# **KENTUCKY**

# HIGHWAY SAFETY IMPROVEMENT PROGRAM

**2022 ANNUAL REPORT** 



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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**

Kentucky's HSIP funds are administered by staff within the Division of Traffic Operations in KYTC's Central Office. Each Highway District has an HSIP Coordinator that acts as a liaison between, and works closely with, Central Office HSIP staff and District staff to organize project team meetings, deliver required project documentation, and conduct a field investigation and/or Road Safety Audit (RSA) on potential improvement locations. The RSA teams are multi-disciplinary and represent the following highway functions: planning, highway design, traffic operations, maintenance, and construction. The Cabinet also encourages members from local Area Development Districts (ADDs) and local law enforcement agencies to participate in the process.

The HSIP supports Kentucky's Strategic Highway Safety Plan (SHSP) and its vision of Toward Zero Deaths. The mission of Kentucky's SHSP is, "to enhance the lives of those who use Kentucky's transportation system by preventing crashes that result in deaths and serious injuries." In conformance with program guidelines, the HSIP seeks to adhere to the SHSP through a data-driven approach for funding safety improvements.

The methodology used by the Transportation Cabinet to prioritize and select projects during the time period of this report has been threefold: network screening using SPFs with EB adjustment, systemic analysis, and cost effectiveness analysis (e.g. benefit-cost).

The SPFs used for network screening by Kentucky's HSIP are state-specific SPFs, updated annually, and developed using Kentucky's roadway data, traffic volume data, and most recent 5 years of crash data. Further, for each facility type analyzed, multiple state-specific SPFs are developed; one SPF for each of the following crash severities: KA, B, C, and O. The result of this tailored network screening approach produces severity-specific Excess Expected Crash (EEC) values for KA, B, C, and O crashes, for each segment and/or each intersection in the analysis. The severity-specific EEC values for each segment and intersection are multiplied by average crash costs for KA, B, C, and O crashes and then summed to determine a value Kentucky calls the Cost of Excess Expected Crashes. This value represents the comprehensive economic impact of the excessive crashes occurring at each segment or intersection.

The systemic analysis method could be characterized as the reverse of the traditional approach in that low-cost, effective countermeasures are first identified and then the crash database is queried to prioritize highway sections that have targeted crashes at or above a crash threshold that would ensure cost-effective deployment of these countermeasures.

The cost effectiveness method is typically used to justify projects that may not have been identified via network screening or systemic analysis, but are locations that have been identified by District staff or local representatives as having safety improvement opportunities. If the projects are shown to be cost effective, then those projects are considered along with the projects identified via network screening and systemic analysis. Further, cost effectiveness analyses are used during project development to aid in decision-making when multiple improvements appear to be viable options for the identified safety challenges.

It is also noteworthy that Kentucky occasionally combines elements of the systemic approach into Kentucky's network screening process. For example, through systemic analysis it has been found that roadway departure fatalities in Kentucky are most likely to occur on facilities classified as Rural, 2-Lane Undivided, with a speed limit of 50 mph or greater. As such, Kentucky's HSIP has developed state specific SPFs that only incorporate and analyze roadway departure crashes occurring on facilities classified as Rural, 2-Lane Undivided, with a speed limit of 50 mph or greater. This allows Kentucky to focus on the portion of the network most at risk, but also prioritize sites using state of the art SPFs with EB adjustment.

Effectiveness evaluations were performed and benefit/costs were calculated, with results presented for the following 5 types of systemic improvements:

#### ROAD DEPARTURE CORRIDORS

Wilcoxon Signed-Rank Test for "before and after shift in proportions of cross-median or impacted object in median crashes" – significant reduction at 90% confidence level.

Empirical Bayes analysis of "before and after cross-median crashes" was not performed on road departure corridor crashes because the necessary safety performance function was not available.

Benefit/Cost analysis results using observed crashes; 5.4:1 based on Comprehensive Cost of motor vehicle collisions (National Safety Council).

#### HIGH-FRICTION SURFACE TREATMENTS

Wilcoxon Signed-Rank Test for "before and after shift in proportions of wet-weather lane departure crashes" – no significant difference.

Benefit/Cost analysis results using expected crashes from empirical Bayes analysis; 6.78:1 based on Comprehensive Cost of motor vehicle collisions (National Safety Council).

#### SHOULDER WIDENING

Wilcoxon Signed-Rank Test for "before and after shift in proportions of road departure crashes" – no significant difference.

Benefit/Cost analysis results using observed crashes; 2.49:1 based on Comprehensive Cost of motor vehicle collisions (National Safety Council).

#### **CABLE MEDIAN BARRIERS**

Benefit/Cost analysis results using observed crashes; <1:1 based on Comprehensive Cost of motor vehicle collisions (National Safety Council).

While the Benefit/Cost analysis resulted in less than 1:1, Kentucky continues to support the implementation of this countermeasure as a Safe Systems approach.

#### **GUARDRAIL**

Benefit/Cost analysis results using observed crashes; <1:1 based on Comprehensive Cost of motor vehicle collisions (National Safety Council).

#### 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.

Kentucky's HSIP funds are administered by the Division of Traffic Operations in KYTC's Central Office. Projects are prioritized and selected through network screening utilizing crash analysis performed by the Kentucky Transportation Center (KTC) at the University of Kentucky and/or risk assessment utilizing Road Safety Audits (RSAs) performed by District personnel. Each of the twelve Highway District has an HSIP Coordinator that works closely with Central Office and District Personnel. The HSIP Coordinator acts as a liaison between, and works closely with, Central Office HSIP staff and District staff to organize project team meetings, deliver required project documentation, and conduct a field investigation and/or a Road Safety Audit (RSA) on potential improvement locations. Project Development is achieved either in conjunction with in-house staff at the District level or by engineering consultants who have been selected for their knowledge, skills, and abilities in developing HSIP projects. HSIP projects are let through the Division of Construction Procurement; implementation and inspection of projects occurs through the District Construction staff. Evaluation is performed through a formal partnership with KTC.

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

Operations

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

SHSP Emphasis Area Data

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

The Commonwealth of Kentucky does not have tribal roads. The Safety Circuit Rider program continues to function as the primary means of identifying and implementing projects on local roads through the HSIP. The focus of this program is to provide technical assistance to improve safety on local roads and streets. While the free technical advice offered by the Safety Circuit Rider is available to every community across the Commonwealth, the program selects six counties with high crash rates on an annual cycle for focused training covering low-cost safety improvements. The 2021 selected counties are Adair, Bullitt, Campbell, Carter, Marshall, and Simpson. Typical improvements in these counties were clearing and correcting water runoff and drainage, repairing shoulder drop off and width, removing fixed objects such as trees and stumps, and clearing vegetation around signs and intersections. Additionally, each county is provided with funds for signing. Aside from these targeted counties, the Safety Circuit Rider Program provides a one-day training course designed to provide communities with practical and effective ways to mainstream safety into their day-to-day activities and project development process. This course is offered for free at selected areas throughout Kentucky.

Please note that the Road Departure and High Friction Surface Treatment screenings include Minor Collectors and above for local roads. Furthermore, the Intersection database used for screening for the Intersection initiative includes all intersections in the state, including Local Road/Local Road intersections. If any local road screens high enough to be considered for a project the HSIP and LTAP work with local governments to implement projects.

In late 2018, the HSIP began a partnership with the Louisville Metro Government to create a Road Safety Plan. This effort evolved into a Vision Zero Plan that was published in April of 2021. Several projects identified in the Vision Zero Plan are currently under development and are expected to be under construction soon. Additionally, the HSIP is currently engaged in developing a Road Safety Plan for the city of Lexington and is exploring the implementation of advanced ITS technology.

Kentucky's HSIP staff is nearly finished with the development of three pilot Local Road Safety Plans (LRSPs). The next steps are to finalize the application process and begin developing the plans, specifications, and estimates necessary to move selected projects into the construction phase. The Kentucky LTAP is leading the development of the LRSPs, the application process, and project development. The LRSPs and the projects from the LRSPs are focused on rural, locally owned roadways, with an emphasis on systemic low-cost safety countermeasures. In August of 2022, the Kentucky LTAP hosted a LRSP Peer Exchange, that included agency representatives from nine counties and four cities. The two-day peer exchange included presentations by representatives from the FHWA and Kentucky Office of Highway Safety, testimonials by representatives from two of the three pilot LRSP counties, instructions on how to develop an LRSP, demonstrations on self-help resources provided by the Kentucky LTAP for developing an LRSP, and discussions on the resources available for providing funding for the project identified by LRSPs. The Kentucky LTAP will build on the success of these initial LRSP efforts and plans to host additional LRSP Peer Exchanges in the future. An important next step for local road safety in Kentucky will be the selection and implementation of projects identified in LRSPs. Kentucky's HSIP anticipates that projects will be ready for construction in fiscal year 2024, with a chance for a few projects being ready for construction by late fiscal year 2023. The goal of Kentucky's HSIP is to grow the program quickly and begin dedicating a minimum of \$1.8 million in funding toward implementation of projects identified through LRSPs.

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

- Design
- Districts/Regions
- Governors Highway Safety Office
- Local Aid Programs Office/Division
- Maintenance
- Operations
- Planning
- Traffic Engineering/Safety

### Describe coordination with internal partners.

Kentucky's HSIP funds are administered by staff within the Division of Traffic Operations in KYTC's Central Office. The planning and project development processes involve collaboration with internal partners in the Divisions of Planning, Design, Traffic Operations, and Maintenance, as warranted by subject matter. The implementation process is performed in collaboration with the Divisions of Construction Procurement and Construction. Open communication is maintained with all internal partners to develop collaborative solutions on all HSIP endeavors. As an example of this open communication, HSIP staff coordinates closely with the Division of Maintenance to look for opportunities to bundle HSIP funded improvement projects with Maintenance funded resurfacing projects. Additionally, the HSIP has begin partnering with the Division of

Maintenance, Materials, and Highway Design concerning the collection, analysis, and utilization of continuous pavement friction data, one of the new proven safety countermeasures.

HSIP projects are selected and prioritized based on their correlation with Kentucky's SHSP. Kentucky published a new SHSP in early 2020. There are presently 6 emphasis areas within the SHSP and efforts are made to implement projects consistent with the goals and objectives of the SHSP. The Kentucky Transportation Cabinet has established taskforce teams for each emphasis area and the HSIP will be active participants on each team.

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

- Academia/University
- FHWA
- Law Enforcement Agency
- Local Government Agency
- Local Technical Assistance Program
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
- Other-Kentucky Transportation Center

#### Describe coordination with external partners.

KTC is housed within the University of Kentucky and assists in the performance of data analytics and evaluation efforts for Kentucky's HSIP. The HSIP has also partnered with the University of Louisville on collecting near-miss crash data through radar and with Western Kentucky University to investigate safety improvement opportunities in relation to CMV.

FHWA-KY Division Office representatives collaborates with the administration of Kentucky's HSIP.

Metropolitan Planning Organizations (MPOs) provide feedback during project identification and modify their Transportation Improvement Plans (TIPs) when applicable.

The University of Kentucky's Local Technical Assistance Program (LTAP) assists in administering the Safety Circuit Rider Program, as well as performing the safety analysis for prioritizing the six targeted counties subject to the Safety Circuit Rider Program and performing the subsequent RSAs. In addition, KTC & LTAP both provide training resources and programs for the Cabinet through the HSIP. Lastly, the LRSP initiative being led by LTAP was completed in early 2022 and will produce safety plans for the three pilot counties of Boone, Boyle, and Crittenden. An important goal of the pilot is to develop the framework so additional LRSPs can be developed for many more counties in the upcoming years.

Additionally, the HSIP, in partnering with local government agencies for the development of LRSPs, has the goal of dedicating a minimum of \$1.8 million in funding toward the implementation of projects identified through those plans.

### Program Methodology

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

Yes

Kentucky has completed a 2022 update to the HSIP Investment Plan.

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

- Intersection
- Local Safety
- Median Barrier
- Roadway Departure
- Sign Replacement And Improvement
- Skid Hazard

### **Program: Intersection**

Date of Program Methodology:3/27/2017

What is the justification for this program?

· Addresses SHSP priority or emphasis area

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

Funding set-aside

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

Crashes Exposure Roadway

- All crashes
- Fatal and serious injury crashes only
- Traffic
- Volume

Functional classification

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

- · Excess expected crash frequency using SPFs
- Excess expected crash frequency with the EB adjustment

# 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?
Yes

How are projects under this program advanced for implementation?

Other-Prioritized list

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**

Available funding:2

Ranking based on net benefit:1

### **Program: Local Safety**

#### Date of Program Methodology:6/30/2022

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

· Addresses SHSP priority or emphasis area

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

Funding set-aside

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

Crashes Exposure Roadway

- All crashes
- Fatal crashes only
- Fatal and serious injury crashes only
- Traffic
- Volume

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

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

- Crash frequency
- Crash rate
- Equivalent property damage only (EPDO Crash frequency)
- Excess expected crash frequency with the EB adjustment
- Excess proportions of specific crash types
- Probability of specific crash types

# 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?

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

Development of Local Safety Plans to empower local government agencies

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

- Competitive application process
- Other-Individual development

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**

Cost Effectiveness:1
Other-Individual development:2

**Program: Median Barrier** 

Date of Program Methodology:3/27/2017

What is the justification for this program?

· Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Funding set-aside

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

Crashes Exposure Roadway

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

- Median width
- Functional classification
- Roadside features

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

- Excess expected crash frequency using SPFs
- Excess expected crash frequency with the EB adjustment

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

No

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

How are projects under this program advanced for implementation?

selection committee

Select the processes used to prioritize projects for implementation. For the methods selected, indicate the relative importance of each process in project prioritization. Enter either the weights or numerical rankings. If weights are entered, the sum must

equal 100. If ranks are entered, indicate ties by giving both processes the same rank and skip the next highest rank (as an example: 1, 2, 2, 4).

#### **Rank of Priority Consideration**

Available funding:2
Ranking based on net benefit:1

#### **Program: Roadway Departure**

Date of Program Methodology:3/27/2017

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

· Addresses SHSP priority or emphasis area

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

Funding set-aside

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

Crashes Exposure Roadway

- All crashes
  - Fatal and serious injury crashes Volume only

Functional classification

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

- Excess expected crash frequency using SPFs
- Excess expected crash frequency with the EB adjustment

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

No

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

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

Other-Prioritized list

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**

Available funding:2
Ranking based on net benefit:1

**Program: Sign Replacement And Improvement** 

Date of Program Methodology:3/27/2017

What is the justification for this program?

· Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes Exposure Roadway

All crashesVolume

- Horizontal curvature
  - Functional classification

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

- Crash frequency
- · Excess proportions of specific crash types
- Probability of specific crash types

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?

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

Sign Replacement and Improvement on locally owned roads are handled through the Safety Circuit Rider Program

How are projects under this program advanced for implementation?

Other-Prioritized list

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**

Available funding:2 Ranking based on net benefit:1

**Program: Skid Hazard** 

Date of Program Methodology:3/27/2017

What is the justification for this program?

Addresses SHSP priority or emphasis area

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

Funding set-aside

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

Crashes **Exposure** Roadway

- All crashes
- Fatal and serious injury crashes Volume only

- Horizontal curvature
- Functional classification

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

- Excess expected crash frequency using SPFs
- Excess expected crash frequency with the EB adjustment

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

No

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

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

Other-Prioritized list based on EB

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**

Available funding:2 Ranking based on net benefit:1

# What percentage of HSIP funds address systemic improvements?

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

- Add/Upgrade/Modify/Remove Traffic Signal
- Cable Median Barriers
- Clear Zone Improvements
- Horizontal curve signs
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- Upgrade Guard Rails

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

- Crash data analysis
- Data-driven safety analysis tools (HSM, CMF Clearinghouse, SafetyAnalyst, usRAP)
- Engineering Study
- Road Safety Assessment
- SHSP/Local road safety plan
- Stakeholder input

The HSIP does not utilize the SafetyAnalyst tool.

The HSIP recently developed a Vision Zero Plan for the Louisville Metro area. The plan includes all roads, except for interstates, in Jefferson County. The process that the plan utilizes includes data-driven safety tools and other methods used for countermeasure identification at the State level.

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

#### Describe how the State HSIP considers connected vehicles and ITS technologies.

The KYTC HSIP is exploring the potential benefits of connected vehicles and ITS technologies in regards to the goals of the SHSP. Although the HSIP has not dedicated funding directly to this area, the HSIP has representation on the internal workgroup on connected & autonomous vehicles (CAV.) The HSIP is also exploring partnership between local governments and V2X vendors.

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

#### Please describe how the State uses the HSM to support HSIP efforts.

KYTC HSIP has worked with the Kentucky Transportation Center to improve the data analytics process utilizing the procedures and information found in the HSM. Specifically, KTC incorporates network screening techniques from Section B of the HSM and develops state-specific Safety Performance Functions (SPFs) to

identify locations most likely to see a safety benefit. In addition, HSM Part C methods are used for evaluation and benefit-cost analysis of safety improvements.

# Describe program methodology practices that have changed since the last reporting period.

The network screening for the Road Departure Emphasis Area previously occurred at the statewide level and has changed to an assessment at the District level. In the former, the screening method employed SPFs with EB adjustment only, whereas the latter assessment method employs both SPFs with EB adjustment and Systemic Analysis. Furthermore, the HSIP is adapting to include the scope of potential projects earlier in the process.

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

Kentucky's HSIP has increased efforts towards identifying and developing Innovative Intersection projects, such as Mini-Roundabouts and Restricted Crossing U-Turn (RCUT) intersections. Twenty-one RCUTs have been constructed, four are currently under construction, and six are currently in the project development process. Three Mini-Roundabouts have been constructed, three is under construction, and nine are in the project development process. Furthermore, HSIP is working in conjunction with KTC to develop a screening process for identifying potential locations for RCUTs and Mini-Roundabouts.

# **Project Implementation**

# **Funds Programmed**

#### Reporting period for HSIP funding.

State 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)	\$52,277,904	\$42,076,143	80.49%
HRRR Special Rule (23 U.S.C. 148(g)(1))	\$0	\$0	0%
Penalty Funds (23 U.S.C. 154)	\$0	\$0	0%
Penalty Funds (23 U.S.C. 164)	\$0	\$0	0%
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%
Totals	\$52,277,904	\$42,076,143	80.49%

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

\$660,152

How much funding is obligated to local or tribal safety projects? \$660,152

**How much funding is programmed to non-infrastructure safety projects?** \$1,845,378

How much funding is obligated to non-infrastructure safety projects? \$1,845,378

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?  $\,\,$   $\,$   $\,$   $\,$   $\,$ 

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

There are no current impediments to obligating HSIP funds.

Describe any other aspects of the State's progress in implementing HSIP projects on which the State would like to elaborate.

In previous HSIP Annual Reports it was noted there was surplus of HSIP funds that had not been obligated. Through aggressive implementation of the HSIP Investment Plan the program has progressed toward full annual obligation of HSIP funds over the reporting period. Furthermore, the HSIP has developed a backlog of construction-ready projects for when additional funding becomes available.

# General Listing of Projects

# List the projects obligated using HSIP funds for the reporting period.

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	оитритѕ	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
4181030	Access management	Access management - other	0.933999999999999	Miles	\$390507	\$390507	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	27,226	45	State Highway Agency	Systemic	Intersections	
9010285	Alignment	Horizontal curve realignment	0.25	Miles	\$503630	\$503630	HSIP (23 U.S.C. 148)	Rural	Major Collector	940	55	State Highway Agency	Systemic	Roadway Departure	
9010342	Alignment	Horizontal and vertical alignment	1.62	Miles	\$736774	\$736774	HSIP (23 U.S.C. 148)	Rural	Minor Collector	1,307	55	State Highway Agency	Systemic	Roadway Departure	
8725013	Interchange design	Interchange improvements	0.09	Miles	\$330491	\$330491	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Interstate	52,179	45	State Highway Agency	Systemic	Intersections	
8774010	Interchange design	Interchange improvements	0.12	Miles	\$535190	\$535190	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Interstate	23,353	35	State Highway Agency	Systemic	Intersections	
0151088	Intersection geometry	Intersection realignment	0.30000000000001	Miles	\$222338	\$222338	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	4,380	55	State Highway Agency	Systemic	Intersections	
0151089	Intersection geometry	Intersection geometry - other	0.199999999999999	Miles	\$366307	\$366307	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	7,094	55	State Highway Agency	Systemic	Intersections	
0231154	Intersection geometry	Add/modify auxiliary lanes	0.30900000000001	Miles	\$320650	\$320650	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	25,797	45	State Highway Agency	Systemic	Intersections	
0231156	Intersection geometry	Splitter island – install on one or more approaches	0.144000000000002	Miles	\$95880	\$95880	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	25,797	45	State Highway Agency	Systemic	Intersections	
0251043	Intersection geometry	Intersection geometry - other	0.2	Miles	\$513920	\$513920	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	18,733	45	State Highway Agency	Systemic	Intersections	
0271093	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.0999999999999	Miles	\$209127	\$209127	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	19,916	45	State Highway Agency	Systemic	Intersections	
0271099	Intersection geometry	Add/modify auxiliary lanes	0.15	Miles	\$200000	\$200000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	23,487	55	State Highway Agency	Systemic	Intersections	
0271100	Intersection geometry	Add/modify auxiliary lanes	0.42	Miles	\$287500	\$287500	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	10,211	55	State Highway Agency	Systemic	Intersections	

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		SHSP EMPHASIS AREA	SHSP STRATEGY
0311040	Intersection geometry	Intersection geometry - other	8.159	Miles	\$7441500	\$7441500	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	30,651	55	State Highway Agency	Systemic	Intersections	
0311042	Intersection geometry	Intersection geometry - other	4.152	Miles	\$2470386	\$2470386	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	22,606	55	State Highway Agency	Systemic	Intersections	
0601209	Intersection geometry	Intersection geometry - other	1.1	Miles	\$3016033	\$3016033	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	9,812	55	State Highway Agency	Systemic	Intersections	
0801112	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.600000000000001	Miles	\$1057141	\$1057141	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	13,278	65	State Highway Agency	Systemic	Intersections	
0801113	Intersection geometry	Intersection realignment	0.199999999999999	Miles	\$95943	\$95943	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	25,237	45	State Highway Agency	Systemic	Intersections	
0803211	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.80000000000001	Miles	\$1387507	\$1387507	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	9,281	55	State Highway Agency	Systemic	Intersections	
0805026	Intersection geometry	Intersection geometry - other	0.199999999999999	Miles	\$222714	\$222714	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	8,924	55	State Highway Agency	Systemic	Intersections	
0901052	Intersection geometry	Modify lane assignment	0.397	Miles	\$316593	\$316593	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	5,786	55	State Highway Agency	Systemic	Intersections	
2311018	Intersection geometry	Intersection geometry - other	3.6	Miles	\$4250000	\$4250000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	19,052	65	State Highway Agency	Systemic	Intersections	
4181029	Intersection geometry	Intersection realignment	0.199999999999999	Miles	\$35867	\$35867	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	36,817	45	State Highway Agency	Systemic	Intersections	
4311041	Intersection geometry	Add/modify auxiliary lanes	0.167	Miles	\$733234	\$733234	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	23,864	35	State Highway Agency	Systemic	Intersections	
4311046	Intersection geometry	Intersection geometry - other	0.54999999999999	Miles	\$499100	\$499100	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	23,864	45	State Highway Agency	Systemic	Intersections	
5038123	Intersection geometry	Intersection realignment	0.3	Miles	\$509193	\$509193	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,188	55	State Highway Agency	Systemic	Intersections	
5084027	Intersection geometry	Intersection realignment	0.0999999999999	Miles	\$519823	\$519823	HSIP (23 U.S.C. 148)	Rural	Major Collector	9,105	45	State Highway Agency	Systemic	Intersections	

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5152006	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.35299999999998	Miles	\$2190000	\$2190000	HSIP (23 U.S.C. 148)	Rural	Major Collector	6,880	55	State Highway Agency	Systemic	Intersections	
5220003	Intersection geometry	Intersection geometry - other	0.25	Miles	\$171000	\$171000	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,678	55	State Highway Agency	Systemic	Intersections	
5274010	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.32	Miles	\$822025	\$822025	HSIP (23 U.S.C. 148)	Urban	Major Collector	7,197	55	State Highway Agency	Systemic	Intersections	
6411035	Intersection geometry	Intersection realignment	0.128	Miles	\$176693	\$176693	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	11,652	35	State Highway Agency	Systemic	Intersections	
7808001	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.1	Miles	\$682896	\$682896	HSIP (23 U.S.C. 148)	Urban	Major Collector	2,121	35	State Highway Agency	Systemic	Intersections	
7861001	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.372	Miles	\$1192700	\$1192700	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	3,929	55	State Highway Agency	Systemic	Intersections	
7864001	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.096	Miles	\$265000	\$265000	HSIP (23 U.S.C. 148)	Urban	Major Collector	3,495	35	State Highway Agency	Systemic	Intersections	
7864002	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.102	Miles	\$294801	\$294801	HSIP (23 U.S.C. 148)	Urban	Major Collector	7,147	35	State Highway Agency	Systemic	Intersections	
7873001	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.07	Miles	\$223200	\$223200	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	
7873002	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.0700000000000001	Miles	\$222000	\$222000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	
7912001	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.3	Miles	\$1594714	\$1594714	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	7,321	45	State Highway Agency	Systemic	Intersections	
8126011	Intersection geometry	Intersection geometry - other	1.08	Miles	\$1104953	\$1104953	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	43,414	45	State Highway Agency	Systemic	Intersections	
8732017	Intersection geometry	Add/modify auxiliary lanes	0.185	Miles	\$388136	\$388136	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	12,629	55	State Highway Agency	Systemic	Intersections	
8732019	Intersection geometry	Intersection realignment	0.09999999999996	Miles	\$167488	\$167488	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	30,583	45	State Highway Agency	Systemic	Intersections	

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8738033	Intersection geometry	Intersection realignment	0.2	Miles	\$452624	\$452624	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	23,281	45	State Highway Agency	Systemic	Intersections	
8744005	Intersection geometry	Add/modify auxiliary lanes	0.25	Miles	\$836007	\$836007	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	12,339	35	State Highway Agency	Systemic	Intersections	
9010308	Intersection geometry	Intersection realignment	0.143	Miles	\$358086	\$358086	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	20,130	35	State Highway Agency	Systemic	Intersections	
9010309	Intersection geometry	Intersection realignment	0.0999999999999999999999999999999999999	Miles	\$33632	\$33632	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	22,880	45	State Highway Agency	Systemic	Intersections	
9010331	Intersection geometry	Intersection geometry - other	0.0999999999999999	Miles	\$100000	\$100000	HSIP (23 U.S.C. 148)	Rural	Major Collector	4,489	45	State Highway Agency	Systemic	Intersections	
9010334	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.38	Miles	\$495224	\$495224	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	8,328	45	State Highway Agency	Systemic	Intersections	
9010345	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.2	Miles	\$350000	\$350000	HSIP (23 U.S.C. 148)	Urban	Major Collector	7,813	35	State Highway Agency	Systemic	Intersections	
9010358	Intersection geometry	Add/modify auxiliary lanes	0.27	Miles	\$252876	\$252876	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	17,224	45	State Highway Agency	Systemic	Intersections	
9010440	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.15	Miles	\$285000	\$285000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	
9010441	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.2	Miles	\$366600	\$366600	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Intersections	
9010449	Intersection geometry	Innovative Intersection (e.g. MUT, RCUT, QR)	0.6	Miles	\$671200	\$671200	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	10,715	55	State Highway Agency	Systemic	Intersections	
0151092	Intersection traffic control	Modify traffic signal –other	0.04999999999998	Miles	\$110000	\$110000	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	5,794	55	State Highway Agency	Systemic	Intersections	
0271091	Intersection traffic control	Modify traffic signal –other	0.35	Miles	\$370137	\$370137	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	25,627	45	State Highway Agency	Systemic	Intersections	
0271092	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.45999999999999	Miles	\$69855	\$69855	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	8,388	55	State Highway Agency	Systemic	Intersections	

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0272116	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.069999999999994	Miles	\$43304	\$43304	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	32,264	40	State Highway Agency	Systemic	Intersections	
0272120	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.382	Miles	\$45100	\$45100	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	23,003	45	State Highway Agency	Systemic	Intersections	
0273020	Intersection traffic control	Pavement markings	0.11	Miles	\$30150	\$30150	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	14,717	30	State Highway Agency	Systemic	Intersections	
0311043	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.059999999999996	Miles	\$51150	\$51150	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	28,443	50	State Highway Agency	Systemic	Intersections	
0311044	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.199999999999999	Miles	\$58300	\$58300	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	24,135	50	State Highway Agency	Systemic	Intersections	
0311047	Intersection traffic control	Intersection signing –other	0.3	Miles	\$90000	\$90000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	19,964	55	State Highway Agency	Systemic	Intersections	
0451007	Intersection traffic control	Dilemma Zone Detection System	0.379999999999999	Miles	\$241807	\$241807	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	12,868	65	State Highway Agency	Systemic	Intersections	
0451010	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.1	Miles	\$231120	\$231120	HSIP (23 U.S.C. 148)	Urban	N/A	18,202	45	State Highway Agency	Systemic	Intersections	
0601201	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.16	Miles	\$157046	\$157046	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	11,999	35	State Highway Agency	Systemic	Intersections	
0601202	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.09999999999996	Miles	\$59015	\$59015	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,062	45	State Highway Agency	Systemic	Intersections	
1271121	Intersection traffic control	Modify traffic signal – modernization/replacement	0.09999999999996	Miles	\$232986	\$232986	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	9,245	45	State Highway Agency	Systemic	Intersections	
1501121	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.089	Miles	\$49500	\$49500	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	22,225	35	State Highway Agency	Systemic	Intersections	
2681035	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.1	Miles	\$294800	\$294800	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	33,819	55	State Highway Agency	Systemic	Intersections	
4181031	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.199999999999999	Miles	\$71905	\$71905	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	37,797	45	State Highway Agency	Systemic	Intersections	

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4311040	Intersection traffic control	Pavement markings	0.5	Miles	\$56145	\$56145	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	4,600	55	State Highway Agency	Systemic	Intersections	
5081006	Intersection traffic control	Intersection signing – add basic advance warning	0.378	Miles	\$165600	\$165600	HSIP (23 U.S.C. 148)	Rural	Major Collector	8,894	55	State Highway Agency	Systemic	Intersections	
5203021	Intersection traffic control	Modify traffic signal – modernization/replacement	0.099999999999996	Miles	\$0	\$0	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	20,116	45	State Highway Agency	Systemic	Intersections	
6411041	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.469999999999999	Miles	\$183657	\$183657	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	19,718	55	State Highway Agency	Systemic	Intersections	
7612009	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.12	Miles	\$100032	\$100032	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Interstate	9,696	55	State Highway Agency	Systemic	Intersections	
7646002	Intersection traffic control	Pavement markings	0.1	Miles	\$94022	\$94022	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	5,236	25	State Highway Agency	Systemic	Intersections	
7717001	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.099999999999996	Miles	\$20000	\$20000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	11,777	55	State Highway Agency	Systemic	Intersections	
7862001	Intersection traffic control	Intersection signing –other	0.200000000000001	Miles	\$55800	\$55800	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	14,052	45	State Highway Agency	Systemic	Intersections	
8120047	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.099999999999996	Miles	\$48141	\$48141	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	14,341	45	State Highway Agency	Systemic	Intersections	
8120048	Intersection traffic control	Pavement markings	0.359999999999999	Miles	\$167753	\$167753	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	12,965	45	State Highway Agency	Systemic	Intersections	
8136013	Intersection traffic control	Pavement markings	0.205	Miles	\$69829	\$69829	HSIP (23 U.S.C. 148)	Urban	Major Collector	33,676	35	State Highway Agency	Systemic	Intersections	
8167005	Intersection traffic control	Pavement markings	0.17799999999999	Miles	\$68351	\$68351	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	5,230	25	State Highway Agency	Systemic	Intersections	
8177003	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.0510000000000002	Miles	\$76247	\$76247	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	22,779	35	State Highway Agency	Systemic	Intersections	
8217004	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.119	Miles	\$163712	\$163712	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	21,026	45	State Highway Agency	Systemic	Intersections	

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8547010	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.15	Miles	\$80500	\$80500	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	18,920	35	State Highway Agency	Systemic	Intersections	
8602006	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.1	Miles	\$59785	\$59785	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	14,006	45	State Highway Agency	Systemic	Intersections	
8610005	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.0700000000000003	Miles	\$36800	\$36800	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	22,616	55	State Highway Agency	Systemic	Intersections	
8751018	Intersection traffic control	Modify traffic signal –other	0.13	Miles	\$222200	\$222200	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	28,333	40	State Highway Agency	Systemic	Intersections	
8801010	Intersection traffic control	Pavement markings	0.274	Miles	\$42020	\$42020	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	14,264	35	State Highway Agency	Systemic	Intersections	
9010261	Intersection traffic control	Modify traffic signal – modernization/replacement	0.1	Miles	\$272339	\$272339	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	12,144	35	State Highway Agency	Systemic	Intersections	
9010305	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.15	Miles	\$25110	\$25110	HSIP (23 U.S.C. 148)	Urban	Major Collector	4,573	35	State Highway Agency	Systemic	Intersections	
9010306	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.20000000000001	Miles	\$21302	\$21302	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	29,798	55	State Highway Agency	Systemic	Intersections	
9010310	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.09999999999996	Miles	\$38552	\$38552	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	22,948	35	State Highway Agency	Systemic	Intersections	
9010311	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.100000000000001	Miles	\$39931	\$39931	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	22,880	35	State Highway Agency	Systemic	Intersections	
9010313	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.2	Miles	\$48485	\$48485	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	4,160	55	State Highway Agency	Systemic	Intersections	
9010359	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.48	Miles	\$35878	\$35878	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	7,401	55	State Highway Agency	Systemic	Intersections	
9010360	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.28	Miles	\$43686	\$43686	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	7,401	55	State Highway Agency	Systemic	Intersections	
9010361	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.38	Miles	\$136586	\$136586	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	23,067	55	State Highway Agency	Systemic	Intersections	

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9010362	Intersection traffic control	Modify traffic signal –other	0.11	Miles	\$87000	\$87000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	18,745	35	State Highway Agency	Systemic	Intersections	
9010377	Intersection traffic control	Intersection signing –other	0.30000000000001	Miles	\$73858	\$73858	HSIP (23 U.S.C. 148)	Rural	Major Collector	5,010	55	State Highway Agency	Systemic	Intersections	
9010378	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.30000000000001	Miles	\$89386	\$89386	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	19,491	45	State Highway Agency	Systemic	Intersections	
9010379	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.166	Miles	\$81421	\$81421	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	6,296	35	State Highway Agency	Systemic	Intersections	
9010380	Intersection traffic control	Pavement markings	0.09	Miles	\$43179	\$43179	HSIP (23 U.S.C. 148)	Urban	N/A	19,491	55	State Highway Agency	Systemic	Intersections	
9010381	Intersection traffic control	Modify traffic signal –other	0.30000000000001	Miles	\$140669	\$140669	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	19,491	45	State Highway Agency	Systemic	Intersections	
9010382	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.09999999999996	Miles	\$28403	\$28403	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	19,852	35	State Highway Agency	Systemic	Intersections	
9010385	Intersection traffic control	Pavement markings	0.12	Miles	\$26316	\$26316	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	9,098	25	State Highway Agency	Systemic	Intersections	
9010386	Intersection traffic control	Intersection signing – add basic advance warning	0.225999999999999	Miles	\$14231	\$14231	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	12,237	35	State Highway Agency	Systemic	Intersections	
9010404	Intersection traffic control	Pavement markings	0.116	Miles	\$29700	\$29700	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	18,251	35	State Highway Agency	Systemic	Intersections	
9010409	Intersection traffic control	Modify traffic signal – add backplates with retroreflective borders	0.2	Miles	\$57500	\$57500	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	16,315	50	State Highway Agency	Systemic	Intersections	
9010439	Intersection traffic control	Intersection signing –other	0.4	Miles	\$300000	\$300000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	21,689	55	State Highway Agency	Systemic	Intersections	
0020016	Miscellaneous	Data collection	1	Plan	\$243546	\$243546	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	
9010032	Miscellaneous	Data collection	1	Data	\$2883000	\$2883000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	

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9010042	Miscellaneous	Data analysis	1	Plan	\$800000	\$800000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	
9010302	Miscellaneous	Data collection	1	Data	\$3250000	\$3250000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	
9010323	Miscellaneous	Road safety audits	1	Audit	\$650000	\$650000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	
9010341	Miscellaneous	Data collection	1	Data	\$94810	\$94810	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	
9010425	Miscellaneous	Road safety audits	1	Audit	\$5500000	\$5500000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	
9010427	Miscellaneous	Data collection	1	Data	\$181500	\$181500	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	
9010455	Miscellaneous	Data collection	1	Data	\$170000	\$170000	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	
9010463	Miscellaneous	Miscellaneous - other	1	N/A	\$426650	\$426650	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Data	
0272119	Pedestrians and bicyclists	Pedestrians and bicyclists – other	0.149999999999999	Miles	\$128400	\$128400	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	43,815	45	State Highway Agency	Systemic	Pedestrians	
0311041	Pedestrians and bicyclists	Install sidewalk	0.149999999999999	Miles	\$66679	\$66679	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	28,443	50	State Highway Agency	Systemic	Pedestrians	
0151087	Roadside	Barrier- metal	9.287	Miles	\$766231	\$766231	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	12,259	55	State Highway Agency	Systemic	Roadway Departure	
0411028	Roadside	Barrier- metal	31.574	Miles	\$417251	\$417251	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	10,737	55	State Highway Agency	Systemic	Roadway Departure	
0411029	Roadside	Barrier- metal	31.574	Miles	\$351137	\$351137	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	10,737	55	State Highway Agency	Systemic	Roadway Departure	
0601206	Roadside	Barrier- metal	26.069	Miles	\$79435	\$79435	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	9,681	55	State Highway Agency	Systemic	Roadway Departure	

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0601208	Roadside	Barrier- metal	2.915	Miles	\$145724	\$145724	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	3,078	55	State Highway Agency	Systemic	Roadway Departure	
0644092	Roadside	Barrier – cable	3.5999999999999	Miles	\$1303115	\$1303115	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Interstate	38,758	70	State Highway Agency	Systemic	Roadway Departure	
0646066	Roadside	Barrier – cable	8.31299999999999	Miles	\$1579079	\$1579079	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Interstate	20,651	70	State Highway Agency	Systemic	Roadway Departure	
0647058	Roadside	Barrier – cable	11.434	Miles	\$2122583	\$2122583	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Interstate	20,651	70	State Highway Agency	Systemic	Roadway Departure	
0647059	Roadside	Barrier – cable	10	Miles	\$1721007	\$1721007	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Roadway Departure	
0648073	Roadside	Barrier – cable	10.168	Miles	\$1825696	\$1825696	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Interstate	22,583	70	State Highway Agency	Systemic	Roadway Departure	
0712078	Roadside	Barrier – cable	1.135	Miles	\$883075	\$883075	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Interstate	41,099	70	State Highway Agency	Systemic	Roadway Departure	
2682018	Roadside	Barrier- metal	3.99	Miles	\$585387	\$585387	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other Freeways & Expressways	62,249	55	State Highway Agency	Systemic	Roadway Departure	
4311043	Roadside	Barrier- metal	28.313	Miles	\$708374	\$708374	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	7,978	55	State Highway Agency	Systemic	Roadway Departure	
4311044	Roadside	Barrier- metal	9.262	Miles	\$401064	\$401064	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,309	55	State Highway Agency	Systemic	Roadway Departure	
4311045	Roadside	Barrier- metal	10.246	Miles	\$289721	\$289721	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	10,752	55	State Highway Agency	Systemic	Roadway Departure	
5007008	Roadside	Drainage improvements	6.21	Miles	\$631184	\$631184	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,292	55	State Highway Agency	Systemic	Roadway Departure	
5143001	Roadside	Roadside - other	9.472	Miles	\$565547	\$565547	HSIP (23 U.S.C. 148)	Rural	Major Collector	4,240	55	State Highway Agency	Systemic	Roadway Departure	
5149006	Roadside	Roadside - other	6.155	Miles	\$942921	\$942921	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	10,550	55	State Highway Agency	Systemic	Roadway Departure	

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5218005	Roadside	Roadside - other	4.387	Miles	\$558551	\$558551	HSIP (23 U.S.C. 148)	Rural	Major Collector	472	55	State Highway Agency	Systemic	Roadway Departure	
5316022	Roadside	Drainage improvements	3.847	Miles	\$1173560	\$1173560	HSIP (23 U.S.C. 148)	Rural	Major Collector	7,284	55	State Highway Agency	Systemic	Roadway Departure	
5332005	Roadside	Roadside - other	2.8	Miles	\$521755	\$521755	HSIP (23 U.S.C. 148)	Rural	Major Collector	455	55	State Highway Agency	Systemic	Roadway Departure	
5335020	Roadside	Barrier- metal	4.826	Miles	\$478354	\$478354	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,135	55	State Highway Agency	Systemic	Roadway Departure	
5360028	Roadside	Barrier- metal	1.09	Miles	\$118314	\$118314	HSIP (23 U.S.C. 148)	Rural	Minor Collector	1,559	55	State Highway Agency	Systemic	Roadway Departure	
8202005	Roadside	Removal of fixed objects (trees, poles, etc.)	1.05	Miles	\$667500	\$667500	HSIP (23 U.S.C. 148)	Urban	Major Collector	6,382	45	State Highway Agency	Systemic	Roadway Departure	
8537001	Roadside	Roadside - other	4.942	Miles	\$370470	\$370470	HSIP (23 U.S.C. 148)	Urban	Major Collector	5,073	55	State Highway Agency	Systemic	Roadway Departure	
9010319	Roadside	Barrier- metal	0.0750000000000011	Miles	\$2523	\$2523	HSIP (23 U.S.C. 148)	Rural	Major Collector	775	55	State Highway Agency	Systemic	Roadway Departure	
9010320	Roadside	Barrier- metal	0.0800000000000001	Miles	\$17014	\$17014	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	1,661	55	State Highway Agency	Systemic	Roadway Departure	
9010321	Roadside	Barrier- metal	0.170999999999999	Miles	\$43017	\$43017	HSIP (23 U.S.C. 148)	Rural	Minor Collector	1,201	55	State Highway Agency	Systemic	Roadway Departure	
9010339	Roadside	Barrier- metal	0.140000000000001	Miles	\$111934	\$111934	HSIP (23 U.S.C. 148)	Urban	Minor Collector	2,114	45	State Highway Agency	Systemic	Roadway Departure	
9010389	Roadside	Barrier- metal	0.111	Miles	\$55500	\$55500	HSIP (23 U.S.C. 148)	Rural	Minor Collector	1,353	55	State Highway Agency	Systemic	Roadway Departure	
9010410	Roadside	Barrier- metal	1.043	Miles	\$109668	\$109668	HSIP (23 U.S.C. 148)	Rural	Local Road or Street	503	55	State Highway Agency	Systemic	Roadway Departure	
9010411	Roadside	Barrier- metal	0.13	Miles	\$48899	\$48899	HSIP (23 U.S.C. 148)	Urban	Major Collector	2,118	35	State Highway Agency	Systemic	Roadway Departure	

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9010436	Roadside	Barrier- metal	18.407	Miles	\$480501	\$480501	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other Freeways & Expressways	40,523	65	State Highway Agency	Systemic	Roadway Departure	
9010437	Roadside	Barrier- metal	0.129	Miles	\$257094	\$257094	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other Freeways & Expressways	23,913	65	State Highway Agency	Systemic	Roadway Departure	
9010445	Roadside	Removal of fixed objects (trees, poles, etc.)	8.781	Miles	\$781483	\$781483	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	10,658	55	State Highway Agency	Systemic	Roadway Departure	
9010453	Roadside	Roadside - other	0.2	Miles	\$144500	\$144500	HSIP (23 U.S.C. 148)	Urban	Major Collector	1,401	45	State Highway Agency	Systemic	Roadway Departure	
9010454	Roadside	Barrier- metal	0.272	Miles	\$477250	\$477250	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	11,691	55	State Highway Agency	Systemic	Roadway Departure	
0051034	Roadway	Roadway - other	11.761	Miles	\$350000	\$350000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	5,260	55	State Highway Agency	Systemic	Roadway Departure	
0051035	Roadway	Roadway - other	1.921	Miles	\$570000	\$570000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,941	55	State Highway Agency	Systemic	Roadway Departure	
0231159	Roadway	Roadway widening - add lane(s) along segment	0.5	Miles	\$504896	\$504896	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	33,573	55	State Highway Agency	Systemic	Roadway Departure	
0231160	Roadway	Pavement surface – high friction surface	1.5	Miles	\$681484	\$681484	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Other	7,266	55	State Highway Agency	Systemic	Roadway Departure	
0241093	Roadway	Roadway widening - add lane(s) along segment	0.35	Miles	\$1359031	\$1359031	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Interstate	34,533	70	State Highway Agency	Systemic	Roadway Departure	
0601199	Roadway	Roadway - other	7.371	Miles	\$2208150	\$2208150	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,721	55	State Highway Agency	Systemic	Roadway Departure	
0601210	Roadway	Roadway widening - add lane(s) along segment	0.5	Miles	\$987692	\$987692	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	16,923	55	State Highway Agency	Systemic	Roadway Departure	
0713068	Roadway	Pavement surface – high friction surface	0.200000000000003	Miles	\$99466	\$99466	HSIP (23 U.S.C. 148)	Rural	Principal Arterial- Interstate	37,215	70	State Highway Agency	Systemic	Roadway Departure	
1501125	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	1.5	Miles	\$0	\$0	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	22,376	35	State Highway Agency	Systemic	Roadway Departure	

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2641185	Roadway	Pavement surface – high friction surface	0.21	Miles	\$140548	\$140548	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Interstate	5,318	0	State Highway Agency	Systemic	Roadway Departure	
2681034	Roadway	Roadway - other	4.807	Miles	\$2466100	\$2466100	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	10,002	55	State Highway Agency	Systemic	Roadway Departure	
4201087	Roadway	Roadway - other	5.817	Miles	\$460000	\$460000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,760	55	State Highway Agency	Systemic	Roadway Departure	
4211048	Roadway	Roadway - other	5.921	Miles	\$1771733	\$1771733	HSIP (23 U.S.C. 148)	Rural	Major Collector	5,004	55	State Highway Agency	Systemic	Roadway Departure	
4212049	Roadway	Roadway - other	7.299	Miles	\$1680003	\$1680003	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	7,029	55	State Highway Agency	Systemic	Roadway Departure	
4212054	Roadway	Roadway - other	4.3	Miles	\$300000	\$300000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,754	55	State Highway Agency	Systemic	Roadway Departure	
4601045	Roadway	Roadway - other	6.83	Miles	\$1606309	\$1606309	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,060	55	State Highway Agency	Systemic	Roadway Departure	
4602099	Roadway	Roadway - other	4	Miles	\$365000	\$365000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,589	55	State Highway Agency	Systemic	Roadway Departure	
5028001	Roadway	Roadway - other	7.2	Miles	\$2569900	\$2569900	HSIP (23 U.S.C. 148)	Rural	Major Collector	9,062	55	State Highway Agency	Systemic	Roadway Departure	
5038117	Roadway	Roadway - other	6.865	Miles	\$1498697	\$1498697	HSIP (23 U.S.C. 148)	Rural	Major Collector	4,447	55	State Highway Agency	Systemic	Roadway Departure	
5038125	Roadway	Roadway - other	3.056	Miles	\$315000	\$315000	HSIP (23 U.S.C. 148)	Rural	Major Collector	5,455	55	State Highway Agency	Systemic	Roadway Departure	
5049006	Roadway	Roadway - other	6.073	Miles	\$1924835	\$1924835	HSIP (23 U.S.C. 148)	Urban	Major Collector	2,589	55	State Highway Agency	Systemic	Roadway Departure	
5055015	Roadway	Roadway - other	8.673	Miles	\$455000	\$455000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	4,705	55	State Highway Agency	Systemic	Roadway Departure	
5059002	Roadway	Roadway - other	5.47	Miles	\$1877000	\$1877000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	2,856	55	State Highway Agency	Systemic	Roadway Departure	

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5066002	Roadway	Pavement surface – high friction surface	0.475	Miles	\$98237	\$98237	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,127	55	State Highway Agency	Systemic	Roadway Departure	
5073005	Roadway	Roadway - other	7.218	Miles	\$2921480	\$2921480	HSIP (23 U.S.C. 148)	Rural	Major Collector	5,359	55	State Highway Agency	Systemic	Roadway Departure	
5074009	Roadway	Roadway - other	7.232	Miles	\$360000	\$360000	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,918	55	State Highway Agency	Systemic	Roadway Departure	
5075059	Roadway	Roadway - other	4.78	Miles	\$1680000	\$1680000	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,059	55	State Highway Agency	Systemic	Roadway Departure	
5079003	Roadway	Roadway - other	8.511	Miles	\$2037600	\$2037600	HSIP (23 U.S.C. 148)	Rural	Major Collector	4,481	55	State Highway Agency	Systemic	Roadway Departure	
5084025	Roadway	Roadway - other	6.395	Miles	\$1434060	\$1434060	HSIP (23 U.S.C. 148)	Rural	Major Collector	4,454	55	State Highway Agency	Systemic	Roadway Departure	
5105047	Roadway	Roadway - other	8.868	Miles	\$3765158	\$3765158	HSIP (23 U.S.C. 148)	Rural	Major Collector	4,280	55	State Highway Agency	Systemic	Roadway Departure	
5105048	Roadway	Roadway widening - add lane(s) along segment	1.4	Miles	\$651053	\$651053	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	17,224	55	State Highway Agency	Systemic	Roadway Departure	
5118043	Roadway	Roadway - other	7.542	Miles	\$2535981	\$2535981	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,191	55	State Highway Agency	Systemic	Roadway Departure	
5118044	Roadway	Pavement surface – high friction surface	1.169	Miles	\$87652	\$87652	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	3,423	55	State Highway Agency	Systemic	Roadway Departure	
5119015	Roadway	Roadway - other	8.431	Miles	\$1716850	\$1716850	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	8,482	55	State Highway Agency	Systemic	Roadway Departure	
5124009	Roadway	Pavement surface – high friction surface	0.3	Miles	\$61405	\$61405	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,082	55	State Highway Agency	Systemic	Roadway Departure	
5124010	Roadway	Roadway - other	4.277	Miles	\$485000	\$485000	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,412	55	State Highway Agency	Systemic	Roadway Departure	
5125016	Roadway	Roadway - other	2	Miles	\$1515222	\$1515222	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	20,144	55	State Highway Agency	Systemic	Roadway Departure	

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5138067	Roadway	Roadway - other	5.673	Miles	\$2170413	\$2170413	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	4,217	55	State Highway Agency	Systemic	Roadway Departure	
5148004	Roadway	Roadway - other	5.551	Miles	\$33172	\$33172	HSIP (23 U.S.C. 148)	Urban	Minor Collector	2,966	55	State Highway Agency	Systemic	Roadway Departure	
5152004	Roadway	Roadway - other	9.361	Miles	\$5300000	\$5300000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	6,880	55	State Highway Agency	Systemic	Roadway Departure	
5152005	Roadway	Roadway - other	3	Miles	\$733161	\$733161	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	11,411	55	State Highway Agency	Systemic	Roadway Departure	
5153006	Roadway	Roadway - other	6.359	Miles	\$1795624	\$1795624	HSIP (23 U.S.C. 148)	Rural	Major Collector	4,109	55	State Highway Agency	Systemic	Roadway Departure	
5158017	Roadway	Roadway - other	2.65	Miles	\$450000	\$450000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	4,238	55	State Highway Agency	Systemic	Roadway Departure	
5177005	Roadway	Roadway - other	2.184	Miles	\$3792405	\$3792405	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	12,861	55	State Highway Agency	Systemic	Roadway Departure	
5180029	Roadway	Roadway - other	9.259	Miles	\$380000	\$380000	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,226	55	State Highway Agency	Systemic	Roadway Departure	
5181006	Roadway	Roadway - other	9.274	Miles	\$2283726	\$2283726	HSIP (23 U.S.C. 148)	Urban	Major Collector	3,929	55	State Highway Agency	Systemic	Roadway Departure	
5190002	Roadway	Roadway - other	8.669	Miles	\$3196000	\$3196000	HSIP (23 U.S.C. 148)	Rural	Major Collector	6,837	55	State Highway Agency	Systemic	Roadway Departure	
5191012	Roadway	Superelevation / cross slope	2.495	Miles	\$377150	\$377150	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,684	55	State Highway Agency	Systemic	Roadway Departure	
5191013	Roadway	Roadway - other	4.577	Miles	\$700000	\$700000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	10,658	55	State Highway Agency	Systemic	Roadway Departure	
5205022	Roadway	Roadway - other	8.781	Miles	\$2982737	\$2982737	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	4,238	55	State Highway Agency	Systemic	Roadway Departure	
5210007	Roadway	Roadway - other	6.508	Miles	\$200000	\$200000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	6,531	55	State Highway Agency	Systemic	Roadway Departure	

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	ОИТРИТЅ	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
5211118	Roadway	Roadway - other	6.278	Miles	\$2766193	\$2766193	HSIP (23 U.S.C. 148)	Urban	Major Collector	5,848	55	State Highway Agency	Systemic	Roadway Departure	
5211120	Roadway	Roadway - other	2.709	Miles	\$1932673	\$1932673	HSIP (23 U.S.C. 148)	Urban	Major Collector	4,883	55	State Highway Agency	Systemic	Roadway Departure	
5225006	Roadway	Pavement surface – high friction surface	0.300000000000001	Miles	\$43696	\$43696	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,137	45	State Highway Agency	Systemic	Roadway Departure	
5239022	Roadway	Roadway - other	3.987	Miles	\$2311242	\$2311242	HSIP (23 U.S.C. 148)	Urban	Major Collector	2,125	55	State Highway Agency	Systemic	Roadway Departure	
5253028	Roadway	Roadway - other	5.1	Miles	\$1564709	\$1564709	HSIP (23 U.S.C. 148)	Urban	Major Collector	4,857	55	State Highway Agency	Systemic	Roadway Departure	
5271046	Roadway	Roadway - other	7.054	Miles	\$2128024	\$2128024	HSIP (23 U.S.C. 148)	Urban	Major Collector	6,140	55	State Highway Agency	Systemic	Roadway Departure	
5286015	Roadway	Roadway - other	17.73	Miles	\$1748147	\$1748147	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,283	55	State Highway Agency	Systemic	Roadway Departure	
5303010	Roadway	Roadway - other	4.647	Miles	\$2438035	\$2438035	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,946	55	State Highway Agency	Systemic	Roadway Departure	
5306005	Roadway	Roadway - other	4.068	Miles	\$1771637	\$1771637	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	7,094	55	State Highway Agency	Systemic	Roadway Departure	
5306008	Roadway	Roadway - other	5.109	Miles	\$1534650	\$1534650	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	4,897	55	State Highway Agency	Systemic	Roadway Departure	
5318004	Roadway	Roadway - other	5.252	Miles	\$3215931	\$3215931	HSIP (23 U.S.C. 148)	Urban	Major Collector	3,489	55	State Highway Agency	Systemic	Roadway Departure	
5339009	Roadway	Roadway - other	8.155	Miles	\$2411070	\$2411070	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	7,613	55	State Highway Agency	Systemic	Roadway Departure	
5357023	Roadway	Roadway - other	4.455	Miles	\$1646043	\$1646043	HSIP (23 U.S.C. 148)	Rural	Major Collector	2,047	55	State Highway Agency	Systemic	Roadway Departure	
5361009	Roadway	Roadway - other	7.21	Miles	\$1669000	\$1669000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	3,207	55	State Highway Agency	Systemic	Roadway Departure	

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
5390013	Roadway	Roadway - other	10.353	Miles	\$385000	\$385000	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,056	55	State Highway Agency	Systemic	Roadway Departure	
7415015	Roadway	Roadway widening - add lane(s) along segment	0.72	Miles	\$115432	\$115432	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	20,284	45	State Highway Agency	Systemic	Roadway Departure	
7872009	Roadway	Roadway narrowing (road diet, roadway reconfiguration)	1.458	Miles	\$1880000	\$1880000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	8,522	45	State Highway Agency	Systemic	Roadway Departure	
8532007	Roadway	Roadway - other	0.15	Miles	\$40365	\$40365	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	14,629	35	State Highway Agency	Systemic	Roadway Departure	
8729008	Roadway	Pavement surface – high friction surface	0.199999999999999	Miles	\$40291	\$40291	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	5,690	35	State Highway Agency	Systemic	Roadway Departure	
9010271	Roadway	Roadway - other	9.183	Miles	\$1435727	\$1435727	HSIP (23 U.S.C. 148)	Rural	Minor Collector	2,115	55	State Highway Agency	Systemic	Roadway Departure	
9010289	Roadway	Roadway - other	0.2	Miles	\$270000	\$270000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	16,664	55	State Highway Agency	Systemic	Roadway Departure	
9010293	Roadway	Roadway - other	0.199999999999999	Miles	\$185618	\$185618	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	28,443	50	State Highway Agency	Systemic	Roadway Departure	
9010295	Roadway	Roadway - other	0.2	Miles	\$265000	\$265000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	33,819	55	State Highway Agency	Systemic	Roadway Departure	
9010303	Roadway	Roadway - other	3.04	Miles	\$1913130	\$1913130	HSIP (23 U.S.C. 148)	Rural	Major Collector	5,545	55	State Highway Agency	Systemic	Roadway Departure	
9010304	Roadway	Roadway - other	2.766	Miles	\$287570	\$287570	HSIP (23 U.S.C. 148)	Rural	Minor Collector	2,335	55	State Highway Agency	Systemic	Roadway Departure	
9010307	Roadway	Roadway widening - add lane(s) along segment	0.15	Miles	\$140380	\$140380	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	40,461	45	State Highway Agency	Systemic	Roadway Departure	
9010316	Roadway	Roadway - other	4.152	Miles	\$3107835	\$3107835	HSIP (23 U.S.C. 148)	Rural	Major Collector	1,801	55	State Highway Agency	Systemic	Roadway Departure	
9010325	Roadway	Roadway - other	7.447	Miles	\$1364219	\$1364219	HSIP (23 U.S.C. 148)	Urban	Minor Collector	1,739	55	State Highway Agency	Systemic	Roadway Departure	

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
9010326	Roadway	Roadway - other	2.766	Miles	\$176645	\$176645	HSIP (23 U.S.C. 148)	Rural	Minor Collector	2,335	55	State Highway Agency	Systemic	Roadway Departure	
9010327	Roadway	Roadway - other	6.929	Miles	\$2805883	\$2805883	HSIP (23 U.S.C. 148)	Rural	Major Collector	3,444	55	State Highway Agency	Systemic	Roadway Departure	
9010332	Roadway	Roadway - other	1.277	Miles	\$881600	\$881600	HSIP (23 U.S.C. 148)	Urban	Minor Collector	1,645	55	State Highway Agency	Systemic	Roadway Departure	
9010335	Roadway	Roadway - other	2.766	Miles	\$2173276	\$2173276	HSIP (23 U.S.C. 148)	Rural	Minor Collector	2,335	55	State Highway Agency	Systemic	Roadway Departure	
9010338	Roadway	Roadway - other	3.5	Miles	\$404600	\$404600	HSIP (23 U.S.C. 148)	Rural	Minor Collector	905	55	State Highway Agency	Systemic	Roadway Departure	
9010357	Roadway	Roadway - other	0.2	Miles	\$240000	\$240000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	22,098	55	State Highway Agency	Systemic	Roadway Departure	
9010384	Roadway	Roadway widening - add lane(s) along segment	0.078	Miles	\$554288	\$554288	HSIP (23 U.S.C. 148)	Urban	N/A	16,423	35	State Highway Agency	Systemic	Roadway Departure	
9010387	Roadway	Pavement surface – high friction surface	0.5	Miles	\$74789	\$74789	HSIP (23 U.S.C. 148)	Urban	Major Collector	4,819	35	State Highway Agency	Systemic	Roadway Departure	
9010405	Roadway	Roadway - other	4.173	Miles	\$2129180	\$2129180	HSIP (23 U.S.C. 148)	Rural	Minor Collector	2,391	55	State Highway Agency	Systemic	Roadway Departure	
9010432	Roadway	Roadway - other	6.668	Miles	\$350000	\$350000	HSIP (23 U.S.C. 148)	Rural	Minor Collector	668	55	State Highway Agency	Systemic	Roadway Departure	
9010433	Roadway	Roadway - other	3.865	Miles	\$325000	\$325000	HSIP (23 U.S.C. 148)	Rural	Minor Collector	1,931	55	State Highway Agency	Systemic	Roadway Departure	
9010434	Roadway	Roadway - other	7.728	Miles	\$10335	\$10335	HSIP (23 U.S.C. 148)	Urban	Major Collector	1,598	55	State Highway Agency	Systemic	Roadway Departure	
0231158	Roadway delineation	Longitudinal pavement markings - remarking	2.222	Miles	\$67000	\$67000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	25,797	55	State Highway Agency	Systemic	Roadway Departure	
2641184	Roadway delineation	Longitudinal pavement markings - remarking	10.826	Miles	\$1498750	\$1498750	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Interstate	166,324	55	State Highway Agency	Systemic	Roadway Departure	

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
9010265	Roadway delineation	Longitudinal pavement markings - remarking	1	Miles	\$1677852	\$1677852	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Roadway Departure	
9010368	Roadway delineation	Longitudinal pavement markings - remarking	21.632	Miles	\$710000	\$710000	HSIP (23 U.S.C. 148)	Urban	N/A	108,748	70	State Highway Agency	Systemic	Roadway Departure	
9010370	Roadway delineation	Longitudinal pavement markings - remarking	18.651	Miles	\$120215	\$120215	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	20,255	55	State Highway Agency	Systemic	Roadway Departure	
9010371	Roadway delineation	Longitudinal pavement markings - remarking	14.435	Miles	\$403270	\$403270	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	33,573	55	State Highway Agency	Systemic	Roadway Departure	
9010391	Roadway delineation	Longitudinal pavement markings - remarking	14.361	Miles	\$521151	\$521151	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	25,868	65	State Highway Agency	Systemic	Roadway Departure	
9010392	Roadway delineation	Longitudinal pavement markings - remarking	10.238	Miles	\$570000	\$570000	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	10,752	55	State Highway Agency	Systemic	Roadway Departure	
9010394	Roadway delineation	Longitudinal pavement markings - remarking	13.502	Miles	\$973652	\$973652	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	28,825	65	State Highway Agency	Systemic	Roadway Departure	
9010395	Roadway delineation	Longitudinal pavement markings - remarking	7.129	Miles	\$476790	\$476790	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	56,997	55	State Highway Agency	Systemic	Roadway Departure	
9010398	Roadway delineation	Longitudinal pavement markings - remarking	6.204	Miles	\$974045	\$974045	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	29,388	55	State Highway Agency	Systemic	Roadway Departure	
9010401	Roadway delineation	Longitudinal pavement markings - remarking	18.051	Miles	\$840000	\$840000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	20,255	55	State Highway Agency	Systemic	Roadway Departure	
9010412	Roadway delineation	Longitudinal pavement markings - remarking	0.562000000000001	Miles	\$35943	\$35943	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	16,923	65	State Highway Agency	Systemic	Roadway Departure	
9010413	Roadway delineation	Longitudinal pavement markings - remarking	5.168	Miles	\$36061	\$36061	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	23,864	55	State Highway Agency	Systemic	Roadway Departure	
9010414	Roadway delineation	Longitudinal pavement markings - remarking	8.569	Miles	\$332337	\$332337	HSIP (23 U.S.C. 148)	Urban	N/A	28,303	70	State Highway Agency	Systemic	Roadway Departure	
9010416	Roadway delineation	Longitudinal pavement markings - remarking	19.872	Miles	\$978699	\$978699	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Interstate	166,324	70	State Highway Agency	Systemic	Roadway Departure	

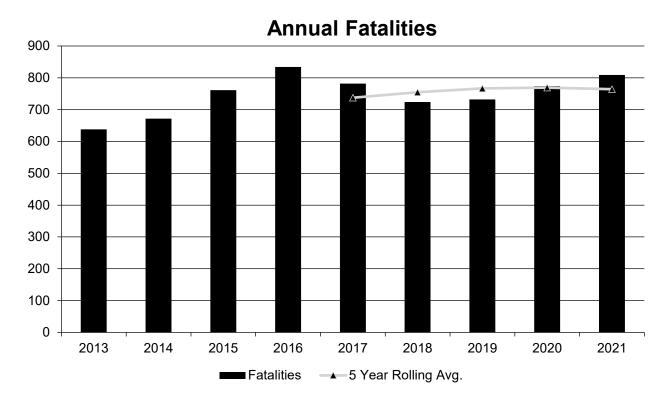
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST(\$)	TOTAL PROJECT COST(\$)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
9010417	Roadway delineation	Longitudinal pavement markings - remarking	7.834	Miles	\$423404	\$423404	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Interstate	159,350	70	State Highway Agency	Systemic	Roadway Departure	
9010456	Roadway delineation	Longitudinal pavement markings - remarking	1	Miles	\$1238230	\$1238230	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Roadway Departure	
9010461	Roadway delineation	Longitudinal pavement markings - remarking	1	Miles	\$1688082	\$1688082	HSIP (23 U.S.C. 148)	N/A	N/A	0	0	State Highway Agency	Systemic	Roadway Departure	
9010466	Roadway delineation	Longitudinal pavement markings - remarking	3.336	Miles	\$240000	\$240000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	21,985	55	State Highway Agency	Systemic	Roadway Departure	
9010646	Roadway delineation	Longitudinal pavement markings - remarking	1.954	Miles	\$62500	\$62500	HSIP (23 U.S.C. 148)	Urban	Principal Arterial- Other	24,643	55	State Highway Agency	Systemic	Roadway Departure	

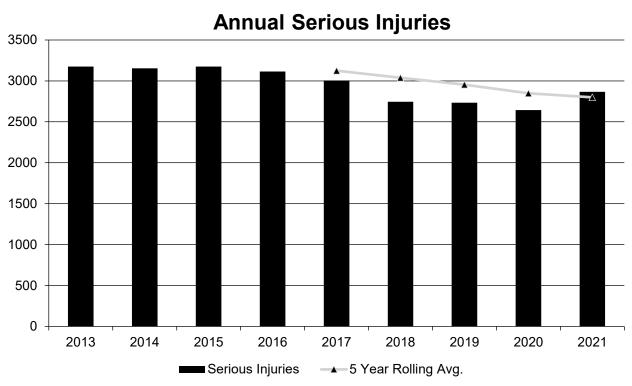
## **Safety Performance**

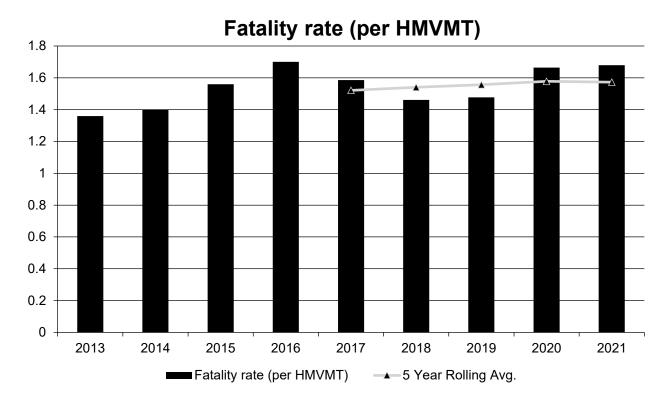
## General Highway Safety Trends

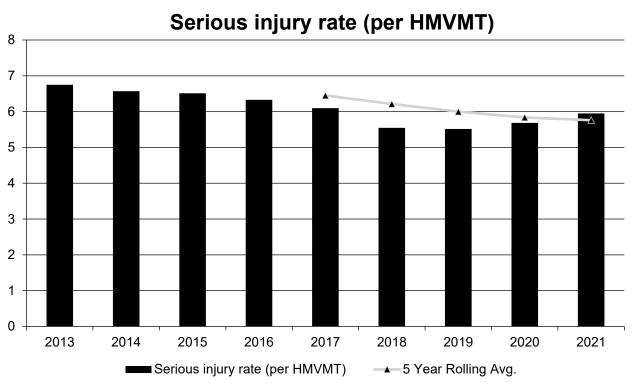
# Present data showing the general highway safety trends in the State for the past five years.

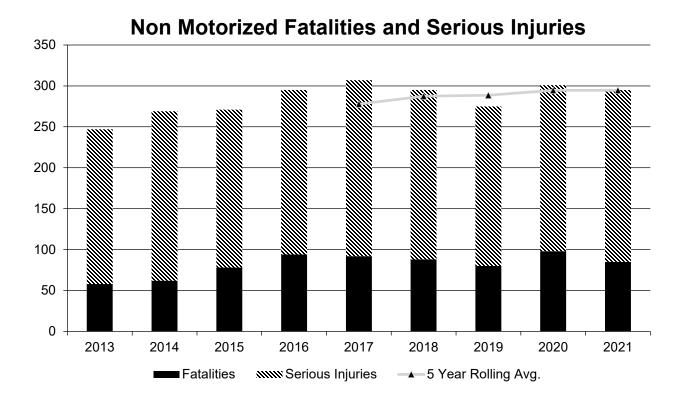
<u> </u>									
PERFORMANCE MEASURES	2013	2014	2015	2016	2017	2018	2019	2020	2021
Fatalities	638	672	761	834	782	724	732	774	809
Serious Injuries	3,175	3,154	3,175	3,114	3,006	2,746	2,734	2,644	2,867
Fatality rate (per HMVMT)	1.360	1.400	1.560	1.700	1.586	1.461	1.477	1.664	1.679
Serious injury rate (per HMVMT)	6.750	6.570	6.510	6.330	6.097	5.548	5.517	5.686	5.950
Number non-motorized fatalities	58	62	78	94	92	88	80	98	85
Number of non- motorized serious injuries	189	207	193	201	215	207	195	203	210
Number of non- motorized fatalities & serious injuries	247	269	271	295	307	295	275	301	295



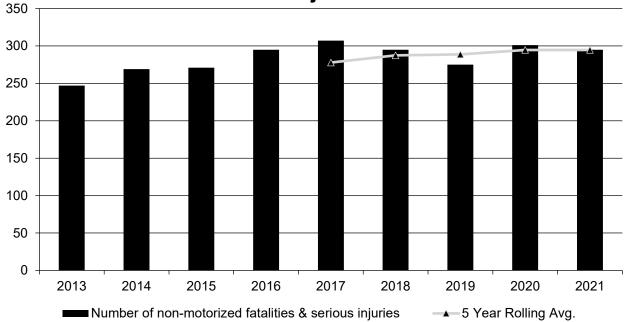








# Number of non-motorized fatalities & serious injuries



## Describe fatality data source.

**FARS** 

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

### Year 2021

	I	Teal 2021	1	
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	46.2	119.6	0.56	1.26
Rural Principal Arterial (RPA) - Other Freeways and Expressways				
Rural Principal Arterial (RPA) - Other	82	177.8	1.65	2.7
Rural Minor Arterial	86.6	259.2	2.42	5.2
Rural Minor Collector	65.4	254.8	3.07	7.97
Rural Major Collector	123	375	3.12	6.79
Rural Local Road or Street	25.8	96	1.75	5.09
Urban Principal Arterial (UPA) - Interstate	38	122.4	0.68	1.68
Urban Principal Arterial (UPA) - Other Freeways and Expressways	7	17.2	0.84	1.4
Urban Principal Arterial (UPA) - Other	76.8	293.4	1.72	4.56
Urban Minor Arterial	86.4	373.8	1.67	4.72
Urban Minor Collector				
Urban Major Collector	26.4	151.2	1.16	3.94
Urban Local Road or Street	7.2	35.4	1.25	5.03

#### 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	667.4	2,226	1.37	4.58
County Highway Agency	45.2	227.4		
Town or Township Highway Agency				
City or Municipal Highway Agency	37.2	257.4		
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)	3.4	17.2		
Indian Tribe Nation				

## Safety Performance Targets

**Safety Performance Targets** 

Calendar Year 2023 Targets \*

Number of Fatalities:764.0

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

The Kentucky Transportation Cabinet has set the target goal of 764 fatalities (5-year moving average) for fiscal year 2023. Similar to the national trend, the number of fatalities on Kentucky's public roads has been increasing the past five years, after a historically low number of fatalities in 2013. This is possibly due to factors such as increased VMT and economic growth. Despite these upward trends, KYTC remains committed to the reduction of fatalities throughout the Commonwealth. This target represents a reduction in total fatalities in calendar years 2021 and 2022 as compared to calendar years 2019 and 2020. This goal is shared with the SHSP and reiterates KYTC's commitment to the shared vision of Toward Zero Deaths.

#### Number of Serious Injuries:2658.0

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

The Kentucky Transportation Cabinet has set the target goal of 2658 serious injuries (5-year moving average) for fiscal year 2023. KYTC remains committed to the reduction of serious injuries throughout the Commonwealth. This target represents a reduction in total serious injuries in calendar years 2021 and 2022 as compared to calendar years 2019 and 2020. This goal is shared with the SHSP and reiterates KYTC's commitment to the shared vision of Toward Zero Deaths.

#### Fatality Rate: 1.575

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

The Kentucky Transportation Cabinet has set the target goal of a 1.575 fatality rate (5-year moving average) for fiscal year 2023. KYTC remains committed to the reduction of fatalities throughout the Commonwealth. This target represents a reduction in total fatalities in calendar years 2021 and 2022 as compared to calendar years 2019 and 2020. This goal is shared with the SHSP and reiterates KYTC's commitment to the shared vision of Toward Zero Deaths.

#### Serious Injury Rate:5.519

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

The Kentucky Transportation Cabinet has set the target goal of a 5.519 serious injury rate (5-year moving average) for fiscal year 2023. KYTC remains committed to the reduction of the serious injury throughout the Commonwealth. This target represents a reduction in the serious injury rate in calendar years 2021 and 2022 as compared to calendar years 2019 and 2020. This goal is shared with the SHSP and reiterates KYTC's commitment to the shared vision of Toward Zero Deaths.

### Total Number of Non-Motorized Fatalities and Serious Injuries:289.0

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

The Kentucky Transportation Cabinet has set the target goal of 289 non-motorized fatalities and serious injuries for fiscal year 2023. KYTC remains committed to the reduction of non-motorized serious injuries and fatalities throughout the Commonwealth. This target represents a reduction in total Non-Motorized fatalities and serious injuries in calendar years 2021 and 2022 as compared to calendar years 2019 and 2020. This goal is shared with the SHSP and reiterates KYTC's commitment to the shared vision of Toward Zero Deaths.

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

HSIP and KOHS partner with KYTC's Division of Planning and MPOs to coordinate performance targets.

#### 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	720.0	764.2
Number of Serious Injuries	2590.0	2799.4
Fatality Rate	1.500	1.573
Serious Injury Rate	5.400	5.760
Non-Motorized Fatalities and Serious Injuries	285.0	294.6

For the 2021 reporting period, KYTC met none of the target safety performance measures. In addition, KYTC showed significant progress towards three (3) safety performance measures, namely the Number of Fatalities, Number of Serious Injuries, and Serious Injury Rate measures. Based on this information, the overall finding is that KYTC has made significant progress toward meeting its safety performance targets.

The primary reason for the differences in the actual outcomes and targets for the safety performance measures is that KYTC was extremely aggressive in establishing the 2021 targets involving fatalities and serious injuries. When it comes to the two performance measures involving fatal collisions, KYTC understood that the baseline five (5) year average included a historically low year for highway fatalities and that this historically low year would not be included in the 2021 evaluation. Nevertheless, KYTC established the fatality-based targets at or near the 2019 baseline measures in support of the goal of showing improvement, even though it was understood that the required reductions in fatalities would be extremely difficult to achieve.

### Applicability of Special Rules

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

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	140	196	198	189	218	166	196

PERFORMANCE MEASURES	2015	2016	2017	2018	2019	2020	2021
Number of Older Driver and Pedestrian Serious Injuries		563	500	500,429	472	437	498

#### **Evaluation**

#### **Program Effectiveness**

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

Other-Initiative Basis

Due to the extent of utilization of the HSM by KYTC's HSIP, procedures for program-wide effectiveness assessment do not currently exist. Effectiveness is determined at the initiative level, utilizing such methodology as benefit/cost ratios.

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

As previously stated, effectiveness is not currently determined at the program-wide level. Effectiveness at the initiative level is determined through benefit/cost ratios were applicable as seen below in the entry entitled Countermeasure Effectiveness Evaluations and in the Executive Summary. Current and previous benefit/cost analysis has shown positive return on investment for the initiatives analyzed.

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

- Increased awareness of safety and data-driven process
- Increased focus on local road safety
- Policy change

New policy changes include the installation of 6" durable striping on all State Primary Routes as well as the systemic application of 6" striping on all rural, two-lane routes with a travel lane width of 20' or greater and ADT of 1,000 or more. Kentucky has also published a Data Driven Safety Analysis (DDSA) implementation plan, which describes the various ways to increase DDSA methods throughout the state.

### Effectiveness of Groupings or Similar Types of Improvements

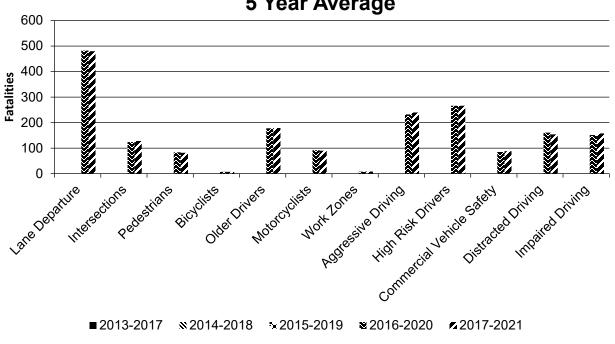
### Present and describe trends in SHSP emphasis area performance measures.

#### 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	Other (define)	479.8	1,591.6	0.99	3.28
Intersections	Intersections	128.2	661.6	0.26	1.36
Pedestrians	Vehicle/pedestrian	81.6	172.4	0.17	0.36
Bicyclists	Vehicle/bicycle	7	33.6	0.01	0.07

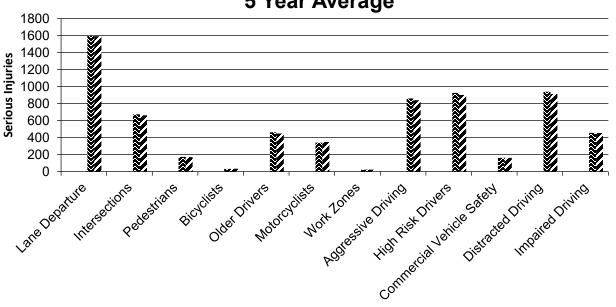
SHSP Emphasis Area	Targeted Crash Type	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Older Drivers	Other (define)	178.8	447.6	0.37	0.92
Motorcyclists	Other (define)	90	348.8	0.19	0.72
Work Zones	Other (define)	8.2	23	0.02	0.05
Aggressive Driving	Other (define)	239.6	839.4	0.49	1.73
High Risk Drivers	Other (define)	266	901.2	0.55	1.85
Commercial Vehicle Safety	Truck-related	87.8	161.6	0.18	0.33
Distracted Driving	Other (define)	153.8	912.2	0.32	1.88
Impaired Driving	Other (define)	157.6	453.2	0.33	0.93



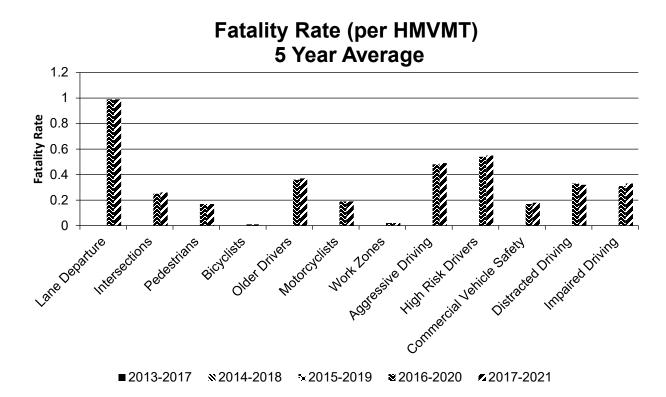


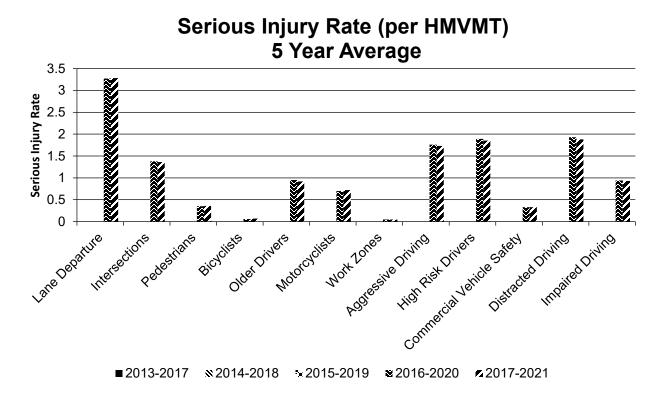
**2013-2017** ×2014-2018 ×2015-2019 2017-2021

## **Number of Serious Injuries 5 Year Average**



**■**2013-2017 №2014-2018 ×2015-2019 **≥**2016-2020 2017-2021





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

No

See Executive Summary.

## Project Effectiveness

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

N/A

## **Compliance Assessment**

What date was the State's current SHSP approved by the Governor or designated State representative? 03/26/2020

What are the years being covered by the current SHSP?

From: 2020 To: 2024

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

2024

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.)	AME (MIRE NON LOCAL PAVED ROADS - SEGMENT			NON LOCAL PAVED ROADS - INTERSECTION		ED	LOCAL PAVED RO	DADS	UNPAVED ROADS	
	NO.)	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	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	100	100
	End Point Segment Descriptor (11) [11]	100	100					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	100	100
	Median Type (54) [55]	100	100								

ROAD TYPE	*MIRE NAME (MIRE	NON LOCAL PAVI ROADS - SEGMEN		NON LOCAL PAV ROADS - INTERS		NON LOCAL PAVI ROADS - RAMPS	ED	LOCAL PAVED R	OADS	UNPAVED ROADS	
	NO.)	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	45		
	Average Annual Daily Traffic (79) [81]	100	100					100	3.67		
	AADT Year (80) [82]	100	100								
	Type of Governmental Ownership (4) [4]	100	100					100	100	100	100
INTERSECTION	Unique Junction Identifier (120) [110]			100	100						
	Location Identifier for Road 1 Crossing Point (122) [112]			100	100						
	Location Identifier for Road 2 Crossing Point (123) [113]			100	100						
	Intersection/Junction Geometry (126) [116]			100	100						
	Intersection/Junction Traffic Control (131) [131]			100	100						
	AADT for Each Intersecting Road (79) [81]			81	81						
	AADT Year (80) [82]			13	8						
	Unique Approach Identifier (139) [129]			100	100						
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	100				
	Roadway Type at End Ramp Terminal (199) [189]					100	100				
	Interchange Type (182) [172]					100	100				
	Ramp AADT (191) [181]					85	100				
	Year of Ramp AADT (192) [182]					85	100				
	Functional Class (19) [19]					100	100				
	Type of Governmental Ownership (4) [4]					100	100				
Totals (Average Percent Complete):		100.00	100.00	86.75	86.13	97.27	100.00	100.00	83.19	100.00	100.00

<sup>\*</sup>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.

The State will continue to collect the MIRE fundamental data elements on all public roads and is on-target to meet the deadline.

## **Optional Attachments**

Program Structure:	

HSIP Investment Plan.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.