Pop Figure</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>355</td>
<td>43</td>
<td>398</td>
<td>112</td>
<td>3.55</td>
</tr>
<tr>
<td>2006</td>
<td>312</td>
<td>29</td>
<td>341</td>
<td>115</td>
<td>2.97</td>
</tr>
</tbody>
</table>
### 2007 to 2011 Driver and Pedestrian Fatality and Severe Injury 65 and older

<table>
<thead>
<tr>
<th>Year</th>
<th>Accidents</th>
<th>Pop Figure</th>
<th>Rate</th>
<th>Years</th>
<th>Total Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007</td>
<td>381</td>
<td>118</td>
<td>3.23</td>
<td>1</td>
<td>14.78</td>
</tr>
<tr>
<td>2008</td>
<td>366</td>
<td>121</td>
<td>3.02</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2009</td>
<td>365</td>
<td>121</td>
<td>3.02</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>330</td>
<td>123</td>
<td>2.68</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>356</td>
<td>126</td>
<td>2.83</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

Total Rate: 3.0

### 2009 to 2013 Driver and Pedestrian Fatality and Severe Injury 65 and older

<table>
<thead>
<tr>
<th>Year</th>
<th>Accidents</th>
<th>Pop Figure</th>
<th>Rate</th>
<th>Years</th>
<th>Total Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>365</td>
<td>121</td>
<td>3.02</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2010</td>
<td>330</td>
<td>123</td>
<td>2.68</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>356</td>
<td>126</td>
<td>2.83</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2012</td>
<td>310</td>
<td>130</td>
<td>2.38</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>283</td>
<td>134</td>
<td>2.11</td>
<td>1</td>
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</tr>
</tbody>
</table>
Rate of Fatalities and Serious Injuries for the Last Five Years

<table>
<thead>
<tr>
<th>Years</th>
<th>Fatalities and Serious Injuries</th>
</tr>
</thead>
<tbody>
<tr>
<td>2013</td>
<td>2.6</td>
</tr>
<tr>
<td>2012</td>
<td>5</td>
</tr>
<tr>
<td>2011</td>
<td>13.02</td>
</tr>
</tbody>
</table>

Does the older driver special rule apply to your state?

No
Assessment of the Effectiveness of the Improvements (Program Evaluation)

What indicators of success can you use to demonstrate effectiveness and success in the Highway Safety Improvement Program?

- None
- Benefit/cost
- Policy change
- Other: Other-The effectiveness of the HSIP program will be indicated by the crash data trends. More site specific data is expected to become available in subsequent HSIP reports

What significant programmatic changes have occurred since the last reporting period?

- Shift Focus to Fatalities and Serious Injuries
- Include Local Roads in Highway Safety Improvement Program
- Organizational Changes
- None
- Other: Other-Work on MAP 21 fatality and serious injury goals in progress

Briefly describe significant program changes that have occurred since the last reporting period.
Work is in progress for the MAP-21 Safety Target Setting Methodologies. Additionally the 2016-20 SHSP will be complete later this year (2015).
**SHSP Emphasis Areas**
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

**Year - 2013**

<table>
<thead>
<tr>
<th>HSIP-related SHSP Emphasis Areas</th>
<th>Target Crash Type</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
<th>Other-1</th>
<th>Other-2</th>
<th>Other-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distracted Driving</td>
<td>All</td>
<td>232</td>
<td>2339.6</td>
<td>0.41</td>
<td>4.17</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Impaired Driving</td>
<td>All</td>
<td>171.2</td>
<td>531.6</td>
<td>0.3</td>
<td>0.95</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Aggressive Driving</td>
<td>All</td>
<td>50.6</td>
<td>351.4</td>
<td>0.09</td>
<td>0.63</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Occupant Protection</td>
<td>All</td>
<td>121.6</td>
<td>344.8</td>
<td>0.22</td>
<td>0.61</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Highway Infrastructure</td>
<td>Intersection, CZ, ROR</td>
<td>328</td>
<td>2383.8</td>
<td>0.58</td>
<td>4.25</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pedestrian Crashes</td>
<td>Vehicle/pedestrian</td>
<td>106</td>
<td>363.8</td>
<td>0.19</td>
<td>0.65</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Number of Fatalities by SHSP Emphasis Area

Year 2009 to Year 2013

# of Fatalities

SHSP Emphasis Area
Number of Serious Injuries by SHSP Emphasis Area

Year 2009 to Year 2013

# of Serious Injuries

SHSP Emphasis Area
Fatality Rate by SHSP Emphasis Area

Year 2009 to Year 2013

Rate of Fatalities

SHSP Emphasis Area
Serious Injury Rate by SHSP Emphasis Area

Year 2009 to Year 2013

2009 2010 2011 2012 2013

Rate of Serious Injuries

0 0.2 0.4 0.6 0.8 1.0 1.2

SHSP Emphasis Area
Groups of similar project types
Present the overall effectiveness of groups of similar types of projects.

Year - 2013

<table>
<thead>
<tr>
<th>HSIP Sub-program Types</th>
<th>Target Crash Type</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
<th>Other-1</th>
<th>Other-2</th>
<th>Other-3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pedestrian Safety</td>
<td>Vehicle/pedestrian</td>
<td>106</td>
<td>363.8</td>
<td>0.19</td>
<td>0.65</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Angle Crash</td>
<td>Angle</td>
<td>60.8</td>
<td>675.4</td>
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<td>1.2</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Wet Surface Crashes</td>
<td>Wet road</td>
<td>81.6</td>
<td>652.2</td>
<td>0.15</td>
<td>1.16</td>
<td>0</td>
<td>0</td>
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<td>Intersection</td>
<td>Intersections</td>
<td>102.8</td>
<td>1322.2</td>
<td>0.18</td>
<td>2.36</td>
<td>0</td>
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<tr>
<td>Left Turn Crash</td>
<td>Left-turn</td>
<td>26</td>
<td>340</td>
<td>0.05</td>
<td>0.6</td>
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</table>
# Fatalities by Target Crash Type for Groups of Similar Projects

Year 2009 to Year 2013

- Blue: 2009
- Red: 2010
- Green: 2011
- Purple: 2012
- Orange: 2013

<table>
<thead>
<tr>
<th>Crash Type</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td>All</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Angle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cross median</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fixed object</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Head on</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Left-turn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Night-time</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Intersections</td>
<td></td>
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</tr>
<tr>
<td>Rear end</td>
<td></td>
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</tr>
<tr>
<td>Right-turn</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Run-off-road</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Speed-related</td>
<td></td>
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<td></td>
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</tr>
<tr>
<td>Truck-related</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle/animal</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vehicle/bicycle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wide road</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Target Crash Type

# of Fatalities

- 0
- 50
- 100
- 150
- 200
- 250
Fatality Rate by Target Crash Type for Groups of Similar Projects

Year 2009 to Year 2013

Target Crash Type

Rate of Fatalities

- All
- Angle
- Cross median
- Fixed object
- Sideswipe
- Head on
- Left-turn
- Night-time
- Intersections
- Non-intersection
- Rear end
- Right-turn
- Run-off-road
- Speed-related
- Truck-related
- Vehicle/animal
- Vehicle/bicycle
- War road
Serious Injury Rate by Target Crash Type for Groups of Similar Projects

Year 2009 to Year 2013

Target Crash Type

Rate of Serious Injuries

2009  2010  2011  2012  2013
## Systemic Treatments

Present the overall effectiveness of systemic treatments.

### Year - 2013

<table>
<thead>
<tr>
<th>Systemic improvement</th>
<th>Target Crash Type</th>
<th>Number of fatalities</th>
<th>Number of serious injuries</th>
<th>Fatality rate (per HMVMT)</th>
<th>Serious injury rate (per HMVMT)</th>
<th>Other-1</th>
<th>Other-2</th>
<th>Other-3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Median Barrier</strong></td>
<td>Head on</td>
<td>64.4</td>
<td>308.8</td>
<td>0.11</td>
<td>0.55</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Horizontal Curve</strong></td>
<td>Run-off-road</td>
<td>179.6</td>
<td>908</td>
<td>0.32</td>
<td>1.62</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Roadway Departure</strong></td>
<td>Run-off-road</td>
<td>179.6</td>
<td>908</td>
<td>0.32</td>
<td>1.62</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
# Fatalities by Target Crash Type for Systemic Safety Improvements

Year 2009 to Year 2013

Target Crash Type

- All
- Angle
- Cross-median
- Fixed object
- Sideswipe
- Head-on
- Left-turn
- Night-time
- Intersections
- Non-intersection
- Rear-end
- Right-turn
- Run-off-road
- Speed-related
- Truck-related
- Vehicle/animal
- Vehicle/bicycle
- Vehicle/pedestrian

# of Fatalities
# Serious Injuries by Target Crash Type for Systemic Safety Improvements

Year 2009 to Year 2013

[Bar chart showing serious injuries for different crash types in 2009 to 2013]
Fatality Rate by Target Crash Type for Systemic Safety Improvements

Year 2009 to Year 2013

Rate of Fatalities

Target Crash Type

- All
- Angle
- Cross-median
- Fixed object
- Sideswipe
- Head-on
- Left-turn
- Night-time
- Intersections
- Rear-end
- Right-turn
- Run-off-road
- Speed-related
- Truck-related
- Vehicle/animal
- Vehicle/bicycle
- Vehicle/pedestrian

2009  2011  2012  2012  2013
Serious Injury Rate by Target Crash Type for Systemic Safety Improvements

Year 2009 to Year 2013

Rate of Serious Injuries

Target Crash Type

2009
2010
2011
2012
2013
Describe any other aspects of the overall Highway Safety Improvement Program effectiveness on which you would like to elaborate.

1. 2014 crash data is unavailable as of reporting time for certain categories.

2. Under "Roadway Ownership" State Highway and State Toll (MDTA) totals are combined under "State Highway Agency" category.

3. No overall crash totals (except for fatalities) are available for federally maintained highways in Maryland.
## Project Evaluation
Provide project evaluation data for completed projects (optional).

<table>
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<tr>
<th>Location</th>
<th>Functional Class</th>
<th>Improvement Category</th>
<th>Improvement Type</th>
<th>Bef-Fatal</th>
<th>Bef-Serious Injury</th>
<th>Bef-All Injuries</th>
<th>Bef-PDO</th>
<th>Bef-Total</th>
<th>Aft-Fatal</th>
<th>Aft-Serious Injury</th>
<th>Aft-All Injuries</th>
<th>Aft-PDO</th>
<th>Aft-Total</th>
<th>Evaluation Results (Benefit/Cost Ratio)</th>
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Optional Attachments

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<th>Files Attached</th>
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**Glossary**

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

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

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

**HMVMT** means hundred million vehicle miles traveled.

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

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

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

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

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

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

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

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