



COLORADO

HIGHWAY SAFETY IMPROVEMENT PROGRAM 2020 ANNUAL REPORT



U.S. Department of Transportation
Federal Highway Administration

Photo source: Federal Highway Administration

Table of Contents

Disclaimer 3
 Protection of Data from Discovery Admission into Evidence 3
Executive Summary 4
Introduction 6
Program Structure..... 6
 Program Administration 6
 Program Methodology 10
Project Implementation 15
 Funds Programmed..... 15
 General Listing of Projects 18
Safety Performance 23
 General Highway Safety Trends..... 23
 Safety Performance Targets..... 29
 Applicability of Special Rules..... 31
Evaluation 33
 Program Effectiveness 33
 Effectiveness of Groupings or Similar Types of Improvements 34
 Project Effectiveness 37
Compliance Assessment..... 38
Optional Attachments..... 42
Glossary..... 43

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. 148(h)(4) states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for any purpose relating to this section[HSIP], shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location identified or addressed in the reports, surveys, schedules, lists, or other data.23 U.S.C. 409 states “Notwithstanding any other provision of law, reports, surveys, schedules, lists, or data compiled or collected for the purpose of identifying, evaluating, or planning the safety enhancement of potential accident sites, hazardous roadway conditions, or railway-highway crossings, pursuant to sections 130, 144, and 148 of this title or for the purpose of developing any highway safety construction improvement project which may be implemented utilizing Federal-aid highway funds shall not be subject to discovery or admitted into evidence in a Federal or State court proceeding or considered for other purposes in any action for damages arising from any occurrence at a location mentioned or addressed in such reports, surveys, schedules, lists, or data.”

Executive Summary

The number of fatalities in Colorado have decreased in 2019 as compared to the previous year, even with increasing vehicle mile traveled (VMT). As a result, fatality rates have also decreased. The crash data shows three specific areas where the fatalities increased from 2018: older driver (age 65 or older), construction zone and weather related. Motorcycle fatalities in 2019 were about the same as the previous year. For non-motorized crashes, fatalities were down, but serious injuries went up in 2019. Other crash categories decreased or remained approximately the same.

Colorado's HSIP program is administered by the Traffic & Safety Engineering (TSE) Branch at CDOT headquarters (HQ) and coordinates with the CDOT Office of Transportation Safety (which is the State Highway Safety Office or SHSO) to ensure that safety programs align with each other's objectives. The TSE branch actively engages with regional staff to coordinate efforts to research and analyze the need for safety improvements on segments and intersections statewide. The group provides subject matter expertise in safety and crash analyses to all roadway projects delivered by the Regions. The TSE staff also communicates and works directly with external entities and governing bodies such as FHWA, state and local law enforcement officials, other state agencies, metro planning organizations (MPO), municipalities, counties, as well as other interested parties.

Colorado has officially updated its Strategic Highway Safety Plan (SHSP) in April 2020. Referred to as the "Strategic Transportation Safety Plan" (STSP) in Colorado, the STSP is a great tool to unify safety efforts in the state, as it is a comprehensive plan for transportation safety. Local agencies were invited and encouraged to participate in the STSP update and the subsequent implementation. They often participated in the emphasis area teams, for safety program or project design and implementation. About 1,200 safety professionals were invited to various stakeholder meetings across the state in 2019, with hundreds contributing to the strategic plan.

Colorado programmed a total of \$49,896,311 of Federal HSIP funding (not including state or local match) towards safety improvement projects in state fiscal year (FY) 2020. During this reporting period, five percent of HSIP funding was programmed towards local (non-state highway) safety projects. Some of the reasons for the low participation include lack of local agency knowledge of the opportunity, lack of readily available data, non-existent technical support, cumbersome federal aid program laws and regulations, lack of time and matching funds. CDOT recognizes these local agency challenges and has strategies planned to address them. One strategy changed this year by CDOT was to initiate annual solicitation for local agency projects, increased from soliciting every three or four years. In addition, a Safety Circuit Rider (SCR) program that was implemented in 2019 is expected to increase awareness and projects from local agencies in the future. The purpose of the SCR is to provide safety related education, training, outreach and support to local agency safety stakeholders under the direction of CDOT and in coordination with the Colorado Local Technical Assistance Program (LTAP).

The High Risk Rural Roads (HRRR) special rule was in effect for this reporting period. Colorado is planning to integrate more systemic safety treatments as part of the HSIP in upcoming years. This systemic approach should help Colorado deliver more HRRR projects, specifically along local roads.

In this reporting period, \$11,592,970 was transferred out of the HSIP to CDOT's Strategic Safety Program as directed by executive management. The Strategic Safety Program is focused on decreasing the frequency and severity of crashes through several systemic statewide safety treatments identified to improve safety and operations. This is meant to provide a more flexible source of funding for safety improvements projects that otherwise may not be able to practically utilize federal funding. The amount transferred is approximately equal to the amount of section 164 penalty funds that Colorado is required to obligate in Federal FY 2020.

In addition to HSIP, CDOT utilizes other sources of funding for safety improvement projects and treatments.

2020 Colorado Highway Safety Improvement Program

The Funding Advancement for Surface Transportation and Economic Recovery Act of 2009 (FASTER) established the Road Safety Fund to support the construction, reconstruction, or maintenance roadway projects. The state Transportation Commission, a county, or a municipality, determines which projects are needed to enhance the safety of a state highway, county road, or city street. The funding dollars are allocated based on a statutory formula: 60% to CDOT, 22% to counties, and 18% to municipalities. For CDOT, the FASTER Safety Mitigation (FSM) program provides approximately \$70 million per year to improve safety along state owned highways.

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.

Colorado's HSIP program is administered by the Traffic and Safety Engineering (TSE) Branch at CDOT headquarters (HQ) under the Office of the Chief Engineer.

Regional CDOT traffic and safety engineering staff work internally and in consort with local agencies to identify projects with safety improvement needs. Initial review and analysis occur at this regional level. Upon acceptance by the region as a viable and potentially necessary safety project, the region makes a request to HQ for final review and analysis and associated HSIP funding eligibility criteria. The HQ TSE staff conducts an independent analysis of the project, including a detailed Benefit/Cost analysis, calculation of predicted crashes mitigated, a review of crash patterns, and a review of the crash modification factor used. Upon completion of final review and quantitative and qualitative analysis by HQ TSE staff of projects submitted by CDOT Regional traffic and safety engineering, the projects are either approved or denied and budgeted accordingly against the projected regional allocation for the fiscal year in which the funding is needed. In an effort to increase safety overall across the state, thorough dialogue between HQ and the requesting region occurs on a project-by-project basis when additional information, background, or data are needed in the event that a project appears to fall short of eligibility. Additionally, because projects that are awarded HSIP funding are required to address individual areas of focus as defined within the Strategic Highway Safety Plan (SHSP), as part of the review and analysis process, our group confirms that such projects do in fact fall within the SHSP areas of focus. In 2020, the updated SHSP was re-titled the Strategic Transportation Safety Plan (STSP), with the idea that it encompasses more than highways in the plan.

Upon approval of such HSIP funding the CDOT regions are responsible for final project delivery on-system. In the event that a local agency is receiving HSIP funding for off-system safety improvements, the CDOT regional staff coordinate with such local agencies regarding HSIP funding to enable these local agencies to deliver these projects.

Where is HSIP staff located within the State DOT?

Engineering

HSIP is managed in the Traffic and Safety Engineering Branch, under the Office of the Chief Engineer.

How are HSIP funds allocated in a State?

- Formula via Districts/Regions

2020 Colorado Highway Safety Improvement Program

Based on historical crash distribution within each of the five regions in Colorado.

FY 2020 Distribution

Region 1: 52.9%

Region 2: 16.9%

Region 3: 9.3%

Region 4: 17.2%

Region 5: 3.7%

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

Under this program, all public roadways are eligible for participation, including roads on tribal lands; there are two tribes in Colorado, Ute Mountain and Southern Ute. Submittals for projects not located on the State Highway system are solicited from local authorities with the support of the Metropolitan Planning Organizations (MPOs) and Transportation Planning Regions (TPRs). These candidate proposals for safety improvement projects are submitted for locations identified by local agencies. As with the CDOT Region applications, all submittals will be required to meet the minimum criteria. Project applications from local agencies are received by the regional traffic offices for review before being forwarded to the HQ Traffic and Safety Engineering Office for evaluation and approval. The Region offices are specifically requested to verify project cost estimates, and when necessary, are also requested to make project cost adjustments with the submitting local authorities' concurrence. It is our hope that through increased outreach and education by CDOT, in concert with local agency efforts, more applications for HSIP funding will be received in future solicitations.

Approximately half of the HSIP funding is allocated toward off-system locations (including tribal lands) because approximately half of all statewide crashes occur off system. The allocation is based on statewide crash distribution. In recent years, there have not been enough off-system safety improvement projects to use the full-allocated amount. In such cases, the state will apply those unused funds for state highway safety improvement projects. CDOT will look to offer more support in helping local agencies submit enough projects to account for their full allocation in the future with the help of the Safety Circuit Rider (SCR) program.

The purpose of the SCR program is to provide safety related education, training, outreach and support to local agency safety stakeholders under the direction of the Colorado Local Technical Assistance Program (CLTAP) and CDOT. The need for a SCR program is clearly manifested by the fact that most local agencies in the Colorado, particularly the ones in smaller communities, lack resources and technical expertise to properly and routinely identify, diagnose, treat safety deficiencies and/or implement adequate countermeasures. These resources and tools are typically afforded by CDOT and some of the larger cities and counties in the State. The SCR program is designed to greatly enhance technical capabilities at the local level and help bridge existing safety related expertise gaps, resulting in overall reduction of crashes on local roads. Local roads typically experience about 40% of the statewide annual fatalities. CDOT is also working to promote and develop more county and municipal Local Road Safety Plans (LRSP) with the assistance from the SCR program to serve our local agency partners better in improving roadways safety for the traveling public.

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
- Maintenance

2020 Colorado Highway Safety Improvement Program

- Operations
- Planning
- Traffic Engineering/Safety
- Other-Office of Financial Management & Budget
- Other-Division of Transportation Development (DTD)

Describe coordination with internal partners.

The CDOT HQ Traffic and Safety Engineering (TSE) branch actively engages with regional staff to coordinate efforts to research and analyze the need for safety improvements on segment and intersections statewide. The group provides subject matter expertise in safety and crash analyses to all roadway projects delivered by the Regions.

The TSE staff periodically produces a statewide composite listing of potential locations for crash reduction is compiled for all highway segments and intersections performing at a sub-standard level of service of safety (LOSS) as well as identifying crash patterns that are over-represented at those locations. This listing is provided to each of the five CDOT Regions where their respective traffic units, roadway design staff and transportation planners can coordinate and select appropriate safety improvement projects with the goal of reducing roadway fatalities and serious injuries. The Regions use the listing along with other information such as their own operational reviews, input from citizens, staff and city/county personnel as well as other ongoing or scheduled construction activities in order to determine the most feasible and beneficial candidate safety projects. The Region may also choose to nominate other safety project locations besides those mentioned on the listing. Applications for new highway safety improvement projects are sent from the Regions to the TSE branch for evaluation to determine safety program (both HSIP and FASTER Safety Mitigation) eligibility and level of funding.

The TSE branch coordinates efforts with the Office of Transportation Safety (OTS) to ensure that safety programs align with each other's objectives. The OTS handles most behavioral safety projects and contributes greatly to the Strategic Highway Safety Plan (SHSP) implementation and update process, which was updated in 2020. The 2020 - 2024 SHSP is called the Strategic Transportation Safety Plan (STSP). The TSE branch also coordinates with the Division of Transportation Development (DTD) and the Division of Maintenance & Operations (DMO) for information exchange and for better organization to achieve shared safety goals. The DTD provides roadway data for all CDOT projects, including roadway characteristics, traffic counts and asset management. The DMO attempts to coordinate replacement and maintenance work with safety standards and improvements to roadway safety. The TSE branch works with the Office of Financial Management & Budget (OFMB) to determine the amount of HSIP funding available for the current fiscal year as well as how much is anticipated to be available in future fiscal years for HSIP project planning and scheduling. The TSE branch also works with OFMB to obtain status updates on HSIP obligation and expenditure amounts for ongoing projects.

Identify which external partners are involved with HSIP planning.

- FHWA
- Governors Highway Safety Office
- Law Enforcement Agency
- Local Government Agency
- Local Technical Assistance Program
- Regional Planning Organizations (e.g. MPOs, RPOs, COGs)
- Tribal Agency

Describe coordination with external partners.

In an effort to maintain consistency in data, analysis, and understanding of safety needs statewide, and subsequent implementation of safety improvement projects, the CDOT HQ Traffic and Safety Engineering (TSE) staff communicates and works directly with external entities and governing bodies such as FHWA, state and local law enforcement officials, other state agencies, MPOs, municipalities, counties, and other interested parties. Additionally, at the regional level, the regions coordinate more directly with local government officials, citizens, the media and other stakeholders having traffic and safety concerns that are specific to their region. These individual areas of focus enable the regions to be more directly in touch with local safety needs for which HSIP funding may be eligible. This leads to CDOT's overall ability to integrate HSIP funded solutions utilized within any specific region into the statewide efforts to reduce crashes, crash severity, and progress toward the goal of zero deaths and serious injuries.

The Colorado Strategic Transportation Safety Plan (STSP) is a great tool to unify safety efforts in the state, as it is a comprehensive plan for transportation safety. Local agencies were invited and encouraged to participate in the STSP update and subsequent implementation. Many participated in stakeholder meetings or in the emphasis area teams, for safety programs or project design and implementation. Also instrumental in the strategic plan update was FHWA and other state partners. Their participation and input led to a more comprehensive and useful tool to guide Colorado through the next 5 years.

The CDOT HQ TSE Branch is involved with the Statewide Traffic Records Advisory Committee (STRAC). The STRAC consists of many state and local agencies involved in traffic safety, including law enforcement. The STRAC attempts to unify efforts across the state to provide accurate, complete and timely traffic records data, which is instrumental to program and project selection and coordination.

Describe HSIP program administration practices that have changed since the last reporting period.

CDOT TSE distributes a solicitation letter to all county and municipal traffic engineers and/or heads of the public works department. This request is for new HSIP projects from local agencies for safety improvements on the local/county roads. This process now takes place annually instead of every 3-4 years.

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

The High Risk Rural Roads (HRRR) special rule was in effect for this reporting period, requiring obligation of \$2,826,084 during federal fiscal year 2020. There was also \$11,566,686 of section 164 penalty funds assigned to the HSIP which also must be obligated during federal fiscal year 2020.

In addition to HSIP, CDOT utilizes other sources of funding for safety improvement projects and treatments. The Funding Advancement for Surface Transportation and Economic Recovery Act of 2009 (FASTER) established the Road Safety Fund to support the construction, reconstruction, or maintenance roadway projects. The state Transportation Commission, a county, or a municipality, determines which projects are needed to enhance the safety of a state highway, county road, or city street. The funding dollars are allocated based on a statutory formula: 60% to CDOT, 22% to counties, and 18% to municipalities. For CDOT, the FASTER Safety Mitigation (FSM) program provides approximately \$70 million per year to improve safety along state owned highways.

Program Methodology

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

Yes

Colorado continues on revising the current HSIP manual to address findings and recommendations from the most recent FHWA assessment of the program. In the next version, CDOT will include a systemic approach methodology. It will also provide additional information and guidance for local agencies on how to apply for HSIP funding for safety improvement construction projects along off-system locations.

Select the programs that are administered under the HSIP.

- HRRR
- HSIP (no subprograms)
- Other-General

Many of the projects selected for HSIP funding fit one of these program types. However, there is no over-riding program, or a different unit of CDOT or agency that manages the program.

Program: HRRR

Date of Program Methodology: 4/4/2017

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?

Funding set-aside

What data types were used in the program methodology?

Crashes

- All crashes

Exposure

- Traffic
- Volume

Roadway

- Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Excess expected crash frequency using SPFs
- Excess expected crash frequency with the EB adjustment
- Excess proportions of specific crash types
- Expected crash frequency with EB adjustment
- Level of service of safety (LOSS)
- 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?

Yes

How are projects under this program advanced for implementation?

- Competitive application process

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

Rank of Priority Consideration

Ranking based on B/C:2

Available funding:1

Program: HSIP (no subprograms)

Date of Program Methodology:9/1/2016

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?

Other-Regional Distribution By Crash Totals

What data types were used in the program methodology?

Crashes

- All crashes

Exposure

- Traffic
- Volume

Roadway

- Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Excess expected crash frequency using SPFs
- Excess expected crash frequency with the EB adjustment
- Excess proportions of specific crash types
- Expected crash frequency with EB adjustment
- Level of service of safety (LOSS)

2020 Colorado Highway Safety Improvement Program

- 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?

Yes

How are projects under this program advanced for implementation?

- Competitive application process

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

Rank of Priority Consideration

Ranking based on net benefit:2

Cost Effectiveness:1

Program: Other-General

Date of Program Methodology:1/1/2000

What is the justification for this program?

- Addresses SHSP priority or emphasis area
- FHWA focused approach to safety

What is the funding approach for this program?

Other-Regional Distribution By Crash Totals

What data types were used in the program methodology?

Crashes

- All crashes

Exposure

- Traffic
- Volume

Roadway

- Functional classification

What project identification methodology was used for this program?

- Crash frequency
- Excess expected crash frequency using SPFs
- Excess expected crash frequency with the EB adjustment
- Excess proportions of specific crash types

2020 Colorado Highway Safety Improvement Program

- Expected crash frequency with EB adjustment
- Level of service of safety (LOSS)
- 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?

Yes

How are projects under this program advanced for implementation?

- Competitive application process

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

Rank of Priority Consideration

Ranking based on B/C:2

Available funding:1

What percentage of HSIP funds address systemic improvements?

10

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

- Add/Upgrade/Modify/Remove Traffic Signal
- Cable Median Barriers
- Clear Zone Improvements
- High friction surface treatment
- Horizontal curve signs
- Install/Improve Lighting
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- Pavement/Shoulder Widening
- Rumble Strips
- Safety Edge
- Upgrade Guard Rails
- Wrong way driving treatments

Colorado continues to explore applying more systemic improvements as part of their safety programs.

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
- Other-Requests by local agencies for investigations
- Other-Independent Research & Peer State Communication

The Colorado SHSP was recently updated and identifies several specific countermeasures used by the state.

Does the State HSIP consider connected vehicles and ITS technologies?

Yes

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

HSIP funding can be provided to connected vehicle and ITS technology projects which incorporate components that are known to mitigate crashes or crash types. Many of these advanced technology applications can now be found on the CMF clearinghouse or through other viable research papers.

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.

Quantitative analysis methodology as described within the 1st Edition (2010) of the Highway Safety Manual (HSM) is incorporated into the software, manual techniques, and systemic analysis processes that are employed by the CDOT Traffic & Safety Engineering staff who are charged with responsibly determining HSIP funding eligibility for safety related projects statewide. Subject matter from the HSM that is incorporated into CDOT's HSIP efforts includes but is not limited to the following: Fundamentals, Data Requirements, CMF/CRF Selection, Safety Performance Functions(s) (SPF's) Development, Diagnostics, Countermeasure Selection, Economic Appraisal (Benefit/Cost analysis), Predictive Methodology, Network Screening, etc.

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

Colorado has shifted to having an annual call for local agency HSIP projects to help improve local participation.

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

In addition to the HSM methodology that Colorado has incorporated into the HSIP efforts, CDOT and its consultants have developed, and continue to develop and refine Safety Performance Functions (SPF's) baseline normative crash expectancy details that are specific to Colorado roadways, highways, freeways, interchanges, and intersections. CDOT believes this method allows the agency to be better prepared to address the specific safety concerns on Colorado roadways with respect to Colorado ADT, specific driving conditions, and driving habits.

Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State Fiscal Year

State Fiscal Year 2020 (July 1, 2019 - June 30, 2020)

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	\$29,661,387	\$17,216,892	58.04%
HRRR Special Rule (23 U.S.C. 148(g)(1))	\$8,668,238	\$4,998,407	57.66%
Penalty Funds (23 U.S.C. 154)	\$0	\$0	0%
Penalty Funds (23 U.S.C. 164)	\$11,566,686	\$11,566,686	100%
RHCP (for HSIP purposes) (23 U.S.C. 130(e)(2))	\$0	\$0	0%
Other Federal-aid Funds (i.e. STBG, NHPP)	\$0	\$0	0%
State and Local Funds	\$0	\$0	0%
Totals	\$49,896,311	\$33,781,985	67.7%

- Although HRRR is showing as 57.66% obligated of programmed for state fiscal year 2020, it is actually 100% obligated for federal fiscal year 2020.
- Obligation totals may include amounts programmed from previous fiscal years.
- State and local matching funds are not included in this table as these funds are not tracked in the same way as the federal funds.

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

\$2,626,632

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

\$1,792,040

Obligation totals may include amounts programmed from previous fiscal years.

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

\$414,772

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

\$1,117,419

Obligation totals may include amounts programmed from previous fiscal years which is why obligated amounts exceed programmed amounts.

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?

\$11,592,970

In this reporting period, \$11,592,970 was transferred out of the HSIP to CDOT's Strategic Safety Program as directed by executive management. The Strategic Safety Program is focused on decreasing the frequency and severity of crashes through several systemic statewide safety treatments identified to improve safety and operations. This is meant to provide a more flexible source of funding for safety improvements projects that otherwise may not be able to practically utilize federal funding. The safety treatments include, but are not limited to:

- 6-inch striping
- Median cable rail
- Rumble strips, center line and edge line
- Variable speed limits for weather events
- MASH compliant guardrail

The amount transferred is approximately equal to the amount of section 164 penalty funds that Colorado is required to obligate in Federal FY 2020.

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

CDOT's Office of Financial Management and Budget (OFMB) does not typically obligate HSIP funding until the project has invoices submitted while under construction. The purpose of this is limit the possibility of having inactive projects. However, this does impact Colorado HSIP obligation rates as this tends to result in delayed obligation of funds for HSIP projects. There are longer than expected start up times for safety improvement projects, especially those run by local agencies. Special attention will now be given to construction scheduling and priority for fund programming will be given to projects that can deliver on a timely basis.

Only 5% of HSIP funding was programmed towards local (non-state highway) safety projects in FY 2020. Based on the survey responses and interviews from a 2018 HSIP assessment, some of the reasons for this include lack of local agency knowledge of the opportunity, lack of readily available data, non-existent technical support, cumbersome federal aid program laws and regulations, lack of time and matching funds.

In FY 2020, CDOT has started a Safety Circuit Rider (SCR) program to reach out and offer technical support to local agencies. This includes assistance to local agencies in submitting HSIP project applications for safety improvement projects along off system locations that have high potential for reducing crashes. Colorado has also shifted to having an annual call for local agency projects to help improve local participation. 44 HSIP applications across 25 local agencies were received during the FY 2020 call for projects. Of these 44, 36 applications were approved for HSIP funding in the amount of \$25.0 million. These local agency projects are planned for FY 2022 and FY 2023.

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

CDOT's Office of Financial Management & Budget (OFMB) is working with the HSIP program managers to find ways to manage Section 164 penalty funds so that those funds can be obligated immediately. It is anticipated that Section 164 penalty funding will continue into future fiscal years in Colorado.

General Listing of Projects

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

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST(\$)	TOTAL PROJECT COST(\$)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
US287 & Orchards Shopping Center HES	Intersection traffic control	Intersection traffic control - other	1	Intersections	\$296236	\$296236	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	36,000		State Highway Agency	Spot	Intersections	Modify Control: modify signal phasing.
BUILD ROUNDABOUT @ PRINTERS PARKSIDE	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	\$561433	\$934781	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	5,500		City or Municipal Highway Agency	Spot	Intersections	Modify Control: construct roundabout.
I-70 GW Canyon Variable Speed Signing	Advanced technology and ITS	Dynamic message signs	17	Miles	\$6612967	\$8665929	Penalty Funds (23 U.S.C. 164)	Rural	Principal Arterial-Interstate	17,000		State Highway Agency	Spot	Roadway Departure	Dynamic Message Signs: Install variable speed limiting signing.
SHERIDAN BLVD MULTIUSE PATH: 6TH TO 10TH	Access management	Change in access - close or restrict existing access	1	Intersections	\$262400	\$1262400	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	43,000		State Highway Agency	Spot	Intersections	Raised Island: center median to eliminate crossover.
SH83A(LEETSDALE):MISS TO COLO(SH2)	Access management	Raised island - install new	3	Intersections	\$340000	\$5359186	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	34,000		State Highway Agency	Spot	Intersections	Raised Island: Raised centerline Median, RIRO raised island.
US 50 and SH 92 Delta Intersection	Access management	Raised island - install new	1	Intersections	\$400000	\$4482784	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	8,500		State Highway Agency	Spot	Intersections	Raised Island: Raised median to prevent crossing over.
HWY 94 & PEYTON HWY INT. IMPR.	Intersection geometry	Auxiliary lanes - add left-turn lane	1	Intersections	\$2286528	\$2362254	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	2,800		State Highway Agency	Spot	Intersections	Auxiliary Lanes: Construct left turn lanes with deceleration lanes.
JOLLY RD (CR 34) BRIDGE OVER FIRST CREEK	Roadside	Barrier - other	3	Locations	\$450000	\$975000	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Multiple/Varies	284		County Highway Agency	Systemic	Roadway Departure	Barrier: Install new guardrail & bridge rail.
US-6, SH-119 TO SH-58	Shoulder treatments	Shoulder treatments - other	3	Locations	\$500000	\$760000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	7,800		State Highway Agency	Spot	Roadway Departure	Shoulder Treatments: widening, install guardrail, rumble strips, safety edge, curve warn signs, lighting.

2020 Colorado Highway Safety Improvement Program

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST(\$)	TOTAL PROJECT COST(\$)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
SH40 & SH121 CDOT SIGNAL IMP FY19	Intersection traffic control	Modify traffic signal - add flashing yellow arrow	1	Intersections	\$553000	\$2484333	HSIP (23 U.S.C. 148)	Urban	Minor Arterial	15,000		State Highway Agency	Spot	Intersections	Modify traffic signal: reflective backplates & flashing yellow phasing & update mast arms.
Boulder Intersection Improvements	Intersection geometry	Intersection geometry - other	3	Intersections	\$906199	\$998000	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	12,500		City or Municipal Highway Agency	Spot	Intersections	Intersection Geometry: Realign intersection to 90 degrees, dedicated right turn lanes.
Various Loveland Left Turn Signals	Intersection traffic control	Modify traffic signal - add flashing yellow arrow	37	Intersections	\$597000	\$663334	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	34,000		City or Municipal Highway Agency	Systemic	Intersections	Modify Traffic Signal: add Left turn signal head with flashing yellow.
R2 I-25 & 24H WRONG WAY PREVENTION	Roadway signs and traffic control	Roadway signs and traffic control - other	165.66	Miles	\$1964663	\$2643336.25	Penalty Funds (23 U.S.C. 164)	Urban	Principal Arterial-Interstate	76,000		State Highway Agency	Systemic	Intersections	Roadway signs & traffic control: wrong way arrow markings, move do not enter signage.
US 160 MP 126 TO 129 WL Crossings	Roadside	Roadside - other	1.8	Miles	\$5800000	\$11079059.68	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Principal Arterial-Other	5,000		State Highway Agency	Spot	Infrastructure	Roadside: wild animal over/underpass, deer fencing, jump outs.
US 160 WOLF CREEK WEST FIBER	Advanced technology and ITS	Advanced technology and ITS - other	9	Miles	\$250000	\$735108	HSIP (23 U.S.C. 148)	Rural	Principal Arterial-Other	3,000		State Highway Agency	Spot	Roadway Departure	Advanced Technology & ITS: VMS, WIM, VMS.
SH 21 & 16 SIGNALS PROJECT	Intersection traffic control	Intersection traffic control - other	1	Intersections	\$404925	\$1951219	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	10,500		State Highway Agency	Spot	Intersections	Intersection Traffic Control: two-way-stop to Install new signal
CCD FY18 HSIP PKG 1 -	Intersection traffic control	Intersection traffic control - other	2	Intersections	\$540000	\$600000	HSIP (23 U.S.C. 148)	Urban	Local Road or Street	15,000		City or Municipal Highway Agency	Spot	Intersections	Intersection Traffic Control: signalize intersection with protected LTs.
CCD FY18 HSIP PKG 4 -	Intersection traffic control	Modify traffic signal - miscellaneous/other/unspecified	3	Intersections	\$225000	\$225000	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	42,500		City or Municipal Highway Agency	Spot	Intersections	Modify Traffic Signal: Rebuild mast arms, signal heads & ensure signal head over each lane.

2020 Colorado Highway Safety Improvement Program

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST(\$)	TOTAL PROJECT COST(\$)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
CCD FY18 HSIP PKG5 -	Intersection traffic control	Modify traffic signal - miscellaneous/other/unspecified			\$150000	\$150000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	30,000		State Highway Agency	Spot	Intersections	Modify Traffic Signal: Eliminate turning movements, Permissive to protected.
SPAULDING ROUNDABOUT	Intersection traffic control	Modify control - two-way stop to roundabout	1	Intersections	\$450001	\$500000	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Minor Collector	3,650		Town or Township Highway Agency	Spot	Intersections	Modify Control: construct 3-leg roundabout.
SH2 & SH95 CCD SIGNALS & MEDIANS FY20	Access management	Raised island - install new	8	Intersections	\$1284828	\$2113328	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	50,000		State Highway Agency	Spot	Intersections	Access Management: raised median preventing crossover movements, right turn channelization.
SOUTH FEDERAL BLVD SAFETY IMPROVEMENTS	Access management	Raised island - install new	2.63	Miles	\$3353971	\$3361372	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	39,000		State Highway Agency	Spot	Intersections	Raised Island: prevent left turn movements.
SB I-225 PARKER RD RAMP SAFETY PROJ	Interchange design	Installation of new lane on ramp	1	Ramps	\$4116124	\$4471577	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	128,000		State Highway Agency	Spot	Intersections	Interchange Design: Add second exit lane for storage capacity.
SH 391-KIPLING/US 285 HAMPDEN IMP	Intersection geometry	Auxiliary lanes - modify turn lane storage	1	Intersections	\$22000	\$22000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other Freeways & Expressways	50,000		State Highway Agency	Spot	Intersections	Auxiliary Lanes: Add SB storage lane.
I-25 CABLE BARRIER PHASE IV	Roadside	Barrier - cable	14.2	Miles	\$3036790	\$3036790	HSIP (23 U.S.C. 148)	Multiple/Vari es	Principal Arterial-Interstate	40,000		State Highway Agency	Spot	Roadway Departure	Barrier: install median cable rail.
FY19 HSIP PKG 1	Intersection traffic control	Modify traffic signal - modify signal mounting (spanwire to mast arm)	1	Intersections	\$158000	\$160000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	155,000		State Highway Agency	Spot	Intersections	Modify Traffic Signal: Replace span wire, all new signals.
AURORA SIGNALS 2019	Intersection traffic control	Modify traffic signal - modernization/replacement	1	Intersections	\$65000	\$135000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	45,000		State Highway Agency	Spot	Intersections	Modify Traffic Signal: partial reconstruction for protected turns, retroreflective backplates.

2020 Colorado Highway Safety Improvement Program

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST(\$)	TOTAL PROJECT COST(\$)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
R4 Signal Head Backplate Install	Intersection traffic control	Modify traffic signal - add backplates with retroreflective borders	400	Signal heads	\$1305424	\$1330006	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	11,000		State Highway Agency	Systemic	Intersections	Modify Traffic signal: retroreflective backplates.
I70 & KIPLING NORTH PHASE	Intersection traffic control	Intersection traffic control - other	1	Intersections	\$3285358	\$3617860	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Interstate	145,000		State Highway Agency	Spot	Intersections	Intersection Traffic Control: Upgrade signals, modify ramp intersection geometry.
I-70 @ SHERIDAN & HARLAN SAFETY	Intersection traffic control	Intersection traffic control - other	1	Intersections	\$234000	\$534000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	34,000		State Highway Agency	Spot	Intersections	Intersection Traffic Control: Ramp intersection realignment, protected/permisive & FYA ramp access.
R5 FY19 CENTER LINE RUMBLE STRIPS	Roadway	Rumble strips - center	308.74	Miles	\$668000	\$1199816	HRRR Special Rule (23 U.S.C. 148(g)(1))	Rural	Multiple/Varies	7,500		State Highway Agency	Systemic	Lane Departure	Rumble Strips: install centerline rumble strips.
FEDERAL BLVD & US36 TRAFFIC SIGNALS	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecified	2	Intersections	\$290000	\$290000	HSIP (23 U.S.C. 148)	Urban	Principal Arterial-Other	100,000		State Highway Agency	Spot	Intersections	Intersection Geometrics: geometric improvements, channel islands reconstruction, advance guidance signs.
R3 I-70 Wrong Way Detection	Advanced technology and ITS	Advanced technology and ITS - other	213	Miles	\$185000	\$185000	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Interstate	24,100		State Highway Agency	Systemic	Infrastructure	Advanced Technology & ITS: enhanced wrong way signing & active detection.
R3 Intersection Conflict Warning System	Advanced technology and ITS	Advanced technology and ITS - other	3	Intersections	\$130000	\$130000	HSIP (23 U.S.C. 148)	Rural	Minor Arterial	2,100		State Highway Agency	Spot	Intersections	Advanced Technology & ITS: Intersection conflict warning systems.
WWD TRAFFIC CONTROL ENHANCEMENTS PHASE 2	Advanced technology and ITS	Advanced technology and ITS - other	305.3	Miles	\$2777073	\$3085637	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	150,000		State Highway Agency	Systemic	Infrastructure	Advanced Technology & ITS: ITS wrong way detection, signs & flashers.

2020 Colorado Highway Safety Improvement Program

PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST(\$)	TOTAL PROJECT COST(\$)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
WWD TRAFFIC CONTROL ENHANCEMENTS PHASE 1	Advanced technology and ITS	Advanced technology and ITS - other	305.3	Miles	\$250000	\$2855682	HSIP (23 U.S.C. 148)	Urban	Multiple/Varies	150,000		State Highway Agency	Systemic	Infrastructure	Advanced Technology & ITS: ITS enhanced wrong way detection & signing.
SAFETY ASSESSMENT SERVICES-STOLFUS	Non-infrastructure	Road safety audits			\$150000	\$150000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency		Data	Road Safety Audits: Safety assessment reports for CDOT projects.
I-70 Median Cable Rail MP 97-99, 102-108	Roadside	Barrier - cable	9	Miles	\$77400	\$86000	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Interstate	30,000		State Highway Agency	Spot	Roadway Departure	Barrier: install median cable rail.
I-70 Med Cable Rail MP159-160	Roadside	Barrier - cable	9	Miles	\$51300	\$57000	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Interstate	30,000		State Highway Agency	Spot	Roadway Departure	Barrier: install median cable rail.
SAFETY ASSESSMENT SERVICES - MULLER	Non-infrastructure	Road safety audits			\$135000	\$150000	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		State Highway Agency		Data	Road Safety Audits: Safety assessment reports for CDOT projects.
I-70 Med Cable Rail MP 182-183	Roadside	Barrier - cable	9	Miles	\$51300	\$57000	HSIP (23 U.S.C. 148)	Multiple/Varies	Principal Arterial-Interstate	30,000		State Highway Agency	Spot	Roadway Departure	Barrier: install median cable rail.
APEX DEVELOPMENT SPF	Non-infrastructure	Data/traffic records			\$193415	\$214905	HSIP (23 U.S.C. 148)	Multiple/Varies	Multiple/Varies	0		Statewide		Data	Data/Traffic Records: Develop state specific intersection safety performance functions.

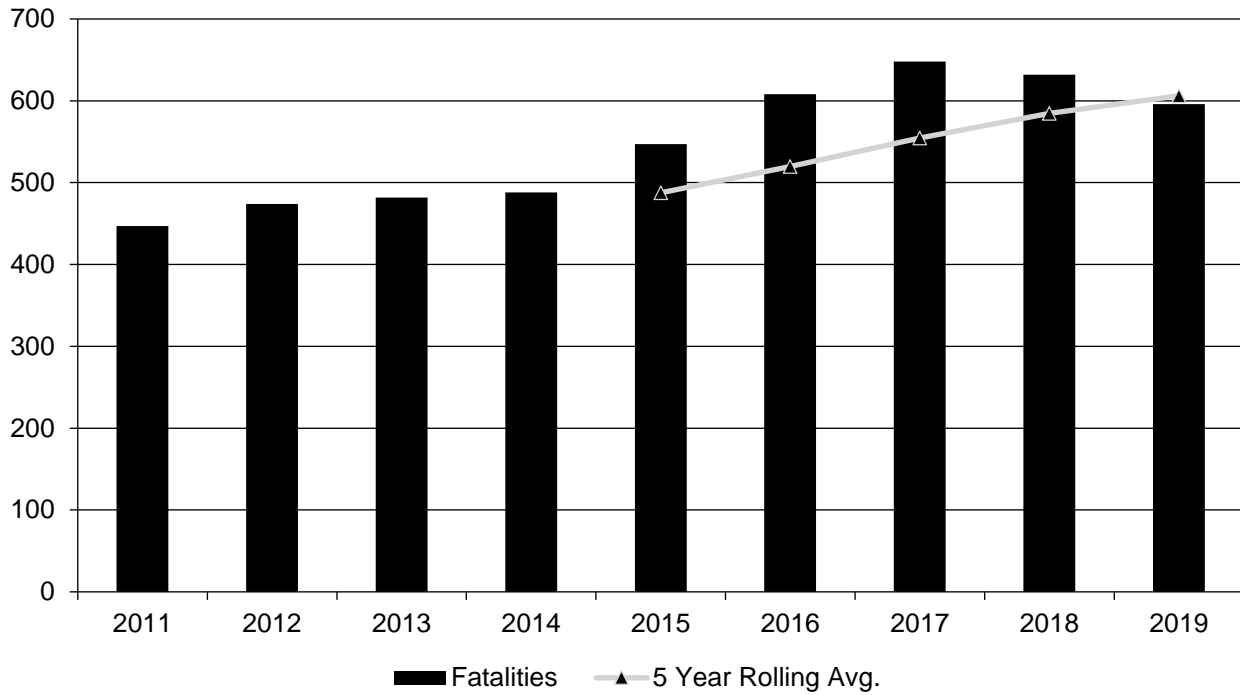
Safety Performance

General Highway Safety Trends

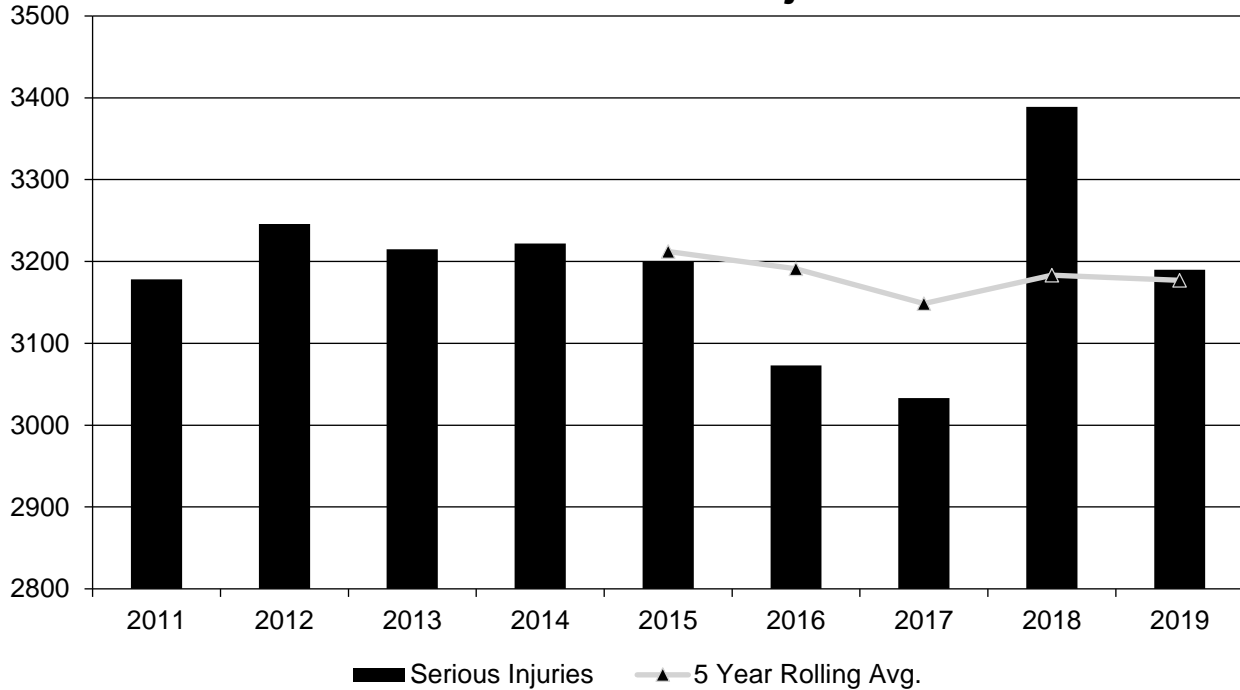
Present data showing the general highway safety trends in the State for the past five years.

PERFORMANCE MEASURES	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fatalities	447	474	482	488	547	608	648	632	596
Serious Injuries	3,178	3,246	3,215	3,222	3,200	3,073	3,033	3,389	3,190
Fatality rate (per HMVMT)	0.959	1.013	1.024	0.996	1.085	1.166	1.214	1.171	1.091
Serious injury rate (per HMVMT)	6.819	6.940	6.845	6.578	6.345	5.892	5.682	6.281	5.839
Number non-motorized fatalities	55	91	64	75	78	100	108	112	96
Number of non-motorized serious injuries	400	408	490	478	490	449	446	440	475

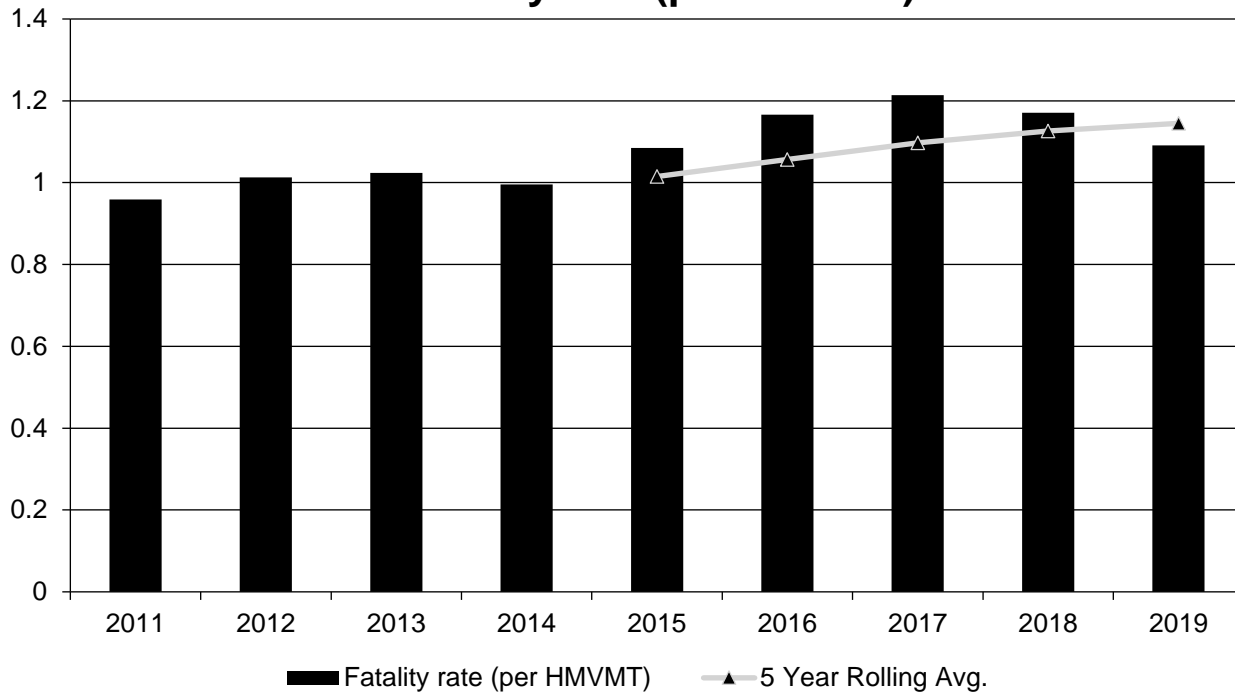
Annual Fatalities



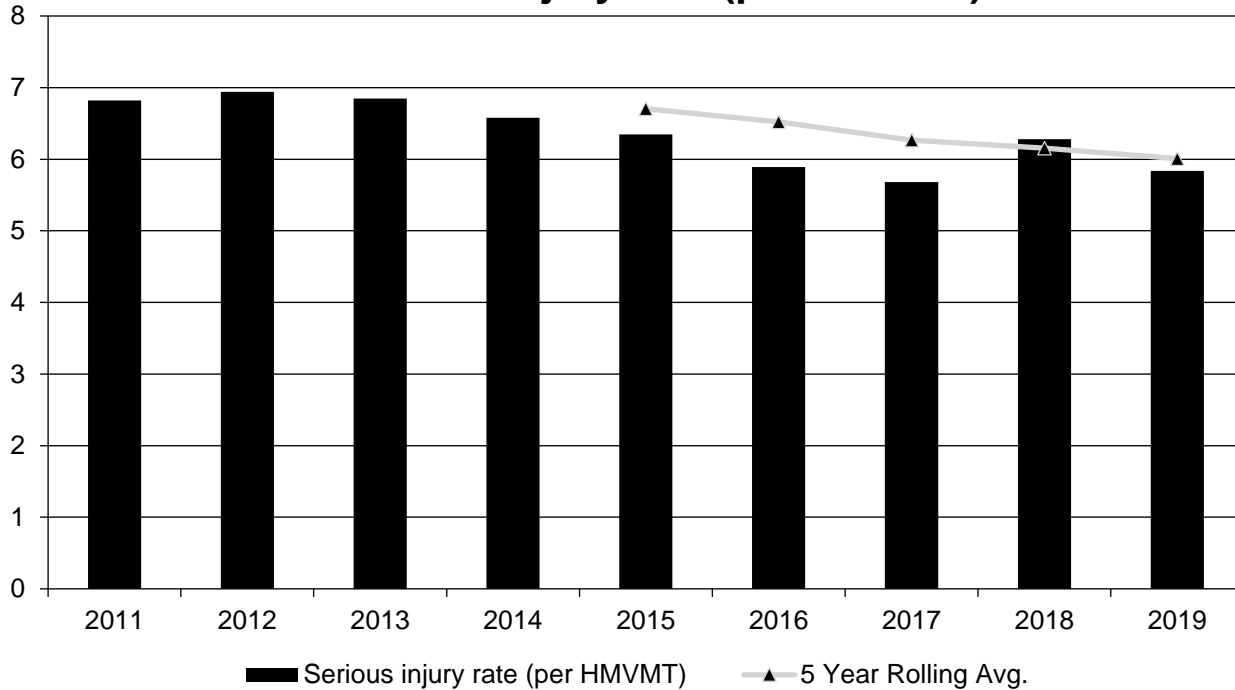
Annual Serious Injuries



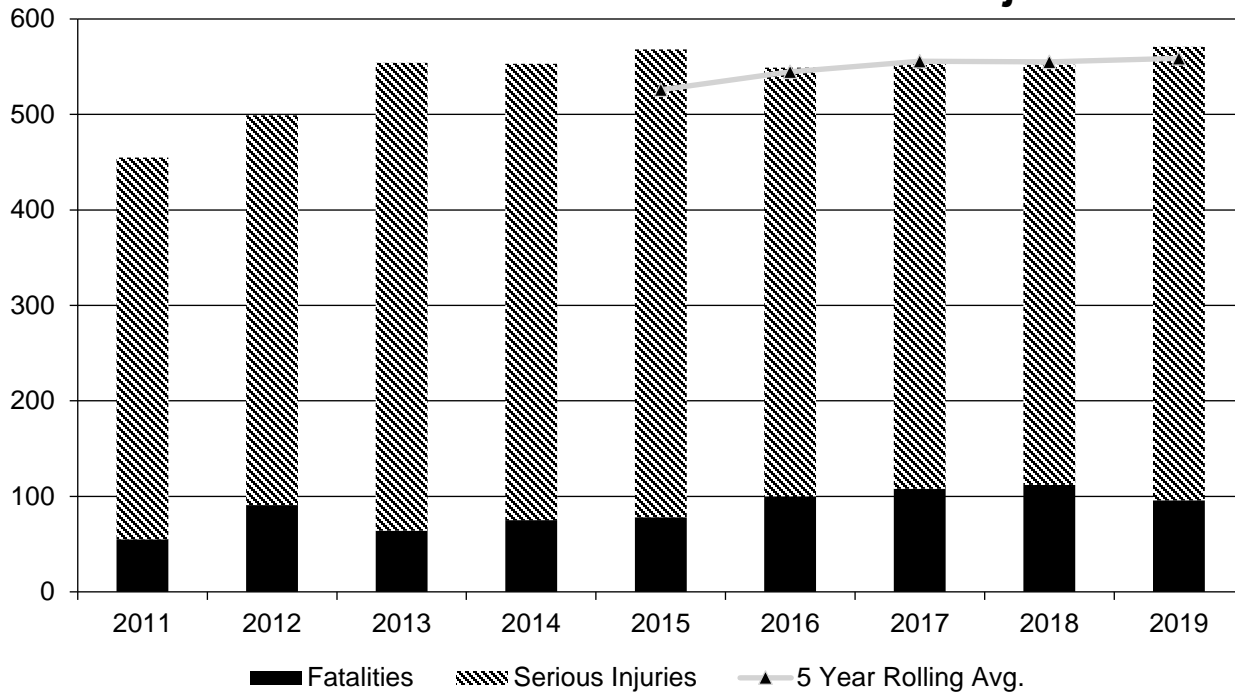
Fatality rate (per HMVMT)



Serious injury rate (per HMVMT)



Non Motorized Fatalities and Serious Injuries



Source: CDOT Crash Database

Describe fatality data source.

State Motor Vehicle Crash Database

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

Year 2019

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	45.8		0.97	
Rural Principal Arterial (RPA) - Other Freeways and Expressways				
Rural Principal Arterial (RPA) - Other	85		1.85	
Rural Minor Arterial	47.6		2.31	
Rural Minor Collector	17.8		2.3	
Rural Major Collector	40.2		2.19	

2020 Colorado Highway Safety Improvement Program

Functional Classification	Number of Fatalities (5-yr avg)	Number of Serious Injuries (5-yr avg)	Fatality Rate (per HMVMT) (5-yr avg)	Serious Injury Rate (per HMVMT) (5-yr avg)
Rural Local Road or Street	24.8		1.59	
Urban Principal Arterial (UPA) - Interstate	50.4		0.53	
Urban Principal Arterial (UPA) - Other Freeways and Expressways	19.8		0.36	
Urban Principal Arterial (UPA) - Other	147.8		1.58	
Urban Minor Arterial	70.6		1.1	
Urban Minor Collector				
Urban Major Collector	22.2		0.79	
Urban Local Road or Street	34.2		0.91	

2020 Colorado Highway Safety Improvement Program

Year 2015

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	298.8			
County Highway Agency	85.6			
Town or Township Highway Agency	2.2			
City or Municipal Highway Agency	97			
State Park, Forest, or Reservation Agency	0			
Local Park, Forest or Reservation Agency	0			
Other State Agency	0			
Other Local Agency	3.4			
Private (Other than Railroad)	0			
Railroad	0			
State Toll Authority	0			
Local Toll Authority	0			
Other Public Instrumentality (e.g. Airport, School, University)	0			
Indian Tribe Nation	0			

Provide additional discussion related to general highway safety trends.

Following the trend seen across the country, fatalities have continued to decrease in Colorado in 2019 with a 5.7% reduction in 2019 and 2.5% reduction in 2018 in comparison with 6.6 % increase in 2017 and 11.2% increase in 2016. When comparing 2019 to the previous year, the data has shown that there are two specific areas where the fatalities increased from 2018: Older Driver (age 65 or older) and Construction Zone related fatalities. The number of motorcycle fatalities in 2019 were the same as the previous year. Serious injuries in 2019 decreased 5.9% from 2018. Even with increased VMT, both fatality rates and serious injury rate in 2019 have also decreased 7% from 2018.

Safety Performance Targets

Safety Performance Targets

Calendar Year 2021 Targets *

Number of Fatalities:603.0

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

The Highway Safety Office and Traffic and Safety Engineering Branch, with contribution from CDPHE, coordinated an analysis of crash data through various statistical methods - including Loess regression and Excel exponential, linear, logarithmic, and power polynomial regression line best fit curves - as a comparative analysis to the STSP. The STSP set a target for 15% reduction by 2023 and 2% reduction for 2020, with an average goal of 3.75% per year. The trend analysis has shown that the fatalities have continued to decrease from previous years, with a 5.7% reduction in 2019 and 2.5% reduction in 2018 in comparison with 6.6 % increase in 2017 and 11.2% increase in 2016. The serious injuries have stayed relatively unchanged since 2015. The various analyses were consistent with the direction of the STSP targets, which were then used to develop the 5 year safety targets for 2020 and 2021.

Number of Serious Injuries:3161.0

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

The Highway Safety Office and Traffic and Safety Engineering Branch, with contribution from CDPHE, coordinated an analysis of crash data through various statistical methods - including Loess regression and Excel exponential, linear, logarithmic, and power polynomial regression line best fit curves - as a comparative analysis to the STSP. The STSP set a target for 15% reduction by 2023 and 2% reduction for 2020, with an average goal of 3.75% per year. The trend analysis has shown that the fatalities have continued to decrease from previous years, with a 5.7% reduction in 2019 and 2.5% reduction in 2018 in comparison with 6.6 % increase in 2017 and 11.2% increase in 2016. The serious injuries have stayed relatively unchanged since 2015. The various analyses were consistent with the direction of the STSP targets, which were then used to develop the 5 year safety targets for 2020 and 2021.

Fatality Rate:1.113

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

The Highway Safety Office and Traffic and Safety Engineering Branch, with contribution from CDPHE, coordinated an analysis of crash data through various statistical methods - including Loess regression and Excel exponential, linear, logarithmic, and power polynomial regression line best fit curves - as a comparative analysis to the STSP. The STSP set a target for 15% reduction by 2023 and 2% reduction for 2020, with an average goal of 3.75% per year. The trend analysis has shown that the fatalities have continued to decrease from previous years, with a 5.7% reduction in 2019 and 2.5% reduction in 2018 in comparison with 6.6 % increase in 2017 and 11.2% increase in 2016. The serious injuries have stayed relatively unchanged since 2015. The various analyses were consistent with the direction of the STSP targets, which were then used to develop the 5 year safety targets for 2020 and 2021.

Serious Injury Rate:5.828

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

The Highway Safety Office and Traffic and Safety Engineering Branch, with contribution from CDPHE, coordinated an analysis of crash data through various statistical methods - including Loess regression and Excel exponential, linear, logarithmic, and power polynomial regression line best fit curves - as a comparative

2020 Colorado Highway Safety Improvement Program

analysis to the STSP. The STSP set a target for 15% reduction by 2023 and 2% reduction for 2020, with an average goal of 3.75% per year. The trend analysis has shown that the fatalities have continued to decrease from previous years, with a 5.7% reduction in 2019 and 2.5% reduction in 2018 in comparison with 6.6 % increase in 2017 and 11.2% increase in 2016. The serious injuries have stayed relatively unchanged since 2015. The various analyses were consistent with the direction of the STSP targets, which were then used to develop the 5 year safety targets for 2020 and 2021.

Total Number of Non-Motorized Fatalities and Serious Injuries:551.0

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

The Highway Safety Office and Traffic and Safety Engineering Branch, with contribution from CDPHE, coordinated an analysis of crash data through various statistical methods - including Loess regression and Excel exponential, linear, logarithmic, and power polynomial regression line best fit curves - as a comparative analysis to the STSP. The STSP set a target for 15% reduction by 2023 and 2% reduction for 2020, with an average goal of 3.75% per year. The trend analysis has shown that the fatalities have continued to decrease from previous years, with a 5.7% reduction in 2019 and 2.5% reduction in 2018 in comparison with 6.6 % increase in 2017 and 11.2% increase in 2016. The serious injuries have stayed relatively unchanged since 2015. The various analyses were consistent with the direction of the STSP targets, which were then used to develop the 5 year safety targets for 2020 and 2021.

Over the past few months, CDOT staff have taken into account the efforts and analysis of the STSP planning process and the 15% reduction target it has set for 2023, as well as trend analyses of the 2008 – 2019 existing data and is recommending the below targets for the five-year rolling average of 2017-2021. The targets established this year will be assessed for progress by FHWA in 2023.

The 2017-2021 targets incorporate trend analysis of past years, consideration of the transportation safety climate factors and causalities, and actions that CDOT and other safety stakeholder agencies are taking to reduce all crashes – but primarily the targets established are consistent with the assertive vision of the Colorado Strategic Transportation Safety Plan (STSP). While Colorado and CDOT are still endeavoring to move toward zero deaths and injuries and significantly reduced crashes, these targets established are for the purposes of national target setting and are done so with both the Moving Toward Zero Deaths vision in mind and with the FHWA requirements for target setting.

While the world finds itself in the middle of the COVID-19 pandemic and from a transportation perspective the resulting impacts to traffic volumes and crashes, none of us know just what the transportation impact will be for this target-setting period. So far, the reduced volumes of traffic (at one point several locations had reductions up to 50% of historical volumes) have translated to reduced crashes, injuries, and fatalities, yet in less proportion.

The STSP (SHSP) process for renewing Colorado's vision, mission, targets, and strategies considered the input of hundreds of stakeholders reviewing Colorado crash data, Colorado's current transportation safety climate, and actions steps possible to make progress in improving safety. Many influencing factors were considered during the plan development process.

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

The CDOT office of transportation safety (which is also the SHSO) and traffic engineering coordinate with the Colorado Department of Health and Environment to evaluate historical crash data and develop various trend models. Various meetings have been held with CDOT management, planners, MPO's, and CDPHE staff to review CDOT's proposed targets. CDOT has memorandum of understanding (MOU) with the MPO's which details each agency's roles and responsibilities in this process. Meetings are ongoing with individual MPO's to present data, review CDOT's process, and provide assistance in the establishment of individual MPO goals or adoption of the statewide goals. The MPO's continue to work toward establishing their targets or adopting

2020 Colorado Highway Safety Improvement Program

CDOT's targets. CDOT will continue to coordinate with these organizations to support this effort. The HSIP safety performance targets data source is the same as the HSP.

Over the past year, the State worked to update the SHSP, which was completed early in 2020. This collaboration entailed an enormous amount of input from the stakeholders across the state. It was decided to use the main five performance measures, required by FHWA. The stakeholders voted to set a goal of 15% reduction in the 4 years covered by the plan.

Does the State want to report additional optional targets?

No

Describe progress toward meeting the State's 2019 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	644.0	606.2
Number of Serious Injuries	2909.0	3177.0
Fatality Rate	1.210	1.145
Serious Injury Rate	5.575	6.008
Non-Motorized Fatalities and Serious Injuries	514.0	558.8

The Colorado traffic fatalities continued to drop by 5.7% in 2019. This marks the second consecutive year that traffic fatalities declined since 2017. The fatality rate has also decreased by 6.9% in 2019 as people drove even more with VMT increasing by 1.3% in 2019. This is the lowest fatality rate since 2015. While the overall 2019 fatalities decreased in many areas, Non-motorized (pedestrian and bicyclist) fatalities and serious injuries (totaled) saw an increase. There are many factors that have and are expected to influence the decreases in fatality and fatality rate. CDOT has continued to administer the safety program as effectively as possible to ensure selection of the most effective infrastructure and behavioral projects and strategies such as six inch striping, cable rail, guardrail, rumble strips, increasing seat belt use and reducing impaired driving. Vehicle improvements such as air bags and electronic stability control have also contributed greatly to the reduction of traffic deaths on our roads. Due to vendor data issues with local agencies transmitting data to the Department of Revenue, injury data has been under reported at the time when the targets were developed, which is currently shown with higher actual serious injuries numbers.

Applicability of Special Rules

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

Yes

Colorado must obligate \$2,826,084 of HRRR in Federal FY 2020.

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	2013	2014	2015	2016	2017	2018	2019
Number of Older Driver and Pedestrian Fatalities	65	46	61	76	76	78	82
Number of Older Driver and Pedestrian Serious Injuries	250	228	226	235	239	273	311

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Benefit/Cost Ratio
- Other-Before and After Studies

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

Overall, the HSIP in Colorado has had a positive impact on reducing crashes at select locations. CDOT routinely evaluates the observed crash history at locations after an HSIP project has been implemented. The output of each evaluation is a calculated benefit/cost (B/C) ratio of the project which helps CDOT assess the effectiveness of the HSIP.

Prior to this reporting period, 48 completed HSIP projects have been evaluated. Each project has sufficient post-installation crash data available (typically three to five years) to determine a realized B/C ratio which was then compared to those calculated at the time of project HSIP eligibility review.

In this reporting period, CDOT has continued this process with the evaluation of 29 new HSIP projects with Before / After studies. A final report describing the findings of this endeavor was completed in December of 2019. The 29 projects chosen by CDOT for analysis are located on state highways and non-state highways and cover a variety of safety improvements to both roadways and intersections. Roadway improvements included median barriers and improvements, guard rail, curve realignment and slope flattening, ITS improvements, wildlife protection, and ramp metering. Intersection improvements analyzed included new signals, signal upgrades (such as larger signal heads and replacing old span-wire signals), geometric improvements, and roundabouts. The 29 projects cumulatively had a Predicted B/C Average (cost weighted) of 2.87 and an Observed B/C Average (cost weighted) of 6.86.

While many of the projects analyzed in the study have shown significant safety benefits, some showed deterioration in safety. It is essential to complete these studies to understand the impacts of different improvement types and why the initially predicted safety improvements are not always observed following construction. It is recommended that CDOT institutionalize this process and perform a before/after safety analysis evaluation of safety performance for all projects constructed when after period crash data becomes available. Analyzing safety performance of projects before and after completion will allow CDOT to make better and more informed decisions for future projects, thereby maximizing the positive impact of the limited safety improvement funding that is available.

The complete report is available at:
<https://www.codot.gov/library/traffic/hsip/studies>

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

- # miles improved by HSIP
- HSIP Obligations
- Increased awareness of safety and data-driven process

2020 Colorado Highway Safety Improvement Program

- Increased focus on local road safety
- More systemic programs
- Organizational change
- Other-Realized Positive B/C Ratio

One strategy to increase the focus on local road safety that was changed this year was to initiate annual solicitation for local agency projects.

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

In FY 2020, CDOT has started a Safety Circuit Rider (SCR) program to reach out and offer technical support to local agencies. This includes assistance to local agencies in submitting HSIP project applications for safety improvement projects along off system locations that have high potential for reducing crashes. Colorado has also shifted to having an annual call for local agency projects to help improve local participation.

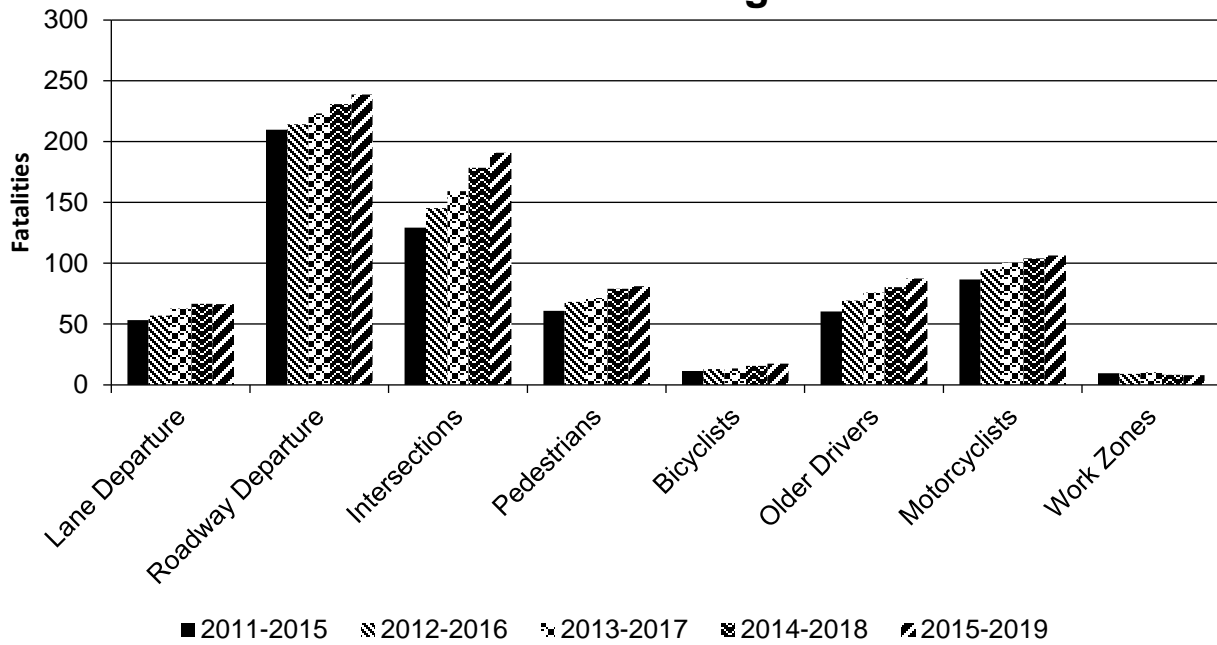
Effectiveness of Groupings or Similar Types of Improvements

Present and describe trends in SHSP emphasis area performance measures.

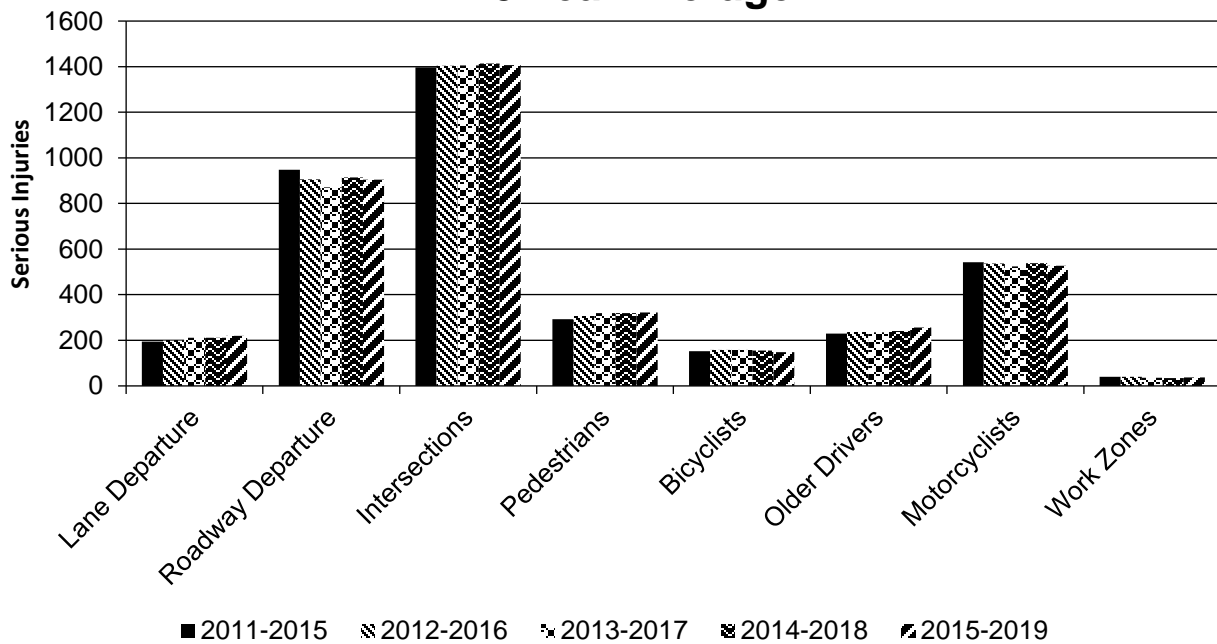
Year 2019

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	Sideswipe, Head On	66.4	219	0.13	0.41
Roadway Departure	Run-off-road	238.8	904.2	0.45	1.71
Intersections	Intersections	191	1,407	0.36	2.66
Pedestrians	Vehicle/pedestrian	81.2	321.6	0.15	0.61
Bicyclists	Vehicle/bicycle	17.6	147.8	0.03	0.28
Older Drivers	All	87.6	255.4	0.17	0.48
Motorcyclists	All	106.4	526.4	0.2	1
Work Zones	All	8	37.4	0.01	0.07

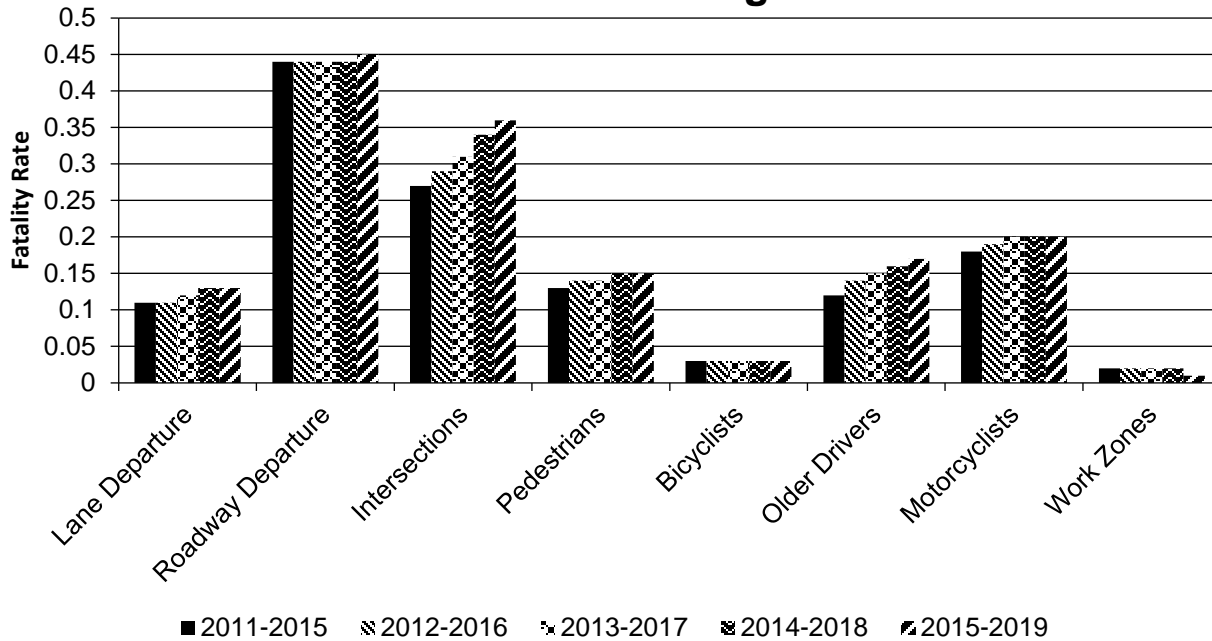
Number of Fatalities 5 Year Average



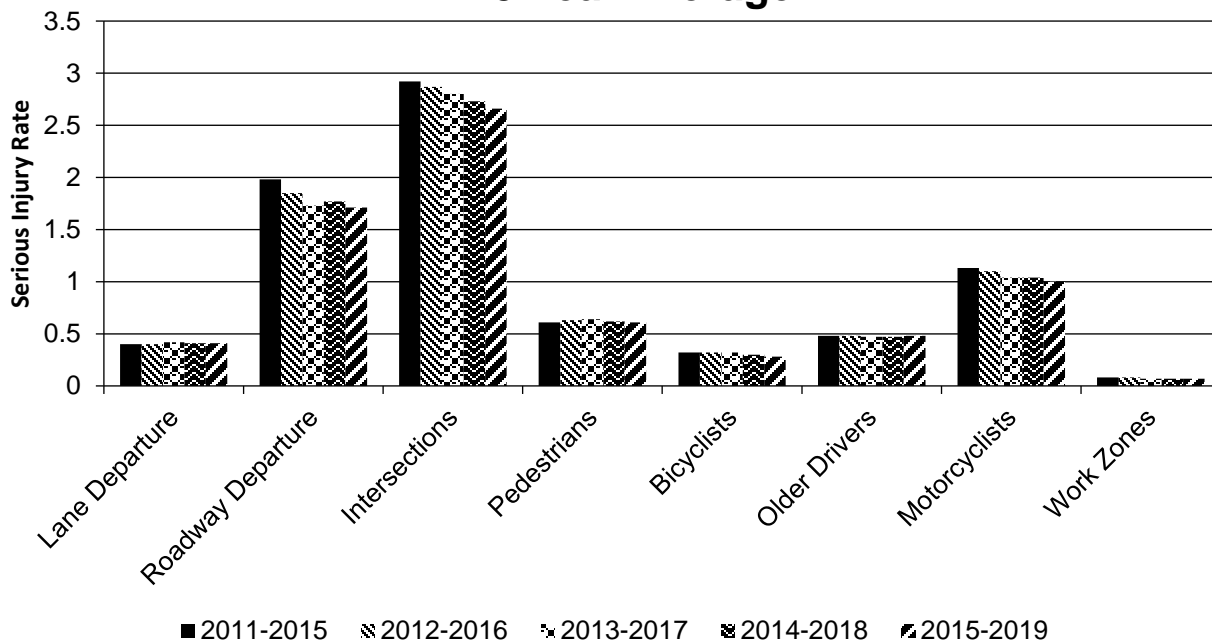
Number of Serious Injuries 5 Year Average



Fatality Rate (per HMVMT) 5 Year Average



Serious Injury Rate (per HMVMT) 5 Year Average



Colorado 2020 SHSP Emphasis Areas:

- High-Risk Behavior (Aggressive Driving, Distracted Driving, Occupant Protection, Impaired Driving)
- Vulnerable Roadway Users (Motorcyclists, Pedestrians, Bicyclists, Older/Young Drivers, Work Zones)
- Severe Crash Mitigation (Lane Departure, Roadway Departure, Intersections)
- Programmatic (Data)

Project Effectiveness

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

LOCATION	FUNCTIONAL CLASS	IMPROVEMENT CATEGORY	IMPROVEMENT TYPE	PDO BEFORE	PDO AFTER	FATALITY BEFORE	FATALITY AFTER	SERIOUS INJURY BEFORE	SERIOUS INJURY AFTER	ALL OTHER INJURY BEFORE	ALL OTHER INJURY AFTER	TOTAL BEFORE	TOTAL AFTER	EVALUATION RESULTS (BENEFIT/COST RATIO)
Colfax Avenue (US 40) / Youngfield Street	Urban Principal Arterial (UPA) - Interstate	Intersection geometry	Intersection geometry - other	25.00	13.00			1.00		10.00	6.00	36.00	19.00	3.33
SH 2A (Colorado Blvd) / I-70	Urban Principal Arterial (UPA) - Other	Intersection traffic control	Modify traffic signal - modify signal mounting (spanwire to mast arm)	23.00	15.00			2.00		5.00	1.00	30.00	16.00	12.40

The above described projects are two examples of before and after evaluations that were completed by CDOT & its consultants to evaluate and aid in understanding the overall effectiveness of the HSIP in Colorado. In the case of the first example (US 40 / Youngfield St), the project was designed to mitigate rear end and right angle crashes. In this example, the intersection was realigned to improve turns and add a protective/permissive southbound left turn lane. Span wire was also replaced with mast arms. In the second example (SH 2 / I-70 WB Off Ramp), the project was designed to mitigate rear end, sideswipe same direction and right angle crashes. In this example, the signal heads were all upgraded and the span wires was also replaced with mast arms.

In the interest of being concise for this portion of this annual HSIP report, we have only provided two examples; however, for more information or further examples of various HSIP projects for which before and after studies were completed, please review the reports entitled "2015 Study", "2016 Study" and "2019 Study" on the following CDOT public website:

<https://www.codot.gov/library/traffic/hsip/studies>

Compliance Assessment

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

04/24/2020

What are the years being covered by the current SHSP?

From: 2020 To: 2023

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

2024

Referred to as the "Strategic Transportation Safety Plan" in Colorado.

<https://www.codot.gov/safety/safetydata/safetyplanning/strategictransportationsafetyplan.pdf>

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

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

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
ROADWAY SEGMENT	Segment Identifier (12) [12]	100	100					100	100	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									

2020 Colorado Highway Safety Improvement Program

ROAD TYPE	*MIRE NAME (MIRE NO.)	NON LOCAL PAVED ROADS - SEGMENT		NON LOCAL PAVED ROADS - INTERSECTION		NON LOCAL PAVED ROADS - RAMPS		LOCAL PAVED ROADS		UNPAVED ROADS	
		STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE	STATE	NON-STATE
	Functional Class (19) [19]	100	100					100	100	100	100
	Median Type (54) [55]	100									
	Access Control (22) [23]	100	100								
	One/Two Way Operations (91) [93]	100	100								
	Number of Through Lanes (31) [32]	100	100					100	100		
	Average Annual Daily Traffic (79) [81]	100	50					100	100		
	AADT Year (80) [82]	100	50								
	Type of Governmental Ownership (4) [4]	100	100					100	100	100	100
INTERSECTION	Unique Junction Identifier (120) [110]			100							
	Location Identifier for Road 1 Crossing Point (122) [112]			100							
	Location Identifier for Road 2 Crossing Point (123) [113]			100							
	Intersection/Junction Geometry (126) [116]			100							
	Intersection/Junction Traffic Control (131) [131]			100							
	AADT for Each Intersecting Road (79) [81]			100	50						
	AADT Year (80) [82]			100	50						
	Unique Approach Identifier (139) [129]										
INTERCHANGE/RAMP	Unique Interchange Identifier (178) [168]					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 Beginning of Ramp Terminal (197) [187]					100					
	Location Identifier for Roadway at Ending Ramp Terminal (201) [191]					100					
	Ramp Length (187) [177]					100					
	Roadway Type at Beginning of Ramp Terminal (195) [185]					100					
	Roadway Type at End Ramp Terminal (199) [189]					100					
	Interchange Type (182) [172]					100					
	Ramp AADT (191) [181]					100					
	Year of Ramp AADT (192) [182]					100					
	Functional Class (19) [19]					100					
	Type of Governmental Ownership (4) [4]					100					
Totals (Average Percent Complete):		100.00	88.89	87.50	12.50	100.00	0.00	100.00	100.00	100.00	100.00

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

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

CDOT currently has approximately 20,000 State owned and non-state owned intersection/junctions (with approximately 6,950 that we need to collect MIRE data for), 437 interchanges, 9,180 non-local paved roadway segments, 76,766 paved local roadway segments and 39,372 unpaved local segments. Of the data elements required, CDOT has the vast majority of them available through on-going collection programs. Notable exceptions are:

- Median Type for Off-System, non-local paved roadway segments that are not HPMS Samples;
- AADT numbers for Rural Collector and Local paved roadway segments;
- Intersection Geometry and Intersection Traffic Control for Off-System non-local paved intersections.

Due to the magnitude involved with collecting the missing data elements and the potential system changes that will need to be made, CDOT intends to utilize in-house personnel and contractors to perform the work during the next fiscal year 2021. CDOT has applied for and received a grant through STRAC that will help to fund the contractor costs with matching provided through in-house personnel work. We have identified a tool that will be implemented this fall that will assist us to manage the intersections as an object that will encompass all required elements.

2020 Colorado Highway Safety Improvement Program

MIRE Fundamental Data Elements for Non-Local (Based on Functional Classification) Paved Roads

Roadway segment	CDOT
Segment Identifier (12)	Currently available for all public roads
Route Number (8)	Currently available for all public roads
Route/street Name (9)	Currently available for all public roads
Federal Aid/Route Type (21)	Currently available for all public roads
Rural/Urban Designation (20)	Currently available for all public roads
Surface Type (23)	Currently available for all public roads
Begin Point Segment Descriptor (10)	Currently available for all public roads
End Point Segment Descriptor (11)	Currently available for all public roads
Segment Length (13)	Currently available for all public roads
Direction of Inventory (18)	Currently available for all public roads
Functional Class (19)	Currently available for all public roads
Median Type (54)	Currently available for all On-System roadways and HPMS segments
Access Control (22)	Currently available for all public roads
One/Two-Way Operations (91)	Currently available for all public roads
Number of Through Lanes (31)	Currently available for all public roads
Average Annual Daily Traffic (79)	Currently available for all fed-aid roads. Will have to collect for Rural Collector roadway segments
AADT Year (80)	Currently available for all fed-aid roads. Will have to collect for Rural Collector roadway segments
Type of Governmental Ownership (4)	Currently available for all public roads
Intersection	CDOT
Unique Junction Identifier (120)	Currently available
Location Identifier for Road 1 Crossing Point (122)	Currently available
Location Identifier for Road 2 Crossing Point (123)	Currently available
Intersection/Junction Geometry (126)	Currently available for On-System. Will need to be collected on the paved non-local OffSystem roads
Intersection/Junction Traffic Control (131)	Currently available for On-System. Will need to be collected on the paved non-local OffSystem roads
AADT (79) [for Each Intersecting Road]	Currently available for all fed-aid roads. Will have to collect for Rural Collector roadway segments
AADT Year (80) [for Each Intersecting Road]	Currently available for all fed-aid roads. Will have to collect for Rural Collector roadway segments
Unique Approach Identifier (139)	Will need to be created for all paved non-local roads
Interchange/Ramp	CDOT
Unique Interchange Identifier (178)	Currently available
Location Identifier for Roadway at Beginning Ramp Terminal (197)	Currently available
Location Identifier for Roadway at Ending Ramp Terminal (201)	Currently available
Ramp Length (187)	Currently available
Roadway Type at Beginning Ramp Terminal (195)	Element can be extracted from existing data
Roadway Type at Ending Ramp Terminal (199)	Element can be extracted from existing data
Interchange Type (182)	Currently available
Ramp AADT (191)	Currently available
Year of Ramp AADT (192)	Currently available
Functional Class (19)	Element can be extracted from existing data
Type of Governmental Ownership (4)	Element can be extracted from existing data

Optional Attachments

Program Structure:

HSIP_2016.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.