



HAWAII

# HIGHWAY SAFETY IMPROVEMENT PROGRAM 2023 ANNUAL REPORT



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Table of Contents

Disclaimer ..... 3  
    Protection of Data from Discovery Admission into Evidence ..... 3  
Executive Summary ..... 4  
Introduction ..... 5  
Program Structure..... 5  
    Program Administration ..... 5  
    Program Methodology ..... 7  
Project Implementation ..... 11  
    Funds Programmed..... 11  
    General Listing of Projects ..... 13  
Safety Performance ..... 16  
    General Highway Safety Trends..... 16  
    Safety Performance Targets..... 22  
    Applicability of Special Rules..... 23  
Evaluation ..... 25  
    Program Effectiveness ..... 25  
    Effectiveness of Groupings or Similar Types of Improvements ..... 25  
    Project Effectiveness ..... 29  
Compliance Assessment..... 30  
Optional Attachments..... 33  
Glossary..... 34

## **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. 407 states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.”

## **Executive Summary**

State of Hawaii 2023 U.S.C. 148(g) Annual Highway Safety Improvement Program (HSIP) report.

The primary objective of Hawaii Department of Transportation HDOT's Highway Safety Improvement Program (HSIP) is to incorporate highway safety to reduce the number and severity of fatalities and injuries involving motor vehicle crashes. This goal is in line with Hawaii's Strategic Highway Safety Plan (SHSP).

The HSIP process for HDOT involves collecting all major traffic crash data, analyzing the data, proposing safety improvement projects, and evaluating the benefits from the projects. HDOT is moving away from addressing hot spot locations and toward systemic locations. This process allows better allocation of funds on a proactive approach.

With the implementation of the Highway Safety Manual and the Safety Management System, HDOT is working towards greater safety benefits from projects based on predictive methods and risk factors.

## Introduction

The Highway Safety Improvement Program (HSIP) is a core Federal-aid program with the purpose of achieving a significant reduction in fatalities and serious injuries on all public roads. As per 23 U.S.C. 148(h) and 23 CFR 924.15, States are required to report annually on the progress being made to advance HSIP implementation and evaluation efforts. The format of this report is consistent with the HSIP Reporting Guidance dated December 29, 2016 and consists of five sections: program structure, progress in implementing highway safety improvement projects, progress in achieving safety outcomes and performance targets, effectiveness of the improvements and compliance assessment.

## Program Structure

### *Program Administration*

#### **Describe the general structure of the HSIP in the State.**

HDOT uses the Number-Rate (N-R) Method, which establishes a minimum crash frequency and accounts for exposure. Listings for intersection locations on State roadways use a minimum criteria for a 3-year period and listings for non-intersection locations on State roadways use sliding 0.3-mile segments with a minimum criteria for a 3-year period. This method uses the best availability of required data and is manageable by our limited manpower.

Locations identified by the N-R method will be further analyzed in a Benefit-Cost (B/C) analysis procedure by incorporating crash costs established by FHWA and crash reduction factors (CRF). The crash costs will assign more weight to fatal and high severity crashes.

Project Prioritization and Selection uses the annual High-Crash Listings, which ranks the locations by crash rates, and injury severity to determine possible project locations. Project locations where existing, planned or recently completed projects are already addressing concerns are eliminated. Appropriate countermeasures for each location are determined, preliminary estimates for improvements are computed, CRFs are selected, and Benefit/Cost (B/C) ratios to prioritize individual listings are calculated.

“HSIP Field Investigation” of candidate projects are conducted using HSIP Field Investigation procedures and involving the following parties: Traffic Safety engineers, District engineers and maintenance workers, Traffic Design engineers, and law enforcement. Field investigations of existing conditions are conducted to better understand deficiencies. Proposed projects are selected based on revised scope of work and B/C. If funds are available, additional projects are selected according to overall priority. Note that projects may also be initiated if identified as priority according to the Hawaii Strategic Highway Safety Plan (SHSP).

Project Evaluation uses 3 year before and after crash history. Evaluation data is submitted to FHWA through the online HSIP reporting tool annually.

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

Engineering

HSIP staff is located in the Hawaii State Department of Transportation, Highways Division, Traffic Branch, Traffic Safety Section

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

- Other-Central Office

HSIP funds for State roadway projects are divided among the 4 different counties. HSIP projects are submitted through the Traffic Safety Section.

High crash listings and crash 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 the HSIP funds if they are cost-effective. In addition, High Risk Rural Roads Program (HRRRP) Funds are offered to the counties for project proposals and consideration.

## **Describe how local and tribal roads are addressed as part of HSIP.**

High crash listings and crash 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.

Hawaii does not have any tribal roads.

## **Identify which internal partners (e.g., State departments of transportation (DOTs) Bureaus, Divisions) are involved with HSIP planning.**

- Design
- Maintenance
- Operations
- Planning
- Traffic Engineering/Safety
- Other-Highway Safety Office

Other-The Highway Safety Office is a partner in the HSIP process. They assist with setting the performance targets. They also assist with the planning of the HSIP through the collaboration of the development of the SHSP.

## **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 (external) participate in the preliminary project scope.

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

- Local Government Agency
- Other-Police departments

Police department representatives have participated in preliminary project scoping through field investigations. Their input on enforcement and knowledge of the area are instrumental to the overall traffic safety recommendations. Local government agencies would be involved when projects on local roads are proposed.

**Describe coordination with external partners.**

HSIP projects can be initiated through review of high crash listings and crash data for county roads submitted to the county offices. Local agencies can submit project proposals to be considered on the STIP.

Police department officers are requested to participate in field investigation of potential HSIP project locations. They provide personal knowledge of the area and can make safety recommendations that may be incorporated within HSIP projects.

**Describe other aspects of HSIP Administration on which the State 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***

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

Yes

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

- HRRR
- Other-Lane Departure

Adding Lane Departure as a subprogram. Lane departure would include roadway departures crashes and centerline/median crossover crashes.

**Program: HRRR**

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

***What is the justification for this program?***

- FHWA focused approach to safety

**What is the funding approach for this program?**

Funding set-aside

**What data types were used in the program methodology?**

**Crashes**

- Fatal and serious injury crashes only

**Exposure**

- Lane miles

**Roadway**

- Functional classification

**What project identification methodology was used for this program?**

- Crash frequency
- Crash rate

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

Yes

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

No

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

Methodology for local roads use the crash frequency because of the lack of traffic volume data. Methodology for State roads use the crash rate.

**How are projects under this program advanced for implementation?**

- Other-Submitted to be included in the STIP. Follow with collaboration with the 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:1

Cost Effectiveness:3

**Program: Other-Lane Departure**

**Date of Program Methodology:**

**What is the justification for this program?**

- Addresses SHSP priority or emphasis area



2023 Hawaii Highway Safety Improvement Program

- FHWA focused approach to safety

***What is the funding approach for this program?***

Competes with all projects

***What data types were used in the program methodology?***

Crashes	Exposure	Roadway
<ul style="list-style-type: none"><li>• All crashes</li></ul>	<ul style="list-style-type: none"><li>• Volume</li><li>• Lane miles</li></ul>	

***What project identification methodology was used for this program?***

- Crash frequency
- Crash rate

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

Yes

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

No

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

Methodology for local roads use the crash frequency because of the lack of traffic volume data.  
Methodology for State roads use the crash rate.

***How are projects under this program advanced for implementation?***

***Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization.***

***Enter either the weights or numerical rankings. If weights are entered, the sum must equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).***

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

66.8

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

- Rumble Strips

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

- Crash data analysis
- Engineering Study

**Does the State HSIP consider connected vehicles and ITS technologies?**

No

**Does the State use the Highway Safety Manual to support HSIP efforts?**

No

HDOT is working on implementing Highway Safety Manual (HSM) Predictive Methodology into our system. The implementation will include loading and massaging the roadway feature data, setting up the libraries, processing, and performing HSM processing to determine Crash Modification Factors (CMF)s, Expected Crashes, Safety Index scores based upon HSM predictive method, Safety Comparable Index, and Safety Rating.

**Describe other aspects of the HSIP methodology on which the State would like to elaborate.**

During this period, run off roadway and median crossover type crashes were targeted. HDOT is currently focusing on reducing fatalities and serious injury type crashes by implementing cost-effective safety improvement projects along corridors with a history of these types of crashes. In Hawaii, these types of crashes have a greater potential of reducing fatalities and serious injury crashes cost-effectively, in comparison to "black spot" type projects. HDOT has collaborated 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.

## Project Implementation

### Funds Programmed

Reporting period for HSIP funding.

Federal Fiscal Year

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	\$6,491,053	\$5,813,285	89.56%
HRRR Special Rule (23 U.S.C. 148(g)(1))	\$0	\$0	0%
VRU Safety Special Rule (23 U.S.C. 148(g)(3))	\$1,913,520	\$1,913,520	100%
Penalty Funds (23 U.S.C. 154)	\$3,161,750	\$3,161,750	100%
Penalty Funds (23 U.S.C. 164)	\$3,161,750	\$3,161,750	100%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	\$0	\$0	0%
Other Federal-aid Funds (i.e. STBG, NHPP)	\$0	\$0	0%
State and Local Funds	\$0	\$0	0%
<b>Totals</b>	<b>\$14,728,073</b>	<b>\$14,050,305</b>	<b>95.4%</b>

We did not receive the latest FMIS status at the time of reporting. 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. The obligated percentage is based on the latest project status report available.

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

0%

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

0%

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

\$2,800,000

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

\$2,800,000

**How much funding was transferred in to the HSIP from other core program areas during the reporting period under 23 U.S.C. 126?**

0%

**How much funding was transferred out of the HSIP to other core program areas during the reporting period under 23 U.S.C. 126?**

\$5,294,073

Funds were transferred from HSIP to STBG to account for projects that were inadvertently funded with non-HSIP funds (i.e. High Friction Surface Treatment project)

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

The penalty transfer is impacting the HSIP core obligation rate. We would like to have more projects initiated and assigned for design and construction. We plan on utilizing IDIQ type contracts to facilitate the implementation of cost-effective safety improvements.

**Describe any other aspects of the State's progress in implementing HSIP projects on which the State 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 the projects obligated using HSIP funds for the reporting period.

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST(\$)	TOTAL PROJECT COST(\$)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
H1 Safety Improvements, Palailai Interchange to Waiawa Overpass	Roadway	Rumble strips – edge or shoulder	9	Miles	\$7976750	\$12683975	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Interstate	222,000	55	State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes
HI State Installation and replacement of signs at various locations, Hawaii	Roadway signs and traffic control	Roadway signs and traffic control - other		Signs	\$1141733	\$1657085	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Spot	All types of signs addressing lane departure, intersection, pedestrian, etc.	Improve roadway infrastructure to increase safety
HI State Pavement marking repairs and rumble strip installation at various locations, Hawaii	Roadway	Rumble strips – edge or shoulder		Miles	\$9277359	\$11588629	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes
Mamalahoa Highway Safety Improvements, MP 96.0 to MP 105.3, vicinity of Kaohe Road and vicinity of Bruner Road	Roadway	Rumble strips – edge or shoulder	9.3	Miles	\$227121	\$295425	RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	Rural	Minor Arterial	6,367	35	State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes
Mamalahoa Highway Safety Improvements, MP 3.9 - 6.9	Roadway	Rumble strips – edge or shoulder	3	Miles	\$3378660	\$4005139	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,563	50	State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes
Mamalahoa Highway Safety Improvements, MP 17.9 to MP 20.8 and MP 21.3 to MP	Roadway	Rumble strips – edge or shoulder	7.8	Miles	\$6148845	\$7537416	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,200	50	State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes

2023 Hawaii Highway Safety Improvement Program

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST(\$)	TOTAL PROJECT COST(\$)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
26.2, vicinity of Puuanahulu															
Hon Installation of Enhanced Pavement Marking and New Milled Rumble Strip at Various Locations, Oahu	Roadway	Rumble strips – edge or shoulder		Miles	\$12811	\$4093675	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes
Piilani Hwy Safety Improvements, N Kihei Rd to Vic of Wailea Ike Dr	Roadway	Rumble strips – edge or shoulder	7.1	Miles	\$2164709	\$2237077	Other Federal-aid Funds (i.e. STBG, NHPP)	Urban	Principal Arterial-Other	42,400	45	State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes
Pali Hwy Resurfacing, Waokanaka St to Kamehameha Hwy	Roadway	Rumble strips – edge or shoulder	5	Miles	\$2189884	\$2189884		Urban	Principal Arterial-Other Freeways & Expressways	38,000	45	State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes
Likelike Highway Safety Improvements, Emmeline Place to Kahekili Highway	Roadway	Rumble strips – edge or shoulder	5.6	Miles	\$2528	\$4219264		Urban	Principal Arterial-Other Freeways & Expressways	42,600	45	State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes
KAUAI - Installation of Enhanced Pavement Marking and New Milled Rumble Strip at Various Locations, Kauai	Roadway	Rumble strips – edge or shoulder		Miles	\$2096094	\$3690989	Penalty Funds (23 U.S.C. 164)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes
MAUI - Installation of Enhanced Pavement Marking and new Milled	Roadway	Rumble strips – edge or shoulder		Miles	\$3542836	\$5222583	RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes

2023 Hawaii Highway Safety Improvement Program

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST(\$)	TOTAL PROJECT COST(\$)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
Rumble Strips Locations, Islands of Maui, Molokai and Lanai															
Farrington Highway Safety Improvements, Pohakunui Avenue to Interstate Route H-1	Roadway	Rumble strips – edge or shoulder	5.5	Miles	\$1556945	\$5861336	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes
State Planning and Research Program	Miscellaneous	Transportation safety planning		Addresses multiple locations Statewide	\$3081056	\$15106588	Penalty Funds (23 U.S.C. 164)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Data	Improve linkage and integration of data
State of Hawaii Advanced Crash Analysis	Miscellaneous	Data analysis		Addresses multiple locations Statewide	\$2774119	\$3827119	RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Data	Improve linkage and integration of data
Vulnerable Road User Safety Assessment Plan	Miscellaneous	Transportation safety planning		Addresses multiple locations Statewide	\$88268	\$700542	RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Data	Collect and evaluate crash data to determine causes and contributing factors to implement countermeasures.
Olohena Road (Rt 581) Improvements	Roadway	Roadway - other		Miles	\$3110500	\$11800000	VRU Safety Special Rule (23 U.S.C. 148(g)(3))	Rural	Local Road or Street	0		County Highway Agency	Spot	Pedestrians	Expand, improve, and maintain state and local pedestrian and bicycle facilities and networks

## Safety Performance

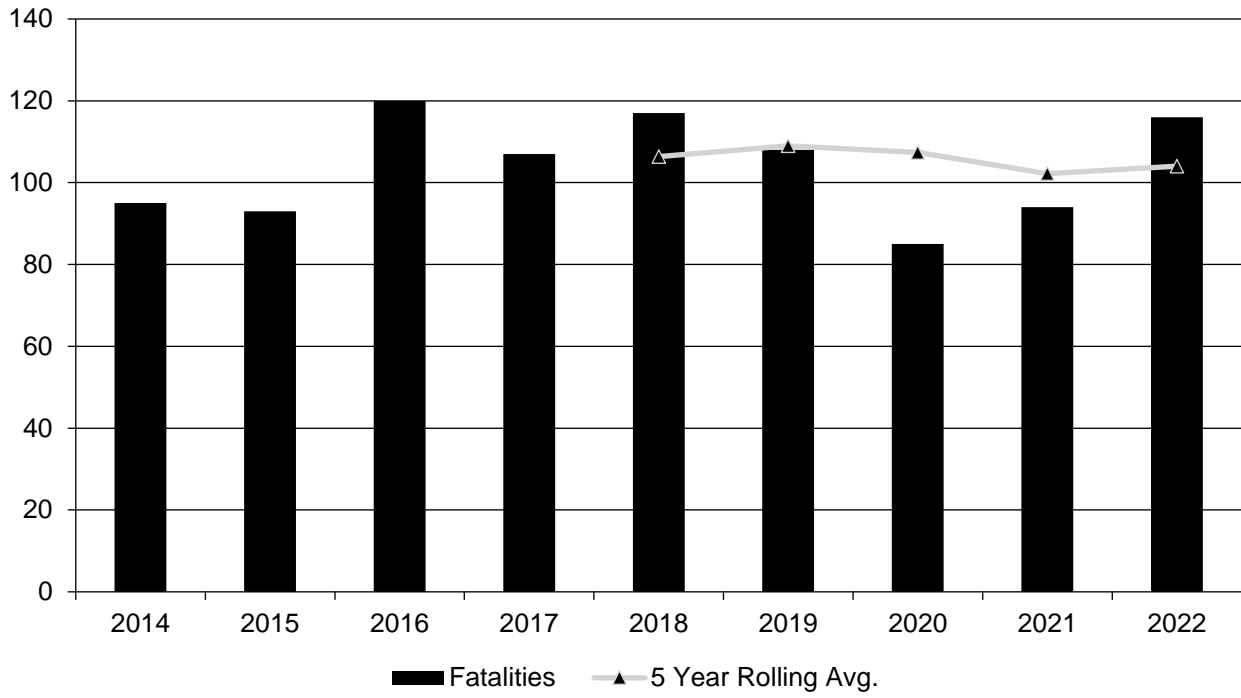
### *General Highway Safety Trends*

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

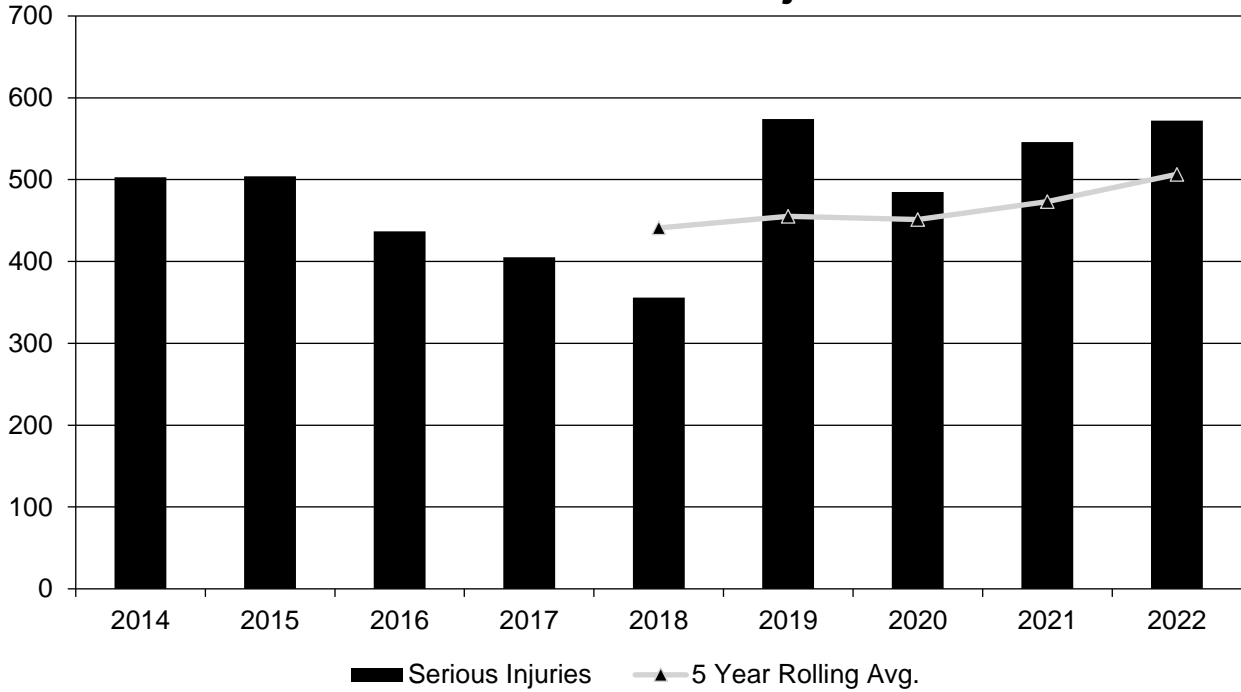
<b>PERFORMANCE MEASURES</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Fatalities	95	93	120	107	117	108	85	94	116
Serious Injuries	503	504	437	405	356	574	485	546	572
Fatality rate (per HMVMT)	0.933	0.908	1.136	0.997	1.075	0.984	0.969	0.943	1.136
Serious injury rate (per HMVMT)	4.940	4.921	4.137	3.774	3.270	5.230	5.528	5.475	5.600
Number non-motorized fatalities	32	29	32	21	46	41	25	29	35
Number of non-serious motorized injuries	87	94	102	71	69	109	79	104	83



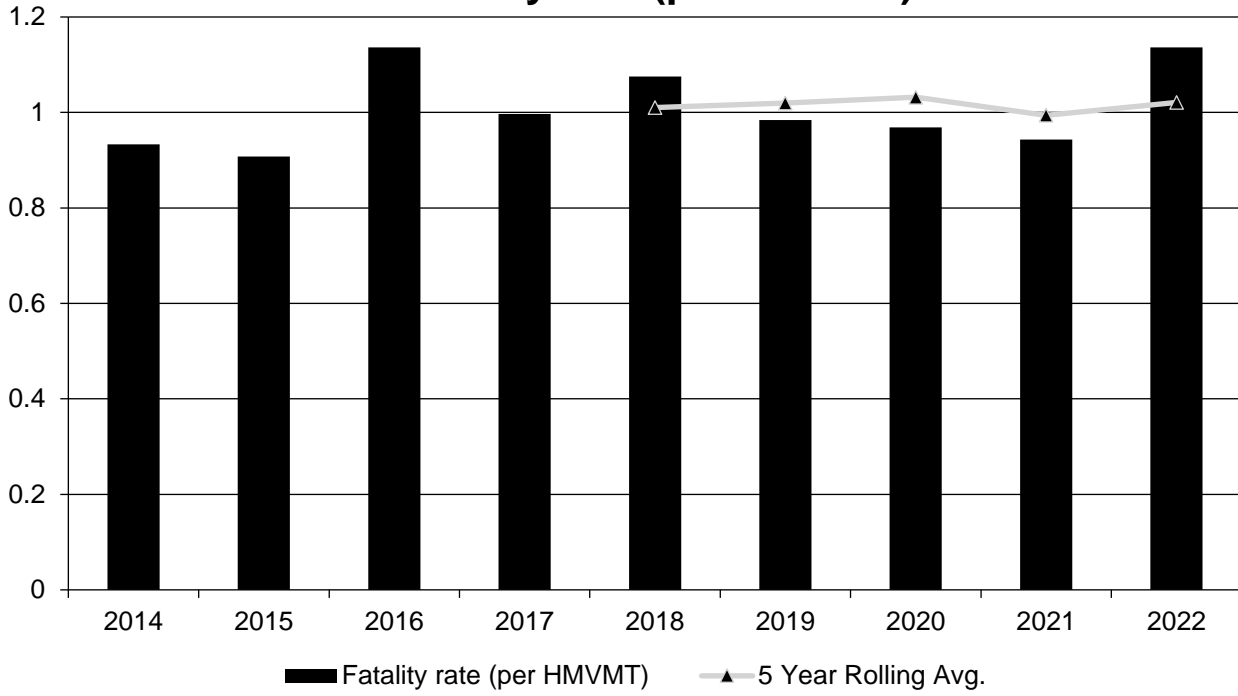
### Annual Fatalities



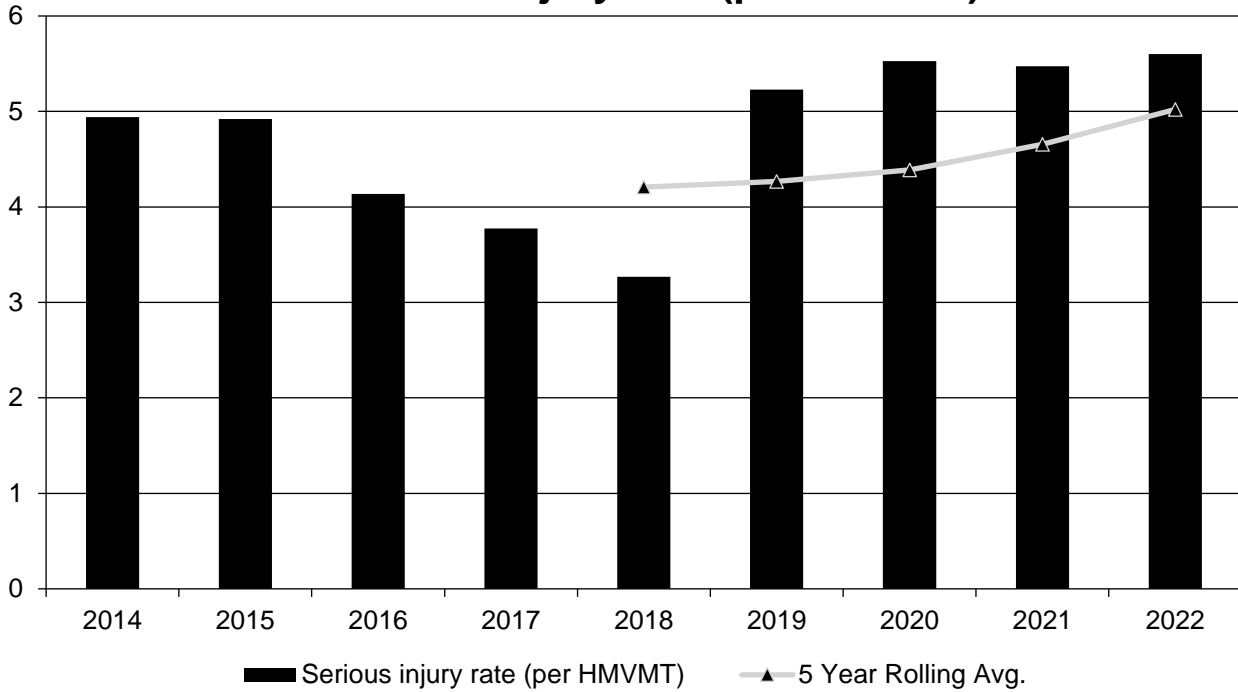
### Annual Serious Injuries



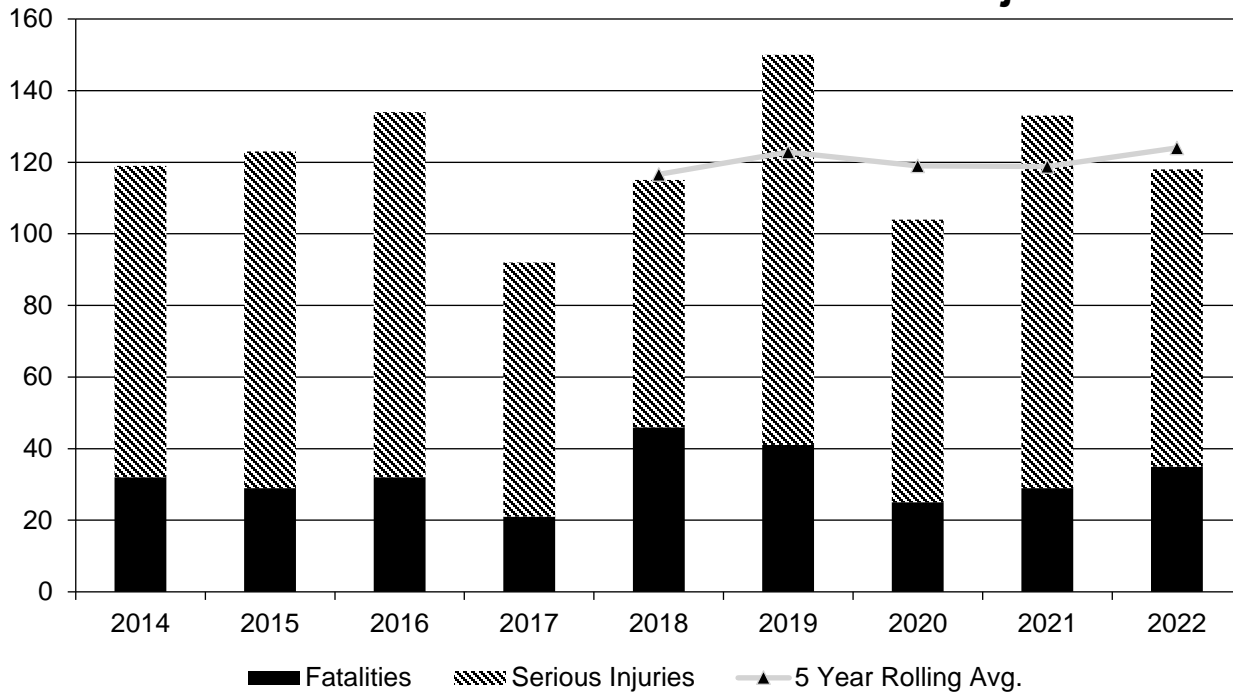
### Fatality rate (per HMVMT)



### Serious injury rate (per HMVMT)



### Non Motorized Fatalities and Serious Injuries



**Describe fatality data source.**

FARS

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

**Year 2022**

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Principal Arterial (RPA) - Interstate	0	0	0	0
Rural Principal Arterial (RPA) - Other Freeways and Expressways	0	0	0	0
Rural Principal Arterial (RPA) - Other	3.8	18.6	0.04	0.18
Rural Minor Arterial	9	24.2	0.09	0.24
Rural Minor Collector	1.4	0.2	0.01	0
Rural Major Collector	2	6.2	0.02	0.06

2023 Hawaii Highway Safety Improvement Program

<b>Functional Classification</b>	<b>Number of Fatalities (5-yr avg)</b>	<b>Number of Serious Injuries (5-yr avg)</b>	<b>Fatality Rate (per HMVMT) (5-yr avg)</b>	<b>Serious Injury Rate (per HMVMT) (5-yr avg)</b>
Rural Local Road or Street	3.2	1.4	0.03	0.01
Urban Principal Arterial (UPA) - Interstate	7.4	46.8	0.07	0.47
Urban Principal Arterial (UPA) - Other Freeways and Expressways	4.8	16.4	0.05	0.16
Urban Principal Arterial (UPA) - Other	32.4	128	0.32	1.27
Urban Minor Arterial	14.2	32.8	0.14	0.33
Urban Minor Collector	3.6	3.8	0.04	0.04
Urban Major Collector	12.2	13.8	0.12	0.14
Urban Local Road or Street	9.8	10.6	0.1	0.1

2023 Hawaii Highway Safety Improvement Program

**Year 2022**

<b>Roadways</b>	<b>Number of Fatalities (5-yr avg)</b>	<b>Number of Serious Injuries (5-yr avg)</b>	<b>Fatality Rate (per HMVMT) (5-yr avg)</b>	<b>Serious Injury Rate (per HMVMT) (5-yr avg)</b>
State Highway Agency	65.6	243.2	0.64	2.38
County Highway Agency	37.8	237.8	0.37	2.36
Town or Township Highway Agency				
City or Municipal Highway Agency				
State Park, Forest, or Reservation Agency				
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency				
Private (Other than Railroad)				
Railroad	0	0	0	0
State Toll Authority	0	0	0	0
Local Toll Authority	0	0	0	0
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation	0	0	0	0

**Provide additional discussion related to general highway safety trends.**

We are consistently addressing the accuracy of our data. We are working with our vendor to address quality control of the new data coming in. Data for next year's report should reflect more accurate data as we continue to work with the law enforcement agencies to provide more accurate data and track any missing reports.

## ***Safety Performance Targets***

### **Safety Performance Targets**

#### **Calendar Year 2024 Targets \***

***Number of Fatalities:105.0***

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

This performance target was determined by using a linear trend line based on the 2018-2022 five-year moving average data and an analysis of external factors, including the updated Hawaii SHSP; Vision Zero Plans developed and implemented in each county; planned roadway infrastructure safety improvement projects; and safety impacts of proposed grants.

This performance target is identical to the performance target in the state's HSP and is the result of collaborative efforts.

***Number of Serious Injuries:545.6***

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

This performance target was determined by using a linear trend line based on the 2018-2022 five-year moving average data and an analysis of external factors, including the updated Hawaii SHSP; Vision Zero Plans developed and implemented in each county; planned roadway infrastructure safety improvement projects; and safety impacts of proposed grants. Implementation of the revised Motor Vehicle Accident Report (MVAR) has shown an impact in the number of serious traffic injuries because of the change in terminology from "incapacitating injury" to "suspected serious injury" and an increase in crash reporting. This performance target is identical to the performance target in the state's HSP and is the result of collaborative efforts.

***Fatality Rate:1.050***

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

This performance target was determined by using a linear trend line based on the 2018-2022 five-year moving average data and an analysis of external factors, including impacts from COVID-19 and shelter-in-place orders; the updated Hawaii SHSP; Vision Zero Plans developed and implemented in each county; planned roadway infrastructure safety improvement projects; and safety impacts of proposed grants. This performance target is identical to the performance target in the state's HSP and is the result of collaborative efforts.

***Serious Injury Rate:5.474***

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

This performance target was determined by using a linear trend line based on the 2018-2022 five-year moving average data and an analysis of external factors, including impacts from COVID-19 and shelter-in-place orders; the updated Hawaii SHSP; Vision Zero Plans developed and implemented in each county; planned roadway infrastructure safety improvement projects; and safety impacts of proposed grants. Implementation of the revised Motor Vehicle Accident Report (MVAR) has shown an impact in the number of serious traffic injuries because of the change in terminology from "incapacitating injury" to "suspected serious injury" and an increase in crash reporting.

**Total Number of Non-Motorized Fatalities and Serious Injuries:122.8**

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

This performance target was determined by using a linear trend line based on the 2017-2022 five-year moving average data and an analysis of external factors, including impacts from COVID-19 and shelter-in-place orders; the updated Hawaii SHSP; Vision Zero Plans developed and implemented in each county; planned roadway infrastructure safety improvement projects; and safety impacts of proposed grants. Implementation of the revised Motor Vehicle Accident Report (MVAR) has shown an impact in the number of serious traffic injuries because of the change in terminology from "incapacitating injury" to "suspected serious injury" and an increase in crash reporting.

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

The numbers in the HSIP report should match the numbers in the HSP. We also shared the safety performance targets with Oahu Metropolitan Planning Organization (OMPO) and Maui MPO to assist them in reporting their performance targets. The performance targets are the result of collaborative efforts.

**Does the State want to report additional optional targets?**

No

**Describe progress toward meeting the State’s 2022 Safety Performance Targets (based on data available at the time of reporting). For each target, include a discussion of any reasons for differences in the actual outcomes and targets.**

PERFORMANCE MEASURES	TARGETS	ACTUALS
Number of Fatalities	103.4	104.0
Number of Serious Injuries	426.8	506.6
Fatality Rate	0.964	1.021
Serious Injury Rate	4.201	5.021
Non-Motorized Fatalities and Serious Injuries	134.1	124.0

Fatalities and serious injuries increased over the years to pre pandemic numbers. Therefore, we were unable to meet our optimistic goals. Since Hawaii DOT has not met our targets last year, an HSIP Implementation Plan was developed for the third time.

Revision of the Motor Vehicle Accident Report (MVAR) has shown an increased impact on the number of serious traffic injuries because of the change in terminology from "incapacitating injury" to "suspected serious injury". Honolulu Police Department, which is the largest law enforcement agency in Hawaii, implemented the form at the beginning of 2019. This can be seen in the large increase in serious injuries for 2019.

**Applicability of Special Rules**

**Does the VRU Safety Special Rule apply to the State for this reporting period?**

Yes

## 2023 Hawaii Highway Safety Improvement Program

The number of fatalities involving vulnerable road users in the State of Hawaii was more than 15% of the total annual crash fatalities for 2021.

In 2021, there were 94 total fatal crashes of which 29 fatal crashes involved vulnerable road users.

The percentage was 30.85%, which is larger than 15%

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

No

### **Provide the number of older driver and pedestrian fatalities and serious injuries 65 years of age and older for the past seven years.**

<b>PERFORMANCE MEASURES</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	<b>2021</b>	<b>2022</b>
Number of Older Driver and Pedestrian Fatalities	20	17	24	18	13	16	20
Number of Older Driver and Pedestrian Serious Injuries	43	34	44	48	25	44	46



## Evaluation

### *Program Effectiveness*

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

- Change in fatalities and serious injuries

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

Program effectiveness can be measured by the change in the number of fatalities and serious injuries. Completed projects are desired to have a decrease in the number and severity of crashes, usually 3 years before compared to 3 years after completion.

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

- HSIP Obligations

We need to continuously track the completion of HSIP projects to make sure there are no lapsing funds.

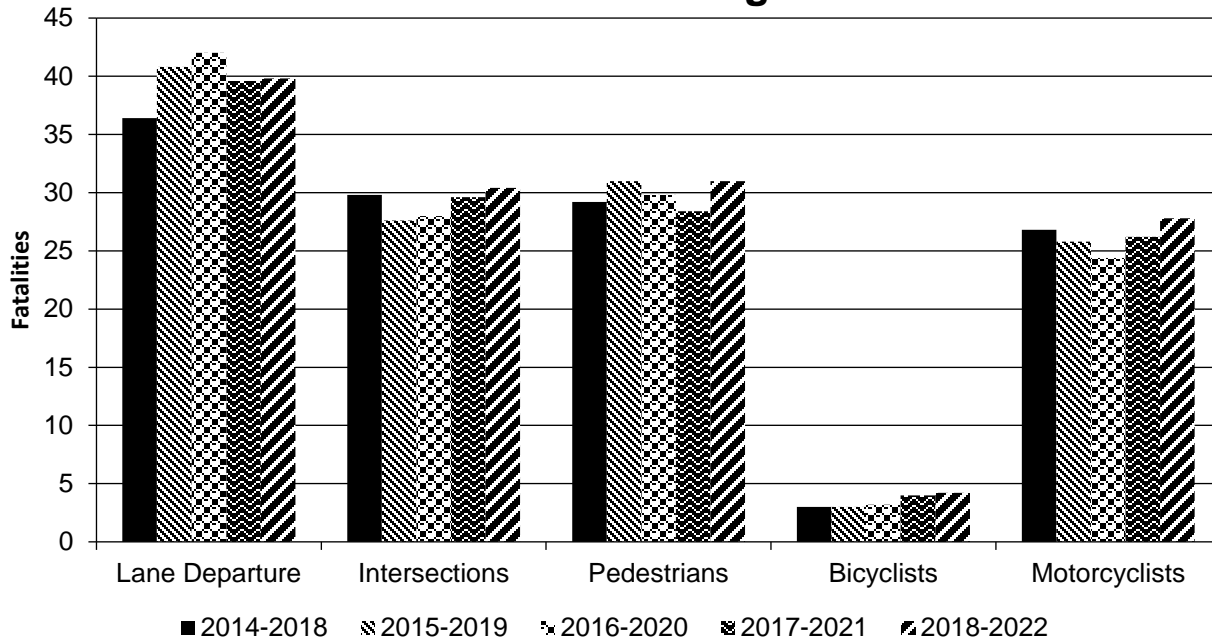
### *Effectiveness of Groupings or Similar Types of Improvements*

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

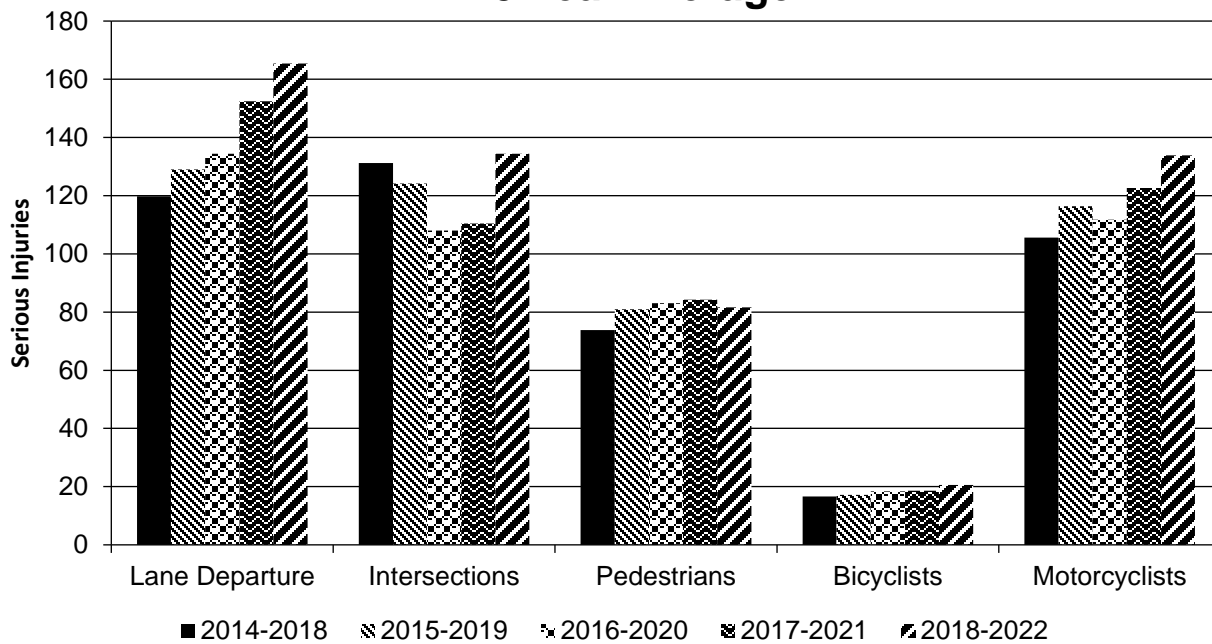
Year 2022

SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Lane Departure		39.8	165.4	0.39	1.64
Intersections		30.4	134.4	0.3	1.32
Pedestrians		31	81.6	0.3	0.81
Bicyclists		4.2	20.6	0.04	0.21
Motorcyclists		27.8	133.8	0.27	1.31

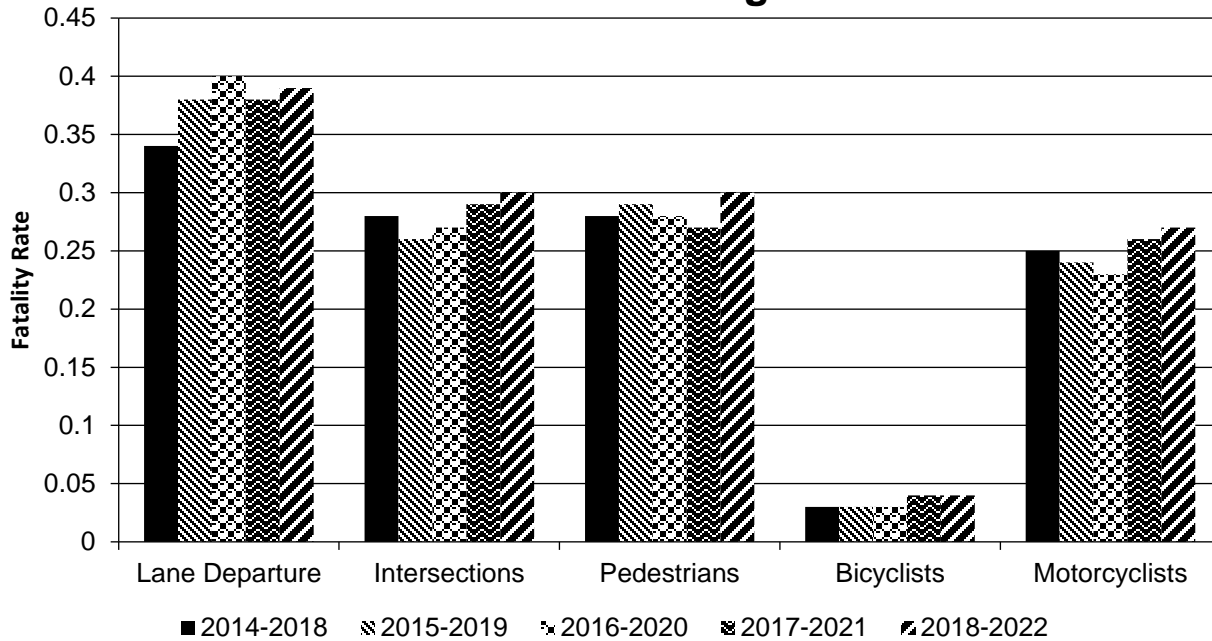
### Number of Fatalities 5 Year Average



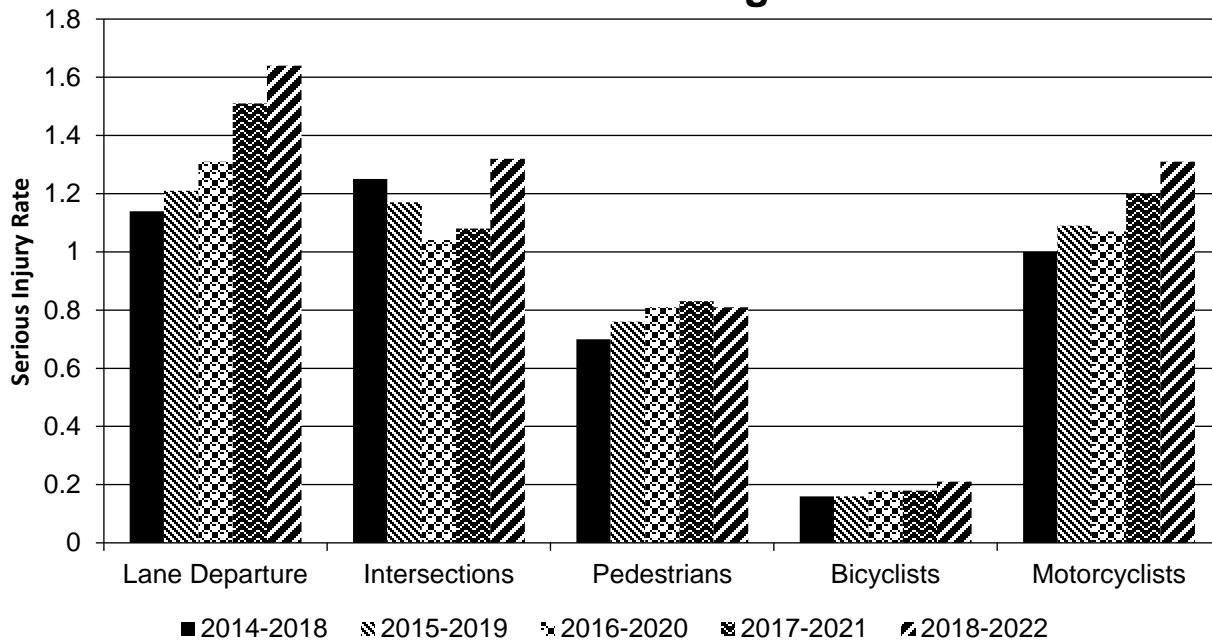
### Number of Serious Injuries 5 Year Average



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



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



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

No

## 2023 Hawaii Highway Safety Improvement Program

HDOT has collaborated with the University of Hawaii to develop a Systemic Roadway Departure Plan. With the development of the plan, HDOT plans to address more systemic safety improvements with proven low-cost safety countermeasures. The plan is still under review. HDOT will evaluate the effectiveness of the countermeasures.

**Project Effectiveness**

Provide the following information for previously implemented projects that the State evaluated this reporting period.

LOCATION	FUNCTIONAL CLASS	IMPROVEMENT CATEGORY	IMPROVEMENT TYPE	PDO BEFORE	PDO AFTER	FATALITY BEFORE	FATALITY AFTER	SERIOUS INJURY BEFORE	SERIOUS INJURY AFTER	ALL OTHER INJURY BEFORE	ALL OTHER INJURY AFTER	TOTAL BEFORE	TOTAL AFTER	EVALUATION RESULTS (BENEFIT/COST RATIO)
Keaau-Paho Rd at Old Government Road	Urban Minor Arterial	Intersection geometry	Intersection geometry - other	16.00	5.00			5.00		19.00	3.00	40.00	8.00	

Describe any other aspects of HSIP effectiveness on which the State would like to elaborate.

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

## Compliance Assessment

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

11/20/2019

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

From: 2019 To: 2024

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

2025

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

\*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
ROADWAY SEGMENT	Segment Identifier (12) [12]	100	100					100	100		
	Route Number (8) [8]	100	100								
	Route/Street Name (9) [9]	100	100								
	Federal Aid/Route Type (21) [21]	100	100								
	Rural/Urban Designation (20) [20]	100	100					100	100		
	Surface Type (23) [24]	100	100					100	100		
	Begin Point Segment Descriptor (10) [10]	100	100					100	100		
	End Point Segment Descriptor (11) [11]	100	100					100	100		
	Segment Length (13) [13]	100	100								
	Direction of Inventory (18) [18]	100	100								
	Functional Class (19) [19]	100	100					100	100		
	Median Type (54) [55]	100	100								

2023 Hawaii Highway Safety Improvement Program

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Access Control (22) [23]	100	100								
	One/Two Way Operations (91) [93]	100	100								
	Number of Through Lanes (31) [32]	100	100					100	100		
	Average Annual Daily Traffic (79) [81]	100	100					100			
	AADT Year (80) [82]	100	100								
	Type of Governmental Ownership (4) [4]	100	100					100	100		
	<b>INTERSECTION</b>	Unique Junction Identifier (120) [110]									
	Location Identifier for Road 1 Crossing Point (122) [112]										
	Location Identifier for Road 2 Crossing Point (123) [113]										
	Intersection/Junction Geometry (126) [116]										
	Intersection/Junction Traffic Control (131) [131]										
	AADT for Each Intersecting Road (79) [81]										
	AADT Year (80) [82]										
	Unique Approach Identifier (139) [129]										
<b>INTERCHANGE/RAMP</b>	Unique Interchange Identifier (178) [168]					100	100				
	Location Identifier for Roadway at Beginning of Ramp Terminal (197) [187]					100	100				

2023 Hawaii Highway Safety Improvement Program

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Location Identifier for Roadway at Ending Ramp Terminal (201) [191]					100	100				
	Ramp Length (187) [177]					100	100				
	Roadway Type at Beginning of Ramp Terminal (195) [185]						100				
	Roadway Type at End Ramp Terminal (199) [189]						100				
	Interchange Type (182) [172]						100				
	Ramp AADT (191) [181]					100	100				
	Year of Ramp AADT (192) [182]					100	100				
	Functional Class (19) [19]					100	100				
	Type of Governmental Ownership (4) [4]					100	100				
<b>Totals (Average Percent Complete):</b>		<b>100.00</b>	<b>100.00</b>	<b>0.00</b>	<b>0.00</b>	<b>72.73</b>	<b>100.00</b>	<b>100.00</b>	<b>88.89</b>	<b>0.00</b>	<b>0.00</b>

\*Based on Functional Classification (MIRE 1.0 Element Number) [MIRE 2.0 Element Number]

**Describe actions the State will take moving forward to meet the requirement to have complete access to the MIRE fundamental data elements on all public roads by September 30, 2026.**

No actions at this time.  
We are working with the Planning Branch to address more MIRE elements.



## **Optional Attachments**

Program Structure:

HSIP report2015.pdf

Project Implementation:

Safety Performance:

Evaluation:

Compliance Assessment:

## Glossary

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

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

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

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

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

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

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

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

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

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

**Systematic:** refers to an approach where an agency deploys countermeasures at all locations across a system.

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

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