Highway Safety Improvement Program
Data Driven Decisions

Washington
Highway Safety Improvement Program
2013 Annual Report

Prepared by: WA
**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.”
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The Washington state HSIP program funds both local safety (70%) and state highway safety (30%) programs. The program continues to be successful (8.87 B/C for projects completed in 2009). Projects going forward using HSIP funds target the top two (both priority one) infrastructure focus areas identified in the SHSP (Run-Off-the-Road & Intersections).
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?

- Central
- District
- Other

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

The state uses a data-driven process to determine HSIP funding levels for state vs local roads. Our current SHSP (www.targetzero.com) has specific priority levels for types/causes/categories of fatal & serious injury crashes (some based on crash type, others based on driver behaviors, others based on user type). The top 2 infrastructure related priorities are Run-Off-the-Road crashes (priority 1) and Intersection crashes (priority 2). Evaluating crashes statewide for a 5 year period, we identify how many fatal & serious injury run-off-road crashes and how many fatal & serious injury intersection-related crashes occurred. That data is evaluated to see how
many were on local agency responsibility roads compared to state responsibility roads. The HSIP funding is split by percentage based on that data. Currently, that means that the state receives 30% of HSIP funds and local agencies receive 70% of HSIP funds.

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

- Design
- Planning
- Operations
- Governors Highway Safety Office
- Other: Other-Highways & Local Programs
- Other: Other-Risk
- Other: Other-Program Management

**Briefly describe coordination with internal partners.**

Oversight for the 70% of the HSIP funds that are directed to local agencies is assigned to the Highways & Local Programs division for management (to identify local agency priorities, distribution of funds between counties & cities, individual project selection, etc.).

Oversight for the 30% of the HSIP funds that are directed to the state is managed by our Highway Safety Executive Committee (HSEC). We do not have a specific highway safety office within the DOT. Instead, safety is part of everyone's responsibility. As such, safety oversight by HSEC provides an opportunity for major affected programs to provide input on safety issues. The HSEC is comprised of program directors from Design, Planning, Operations, Highways & Local Programs, Risk, and Program Management.

**Identify which external partners are involved with Highway Safety Improvement Program planning.**
The Highways & Local Programs division oversees the planning of HSIP funds for local agencies. In developing program methodology, local agency representatives are included in the decision-making process for agreement/modifications to programs. Those local agency representatives are identified with assistance from local government associations (city & county).

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-no change

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

**Program Methodology**

Select the programs that are administered under the HSIP.

- Median Barrier
- Intersection
- Safe Corridor
- Horizontal Curve
- Bicycle Safety
- Rural State Highways
The state HSIP program focuses on Collision Analysis Corridors (CACs), which are generally focused on Roadway Departure safety. The program also focuses on Collision Analysis Locations (CALs) and Intersection Analysis Locations (IALs) which are both generally related to Intersection safety.

The local HSIP program focuses on a County Safety program - primarily Roadway Departure with some Intersection, and a City Safety Program - primarily Intersection. It also funds the Corridor Safety Program on city & county roadways.

Program: Safe Corridor

Date of Program Methodology: 1/1/2004

What data types were used in the program methodology?

Crashes
- All crashes

Exposure
- Traffic

Roadway
- Median width
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
If yes, are local road projects identified using the same methodology as state roads?

☒ Yes
☐ No

How are highway safety improvement projects advanced for implementation?

☐ Competitive application process
☐ selection committee
☒ Other-Agreement between program managers at WSDOT and the Governor’s Highway Safety Office, based on data & local leadership

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 3
☐ Incremental B/C
☐ Ranking based on net benefit
☐ Cost Effectiveness
☒ Fatal & serious injury crash history 1
☒ Local leadership & interest 2
Program: Other-State - Collision Analysis Corridors

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-Fatal, serious, and evident injury crashes only

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

- **Roadway**
  - Median width
  - Horizontal curvature
  - Functional classification

- **Other**
  - Lane miles

- **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 1
Available funding 2
Incremental B/C
Ranking based on net benefit
Cost Effectiveness
Program: Other-State - Collision Analysis Locations

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 crashes only</td>
<td>Population</td>
<td>Functional classification</td>
</tr>
<tr>
<td>Other-Fatal, serious, and evident injury crashes only</td>
<td>Lane miles</td>
<td>Roadside features</td>
</tr>
<tr>
<td></td>
<td>Other</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 1
Available funding 2
Incremental B/C
Ranking based on net benefit
Cost Effectiveness
Program: Other-State - Intersection Analysis Locations

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 crashes only</td>
<td>☐ Population</td>
<td>☐ Functional classification</td>
</tr>
<tr>
<td>☒ Other-Fatal, serious, and evident injury crashes only</td>
<td>☐ Lane miles</td>
<td>☐ Roadside features</td>
</tr>
<tr>
<td>☐ Other</td>
<td>☐ Other</td>
<td></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
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 1
☒ Available funding 2
☐ Incremental B/C
☐ Ranking based on net benefit
Program: Other-Local - City Safety Program

Date of Program Methodology: 1/1/2011

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

If yes, are local road projects identified using the same methodology as state roads?
☐ 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 1
Available funding 2
Incremental B/C
Ranking based on net benefit
Cost Effectiveness

Program: Other-Local - County Safety Program
Date of Program Methodology: 1/1/2009

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

If yes, are local road projects identified using the same methodology as state roads?

Yes
No

How are highway safety improvement projects advanced for implementation?

Competitive application process
selection committee
Other- Allocation of funds to each county based on rate of fatal & serious injury crashes per mile

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).
For the county safety program, while the allocation is based on available funding, each county is required to meet certain criteria for approval for project award.

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

45

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

- [ ] Cable Median Barriers
- [ ] Traffic Control Device Rehabilitation
- [x] Install/Improve Signing
- [x] Upgrade Guard Rails
- [ ] Safety Edge
- [ ] Add/Upgrade/Modify/Remove Traffic Signal
- [x] Rumble Strips
- [ ] Pavement/Shoulder Widening
- [x] Install/Improve Pavement Marking and/or Delineation
- [x] Clear Zone Improvements
- [ ] Install/Improve Lighting
- [ ] Other
45% is an estimate. The majority of county projects have been systemic in nature (it is a risk-based program). Some of the state & city funds have been for systemic improvements, others for spot locations.

**What process is used to identify potential countermeasures?**

- Engineering Study
- Road Safety Assessment
- Other:

**Identify any program methodology practices used to implement the HSIP that have changed since the last reporting period.**

- Highway Safety Manual
- Road Safety audits
- Systemic Approach
- Other: Other-no change

**Describe any other aspects of the Highway Safety Improvement Program methodology on which you would like to elaborate.**
### 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>HSIP (Section 148)</td>
<td>223496410</td>
<td>140408767</td>
</tr>
<tr>
<td>HSIP (Section 148)</td>
<td>20%</td>
<td>14%</td>
</tr>
<tr>
<td>HRRRP (SAFETEA-LU)</td>
<td>4350000</td>
<td>4340799</td>
</tr>
<tr>
<td>HRRRP (SAFETEA-LU)</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>HRRR Special Rule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Penalty Transfer - Section 154</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Penalty Transfer – Section 164</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incentive Grants - Section 163</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incentive Grants (Section 406)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Federal-aid Funds (i.e. STP, NHPP)</td>
<td>55510000</td>
<td>55510000</td>
</tr>
<tr>
<td>Other Federal-aid Funds (i.e. STP, NHPP)</td>
<td>5%</td>
<td>5%</td>
</tr>
</tbody>
</table>
This table shows the funds spent on safety from 2005-2013 in the state of Washington. (2003-2013 for state funds)
Obligation amounts are as of 5/14/13.

Note that this information does not include any behavioral safety funds (administered through the Washington Traffic Safety Commission - our Governor's Highway Safety Office). This information also does not include direct local agency funds used for safety (which can be significant). Finally, note that the state safety funds listed are only those provided directly through the state safety program. However, other programs (paving, for example) also spend significant funds on safety that are not accounted for here.

Other federal funds listed are ARRA funds.

HSIP Program includes:
HSIP - Data Improvement - $181,948 programmed, $181,948 obligated
HSIP - Rural 2 Lane (2005) - $16,914,214 programmed, $16,914,214 obligated
HSIP - County Safety (2010) - $45,590,928 programmed, $31,107,238 obligated
HSIP - City Safety (2012) - $50,000,000 programmed, $8,496,645 obligated
HSIP - Quick Response (2013) - $28,000,000 programmed, $2,029,684 obligated
HSIP - State - $57,095,465 programmed, $57,095,465 obligated

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

$295,312,292.00

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

$212,215,298.00
For the same time period as the previous question, 2005-2013.

How much funding is programmed to non-infrastructure safety projects?
$0.00

How much funding is obligated to non-infrastructure safety projects?
$0.00

Does not include behavioral safety funds administered through the Washington Traffic Safety Commission (our Governor’s Highway Safety Office).

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?
$0.00
Discuss impediments to obligating Highway Safety Improvement Program funds and plans to overcome this in the future.

The biggest impediment to obligating HSIP funds has been getting realistic schedules for local agency projects. To assist in this effort going forward, several additional milestones are being required for project proposals to help local agencies identify and understand what an accurate schedule for a HSIP project might be. In addition, more strict deadlines for obligation are being set, or projects will lose awarded funding.

Describe any other aspects of the general Highway Safety Improvement Program implementation progress on which you would like to elaborate.
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>AA DT</th>
<th>Speed</th>
<th>Roadway Ownership</th>
<th>Relationship to SHSP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chelan County - Malaga-Alcoa Hwy</td>
<td>Lighting Intersection lighting</td>
<td>7 Numbers</td>
<td>180000</td>
<td>180000</td>
<td>HSIP (Section 148)</td>
<td>Rural Major Collector</td>
<td>0</td>
<td>0</td>
<td>County Highway Agency</td>
<td>Improving the design and operation of highway intersections (install illumination where appropriate)</td>
</tr>
<tr>
<td>Clallam County - Laird Rd</td>
<td>Roadside Roadside grading</td>
<td>0.86 Miles</td>
<td>150000</td>
<td>150000</td>
<td>HSIP (Section 148)</td>
<td>Rural Major Collector</td>
<td>0</td>
<td>0</td>
<td>County Highway Agency</td>
<td>Minimizing the consequences of leaving the road (improve the clear zone, enhance roadside safety by flattening)</td>
</tr>
<tr>
<td>County</td>
<td>Location</td>
<td>Type</td>
<td>Length</td>
<td>Cost</td>
<td>Agency</td>
<td>Section</td>
<td>Roadway Characteristics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>--------------------</td>
<td>-------------------------------</td>
<td>---------------------</td>
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<td>------------------</td>
<td>-----------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clallam County</td>
<td>Sequim-Dungeness Way</td>
<td>Roadside Barrier</td>
<td>1.17</td>
<td>$252,000</td>
<td>Rural Major Collector</td>
<td>HSIP (Section 148)</td>
<td>Minimizing the consequences of leaving the roadway (install guardrail/barriers where necessary)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clark County</td>
<td>Timmens Rd/Washougal River Rd/Hyatt Rd/Lockwood Creek Rd/179th St/Bratton Rd</td>
<td>Roadside Barrier</td>
<td>6</td>
<td>$50,000</td>
<td>Rural Principal Arterial - Other</td>
<td>HSIP (Section 148)</td>
<td>Minimizing the consequences of leaving the roadway (install guardrail/barriers where necessary)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cowlitz County</td>
<td>Rose Valley</td>
<td>Roadside Barrier</td>
<td>7</td>
<td>$49,800</td>
<td>Rural Major Collector</td>
<td>HSIP (Section 148)</td>
<td>Minimizing the consequences of leaving the roadway (install guardrail/barriers where necessary)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Road Name</td>
<td>Improvement Type</td>
<td>Miles</td>
<td>Project Number</td>
<td>Agency</td>
<td>Action</td>
<td>Details</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>---------------------------------</td>
<td>-------------------------------------------------------</td>
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<td>---------------------------------</td>
<td>--------------------------------------------------------------------------</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Douglas County - McNeil Canyon Rd</td>
<td>Alignment Horizontal and vertical alignment</td>
<td>5.45</td>
<td>806000</td>
<td>Rural Collector</td>
<td>0</td>
<td>County Highway Agency</td>
<td>Keeping vehicles in the roadway (install guardrail/barriers where necessary)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garfield County - Peola Rd/Pomery Rd/Meadow Creek Rd/Kirby Mayview Rd</td>
<td>Roadway delineation Longitudinal pavement markings - new</td>
<td>4</td>
<td>492000</td>
<td>Rural Collector</td>
<td>0</td>
<td>County Highway Agency</td>
<td>Keeping vehicles in the roadway (improve roadway geometrics)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Location</td>
<td>Description</td>
<td>Numbers</td>
<td>HSIP (Section 148)</td>
<td>Roadway Type</td>
<td>Agency</td>
<td>Goal</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>--------------------------------</td>
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<td></td>
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</tr>
<tr>
<td>Grays Harbor County - Middle Satsop Rd</td>
<td>Alignment Horizontal and vertical alignment</td>
<td>1 Numbers</td>
<td>150000 0</td>
<td>150000 0</td>
<td>Rural Major Collector</td>
<td>Keeping vehicles in the roadway</td>
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<tr>
<td>Grays Harbor County - Countywide</td>
<td>Shoulder treatments Pave existing shoulders</td>
<td>17 Numbers</td>
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<tr>
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<tr>
<td>City of Issaquah - E Lake Sammamish Pkwy &amp;</td>
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1.2.A3 - Reduce run-off-the-road collisions (improve roadway geometrics)
<table>
<thead>
<tr>
<th>Project Location</th>
<th>Description</th>
<th>Numbers</th>
<th>Numbers</th>
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<th>Type</th>
<th>Details</th>
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<tr>
<td>SE 56th St</td>
<td>Intersection traffic control Modify traffic signal - add flashing yellow arrow</td>
<td>29</td>
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<td>Citywide</td>
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<tr>
<td>Kitsap County - Countywide</td>
<td>Roadside Barrier-metal</td>
<td>13</td>
<td>500000</td>
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<td>Rural Principal Arterial - Other</td>
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<tr>
<td>Klickitat</td>
<td>Roadway Roadway</td>
<td>2.65</td>
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<td>County</td>
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<tr>
<td>County - Snowden Rd</td>
<td>widening - travel lanes</td>
<td>Miles</td>
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<td>(Section 148)</td>
<td>Major Collector</td>
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<td>Klickitat County - Snowden Rd</td>
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<td>Rural Major Collector</td>
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<tr>
<td>City of Longview - SR 4 &amp; NE Nichols</td>
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<td>500000</td>
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<td>Urban Principal Arterial - Other</td>
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<td>Intersection traffic control Intersection</td>
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2.5.A2 - Reduce motor vehicle collisions at intersections (implement geometric improvement where appropriate)
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<th>2013-2014 Numb.</th>
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<th>HSIP Section</th>
<th>County/Agency</th>
<th>Details</th>
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<td>476000</td>
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<td>Reduce run-off-the-road collisions (improve roadway signage and delineation)</td>
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<td>476000</td>
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<td>Reduce run-off-the-road collisions (improve roadway signage and delineation)</td>
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<td>Reduce run-off-the-road collisions (improve roadway signage and delineation)</td>
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<td>Reduce run-off-the-road collisions (improve roadway signage and delineation)</td>
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<td>Okanogan County - Patterson Lake Rd/Old Riverside Hwy/Toats Coulee Rd/Twisp-Winthrop</td>
<td>Roadside Barrier-metal</td>
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<td>148</td>
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<td>496000</td>
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<td>Minimize the consequences of leaving the road</td>
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<tr>
<th>Roadway Description</th>
<th>Safety Improvement Type</th>
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<th>Improvement Type Numbers</th>
<th>Agency Type</th>
<th>Agency</th>
<th>Improvement</th>
<th>Improvement Details</th>
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<tr>
<td>Eastside Rd/Loomis-Oroville Rd</td>
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<td>HSIP (Section 148)</td>
<td>Rural Minor Collector</td>
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<td>Pend Oreille County - Deer Valley Rd/Southshore Diamond Rd/LeClerc Rd</td>
<td>Intersection geometry Auxiliary lanes - add left-turn lane</td>
<td>1</td>
<td>400000</td>
<td>400000</td>
<td>HSIP (Section 148)</td>
<td>Urban Principal Arterial - Other</td>
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<tr>
<td>Pierce County - Spanaway Loop Rd</td>
<td>Roadside Barrier - metal</td>
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<td>362000</td>
<td>362000</td>
<td>HSIP (Section 148)</td>
<td>Rural Major Collector</td>
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2.5.A2 - Reduce motor vehicle collisions at intersections (implement geometric improvement where appropriate)
<table>
<thead>
<tr>
<th>Rd</th>
<th>Intersection traffic control Intersection flashers - add overhead (continuous)</th>
<th>3 Numbers</th>
<th>138000</th>
<th>138000</th>
<th>HSIP (Section 148)</th>
<th>Rural Major Collector</th>
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<th>0</th>
<th>County Highway Agency</th>
<th>Improving the design and operation of highway intersections</th>
<th>2.5.A1 - Reduce motor vehicle collisions at intersections (implement traffic control and operational improvement where appropriate)</th>
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<tbody>
<tr>
<td>Pierce County - 8th Ave S &amp; 288th St S/8th Ave S &amp; 304th St S/8th Ave E &amp; 304th St E</td>
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<tr>
<td>City of Renton - SR 900 &amp; Duvall Ave</td>
<td>Intersection geometry Auxiliary lanes - add left-turn lane</td>
<td>1 Numbers</td>
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<td>396000</td>
<td>HSIP (Section 148)</td>
<td>Urban Principal Arterial - Other</td>
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<td>Improving the design and operation of highway intersections</td>
<td>2.5.A2 - Reduce motor vehicle collisions at intersections (implement geometric improvement where appropriate)</td>
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<tr>
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<td>City of</td>
<td>Improving</td>
<td>2.5.A1 -</td>
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<td>Location</td>
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<td>Section</td>
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<td>Shoreline - 15th Ave &amp; 150th St</td>
<td>control Intersection traffic control - other</td>
<td>Numb</td>
<td>(Section 148)</td>
<td>Principal Arterial - Other</td>
<td>Reduce motor vehicle collisions at intersections (implement traffic control and operational improvements where appropriate)</td>
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</tr>
<tr>
<td>City of Shoreline - SR 99</td>
<td>Access management Grassed median - extend existing</td>
<td>1.01 Miles</td>
<td>110500 00</td>
<td>HSIP (Section 148)</td>
<td>Improved safety at intersections (implement geometric improvements where appropriate)</td>
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</tr>
<tr>
<td>Skagit County - Best Rd &amp; McLean Rd</td>
<td>Intersection traffic control Modify control - two-way stop to roundabout</td>
<td>1 Numbers</td>
<td>800000</td>
<td>HSIP (Section 148)</td>
<td>Improved safety at intersections (implement geometric improvements where appropriate)</td>
<td></td>
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<td></td>
</tr>
<tr>
<td>City of Spokane - Mission St &amp; S Riverton</td>
<td>Access management Access management - other</td>
<td>1 Numbers</td>
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<td>34000</td>
<td>HSIP (Section 148)</td>
<td>Urban Principal Arterial - Other</td>
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<td>City of Municipal Highway Agency</td>
<td>Improving the design and operation of highway intersections</td>
<td>2.5.A2 - Reduce motor vehicle collisions at intersections (implement geometric improvements where appropriate)</td>
</tr>
<tr>
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</tr>
<tr>
<td>Spokane County - Deer Park-Milan/Palouse Hwy/Trails Rd/Cheney-Plaza Rd</td>
<td>Roadway Rumble strips - center</td>
<td>4 Numbers</td>
<td>498000</td>
<td>498000</td>
<td>HSIP (Section 148)</td>
<td>Rural Major Collector</td>
<td>0</td>
<td>0</td>
<td>County Highway Agency</td>
<td>Reducing head-on and across-median crashes</td>
<td>3.1.A1 - Reduce opposite-direction multi-vehicle collisions (implement centerline treatments such as rumble strips to reduce head-on crashes on all two lane</td>
</tr>
</tbody>
</table>
### Thurston County - Morris Rd
- **Alignment Horizontal curve realignment**
- **Numbers**: 1
- **HSIP (Section 148)**: Rural Minor Collector
- **County Highway Agency**
- **Keeping vehicles in the roadway**
- **1.2.A3 - Reduce run-off-the-road collisions (improve roadway geometrics)**

### City of Vancouver - Andresen Rd & 40th St
- **Intersection geometry Auxiliary lanes - add left-turn lane**
- **Numbers**: 1
- **HSIP (Section 148)**: Urban Principal Arterial - Other
- **City of Municipal Highway Agency**
- **Improving the design and operation of highway intersections**
- **2.5.A2 - Reduce motor vehicle collisions at intersections (implement geometric improvement where appropriate)**

### City of Vancouver - Thurston Way & Parkway Dr
- **Intersection geometry Auxiliary lanes - add left-turn lane**
- **Numbers**: 1
- **HSIP (Section 148)**: Urban Minor Arterial
- **City of Municipal Highway Agency**
- **Improving the design and operation of highway intersections**
- **2.5.A2 - Reduce motor vehicle collisions at intersections (implement geometric improvement)**
A couple of possible online reporting tool suggestions:

1) For project output options, it might be worthwhile to have more than just numbers or miles as options. For the numbers category, some of these projects (depending on the countermeasure used) are measured in number of roads, number of intersections, or number of curves.

2) I did not see a countermeasure option for adding a new signal at an intersection. This seems like a standard option that should be in the list.

Also, a few of the functional class types did not input correctly (even though they were selected using the template provided). The ORT requested each of these to be reported under Other.
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>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
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</thead>
<tbody>
<tr>
<td>Number of fatalities</td>
<td>569</td>
<td>519</td>
<td>493</td>
<td>461</td>
<td>454</td>
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<tr>
<td>Number of serious injuries</td>
<td>2718</td>
<td>2551</td>
<td>2648</td>
<td>2481</td>
<td>2122</td>
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<tr>
<td>Fatality rate (per HMVMT)</td>
<td>1</td>
<td>0.94</td>
<td>0.87</td>
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<tr>
<td>Serious injury rate (per HMVMT)</td>
<td>4.78</td>
<td>4.62</td>
<td>4.67</td>
<td>4.31</td>
<td>3.74</td>
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</table>

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

- # Serious Injuries: 569, 519, 493, 461, 454
- # Fatalities: Decreasing trend from 3000 to 450
Rate of Fatalities and Serious injuries for the Last Five Years

![Graph showing the rate of fatalities and serious injuries from 2007 to 2011. The graph indicates a decrease in both fatality and serious injury rates over the years.](image-url)
To the maximum extent possible, present performance measure* data by functional classification and ownership.

### Year - 2012

<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>
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</thead>
<tbody>
<tr>
<td>RURAL PRINCIPAL ARTERIAL - INTERSTATE</td>
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<td>URBAN PRINCIPAL ARTERIAL - OTHER</td>
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</tbody>
</table>
# Fatalities by Roadway Functional Classification

![Graph showing fatalities by roadway functional classification]

- Roadway Functional Classification
  - Local Collector (L)
  - Principal Arterial (R)
  - Minor Collector (L)
  - Principal Arterial - Other (R)
  - Minor Arterial (L)
  - Other Freeways and Expressways (R)
  - Principal Arterial - Interstate (R)
  - Major Collector (L)
  - Other (R)
  - Local Road or Street (L)
  - Other, Freeways and Expressways

# Serious Injuries by Roadway Functional Classification

[Bar chart showing the number of serious injuries by roadway functional classification for 2008-2012.]
Serious Injury Rate by Roadway Functional Classification

2008 2009 2010 2011 2012

Roadway Functional Classification

2013 Washington Highway Safety Improvement Program
<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>
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<tbody>
<tr>
<td>STATE HIGHWAY AGENCY</td>
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<td>817</td>
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<td>535</td>
<td>1.36</td>
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<td>Column 2</td>
<td>Column 3</td>
<td>Column 4</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
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<tr>
<td>RAILROAD</td>
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</tr>
<tr>
<td>STATE TOLL AUTHORITY</td>
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<td>0</td>
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</tr>
<tr>
<td>LOCAL TOLL AUTHORITY</td>
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</tr>
<tr>
<td>OTHER PUBLIC INSTRUMENTALITY (E.G. AIRPORT, SCHOOL, UNIVERSITY)</td>
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<td>0</td>
</tr>
<tr>
<td>INDIAN TRIBE NATION</td>
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<td>0</td>
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<tr>
<td>OTHER</td>
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<td>4</td>
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</tr>
<tr>
<td>FEDERAL</td>
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<td>2</td>
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<td>0</td>
</tr>
<tr>
<td>NATIONAL PARK</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>NATIONAL PARK</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Number of Fatalities by Roadway Ownership

- **2008**
- **2009**
- **2010**
- **2011**
- **2012**

![Graph of Fatalities by Roadway Ownership](image-url)
Number of Serious Injuries by Roadway Ownership

Roadway Functional Classification

# of Serious Injuries

- 2008
- 2009
- 2010
- 2011
- 2012
Fatality Rate by Roadway Ownership

- 2008
- 2009
- 2010
- 2011
- 2012

Fatality Rate (per HMVT)

Roadway Functional Classification

- STATE
- COUNTY
- TOWN
- CITY
- STATE PARK
- OTHER STATE
- PRIVATE
- RAILROAD
- STATE TOLL
- LOCAL TOLL
- OTHER PUBLIC
- TRIBAL
- OTHER
Serious Injury Rate by Roadway Ownership

![Chart](image)

- **2008**
- **2009**
- **2010**
- **2011**
- **2012**

**Roadway Functional Classification**

- State
- County
- Town
- City
- State Park
- Other State
- Other Local
- Private
- Railroad
- State Toll
- Local Toll
- Other
- Tribe
- Other
The functional classification data ONLY includes state and county road data. Our state database does not include federal functional classification for crashes on city streets or miscellaneous roadways. So the rural information should be accurate. The urban information would change significantly. This also means that an accurate rate per facility type cannot be provided either.

For the roadway ownership data, the rates (for all years) are based on 2010 splits between jurisdiction types. VMT data is only available for state/county/city jurisdiction types, so this is the only rate data provided.
Describe any other aspects of the general highway safety trends on which you would like to elaborate.

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>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fatality rate (per capita)</td>
<td>0.77</td>
<td>0.48</td>
<td>0.59</td>
<td>0.7</td>
<td>0</td>
</tr>
<tr>
<td>Serious injury rate (per capita)</td>
<td>1.72</td>
<td>1.52</td>
<td>1.84</td>
<td>1.43</td>
<td>0</td>
</tr>
<tr>
<td>Fatality and serious injury rate (per capita)</td>
<td>2.48</td>
<td>1.99</td>
<td>2.43</td>
<td>2.13</td>
<td>0</td>
</tr>
</tbody>
</table>

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

FHWA shared the following information on population (# people 65+ per 1000 state population):

Calculate rate to 0.01, round final result to 0.1. Rate calculation example:

FARS (for fatalities) and WSDOT state collision repository (for serious injuries) shows older road users (65+) in crashes as:
2005 = 104 fatalities, 215 serious injuries
2006 = 69 fatalities, 197 serious injuries
2007 = 74 fatalities, 175 serious injuries
2008 = 92 fatalities, 206 serious injuries
2009 = 57 fatalities, 182 serious injuries
2010 = 73 fatalities, 226 serious injuries
2011 = 88 fatalities, 180 serious injuries

The rates in the table above are calculated simply as # / Pop = Rate.
2005-2009 Combined Rate (see equation above) = 2.36 or 2.4
2007-2011 Combined Rate (see equation above) = 2.23 or 2.2

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:

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:

Focus is already on fatal & serious injury collisions, and includes local roads.
Briefly describe significant program changes that have occurred since the last reporting period.
SHSP Emphasis Areas
For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

### Year - 2012

<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>Ensuring drivers are licensed and fully competent</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Sustaining proficiency in older drivers</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reducing impaired driving</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Keeping drivers alert</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Increasing seat belt use and improving airbag effectiveness</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Making walking and street crossing easier</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Ensuring safer bicycle travel</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Improving motorcycle safety and increasing</td>
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<td>0</td>
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<td>0</td>
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</tr>
<tr>
<td>Motorcycle Awareness</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Making truck travel safer</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reducing vehicle-train crashes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Keeping vehicles in the roadway</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Improving the design and operation of highway intersections</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Reducing head-on and across-median crashes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Designing safer work zones</td>
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<td>0</td>
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<tr>
<td>Enhancing emergency medical capabilities to increase survivability</td>
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<td>0</td>
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<td>0</td>
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<tr>
<td>Improving information and decision support systems</td>
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<tr>
<td>Speeding</td>
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<td>0</td>
<td>0</td>
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<tr>
<td>Young Drivers (16-25)</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</table>
### 2013 Washington Highway Safety Improvement Program

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
<th>2012</th>
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</thead>
<tbody>
<tr>
<td>Drowsy Drivers</td>
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<td>0</td>
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</tr>
<tr>
<td>Wildlife</td>
<td>0</td>
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<td>0</td>
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<tr>
<td>School Bus Involved</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Number of Fatalities by SHSP Emphasis Area

**Year 2008 to Year 2012**

- Unlicensed
- Older drivers
- Impaired driving
- Distracted driving
- Seat Belt
- Pedestrian
- Bicycle
- Motorcycle
- Truck
- Train
- Run off road
- Intersections
- Median
- Work Zone
- EMS
- Data

**SHSP Emphasis Area**
Number of Serious Injuries by SHSP Emphasis Area

Year 2008 to Year 2012

SHSP Emphasis Area
Fatality Rate by SHSP Emphasis Area

Year 2008 to Year 2012

Rate of Fatalities

SHSP Emphasis Area
Matched our SHSP priorities as much as possible. State priorities/emphasis areas are set on problem crash types or groups. Consider the following equivalent for reporting purposes:

- Ensuring drivers are licensed & fully competent = Unlicensed Drivers - priority 2
- Sustaining proficiency in older drivers = Older Drivers (75+) - priority 3
- Reducing impaired driving = Impaired Drivers - priority 1
- Keeping drivers alert = Distracted Drivers - priority 1
- Increasing seat belt use and improving airbag effectiveness = Unrestrained Occupants - priority 2
- Making walking and street crossing easier = Pedestrians - priority 2
Ensuring safer bicycle travel = Bicyclists - priority 3
Improving motorcycle safety and increasing motorcycle awareness = Motorcyclists - priority 2
Making truck travel safer = Heavy Trucks - priority 3
Reducing vehicle-train crashes = Vehicle-Train - priority 3
Keeping vehicles in the roadway = Run-Off-the-Road - priority 1
Improving the design and operation of highway intersections = Intersection-Related - priority 1
Reducing head-on and across-median crashes = Opposite Direction - priority 2
Designing safer work zones = Work Zones - priority 3
Enhancing emergency medical capabilities to increase survivability = EMS & Trauma Care - priority 2
Improving information and decision support systems = Traffic Data Systems - priority 1

Also included are:
Speeding - priority 1
Young Drivers (16-25) - priority 1
Drowsy Drivers - priority 3
Wildlife - priority 3
School-Bus Involved - priority 3

Note that serious injury data for unlicensed drivers is not available. So only the fatalities & fatality rates for that item are shown.
Groups of similar project types
Present the overall effectiveness of groups of similar types of projects.

### Year - 2012

<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>These programs are funded on a multi-year basis (not individual per year). In addition, the programs target multiple priority areas from the SHSP. Success is measured in the previous question. No individual analysis is done on a per program basis (too difficult to separate between programs, which overlap with other ongoing efforts - any success claimed would not</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

67
be individual to each program independently).
# Fatalities by Target Crash Type for Groups of Similar Projects

Year 2008 to Year 2012

- 2008
- 2009
- 2010
- 2011
- 2012
### Serious Injuries by Target Crash Type for Groups of Similar Projects

**Year 2008 to Year 2012**

- 2008
- 2009
- 2010
- 2011
- 2012

The diagram shows the number of serious injuries by target crash type for groups of similar projects from 2008 to 2012. The x-axis represents the target crash type, while the y-axis represents the number of serious injuries. Each year is depicted with a different color.
Fatality Rate by Target Crash Type for Groups of Similar Projects

Year 2008 to Year 2012

Rate of Fatalities

Target Crash Type
These programs are funded on a multi-year basis (no individual funding or analysis on a yearly basis). The majority of these programs also target multiple crash types from the SHSP. So effectiveness is ultimately measured in the previous question. No individual analysis is provided here.
Systemic Treatments
Present the overall effectiveness of systemic treatments.

### Year - 2012

<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>Separate analysis has not been completed for each of these programs. While rumble strips have an ongoing evaluation, the program is more complex than a simple answer here (we have a variety of rumble strips, such as an extensive centerline rumble strip program on state highways, shoulder rumble strips on the interstate, some combinations of centerline and shoulder rumble</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
strips on two-lane highways, etc.). While programs exist for the other 4 systemic improvements listed here, they have not been individually analyzed for effectiveness (indeed, most would be hard to single out for true effectiveness tracking).
# Fatalities by Target Crash Type for Systemic Safety Improvements

Year 2008 to Year 2012

- 2008
- 2009
- 2010
- 2011
- 2012

Target Crash Type

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

Year 2008 to Year 2012

Target Crash Type

# of Serious Injuries

2008 2009 2010 2011 2012
Fatality Rate by Target Crash Type for Systemic Safety Improvements

Year 2008 to Year 2012

Rate of Fatalities

Target Crash Type

<table>
<thead>
<tr>
<th>Year</th>
<th>Color</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>blue</td>
</tr>
<tr>
<td>2009</td>
<td>red</td>
</tr>
<tr>
<td>2010</td>
<td>green</td>
</tr>
<tr>
<td>2011</td>
<td>purple</td>
</tr>
<tr>
<td>2012</td>
<td>orange</td>
</tr>
</tbody>
</table>
Serious Injury Rate by Target Crash Type for Systemic Safety Improvements

Year 2008 to Year 2012

Rate of Serious Injuries

Target Crash Type
Describe any other aspects of the overall Highway Safety Improvement Program effectiveness on which you would like to elaborate.
Provide project evaluation data for completed projects (optional).

<table>
<thead>
<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-Other Injury</th>
<th>Bef-PDO</th>
<th>Bef-Total</th>
<th>Aft-Fatal</th>
<th>Aft-Serious Injury</th>
<th>Aft-Other Injury</th>
<th>Aft-PDO</th>
<th>Aft-Total</th>
<th>Evaluation Results (Benefit/Cost Ratio)</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td></td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>

Overall results compiled to answer the previous question on B/C for the program.
## Optional Attachments

<table>
<thead>
<tr>
<th>Sections</th>
<th>Files Attached</th>
</tr>
</thead>
</table>

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.