Highway Safety Improvement Program

Data Driven Decisions

Hawaii
Highway Safety Improvement Program
2016 Annual Report

Prepared by: HI

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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Executive Summary

State of Hawaii 2016 U.S.C. 148(g) Annual Highway Safety Improvement Program 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?

Central

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

High accident listings and accident data for county roads are submitted to the county offices for internal design use. Local agencies can submit project proposals to be considered on the Statewide Transportation Improvement Program (STIP) and the projects can be funded through HSIP funds if they are cost-effective. In addition, HRRRP Funds are offered to the counties.

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

Design
Planning

Maintenance
Operations
Governors Highway Safety Office
Other-Highway Safety Office assists with the management of non-infrastructure HSIP funds.

Briefly describe coordination with internal partners.

The HSIP projects are initiated through the analysis of crash data and traffic volume counts obtained by the Planning Branch. The HSIP project locations are evaluated to determine if other projects submitted by internal partners (Design, Planning, Maintenance, or Operations) can be coordinated or project scope can be incorporated within existing projects.

Internal partners assist with project selection preparation of preliminary project scope through field investigations. Partners from the offices of design, maintenance and law enforcement participate in the prelimanary project scope.

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

Local Government Association
Other-Police departments

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

Other-Police involvement in preliminary project scoping.

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

Statewide projects are submitted to be considered on the STIP.

Focus is more on corridor low-cost safety improvements versus black spots.

Program Methodology

Select the programs that are administered under the HSIP.

Crash Data

Program: **Crash Data**
Date of Program Methodology: **9/9/2006**

What data types were used in the program methodology?

Crashes	*Exposure*	*Roadway*
All crashes	Volume	

What project identification methodology was used for this program?

Crash frequency
Crash rate
Other-Crash severity

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

Yes
If yes, are local road projects identified using the same methodology as state roads?
No
If no, describe the methodology used to identify local road projects as part of this program.
The listings for county roads are ranked according to the accident frequency instead of the rates because of the lack of traffic volume data.

How are highway safety improvement projects advanced for implementation?

Other-Submitted to be included in the STIP. Follow with collaboration with Districts.

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

Rank of Priority Consideration

Ranking based on B/C	2
Available funding	3
Cost Effectiveness	1

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

0%

What process is used to identify potential countermeasures?

Engineering Study

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

Other-None

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

During this period, run off roadway and median crossover type accidents were targeted. HDOT is currently focusing on reducing fatalities and serious injury type accidents by implementing low-cost safety improvement projects along corridors with a history of these types of accidents. In Hawaii, these types of accidents have a greater potential of reducing fatalities and serious injury accidents cost-effectively, in comparison to "black spot" type projects. HDOT is collaborating with the University of Hawaii to develop a Systemic Roadway Departure Plan. With the development of this plan, HDOT hopes to address more systemic safety improvements with proven low-cost safety countermeasures.

There was a change in the High Risk Rural Road Methodology from Rural Major/Minor Collectors to Rural Roads.

Progress in Implementing Projects

Funds Programmed

Reporting period for Highway Safety Improvement Program funding.

Federal Fiscal Year

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

Funding Category	Programmed*		Obligated	
HSIP (Section 148)	$7,819,154.00	62 %	$6,594,254.00	58 %
HRRRP (SAFETEA-LU)	$0.00	0 %	$0.00	0 %
Penalty Transfer - Section 154	$1,800,614.00	14 %	$1,800,614.00	16 %
Penalty Transfer – Section 164	$1,800,614.00	14 %	$1,783,690.00	16 %
Other Other RHCP	$1,098,900.00	9 %	$1,098,900.00	10 %
Totals	$12,519,282.00	100%	$11,277,458.00	100%

How much funding is programmed to local (non-state owned and operated) 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?
$1,950,000.00
How much funding is obligated to non-infrastructure safety projects?
$1,950,000.00

How much funding was transferred in to the HSIP from other core program areas during the reporting period?
$3,601,228.00
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 penalty transfer is impacting the HSIP core obligation rate. Our administration plans to introduce legislation to attain compliance. We would like to have more projects initiated and assigned for design and construction. There is an inability of design staff to handle the workload. Areas such as: 106, right-of-way, and environmental requirements delay projects.

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

Progress of all HSIP projects is monitored very closely. HSIP program staff follow-up with project managers and fiscal staff on a regular basis to track project schedules and make adjustments and modifications to the program to minimize the potential for lapsing funds, as well as spend HSIP funds efficiently.

General Listing of Projects

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

Project	Improvement Category	Output	HSIP Cost	Total Cost	Funding Category	Functional Classification	AADT	Speed	Roadway Ownership	Relationship to SHSP	
										Emphasis Area	Strategy
Guardrail & Shoulder Improvements at Various Loc	Shoulder treatments Shoulder treatments - other	27 Miles	2540903	2540903	Penalty Transfer – Section 164	Urban Principal Arterial - Interstate		50	State Highway Agency	Roadway Departure	Improve the design and operation
H-1 G & S Improvements, Middle St - Punchbowl St	Shoulder treatments Shoulder treatments - other	3.1 Miles	2124376	2124376	HSIP (Section 148)	Urban Principal Arterial - Interstate	140614	50	State Highway Agency	Roadway Departure	Improve the design and operation
Kamehameha Hwy Safety Improve, Kahana Rd Kaaawa Br	Roadway Rumble strips - edge or shoulder	2.7 Miles	1625081	1625081	HSIP (Section 148)	Urban Principal Arterial - Other	13050	35	State Highway Agency	Lane Departure	Install rumble strips
Farrington Hwy Resurfacing, Kili Dr - Yokohama Dr	Roadway Rumble strips - edge or shoulder	5.5 Miles	2433980	2433980	HSIP (Section 148)	Rural Principal Arterial - Other	3050	45	State Highway Agency	Lane Departure	Install rumble strips
Keeau-Pahoa Rd Shoulder Lane Conversion,	Roadway Roadway - other	2 Miles	552542	552542	HSIP (Section 148)	Urban Minor Arterial	20700	55	State Highway Agency	Intersections	Incorporate designs that reduce

Ph 1 & 2											conflict
Kuhio Hwy Safety Improv, vic of Wailapa Rd-Kapaka	Roadway Rumble strips - edge or shoulder	5.7 Miles	67500	67500	HSIP (Section 148)	Rural Minor Arterial	13667	50	State Highway Agency	Lane Departure	Install rumble strips
HSIP Non-Infrastructure Funding Program	Non-infrastructure		1950000	1950000	Penalty Transfer - Section 154				All Emphasis Areas	Education and Enforcement	

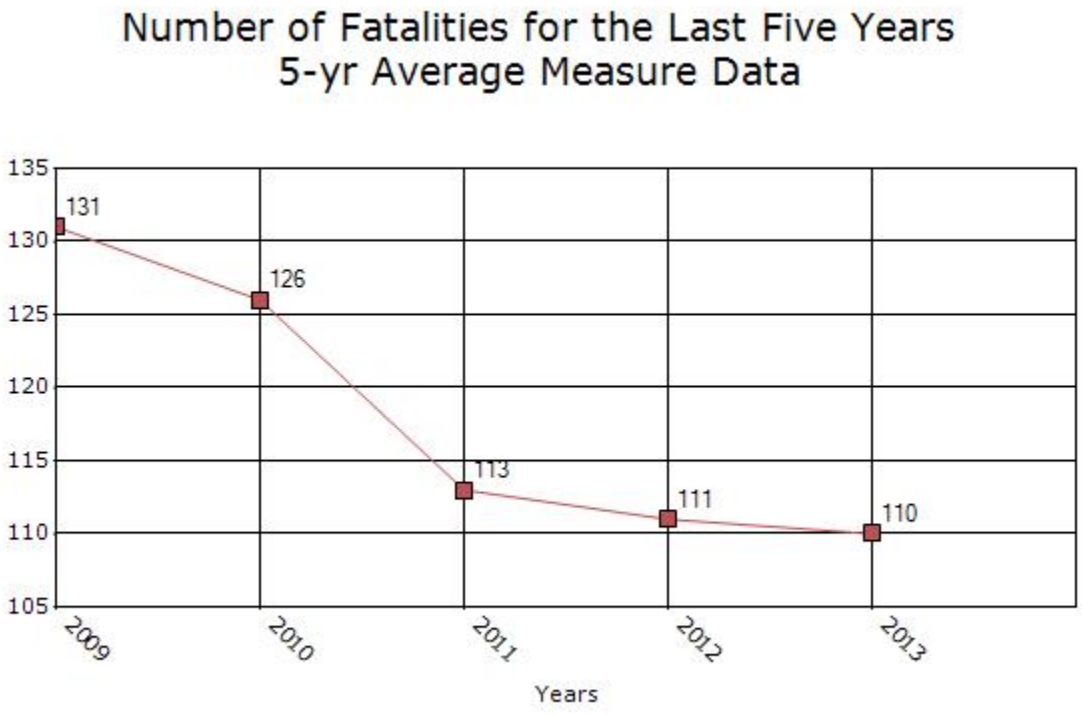
Progress in Achieving Safety Performance Targets

Overview of General Safety Trends

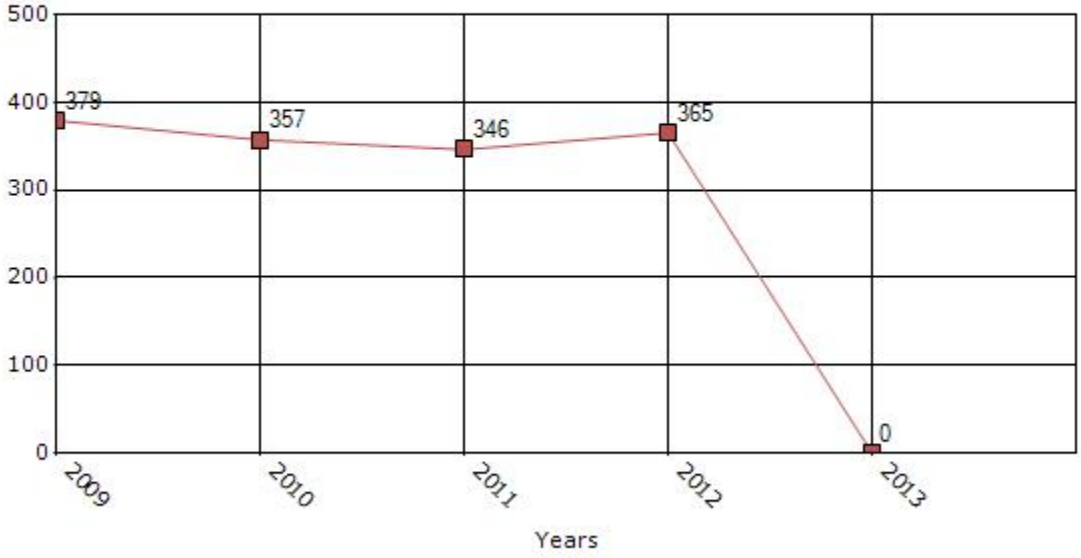
Present data showing the general highway safety trends in the state for the past five years.

Performance Measures*	2009	2010	2011	2012	2013
Number of fatalities	131	126	113	111	110
Number of serious injuries	379	357	346	365	
Fatality rate (per HMVMT)	1.29	1.24	1.13	1.11	1.1
Serious injury rate (per HMVMT)	3.74	3.53	3.45	3.66	

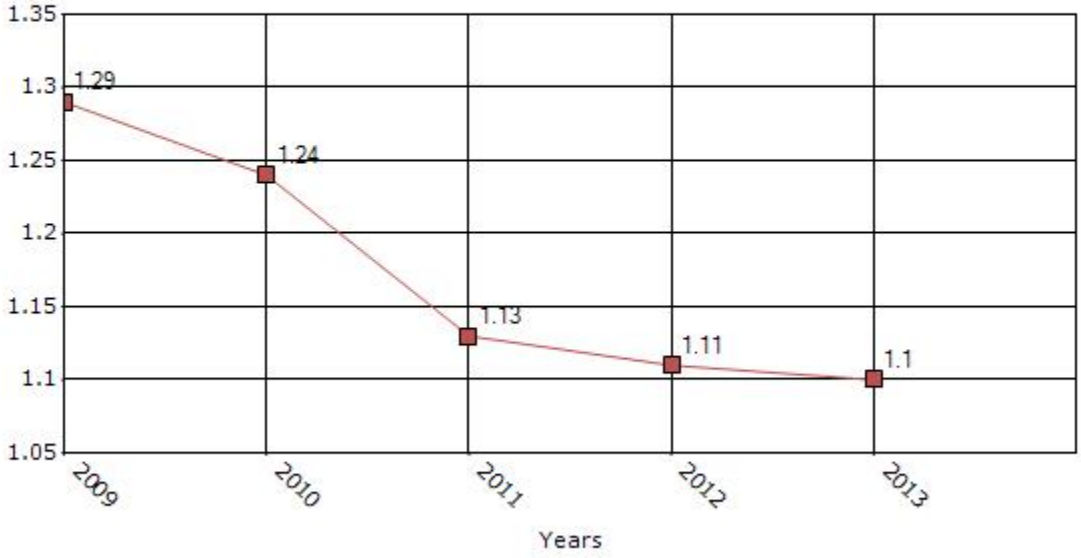
*Performance measure data is presented using a five-year rolling average.

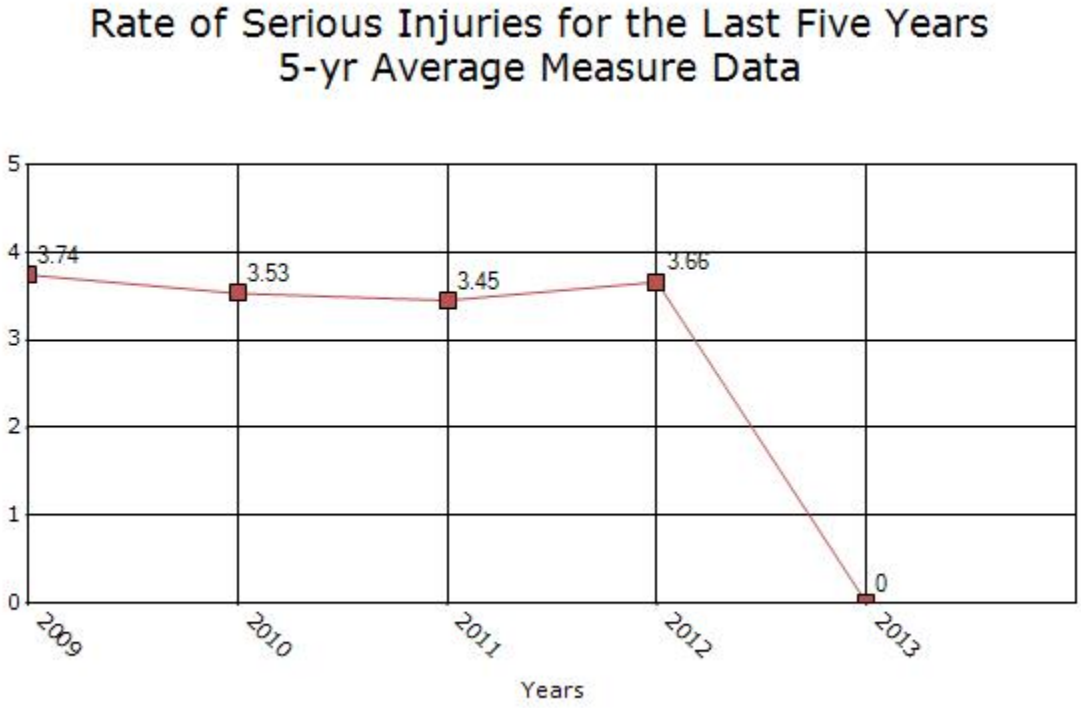


Number of Serious Injuries for the Last Five Years
5-yr Average Measure Data



Rate of Fatalities for the Last Five Years
5-yr Average Measure Data




Rate of Serious Injuries for the Last Five Years
5-yr Average Measure Data
5
4
3
2
1
0
3.74
3.53
3.45
3.66
0
2009
2010
2011
2012
2013
Years

To the maximum extent possible, present performance measure* data by functional classification and ownership.

Describe any other aspects of the general highway safety trends on which you would like to elaborate.

We are currently addressing the timeliness of our data. Due to previous manpower shortage, it was difficult to keep up with the workflow. We were able to fill all vacancies within our section and have reshifted our priorities to increase the timeliness of the database. We also are in the process of soliciting a vendor through an RFP to upgrade our current obsolete database, replace it with a more robust system, and address the backlog of data. Data for next year's report should reflect more current data years.

Application of Special Rules

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

Older Driver Performance Measures	**2010**	**2011**	**2012**	**2013**	**2014**
Fatality rate (per capita)	0.092	0.082	0.08	0.078	0.076
Serious injury rate (per capita)	0.27	0.26	0.27		
Fatality and serious injury rate (per capita)	0.36	0.34	0.35		

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

Calculation Rate for 2008-2012 Fatality and Serious Injury Rate for Older Drivers and Pedestrians -

[(F+SI 2008 Drivers and Pedestrians 65 years of age and older/2008 population figure) +

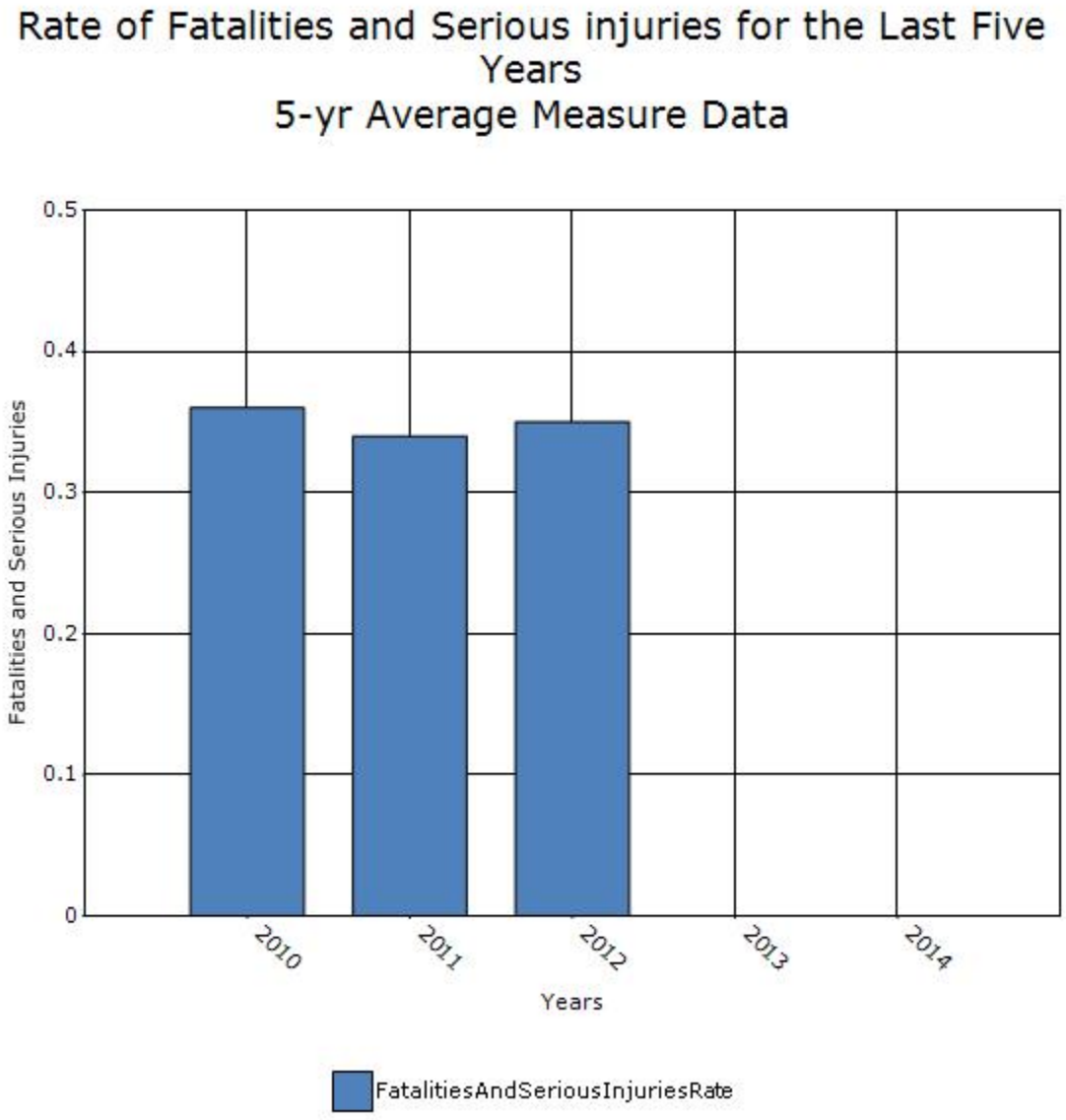
(F+SI 2009 Drivers and Pedestrians 65 years of age and older/2009 population figure) +

(F+SI 2010 Drivers and Pedestrians 65 years of age and older/2010 population figure) +

(F+SI 2011 Drivers and Pedestrians 65 years of age and older/2011 population figure) +

(F+SI 2012 Drivers and Pedestrians 65 years of age and older/2012 population figure)]/5

* Please note that more current data is uavailable at this time. We are addressing the timeliness of our data and plan to have more to report next year. Figure in 2014 Fatality and serious injury rate is incorrect but program would not allow me continue without entering a number.



Does the older driver special rule apply to your state?

Yes

If yes, describe the approach to include respective strategies to address the increase in those rates in the State SHSP.

With the updated SHSP plan completed, we will look into introducing this concern as a new potential

emphasis area in the future.

Unable to conclude if older driver special rule still applies to Hawaii since older data was used.

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?

Benefit/cost

If 'benefit/cost', indicate the overall Highway Safety Improvement Program benefit/cost ratio.

Ratio greater than 1. No specific ratio value used for comparison.

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

Shift Focus to Fatalities and Serious Injuries

Briefly describe significant program changes that have occurred since the last reporting period.

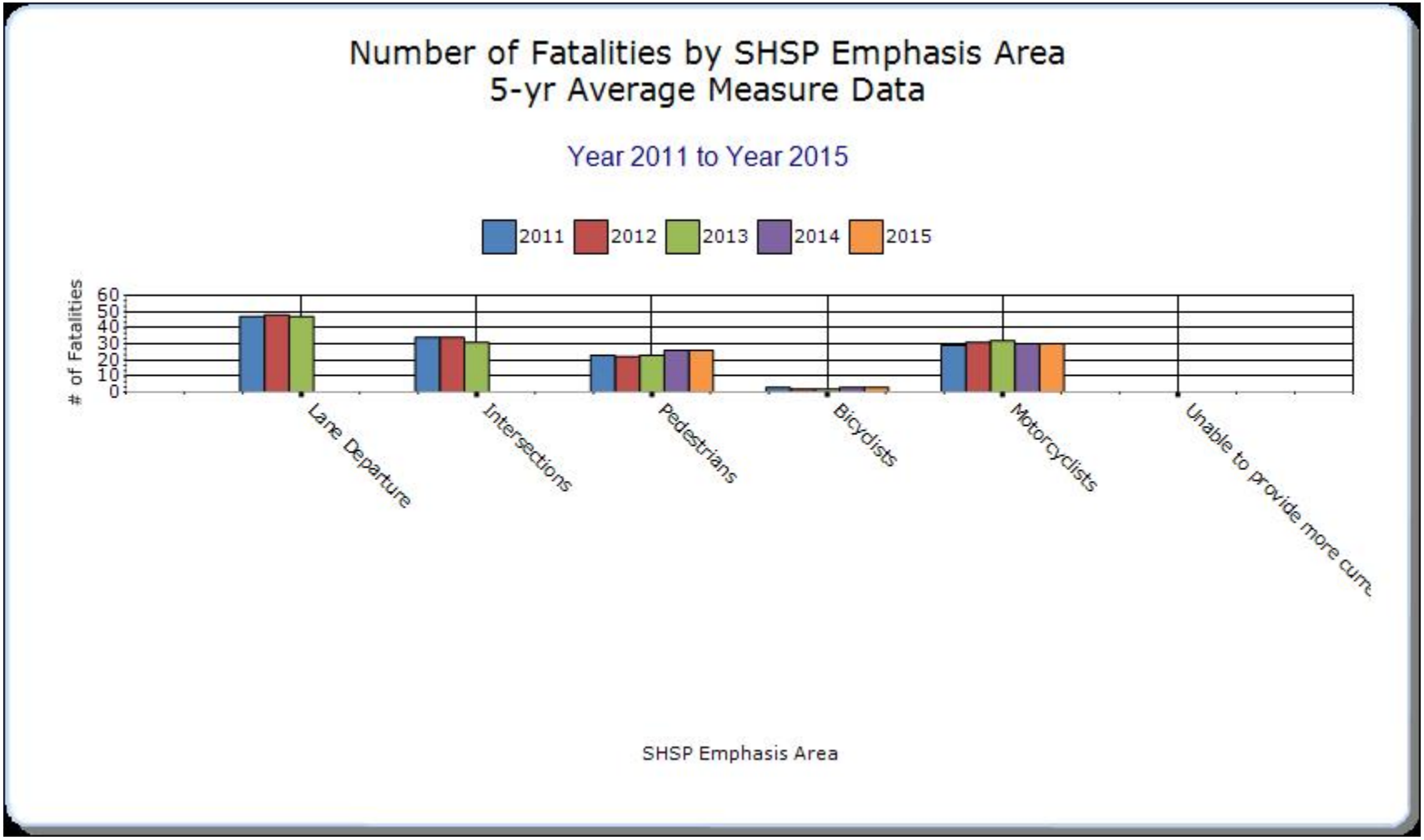
We are currently addressing the timeliness of our data. Due to previous manpower shortage, it was difficult to keep up with the workflow. We were able to fill all vacancies within our section and have reshifted our priorities to increase the timeliness of the database. We are currently in the process of soliciting a vendor through an RFP to replace the existing obsolete database and address the data backlog. Data for next year's report should reflect more current data years.

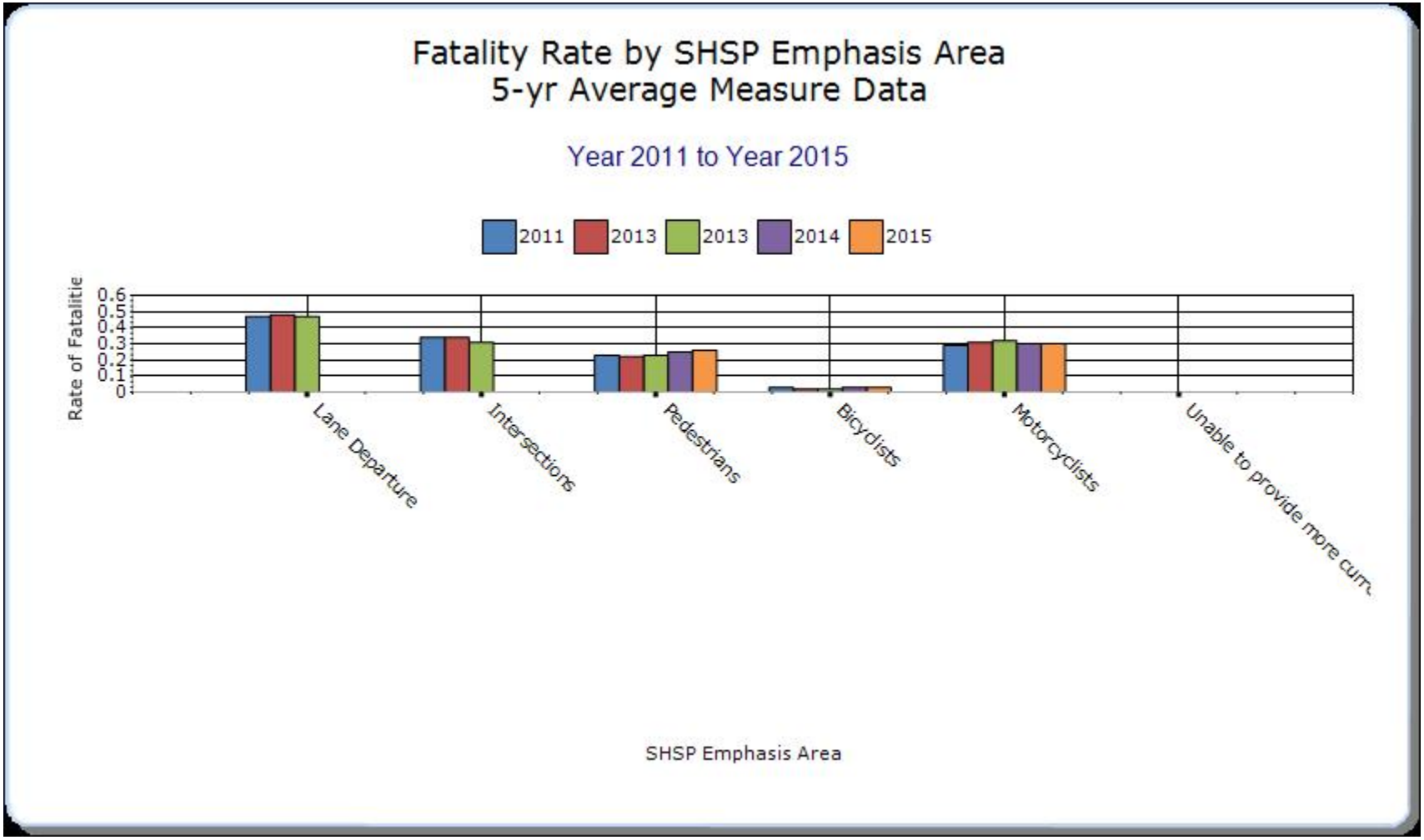
SHSP Emphasis Areas

For each SHSP emphasis area that relates to the HSIP, present trends in emphasis area performance measures.

Year - 2015

HSIP-related SHSP Emphasis Areas	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Pedestrians	Vehicle/pedestrian	26		0.26				
Bicyclists	Vehicle/bicycle	3		0.03				
Motorcyclists	Motorcycles	30		0.3				
Unable to provide more current data at this time								


Number of Fatalities by SHSP Emphasis Area
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2012
2013
2014
2015
# of Fatalities
60
50
40
30
20
10
0
Lane Departure
Intersections
Pedestrians
Bicyclists
Motorcyclists
Unable to provide more cure
SHSP Emphasis Area

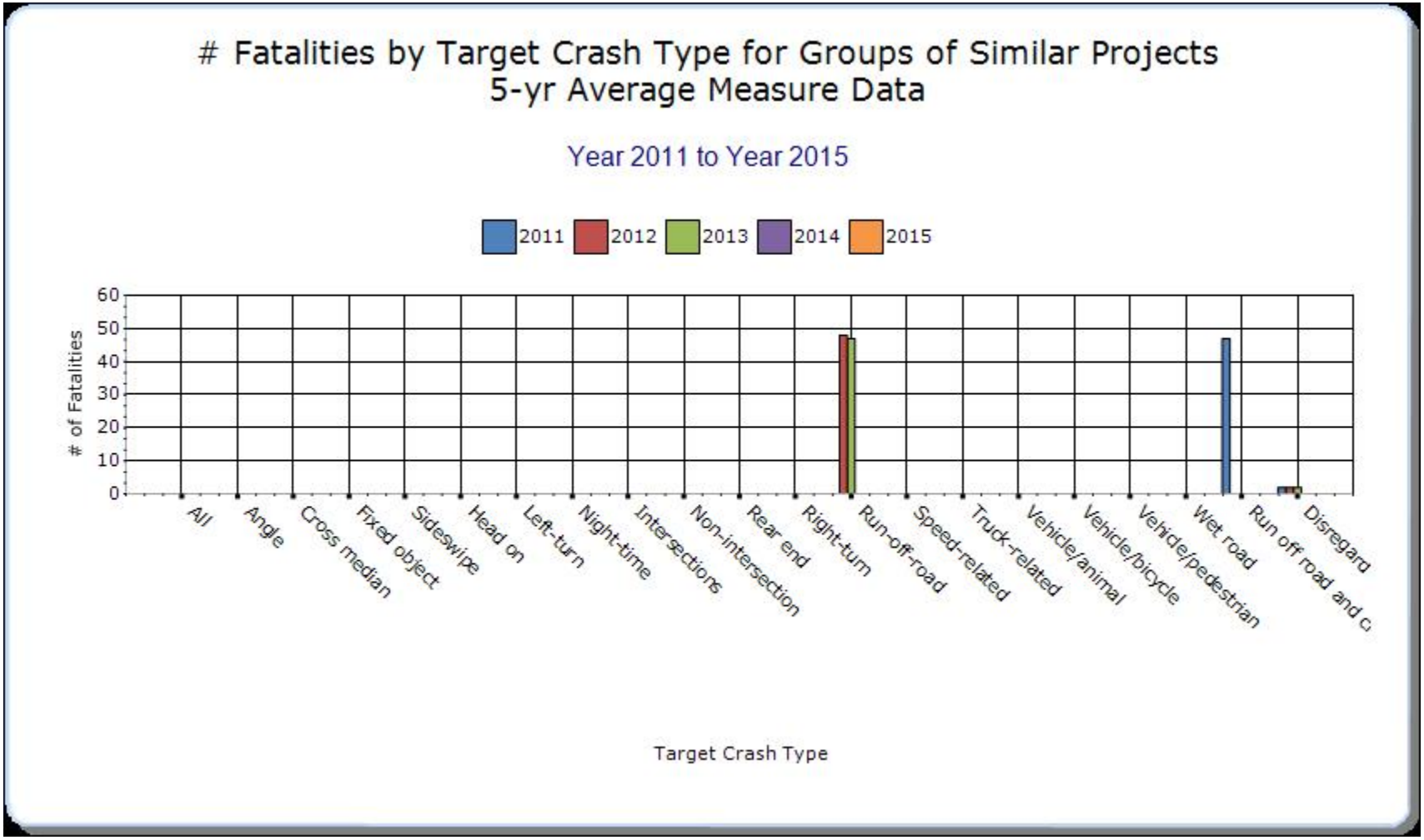


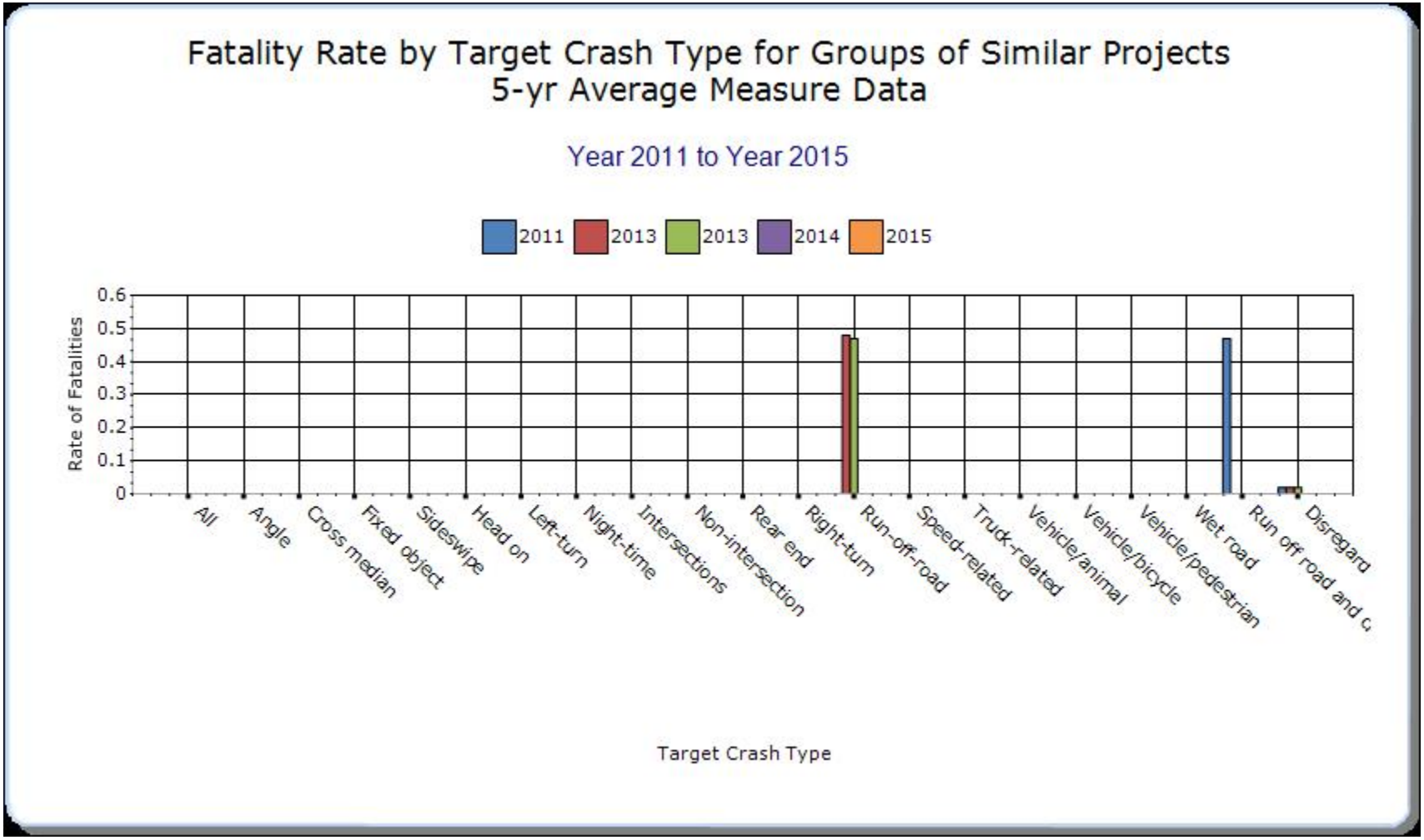
Groups of similar project types

Present the overall effectiveness of groups of similar types of projects.

Year - 2013

HSIP Sub-program Types	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Unable to provide more current data at this time								
Backplates with retroreflective borders	Disregard traffic signal	2		0.02				
Milled rumble strips	Run-off-road	47		0.47				


Fatalities by Target Crash Type for Groups of Similar Projects
5-yr Average Measure Data
Year 2011 to Year 2015
2011
2012
2013
2014
2015
# of Fatalities
60
50
40
30
20
10
0
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
Wet road
Run off road and c
Disregard
Target Crash Type

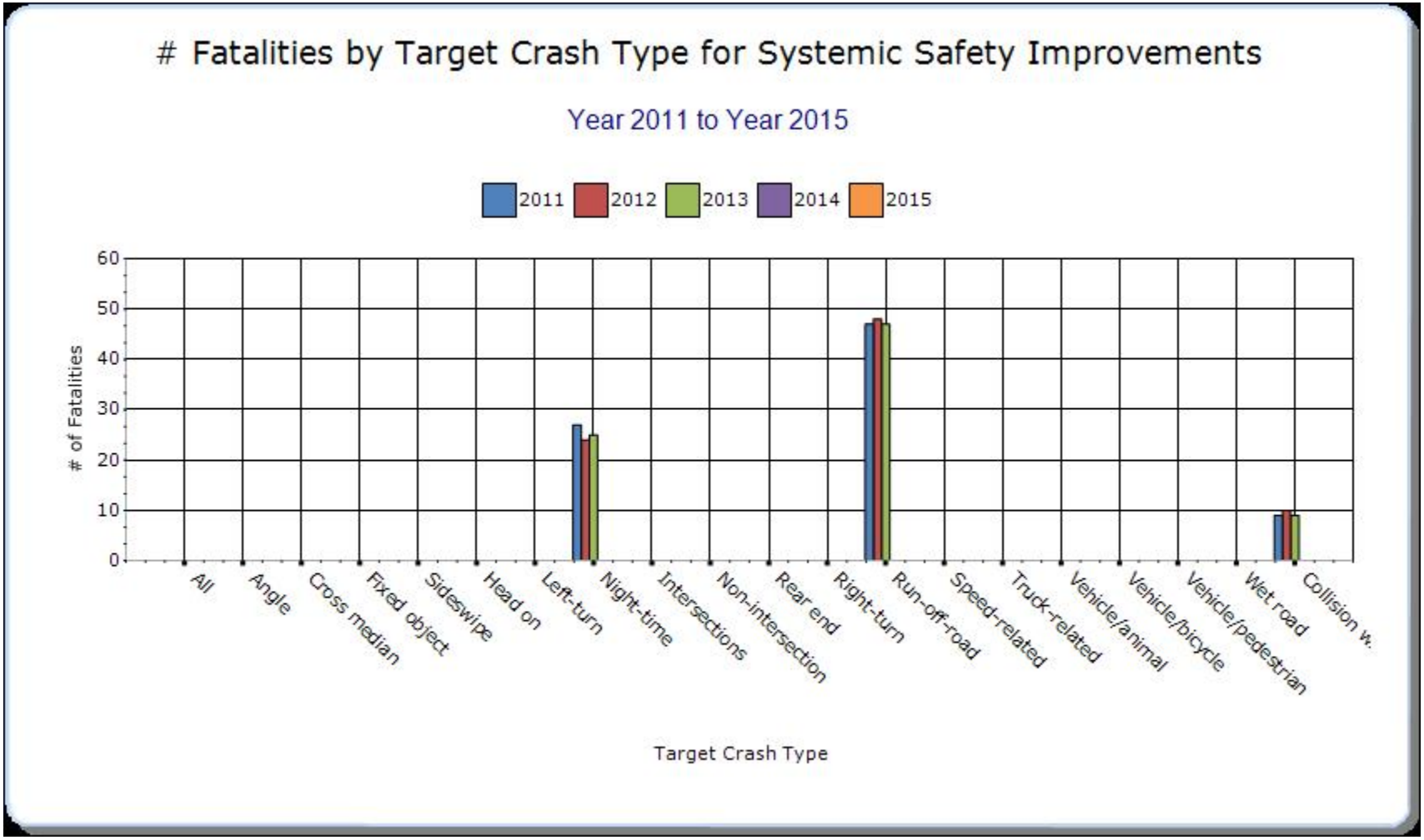


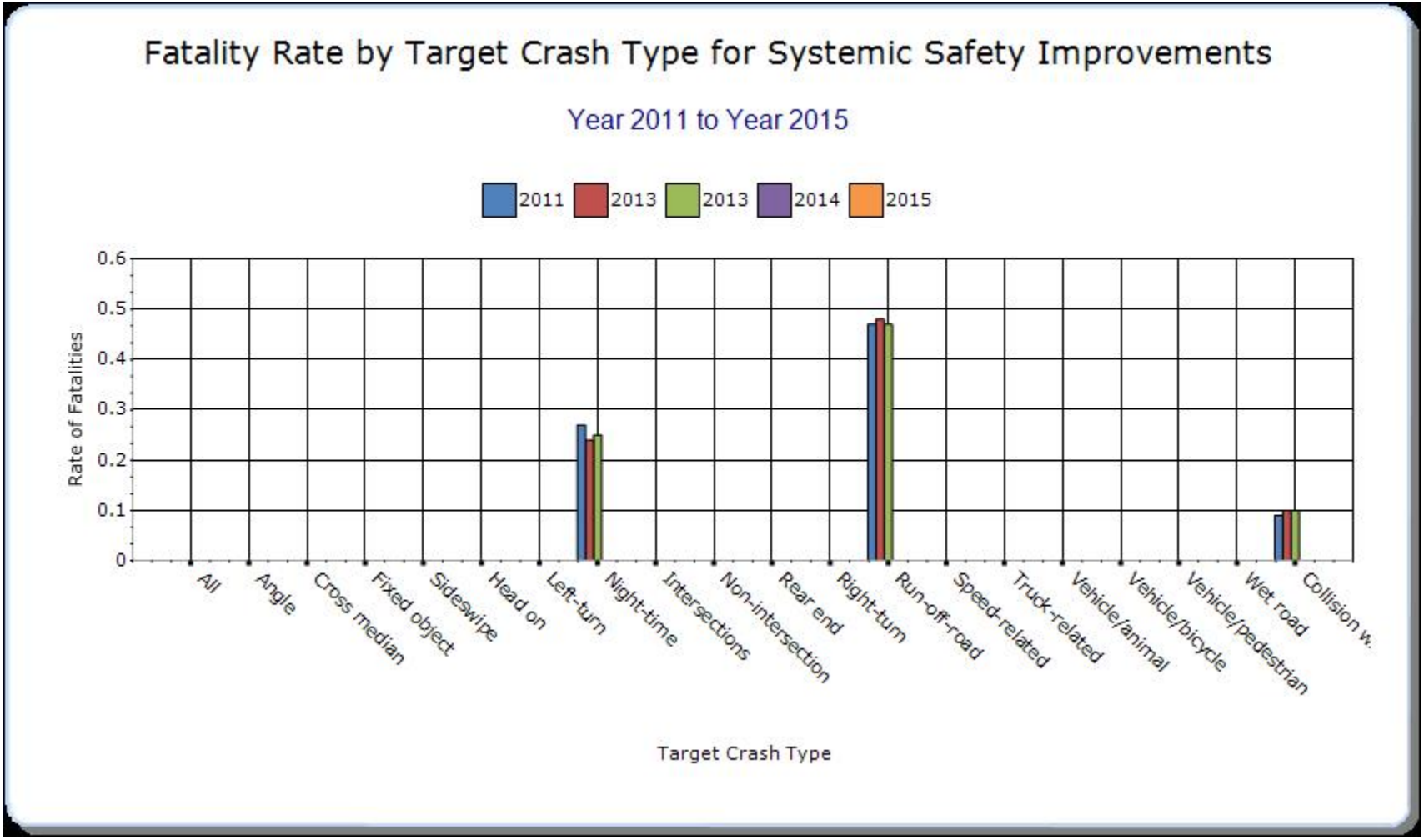
Systemic Treatments

Present the overall effectiveness of systemic treatments.

Year - 2013

Systemic improvement	Target Crash Type	Number of fatalities	Number of serious injuries	Fatality rate (per HMVMT)	Serious injury rate (per HMVMT)	Other-1	Other-2	Other-3
Unable to provide more current data at this time								
Upgrade Guardrails	Collision with guardrail	9		0.1				
Install/Improve Lighting	Night-time	25		0.25				
Rumble Strips	Run-off-road	47		0.47				


Fatalities by Target Crash Type for Systemic Safety Improvements
Year 2011 to Year 2015
2011
2012
2013
2014
2015
# of Fatalities
60
50
40
30
20
10
0
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
Wet road
Collision w.
Target Crash Type


Fatality Rate by Target Crash Type for Systemic Safety Improvements
Year 2011 to Year 2015
2011
2013
2013
2014
2015
Rate of Fatalities
0.6
0.5
0.4
0.3
0.2
0.1
0
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
Wet road
Collision w.
Target Crash Type

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

The State of Hawaii considers fatal and serious injury accidents for all analyses along with the total number of major traffic accidents. We will be working towards providing more of the requested data with next year's submittal.

Project Evaluation

Provide project evaluation data for completed projects (optional).

Location	Functional Class	Improvement Category	Improvement Type	Bef-Fatal	Bef-Serious Injury	Bef-All Injuries	Bef-PDO	Bef-Total	Aft-Fatal	Aft-Serious Injury	Aft-All Injuries	Aft-PDO	Aft-Total	Evaluation Results (Benefit/ Cost Ratio)
Choose option not to report at this time														

Optional Attachments

Sections	Files Attached

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.
Systematic refers to an approach where an agency deploys countermeasures at all locations across a system.
Systemic safety improvement means an improvement that is widely implemented based on high risk roadway features that are correlated with specific severe crash types.
Transfer means, in accordance with provisions of 23 U.S.C. 126, a State may transfer from an apportionment under section 104(b) not to exceed 50 percent of the amount apportioned for the fiscal year to any other apportionment of the State under that section.