HAWAII

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2022 ANNUAL REPORT

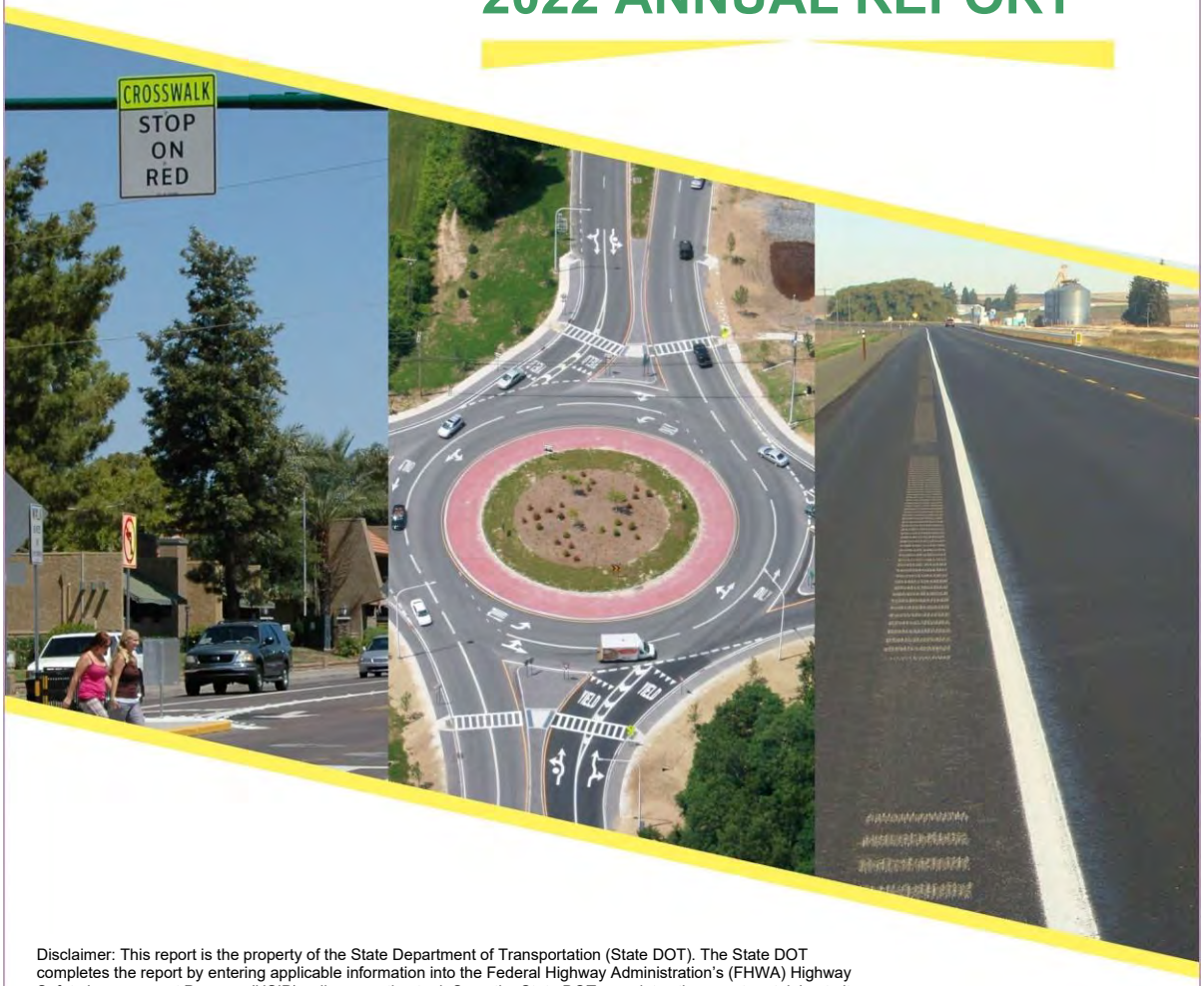

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Photo source: Federal Highway Administration

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Disclaimer

Protection of Data from Discovery Admission into Evidence

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

23 U.S.C. 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 2022 U.S.C. 148(g) Annual Highway Safety Improvement Program (HSIP) report.

The primary objective of HDOT's 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 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 has moved 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 the police. Field investigations of existing conditions are conducted to better understand deficiencies. Projects are selected to initiate 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

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.

HSIP funds for State roadway projects are divided among the 4 different counties.

All projects are submitted through the Traffic Safety Section.

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

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	Exposure	Roadway
• Fatal and serious injury crashes only	• Lane miles	• 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

What percentage of HSIP funds address systemic improvements?

94

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 will be 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. Completion of this implementation is expected this year.

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)	$12,232,710	$17,763,138	145.21%
HRRR Special Rule (23 U.S.C. 148(g)(1))	$0	$0	0%
Penalty Funds (23 U.S.C. 154)	$3,099,755	$3,099,755	100%
Penalty Funds (23 U.S.C. 164)	$3,099,755	$3,099,755	100%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	$1,225,000	$0	0%
Other Federal-aid Funds (i.e. STBG, NHPP)	$0	$0	0%
State and Local Funds	$0	$0	0%
Totals	$19,657,220	$23,962,648	121.9%

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%

HSIP funds are available to the local agencies for safety projects, as requested.

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

$1,921,848

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

$1,921,848

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

0%

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

0%

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	$0	$5907689	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 (including post) - new or updated		Signs	$0	$406302	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	All types of highway 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	$0	$913998	HSIP (23 U.S.C. 148)	Multiple/Varies	Minor Arterial	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 Rd and vicinity of Bruner Rd (P)	Roadway	Rumble strips – edge or shoulder	9.3	Miles	$0	$62667	HSIP (23 U.S.C. 148)	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 to MP 6.9	Roadway	Rumble strips – edge or shoulder	3	Miles	$0	$2962408	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,	Roadway	Rumble strips – edge or shoulder	7.8	Miles	$0	$188287	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,200	50	State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures

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
MP 17.9 to MP 20.8 and MP 21.3 to 26.2, vicinity of Puuanahulu (P)															to reduce lane departure crashes
HON - Installation of Enhanced pavement marking and new milled rumble strip at various locations	Roadway	Rumble strips – edge or shoulder		Miles	$0	$8771034	HSIP (23 U.S.C. 148)	Urban	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 vicinity of Wailea Ike Dr	Roadway	Rumble strips – edge or shoulder	7.1	Miles	$0	$815319	RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	Urban	Principal Arterial-Other	42,400	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 strips at various locations	Roadway	Rumble strips – edge or shoulder		Miles	$0	$41665	Penalty Funds (23 U.S.C. 154)	Multiple/Varies	Multiple/Varies	0		State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes
Kamehameha Hwy Safety Improvements, Waikane Rd to the vicinity of Kahekili Hwy	Roadway	Rumble strips – edge or shoulder	2.7	Miles	$0	$2972	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	16,500	35	State Highway Agency	Systemic	Lane Departure	Improve roadway infrastructure by installing countermeasures to reduce lane departure crashes
Maui Installation of enhanced pavement marking and new milled rumble strips	Roadway	Rumble strips – edge or shoulder		Miles	$0	$1651632	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
Farrington Hwy Resurfacing,	Roadway	Rumble strips – edge or shoulder	5.5	Miles	$0	$193355	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	1,900	45	State Highway Agency	Systemic	Roadway Departure	Improve roadway infrastructure by installing

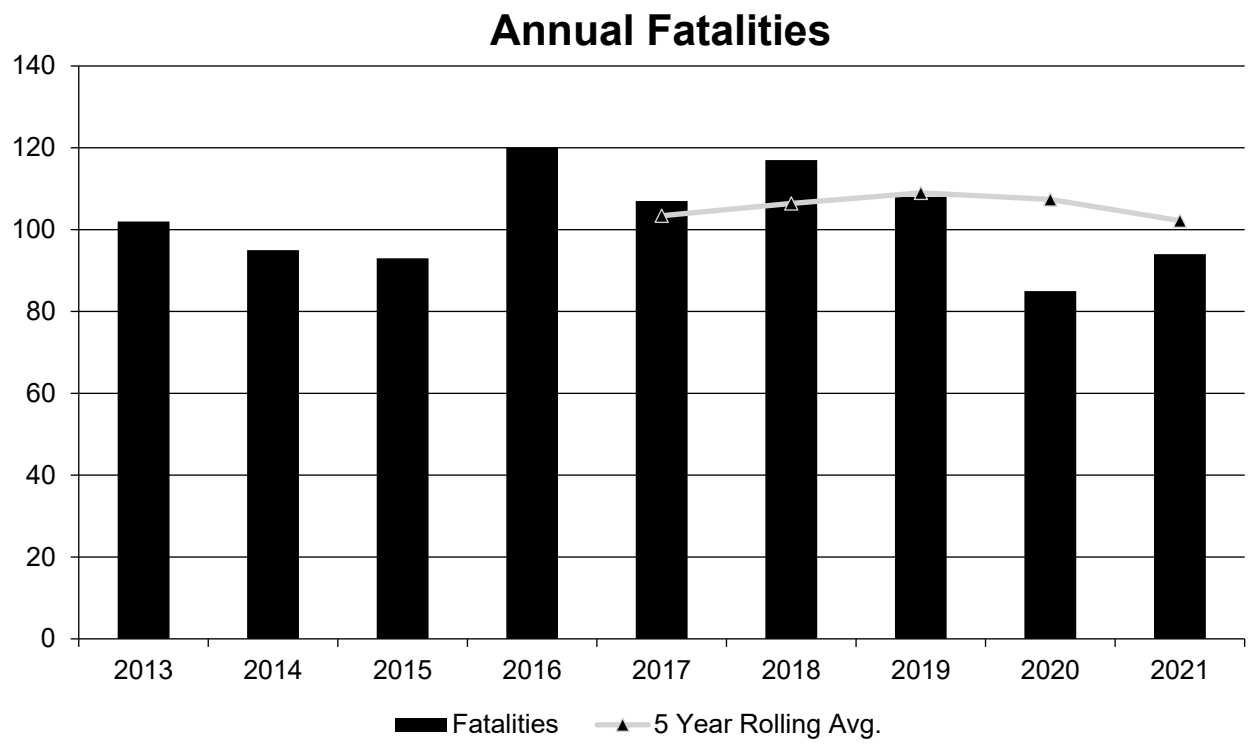
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
vicinity of Kili dr to Satellite Tracking Station Rd															countermeasures to reduce lane departure crashes
State of Hawaii Advanced Crash Analysis	Miscellaneous	Data analysis			$0	$759760	Penalty Funds (23 U.S.C. 164)	N/A	N/A	0		State Highway Agency		Data	Improve linkage and integration of data
State Planning and Research Program	Miscellaneous	Transportation safety planning			$0	$275426	Penalty Funds (23 U.S.C. 154)	Multiple/Varies	Multiple/Varies	0		State Highway Agency		Data	Improve linkage and integration of data

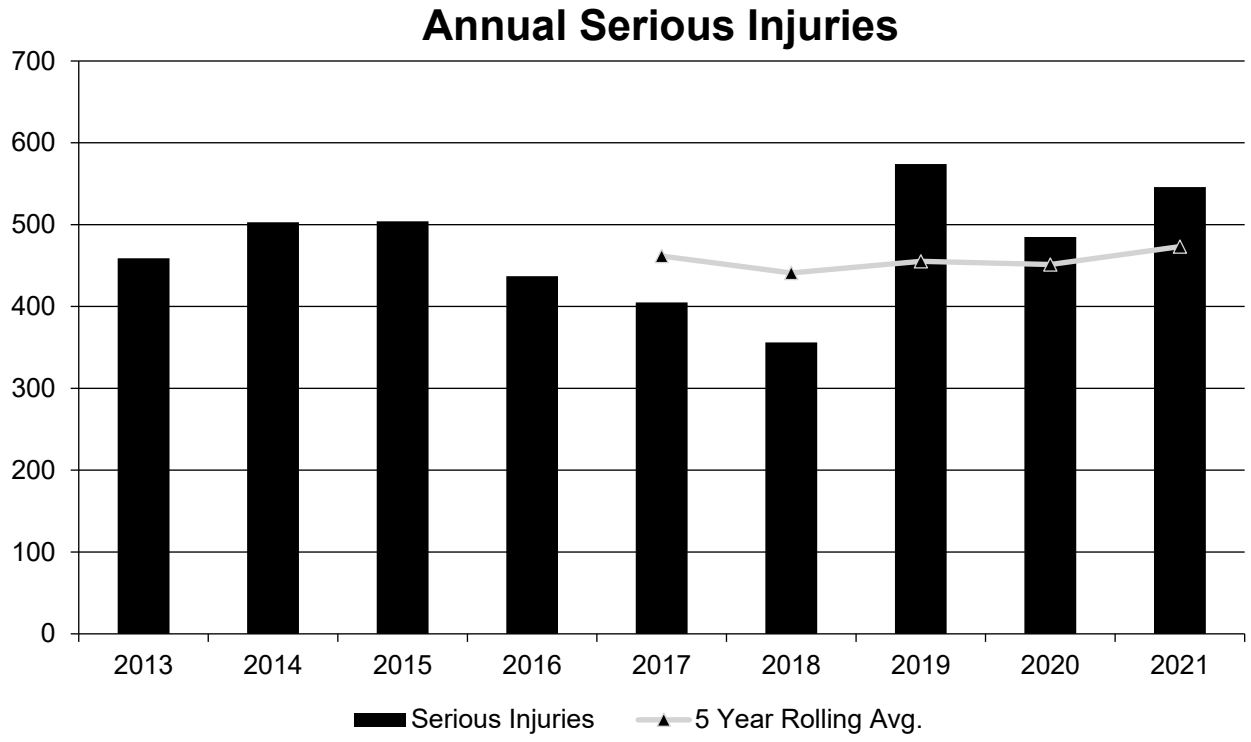
Safety Performance

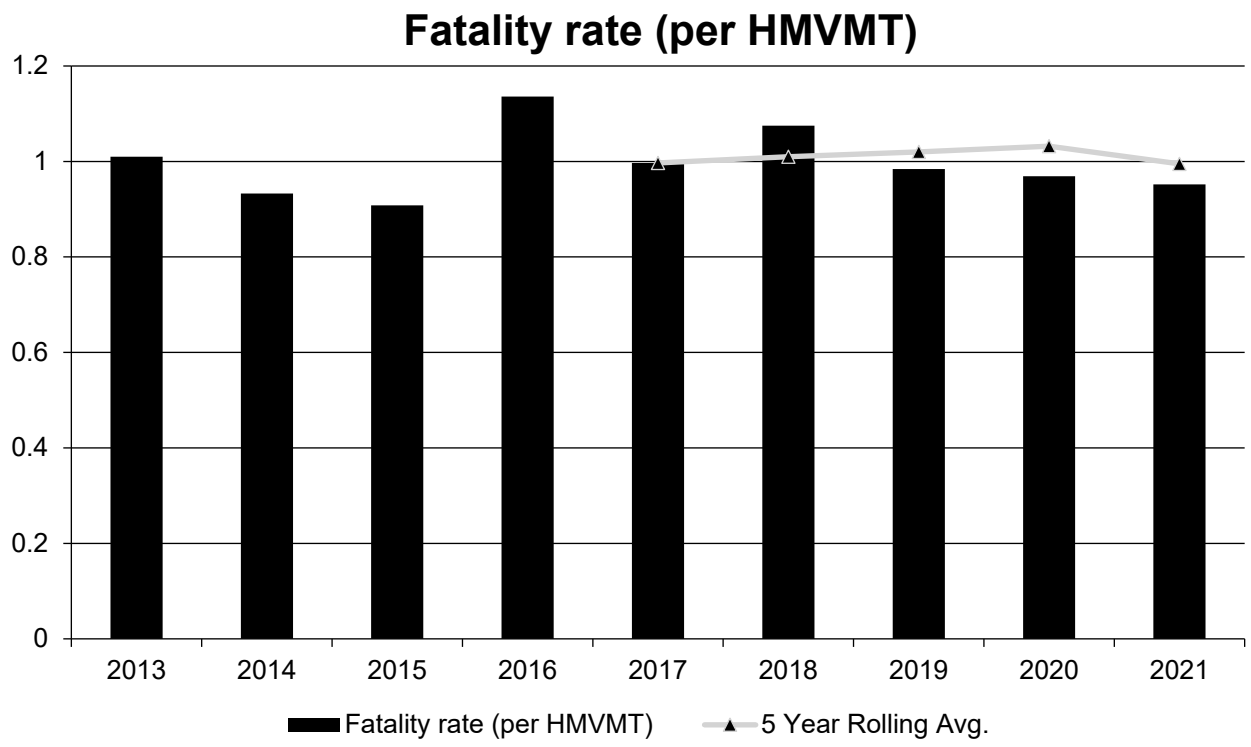
General Highway Safety Trends

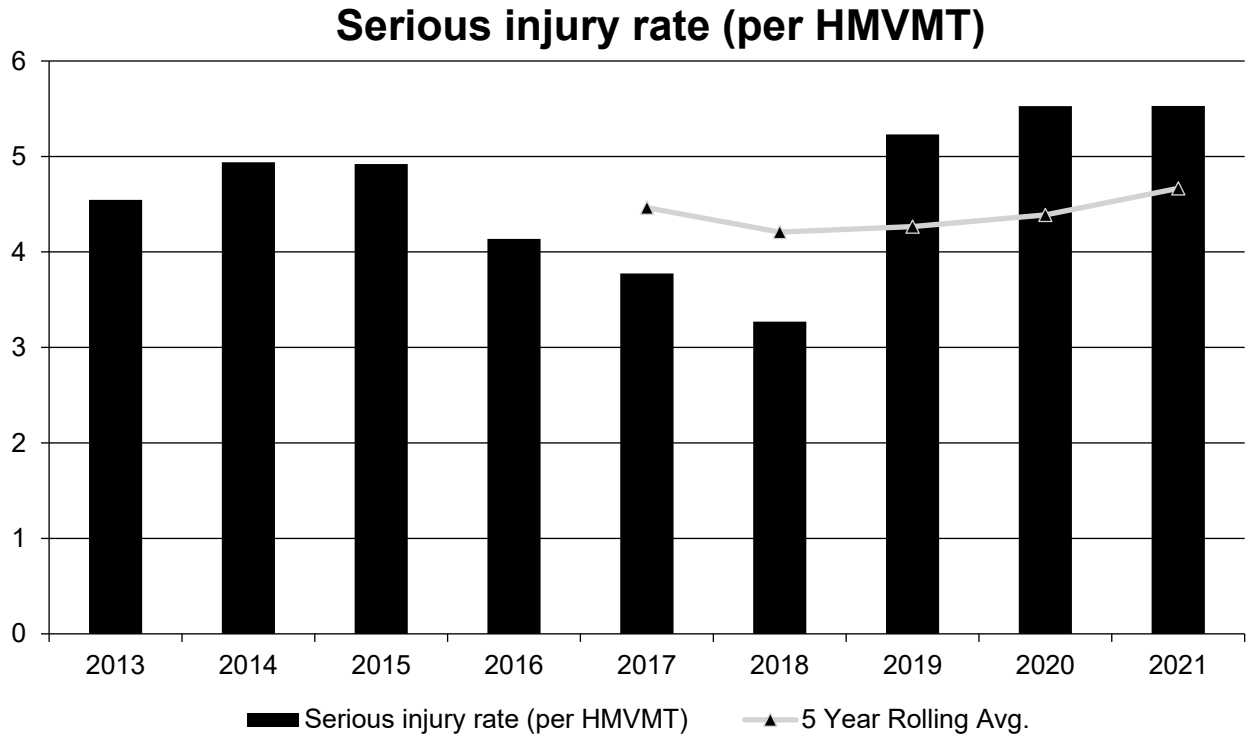
Present data showing the general highway safety trends in the State for the past five years.

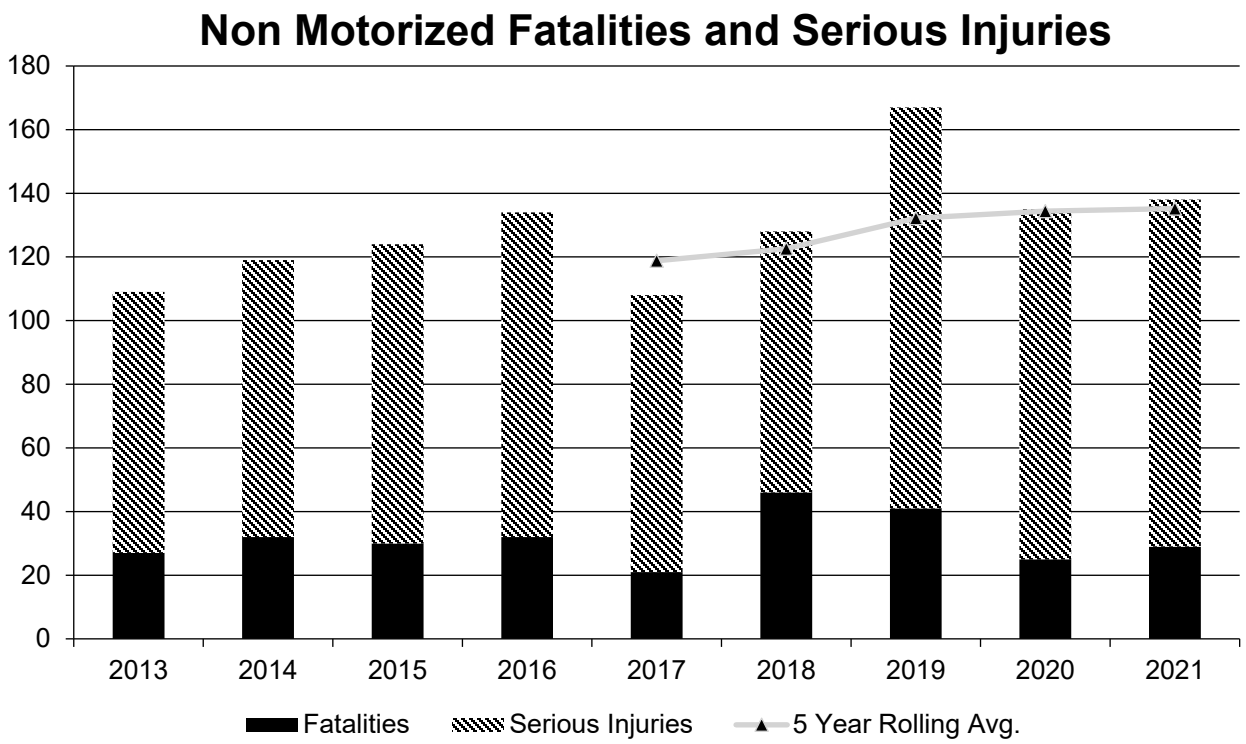
PERFORMANCE MEASURES	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fatalities	102	95	93	120	107	117	108	85	94
Serious Injuries	459	503	504	437	405	356	574	485	546
Fatality rate (per HMVMT)	1.010	0.933	0.908	1.136	0.997	1.075	0.984	0.969	0.952
Serious injury rate (per HMVMT)	4.545	4.940	4.921	4.137	3.774	3.270	5.230	5.528	5.529
Number non-motorized fatalities	27	32	30	32	21	46	41	25	29
Number of non-motorized serious injuries	82	87	94	102	87	82	126	110	109


Annual Fatalities
140
120
100
80
60
40
20
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
700
600
500
400
300
200
100
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1.2
1
0.8
0.6
0.4
0.2
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
6
5
4
3
2
1
0
2013
2014
2015
2016
2017
2018
2019
2020
2021
Serious injury rate (per HMVMT)
5 Year Rolling Avg.



Describe fatality data source.

FARS

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

Year 2021

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				
Rural Principal Arterial (RPA) - Other Freeways and Expressways				
Rural Principal Arterial (RPA) - Other	3.8	19.2	0.04	0.19
Rural Minor Arterial	9.4	23	0.09	0.23
Rural Minor Collector	1.8	0.2	0.02	0
Rural Major Collector	2.2	6.6	0.02	0.07

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 Local Road or Street	3.4	0.4	0.03	0
Urban Principal Arterial (UPA) - Interstate	7.2	40	0.07	0.4
Urban Principal Arterial (UPA) - Other Freeways and Expressways	4.4	13.2	0.04	0.13
Urban Principal Arterial (UPA) - Other	23.8	112.4	0.27	1.11
Urban Minor Arterial	15.6	29.2	0.15	0.29
Urban Minor Collector	3.2	1.8	0.03	0.02
Urban Major Collector	13.4	7.6	0.13	0.07
Urban Local Road or Street	9.8	2.8	0.09	0.03

Year 2021

Roadways	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)
State Highway Agency	64.4	214.6	0.63	2.09
County Highway Agency	37.6	230.6	0.37	2.28
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				
State Toll Authority				
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				

Provide additional discussion related to general highway safety trends.

We are currently addressing the accuracy of our data. We are working with our vendor to address quality control of the backlog that was entered and the new data coming in. Data for next year's report should reflect more accurate data as the development of the database is currently underway.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2023 Targets *

Number of Fatalities:103.0

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 2017-2021 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:506.0

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 2011-2021 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 newly revised Motor Vehicle Accident Report (MVAR) is also expected to impact the number of serious traffic injuries because of the change in terminology from "incapacitating injury" to "suspected serious injury" and a potential 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:1.057

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 2017-2021 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:5.032

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 2011-2021 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 newly revised Motor Vehicle Accident Report (MVAR) is also expected to impact the number of serious

traffic injuries because of the change in terminology from "incapacitating injury" to "suspected serious injury" and a potential increase in crash reporting.

Total Number of Non-Motorized Fatalities and Serious Injuries:142.4

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 2017-2021 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 newly revised Motor Vehicle Accident Report (MVAR) is also expected to impact the number of serious traffic injuries because of the change in terminology from "incapacitating injury" to "suspected serious injury" and a potential 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) 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 2021 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	103.0	102.2
Number of Serious Injuries	427.0	473.2
Fatality Rate	0.968	0.995
Serious Injury Rate	3.912	4.666
Non-Motorized Fatalities and Serious Injuries	136.8	135.2

Although fatalities and serious injuries were lower than pre pandemic numbers, it was not enough to meet our optimistic goals. Since Hawaii DOT has not met our targets last year, an HSIP Implementation Plan was developed for the second 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 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.

PERFORMANCE MEASURES	2015	2016	2017	2018	2019	2020	2021
Number of Older Driver and Pedestrian Fatalities	13	20	17	24	18	13	16
Number of Older Driver and Pedestrian Serious Injuries	34	43	34	44	48	25	44

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

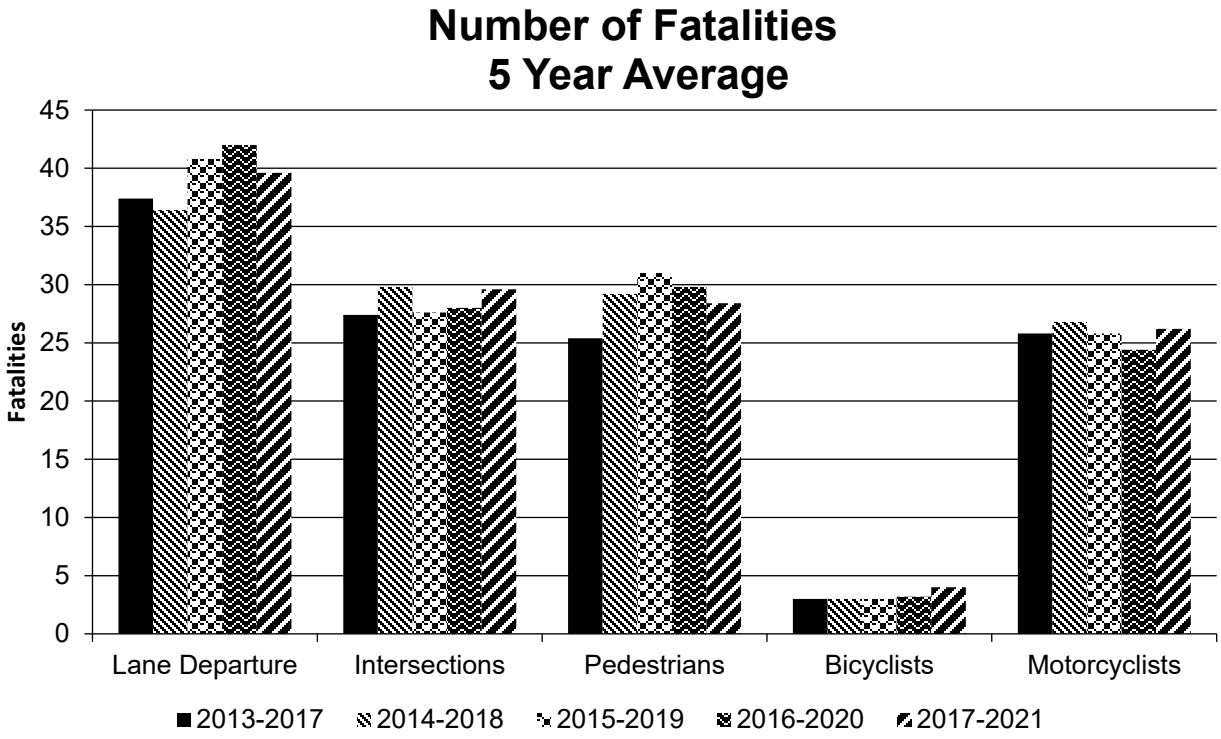
We need to continuously track the completion of HSIP projects to make sure there are no lapsing funds.

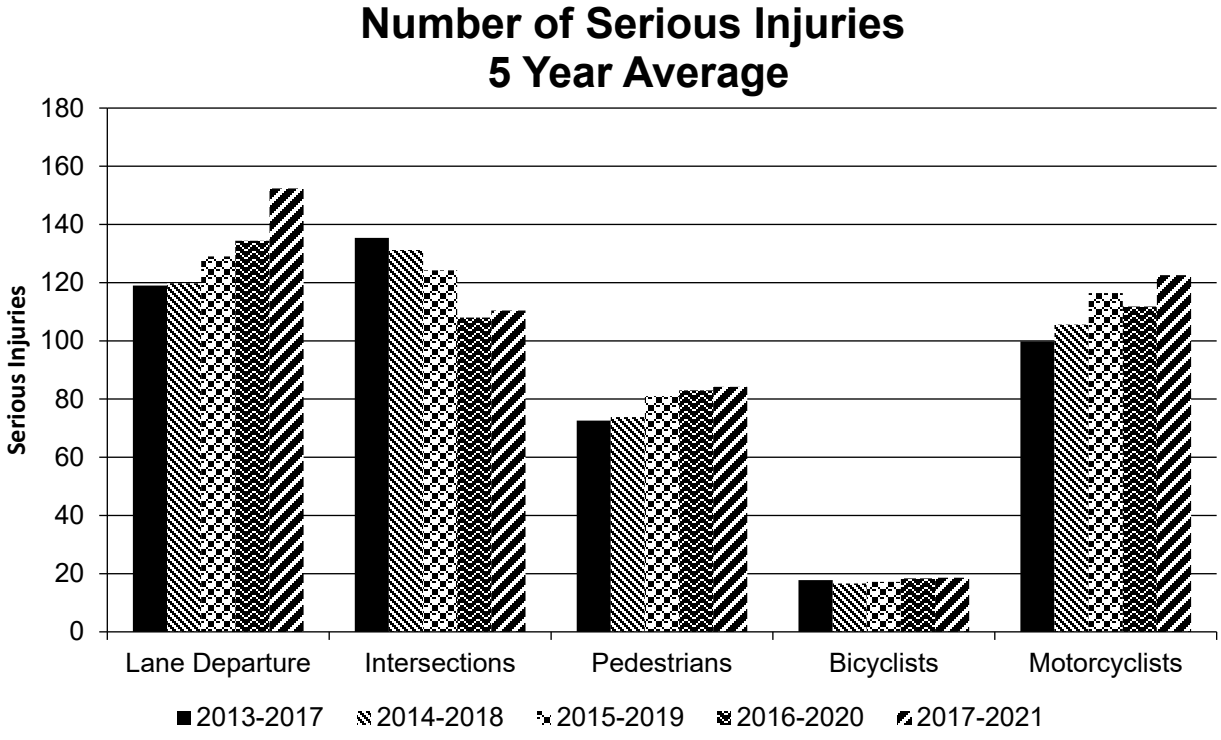
Effectiveness of Groupings or Similar Types of Improvements

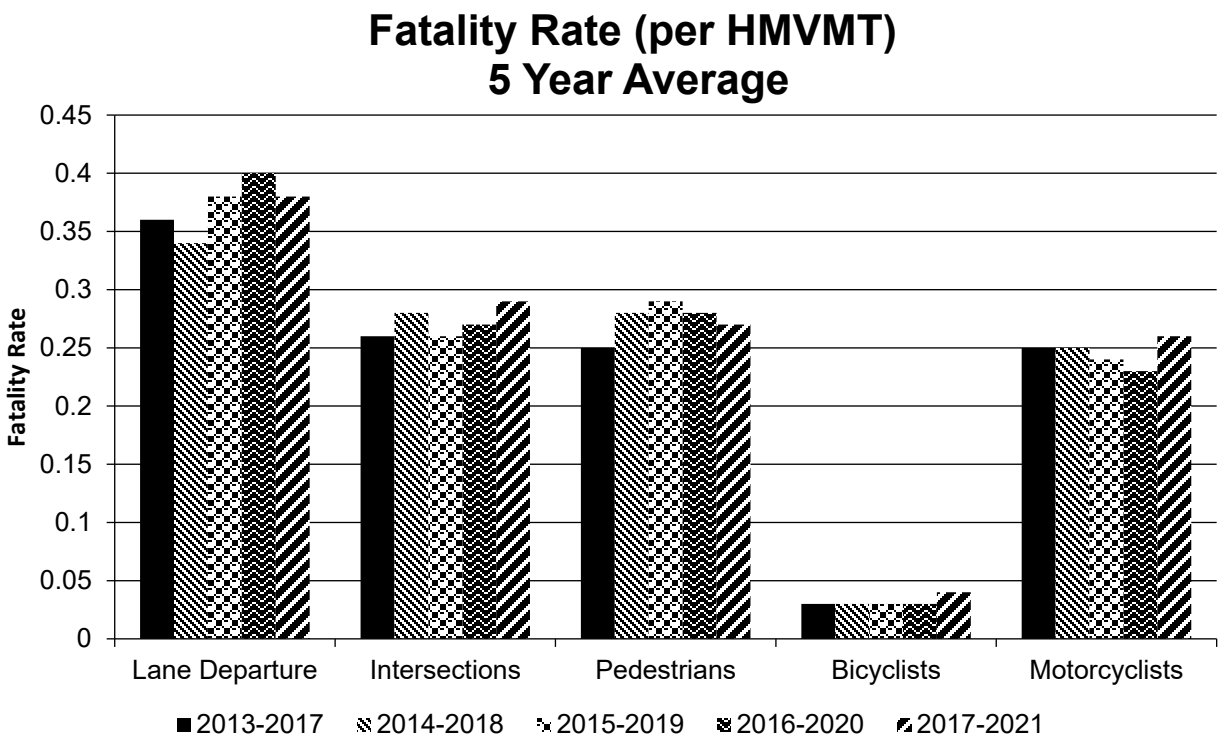
Present and describe trends in SHSP emphasis area performance measures.

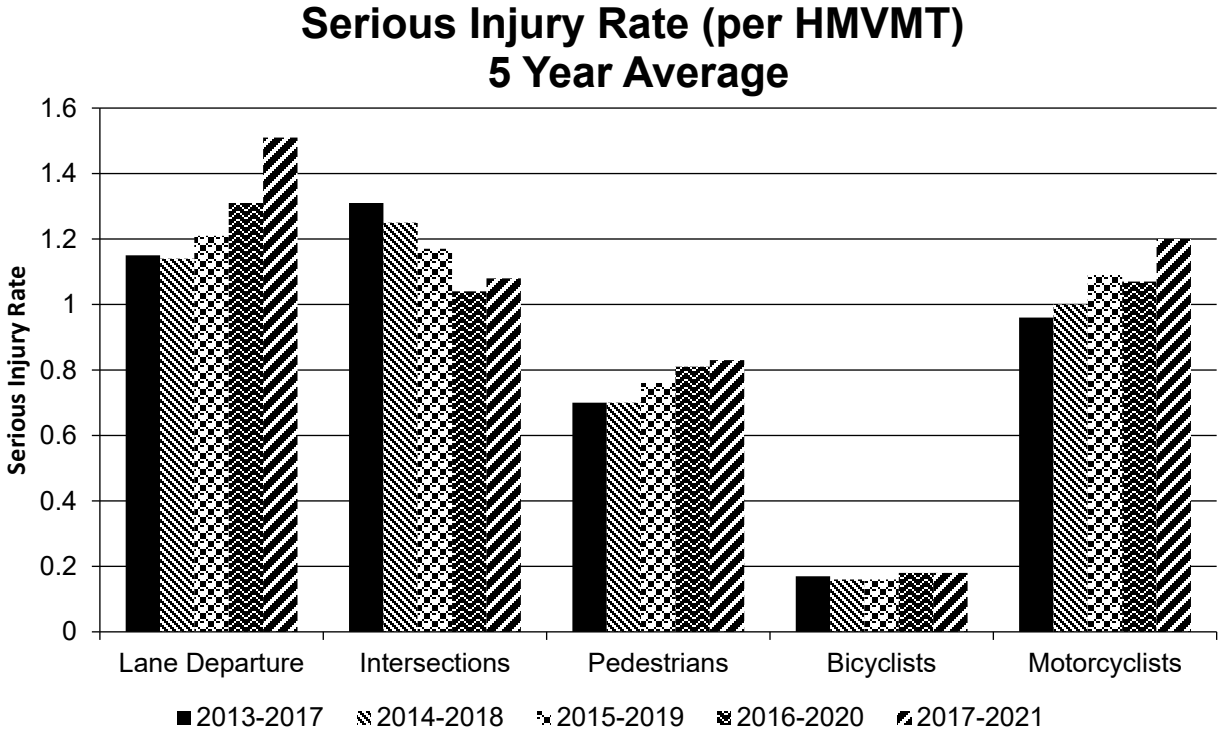
Year 2021

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	Run-off-road	39.6	152.4	0.38	1.51
Intersections	Intersections	29.6	110.4	0.29	1.08
Pedestrians	Vehicle/pedestrian	28.4	84.2	0.27	0.83
Bicyclists	Vehicle/bicycle	4	18.6	0.04	0.18
Motorcyclists	Other (define)	26.2	122.6	0.26	1.2


Number of Fatalities
5 Year Average
Fatalities
45
40
35
30
25
20
15
10
5
0
Lane Departure
Intersections
Pedestrians
Bicyclists
Motorcyclists
2013-2017
2014-2018
2015-2019
2016-2020
2017-2021


Number of Serious Injuries
5 Year Average
Serious Injuries
180
160
140
120
100
80
60
40
20
0
Lane Departure
Intersections
Pedestrians
Bicyclists
Motorcyclists
2013-2017
2014-2018
2015-2019
2016-2020
2017-2021





Lane Departure - Run off road and cross centerline

Motorcyclists - Motorcycles, mopeds, and motorscooters

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

No

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.

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								

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		
INTERSECTION	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]										
INTERCHANGE/RAMP	Unique Interchange Identifier (178) [168]					100	100				
	Location Identifier for Roadway at Beginning of Ramp Terminal (197) [187]					100	100				

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				
Totals (Average Percent Complete):		**100.00**	**100.00**	**0.00**	**0.00**	**72.73**	**100.00**	**100.00**	**88.89**	**0.00**	**0.00**

*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.