OREGON

HIGHWAY SAFETY IMPROVEMENT PROGRAM

2020 ANNUAL REPORT

U.S. Department of Transportation
Federal Highway Administration

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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 Oregon Department of Transportation (ODOT) is responsible for administering Oregon's Highway Safety Improvement (HSIP) Program. All roads within the state of Oregon are eligible to receive HSIP funding under the All Roads Transportation Safety (ARTS) Program. The mission of the Highway Safety Program at the Oregon Department of Transportation (ODOT) is to carry out highway safety improvement projects to achieve a significant reduction in traffic fatalities and serious injuries. For purposes of programming Highway Safety funds in the Statewide Transportation Improvement Program (STIP), all highway safety infrastructure improvement projects shall follow these guidelines. The majority of the funding for the ODOT Highway Safety Program comes from the Highway Safety Improvement Program (HSIP), which is a core federal-aid program under the Fixing America's Surface Transportation (FAST) Act that went into effect in December, 2015. The primary goal of the HSIP is to achieve a significant reduction in traffic fatalities and serious injuries on all public roads, including non-state owned roads and tribal roads. The HSIP also requires a data-driven and strategic approach to improving highway safety on all public roads that focuses on performance. The FAST Act, which replaced the Moving Ahead for Progress in the 21st Century Act (MAP-21), largely maintained the program structure of the HSIP with slight increases in funding and a change that disallows HSIP funds to be transferred to and used for educational and enforcement type activities. The HSIP funds are primarily intended for infrastructure improvement projects. Non-infrastructure highway safety improvements such as education and enforcement programs are administered by the ODOT Transportation Safety Division (TSD), and are typically funded with separate funding from the National Highway Traffic Safety Administration (NHTSA), the Federal Highway Administration (FHWA), or state funds.

Following the HSIP requirements, ODOT has developed a relatively new safety program, known as the All Roads Transportation Safety (ARTS) Program, which addresses safety on all public roads including non-state roadways. ODOT worked with the representatives from the League of Oregon Cities (LOC) and the Association of Oregon Counties (AOC) to document principles for a jurisdictionally blind safety program for Oregon to address safety on all public roads of the state, which eventually led to the development of the ARTS Program. The ARTS Program is intended to address safety needs on all public roads in Oregon. About half of the fatal and serious injury crashes in the state occur on non-state roadways. By working collaboratively with local road jurisdictions (cities, counties, MPOs, and tribes) ODOT can expect to increase awareness of safety on all roads, promote best practices for infrastructure safety, complement behavioral safety efforts, and focus limited resources to reduce fatal and serious injury crashes in the State of Oregon. The program is a data-driven program to achieve the greatest benefits in crash reduction and is blind to jurisdiction. Under the inaugural round of the ARTS Program, safety projects have been selected that will be delivered between 2017 and 2021. The Oregon Transportation Commission (OTC) has allocated approximately $31 to $37 million dollars per year to the ODOT Highway Safety Program for these five years (for a total of $166 million dollars) for infrastructure improvements. The majority of this funding will come from the federal HSIP. We have updated our Roadway Departure plan on Oregon roadways. Currently in the process of updating our intersection plan and bike/pedestrian plan in the near future. ODOT is starting the third round of the All Roads Transportation Safety (ARTS) program starting in the fall of 2020. Recently completed an ODOT research project conducted by OSU and PSU entitled, "Addressing Oregon's Rise in Deaths and Serious Injuries for Senior Drivers and Pedestrians". ODOT intends to incorporate several of the recommendations for practice into ODOT policies and guidance documents.

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.

The objective of the ARTS Program is to select the best safety projects using a jurisdictionally blind and data-driven approach to significantly reduce the occurrence of fatalities and serious injuries on all roads in the state. A data-driven approach uses crash data, risk factors, or other data supported methods to identify the best possible locations to achieve the greatest benefits. Oregon DOT primarily uses a flagging tool called Safety Priority Index System (SPIS) to assist Region Traffic Investigators in identifying high crash locations to investigate and determine if there are appropriate safety countermeasures to be developed into a safety project to eliminate or reduce fatal or serious injury crashes. Many highway projects incorporate design features or elements that relate to highway safety, such as updating guardrail or improving intersection channelization, signing, and pavement markings. But appropriate use of HSIP funds is only for locations or corridors where a known problem exists as indicated by location-specific data on fatalities and serious injuries, and/or where it is determined that the specific project can with confidence produce a measurable and significant reduction in such fatalities or serious injuries. To achieve the maximum benefit, the focus of the ARTS Program is on cost-effective use of the funds allocated for safety improvements addressing fatal and serious injury crashes.
The general program guidelines are as follows:
• All projects shall address specific safety problems that contribute to fatal and serious injury crashes.
• All projects shall use only countermeasures from the ODOT-approved countermeasure list.
• Only the most recent available five years of ODOT-reported crashes shall be used for crash analysis.
• Projects shall be prioritized based on ODOT-approved prioritization method such as Benefit-Cost Ratio.
• ODOT Regions will be responsible for developing and delivering projects.
The ARTS Program has two components – a hotspot component and a systemic component. The hotspot approach is the traditional approach used in safety analysis (ODOT users a program called SPIS), in which 'hotspot' locations are identified based on crash history and appropriate countermeasures are implemented to reduce crashes. Hotspot projects typically focus on a particular location (for example, an intersection or a short segment of a roadway) that may have multiple causes to address. For the ARTS Program, a hotspot location is

defined as a location that has at least one fatal or serious injury crash within the last five years.

The systemic approach identifies a few proven low-cost countermeasures that can be widely implemented and then applies the countermeasures where there is evidence that they would be most useful. The HSIP places a significant emphasis on the systemic approach, which has been proven to successfully reduce the occurrences of fatal and serious injury crashes. The systemic component of the ARTS Program has been further divided into three emphasis areas – roadway departure, intersection, and pedestrian/bicycle. Based on Oregon data, these three emphasis areas accounted for approximately 85% of the fatal and serious injury crashes in the state.
The systemic approach originally used Section 164 penalty funds allocated to the Safety Program, but under the ARTS Program the systemic approach has been moved into the mainstream safety program equal with the hotspot approach.

Where is HSIP staff located within the State DOT?

Other-Traffic-Roadway Engineering Section

The Oregon DOT Highway Safety Engineer and Traffic Safety Coordinator are both located in our headquarters office in Salem. There are 5 Region Traffic offices across Oregon. Each Region Traffic office has several employees that work with Region staff to help develop appropriate safety projects using one of our safety plans (Roadway Departure, Intersection, Bike/ped plans) or using our Safety Priority Index System (SPIS) to help identify high crash locations.

How are HSIP funds allocated in a State?

- SHSP Emphasis Area Data

The available money is separated into two categories — systemic and hot spots. Systemic project are proven, low-cost measures that have successfully reduced the occurrence of fatal and serious injury crashes and that can be widely implemented, like rumble strips on the shoulder of the road. Hot spots are identified by a higher than normal crash occurrence. These are often higher cost projects and are targeted to a specific segment of roadway or intersection.

ODOT collected input from the local governments in each region of the state.

Funding is divided to each region based on the number of fatalities and serious injury crashes. Potential projects within each region are prioritized by their benefit cost or cost effectiveness index (CEI) for bike/ped projects.

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

Local and tribal roads are addressed through the All Roads Transportation Safety (ARTS) Program, a safety program that addresses safety needs on all public roads in Oregon. By working collaboratively with local road jurisdictions (cities, counties, MPO’s and tribes), ODOT hopes to increase awareness of safety on all roads, promote best practices for infrastructure safety, compliment behavioral safety efforts and focus limited resources to reduce fatal and serious injury crashes in the state of Oregon. This program uses a data-driven approach that is blind to jurisdiction to achieve the greatest benefits in crash reduction and emphasize elements of the SHSP.

The objective of the ARTS Program is to select the best safety projects using a jurisdictionally blind and data-driven approach to significantly reduce the occurrence of fatalities and serious injuries on all roads in the state. A data-driven approach uses crash data, risk factors, or other data supported methods to identify the best possible locations to achieve the greatest benefits. Many highway projects incorporate design features or elements that relate to highway safety, such as updating guardrail or improving intersection channelization, signing, and pavement markings. But appropriate use of HSIP funds is only for locations or corridors where a known problem exists as indicated by location-specific data on fatalities and serious injuries, and/or where it is determined that the specific project can with confidence produce a measurable and significant reduction in such fatalities or serious injuries. To achieve the maximum benefit, the focus of the ARTS Program is on cost-effective use of the funds allocated for safety improvements addressing fatal and serious injury crashes.

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• All projects shall address specific safety problems that contribute to fatal and serious injury crashes.

• All projects shall use only countermeasures from the ODOT-approved countermeasure list.

• Only the most recent available five years of ODOT-reported crashes shall be used for crash analysis.

• Projects shall be prioritized based on ODOT-approved prioritization method such as Benefit-Cost Ratio.

• ODOT Regions will be responsible for developing and delivering projects.

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The systemic approach originally used Section 164 penalty funds allocated to the Safety Program, but under the ARTS Program the systemic approach has been moved into the mainstream safety program equal with the hotspot approach.

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
- Other-Highway Safety Engineering Committee (HSEC)

ODOT established a Highway Safety Engineering Committee (HSEC) on February 18, 2005 which meet quarterly. This committee provides a leadership forum to strategize, coordinate and direct the engineering-related highway safety activities and is comprised of individuals with a mix of expertise within the Department. Members of the committee represent the Transportation Safety Division, Region and Headquarters Traffic, Region Technical Centers, Region Planner, District Maintenance and Roadway Section. The Traffic Operations and Leadership Team (TOLT) recently change their name to Traffic Operations Group (TOG) which provides statewide policy and procedure leadership for traffic engineering related issues. The All Roads Transportation Safety (ARTS) subcommittee was established to provide guidance and direction during the ARTS process for continued improvements to the HSIP/ARTS safety program.

Describe coordination with internal partners.

ODOT established a Highway Safety Engineering Committee (HSEC) on February 18, 2005 which meet quarterly.

The *Highway Safety Engineering Committee* (HSEC) provides operational decisions for the Safety Management System within ODOT and provides advice and recommendations to Highway Leadership Team as well as other leadership teams within ODOT regarding funding issues or major safety policy matters.

The HSEC will be comprised of individuals with a mix of expertise within the Department. Members of the committee represent the Transportation Safety Division, Region and Headquarters Traffic, Region Technical Centers, Transportation Development (Planning), Maintenance, Federal Highway, Transportation Safety, Association of Oregon Counties and Roadway Section.

The *Highway Safety Engineering Committee* provides a leadership forum to enhance, strategize, coordinate, and direct the engineering/infrastructure related highway safety activities for the Department including the ARTS/HSIP program.

The Traffic Operations Group (TOG) was established to provides statewide policy and procedure leadership for traffic engineering related issues.

Identify which external partners are involved with HSIP planning.

- Academia/University
- 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

Our 5 Region Traffic offices work closely with all external partners in determining appropriate ARTS safety projects to fund in Oregon to reduce fatal and serious injury crashes.

Describe coordination with external partners.

Our 5 Region Traffic offices work closely with external partners in determining appropriate safety projects to fund in Oregon to reduce fatal and serious injuries crashes. We are in the process of starting our round 3, All Roads Transportation Safety (ARTS) program where the 5 Region Traffic offices conducted outreach meetings with local agencies interested in submitting proposed ARTS safety projects for funding consideration. They are currently hiring a consultant to assist Region Traffic offices during the ARTS application process.

Some External Partners are involved in HSEC, but all are involved in the planning through the SHSP process as stakeholders in the strategic planning document that defines Oregon's traffic safety trends and challenges. The SHSP also identifies Oregon's policies and strategies to eliminate fatalities and serious injuries.

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

The major change in the round 2 ARTS (All Roads Transportation Safety) program is that both the proposed hot spot projects and the proposed systemic project now require an application to be submitted for funding consideration. The second round of the ARTS program began in the fall of 2017 and extended through the fall of 2019. During this period, projects were selected for the STIP and to be delivered in the years 2022 through 2024. Approximately $30 million per year will be available for the ARTS program as determined by the Oregon Transportation Commission (OTC).

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

http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/docs/pdf/odot_safety_program_guide.pdf

Oregon DOT updated their Roadway Departure plan in September 2017 for the statehttp://www.oregon.gov/ODOT/Engineering/Docs_TrafficEng/Departure-Implementation-Plan.pdf. Portland State University recently develop a plan regarding wrong way driving and recommendation on our interstate rampshttp://www.oregon.gov/ODOT/Engineering/Docs_TrafficEng/Wrong-Way-Driver-Report.pdf. ODOT is in the process of implementing several of the recommendations in Region 3 using the ARTS funding.

Currently finalizing an ODOT research project titled, "Addressing Oregon's Rise in Deaths and Serious Injuries for Senior Drivers and Pedestrians". Our plan is to incorporate some of the recommendations for practice into our policy and guidance documents to reduce fatal and serious injuries for senior drivers and pedestrians.

Although not as commonly used as benefit-cost analysis, cost-effectiveness analysis is another tool that is used by ODOT for project prioritization. Rather than comparing the economic value of the crash reductions to the project cost, cost-effectiveness analysis compares the change in crash frequency due to the implementation of a countermeasure to the project cost. For Oregon's pedestrian/bicycle projects under the ARTS Program, Cost-Effectiveness Index (CEI) is used to prioritize projects.

CEI estimates the cost to reduce one crash. The lower the CEI value of a project, the higher it will rank in the prioritized list.

Here is a link to the ARTS program for more information http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/Pages/ARTS.aspx .

Program Methodology

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

Yes
Here is a link to our All Roads Transportation Safety (ARTS) program
http://www.oregon.gov/ODOT/Engineering/Pages/ARTS.aspx .

Select the programs that are administered under the HSIP.

- Bicycle Safety
- HRRR
- Intersection
- Pedestrian Safety
- Roadway Departure

ODOT's common highway safety goal on Oregon roadways is to select appropriate safety projects that will reduce fatal and serious injury crashes. In our HSIP ARTS program, most all of these program topic areas can receive HSIP safety funding depending on the applicant justifying an acceptable benefit/cost analysis to reduce fatal and serious injury crashes. Bicycle and pedestrian projects are ranked using a cost effectiveness index.

ODO has a small fund called Quick Fix funding to address low cost safety spot improvements for our highway system only.

Program: Bicycle Safety

Date of Program Methodology:2/1/2014

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

- Fatal and serious injury crashes only

Exposure

- Volume

Roadway

- Functional classification
- Roadside features

What project identification methodology was used for this program?

- Other-Cost Effectiveness for Bike/Peds

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

Cost Effectiveness:100

The traditional approach to safety is to identify "hotspot" locations and then identify measures to implement by diagnosing the "hotspot". ODOT uses the Safety Priority Index System (SPIS) which is a flagging tool to identify high crash locations for our Region Traffic Investigators to investigate to develop potential hotspot safety projects (prioritized based on benefit cost ratios) for all roads in each Region identifying locations and the appropriate countermeasures.

The systemic approach identifies a few proven low-cost measures to be widely implemented, then implements the measures where there is evidence that they would be most useful. The systemic measures have been proven to successfully reduce the occurrence of fatal and serious injury crashes. The process for Systemic projects was an application-based process. Local Agencies and ODOT Regions submitted applications for systemic projects in three focus areas- roadway departure, intersections, and pedestrian/bicycle. Projects were prioritized based on benefit cost ratio (for roadway departure and intersections projects) and cost-effectiveness index (pedestrian/bicycle projects). Here is a link to the bicycle/pedestrian plan.
http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/Pages/Bicycle_Pedestrian_Safety.aspx

Program: HRRR

Date of Program Methodology:9/1/2017

What is the justification for this program?

- Addresses SHSP priority or emphasis area

What is the funding approach for this program?

Competes with all projects

What data types were used in the program methodology?

Crashes	Exposure	Roadway

- Fatal and serious injury crashes only

- Volume
- Population

- Horizontal curvature
- Functional classification
- Roadside features

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Other-Crash Severity

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

Yes

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:100

Program: Intersection

Date of Program Methodology:6/1/2012

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

- Fatal and serious injury crashes only

Exposure

- Volume

Roadway

- Horizontal curvature
- Functional classification

- Roadside features

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Other-Crash Severity

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

Yes

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:100

The traditional approach to safety is to identify "hotspot" locations and then identify measures to implement by diagnosing the "hotspot". ODOT uses the Safety Priority Index System (SPIS) which is a flagging tool to identify high crash locations for our Region Traffic Investigators to investigate to develop potential hotspot safety projects (prioritized based on benefit cost ratios) for all roads in each Region identifying locations and the appropriate countermeasures.

The systemic approach identifies a few proven low-cost measures to be widely implemented, then implements the measures where there is evidence that they would be most useful. The systemic measures have been proven to successfully reduce the occurrence of fatal and serious injury crashes. The process for Systemic projects was an application-based process. Local Agencies and ODOT Regions submitted applications for systemic projects in three focus areas- roadway departure, intersections, and pedestrian/bicycle. Projects were prioritized based on benefit cost ratio (for roadway departure and intersections projects) and cost-effectiveness index (pedestrian/bicycle projects). Here is a link to our intersection plan http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/Pages/intersections.aspx .

Program: Pedestrian Safety

Date of Program Methodology:2/1/2014

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

- Fatal and serious injury crashes only

Exposure

- Volume

Roadway

- Functional classification
- Roadside features

What project identification methodology was used for this program?

- Other-Cost Effectiveness for Bike/Peds

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

Cost Effectiveness:100

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index (pedestrian/bicycle projects). Here is a link to the bicycle/pedestrian plan.
http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/Pages/Bicycle_Pedestrian_Safety.aspx

Program: Roadway Departure

Date of Program Methodology:9/1/2017

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

- Fatal and serious injury crashes only

Exposure

- Population

Roadway

- Horizontal curvature
- Functional classification
- Roadside features

What project identification methodology was used for this program?

- Crash frequency
- Crash rate
- Other-Crash Severity

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

Yes

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).

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What percentage of HSIP funds address systemic improvements?

50

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

- Add/Upgrade/Modify/Remove Traffic Signal
- Cable Median Barriers
- High friction surface treatment
- Horizontal curve signs
- Install/Improve Pavement Marking and/or Delineation
- Install/Improve Signing
- Rumble Strips
- Wrong way driving treatments

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The systemic approach identifies a few proven low-cost countermeasures that can be widely implemented and then applies the countermeasures where there is evidence that they would be most useful. The HSIP places a significant emphasis on the systemic approach, which has been proven to successfully reduce the occurrences of fatal and serious injury crashes. The systemic component of the ARTS Program has been further divided into three emphasis areas – roadway departure, intersection, and pedestrian/bicycle. Based on 2009 through 2013 data, these three emphasis areas accounted for approximately 85% of the fatal and serious injury crashes in the state.

The ARTS Program funds will be allocated to the five ODOT Regions based on the proportion of the fatal and serious injury crashes occurred within the last five years in each Region. For a given Region, total funding should be divided equally between the hotspot and systemic components. Again, for the systemic component, it is recommended that Regions split the available funding between the emphasis areas identified in the TSAP (currently those are roadway departure, intersection, and pedestrian/bicycle) based on the proportion of the fatal and serious injury crashes occurred between these three areas within the last five years. For the first round of the ARTS Program, based on the crash data from 2009 to 2013, the statewide proportions of fatal and

serious injury crashes between roadway departure, intersection, and pedestrian/bicycle crashes were 50%, 36%, and 14%, respectively.

ODOT has approximately $166 million of funding for the five years between 2017 and 2021. Here is a link to ODOT's CRF list http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/Pages/ARTS.aspx#Crash_Reduction_Factors

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-Region Traffic Investigator's investigate the top 5% Safety Priority Index System (SPIS) each year and identify potential cost effective countermeasures.

Once locations have been identified for potential safety improvements through networking screening and diagnoses, the next step is to identify potential countermeasures that can be implemented to improve safety. A countermeasure can be defined as a roadway strategy intended to decrease crash frequency and/or severity at a given site.

ODOT has compiled a list of countermeasures, known as the ODOT Crash Reduction Factor (CRF) List, which have been proven to reduce crashes. A Crash Reduction Factor (CRF) is the percentage crash reduction that might be expected after implementing a given countermeasure(s) at a specific site. These countermeasures were primarily chosen from the Highway Safety Manual, the Crash Modification Factors (CMF) Clearinghouse, and the FHWA Desktop Reference for Crash Reduction Factors. All the countermeasures were listed as either ‘hotspot’ or ‘systemic’ countermeasures. Any countermeasures listed in the ODOT CRF List can be used for hotspot projects. However, for systemic projects only countermeasures that are listed as ‘systemic’ shall be used.

The ODOT CRF List is updated periodically as new countermeasures or better studies on existing countermeasures become available. Suggestions for including new countermeasure(s) to the ODOT CRF List can be submitted to ODOT TRS Staff using the CRF Request Form provided on the ARTS website.

Some CRFs may be applicable to all crash types and/or all severities. Some CRFs may be applicable to a particular crash type and/or severity. Correct crash types and severities should be used in the benefit-cost analysis. Refer to the ODOT Highway Safety Investigation Manual for more information on the CRF http://www.oregon.gov/ODOT/HWY/TRAFFIC-ROADWAY/Pages/ARTS.aspx#Crash_Reduction_Factors .

Does the State HSIP consider connected vehicles and ITS technologies?

Yes

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

ODOT's All Roads Transportation Safety (ARTS) program includes several ITS technologies as potential countermeasures, especially curve and intersection warning systems and variable speeds Oregon is in the formative stages of developing connected vehicle technologies .

Here is a link to our Intelligent Transportation Systems (ITS) connected vehicles website

https://www.oregon.gov/odot/Programs/Pages/Connected-Vehicles.aspx

Automated Vehicles website https://www.oregon.gov/odot/Programs/Pages/CAV.aspx

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.

We are in the early stages of using the HSM to support HSIP efforts. Our ODOT Planning unit has incorporated several methodologies into their latest manual. We are using the cost-effectiveness analysis tool outlined in the HSM for project prioritization. Rather than comparing the economic value of the crash reductions to the project cost, cost-effectiveness analysis compares the change in crash frequency due to the implementation of a countermeasure to the project cost. For the pedestrian/bicycle projects under the ARTS Program, Cost-Effectiveness Index (CEI) is used to prioritize projects. CEI estimates the cost to reduce one crash. The lower the CEI value of a project, the higher it will rank in the prioritized list. ODOT uses some analysis methods from the HSM, including expected numbers of crashes for bikes and pedestrians, proportions of crashes in investigations and critical crash rates in planning and project level analysis.

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

Yes, we are in the process of starting round three of the ARTS program.

The ARTS program primarily uses federal funds from the Highway Safety Improvement Program (HSIP). The principles and purpose of ARTS and HSIP are:

The program goal is to reduce fatal and serious injury crashes.

The program must include all public roads.

The program is data driven and blind to jurisdiction.

The process is be overseen by Oregon DOT Regions.

Both traditional "hot spot" methodology and systemic methodology is used based on an application process.

The objective of ARTS and HSIP is to significantly reduce the occurrence of fatalities and serious injuries. A data-driven approach uses crash data, risk factors, or other data supported methods to identify the best possible locations to achieve the greatest benefits. Many highway projects incorporate design features or elements that relate to highway safety, such as updating guardrail or improvements to intersection channelization, signing and pavement markings. But appropriate use of HSIP funds is only for locations or corridors where a known problem exists as indicated by location-specific data on fatalities and serious injuries, and/or where it is determined that the specific project can, with confidence, produce a measurable and significant reduction in such fatalities or serious injuries. To achieve the maximum benefit, the focus of the ARTS program is on cost effective use of the funds allocated for safety improvements addressing fatal and serious injury crashes.

Address a specific Safety problem contributing to fatalities and serious injuries

Use proven countermeasures that correct or substantially improve the fatal and serious injury problem

Use ODOT crash data to establish the Benefit/Cost ratio (so projects can be compared fairly)

Use ODOT Benefit Cost method (or Cost effectiveness for Bicycle/Pedestrian)

Be prioritized or categorized based on the Benefit/Cost Ratio for developing the 150% list

Use only proven countermeasures from the approved ODOT Crash Reduction Factor list (a written process is developed for considering new measures)

Projects must include written support from the Road Jurisdiction if the project is proposed by another agency

Benefit Costs will be based on the most recent available three to five years of crash data

The traditional approach to safety is to identify "hot spot" locations, and then identify measures to implement by diagnosing the "hot spot".

Hot Spot Projects shall:

Address a location with a crash history of at least one fatal or serious injury crash within the last five years

The systemic approach identifies a few proven low-cost measures to be widely implemented, then implements the measures where there is evidence that they would be most useful. The systemic measures have been proven to successfully reduce the occurrence of fatal and serious injury crashes. The sites may be selected from ODOT’s list of priority corridors for Roadway Departure, Intersections or Pedestrian/Bicycle crashes. Our Safety Priority Index System (SPIS) is another flagging tool used to select appropriate safety projects.

Systemic Projects shall:

Use only approved "Systemic" countermeasures as listed in the Crash Reduction factors list

Not require the acquisition of significant amounts of right of way (more than 10% of project costs), preferably no right of way

For the Pedestrian and Bicycle Analysis, use Highway Safety Manual methods to estimate predicted crashes for pedestrians and bicycles and Cost Effectiveness to prioritize projects selection.

Systemic Projects should:

Have a history of fatal or serious injury crashes or a risk of high severity crashes and preferably are selected from priority corridors within Systemic plans.

The Safety funds are split to each region based on the amount of fatalities and serious injuries occurring in the region on all public roads. Regions will be required to spend a minimum of 50% of their funding on Systemic projects.

Systemic funding is intended to be used for Roadway Departure, Intersections and Pedestrian/Bicycle type projects. At the statewide level the split in F&A between Roadway Departure, Intersections and Ped/Bike is about 40%/40%/20% respectively. Regions will be given the flexibility to determine the appropriate splits between systemic types of projects for their regions. It is suggested:

That at least one project per year be developed for each type, if possible.

Region splits of systemic funds for each systemic type be roughly equivalent to the proportion of F&A occurring in the region

Funding is eligible to be used for approved countermeasures as long as those countermeasures provide an improvement to reducing fatal and serious injury and are prioritized through the ARTS data driven process. Safety funds may be used to include or replace elements that are necessary to satisfactorily complete the project, such as replacing non-compliant ADA ramps, replacing pavement striping that is removed or right of way, but those elements must be included in the cost of the project and part of the prioritization process. Other elements (not applicable to the safety project) may be combined with the project (i.e., culvert), but must be funded by other sources, not safety funds.

Both Hot Spot and Systemic processes will be an application based process. Oregon jurisdictions will be invited to submit projects for Hot Spot and Systemic funding, using a large list of proven countermeasures. ODOT will distribute data on Hot Spots and Systemic Plans to help determine potential locations for improvement.

For Hot Spots projects agencies will be given the opportunity to submit projects with justification that it meets the program purpose. The number of submittals should be limited because of limited funds, but ODOT will ask for submittals amounting to 300 to 500% of the funding available to ensure sufficient worthwhile projects. Regions will categorize projects based on the project's ability to reduce fatal and serious injury crashes and the benefit cost of the project, and finalize a draft 150% list for field scoping.

For Systemic projects the submittals will be for three systemic categories of funding, roadway departure, intersections and pedestrian/bicycle, attempting to solicit submittals amounting to about 300 - 500% of available funding. ODOT Regions will check all applications for program purpose and correctness, working with the submitting agencies when necessary in order to develop a potential list of projects. The intent is that the ODOT Regions will analyze and refine the list of submitted projects in order to prioritize the project list based on program purpose of reducing fatal and serious injuries and benefit cost, in order to finalize a draft 150% list for field scoping.

Once the refined 150% lists are ready, all projects (both hot spot and systemic) will go through a multi-discipline assessment to verify the solution. A multi-disciplinary team, including the owner of the facility, will ensure the best countermeasure is chosen to mitigate fatal and serious injury crashes. The project will also be scoped to verify the costs and any possible barrier to implementation. A finalized list of prioritized projects can then be produced with the best solution and the best cost.

Once the list is prioritized and a final 100% list is produced ODOT Region's will work with Jurisdictions to determine the delivery methods, delivering agency and timelines (applicable funding year). For projects involving local agencies, the ODOT Regions will work with Jurisdictions to develop an Intergovernmental Agreement. The delivering agency will be accountable for timely and fiscally responsible delivery.

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

HSIP All Roads Transportation Safety (ARTS) Program

Key Facts

 ODOT and representatives of the League of Oregon Cities (LOC) and the Association of

Oregon Counties (AOC) have examined road safety statistics throughout the state. The

results reveal a great need to improve local road safety.

 In February 2013, ODOT entered into a memorandum of understanding with AOC and LOC. The MOU establishes that all Oregonians share the roads and that safety is everyone's concern. The common purpose is to reduce fatal and serious injuries on all public roads through a data driven process.

 MAP 21 increased safety funding and emphasizes a focus on all public roads. Because of this, ODOT decided to offer a portion of its safety funds to improve safety on local roads, leading to the creation of the All Roads Transportation Safety (ARTS) program.

 The state road system makes up about 10 percent of the total mileage in the total road system. Ten percent of the system carries 50 percent of all traffic and has 50 percent of all crashes in the state. The other 50 percent of crashes occur off the state system. Under the ARTS program, available funds go toward the best and highest use.

 The available money is separated into two categories — systemic and hot spots.

o Systemic project are proven, low-cost measures that have successfully reduced the occurrence of fatal and serious injury crashes and that can be widely implemented, like rumble strips on the shoulder of the road.

o Hot spots are identified by a higher than normal crash occurrence. These are often higher cost projects and are targeted to a specific segment of roadway or intersection.

 ODOT collected input from the local governments in each region of the state. By cooperating with local agencies we hope to raise the awareness of safety on all roads and promote best practices.

 Funding is divided to each region based on the number of fatalities and serious injury crashes.

 Potential projects within each region are prioritized by their benefit cost which factors in the number of crashes, the crash reduction potential of the enhancement and the project cost.

 The program is data driven, using safety data to perform problem identification and analysis,

to achieve the greatest benefits in terms of fatal and serious injury crash reduction.

Here is a link to the 2018 ODOT ARTS Program Summary Report prepared for ODOT and prepared by DKS Associates:
https://www.oregon.gov/ODOT/Engineering/Docs_TrafficEng/ARTS_SUmmary-Report-2018.pdf

All Roads Transportation Program: Frequently Asked Questions

1. ***What is the ARTS Program?***

The All Roads Transportation Safety Program (ARTS) is a safety program that addresses safety forall public roads in the state of Oregon. This program uses federal funds from theHighway Safety Improvement Program. HSIP adopts a data-driven approach that uses crash data, risk factors, and other supported methods to identify the best possible locations to achieve the greatest benefits. The first round of ARTS began in 2014 with projects scheduled for delivery in years 2017-2021. The second round of project selection is scheduled to begin this fall for projects delivered in years 2022-2024.

2. What is the purpose of the ARTS Program?

The primary objective of the ARTS Program is to select the best projects to reduce fatalities and serious injuries on all public roads in the state.

3. What is the timeline for ARTS Program?

The second round of the ARTS project selection will begin in the fall of 2017 and extend through the spring of 2018. During this period, projects will be selected for the STIP and delivered in years 2022 through 2024. The Oregon Department of Transportation (ODOT) is currently working on developing the project criteria and plans on outreach to the local agencies sometime in late 2017.

4. ***What methods are used for project selection?***

ODOT will use two different methods for selecting projects – traditional ‘Hotspot’ method and ‘Systemic’ method. ODOT regions are required to spend at least half of the funding for Systemic projects. These two methods are designed to select the most cost-effective projects among all public roads in Oregon to reduce the most fatal and serious injury crashes with available funds.

5. How much funding is available and how is it allocated?

During the period of 2022 through 2024, approximately $30 million per year will likely be available for the ARTS program. This funding will be determined by theOregon Transportation Commission (OTC).

Funds will be allocated to each ODOT region based on the proportion of fatalities and serious injuries that occurred within the region during the last five years. The region allocations during the last round of ARTS funding was approximately:

Region 1 - 33%
Region 2 - 34%
Region 3 - 15%

Region 4 - 11%
Region 5 - 7%

6. ***What is the Hotspot method and how are the Hotspot projects selected?***

The hotspot method identifies locations with documented crash problems, selects and then applies appropriate countermeasure(s) to mitigate the crash problems. Hotspot countermeasures are typically more expensive than systemic countermeasures. Examples of hotspot projects include installation of left turn lane(s), installation of a new traffic signal or roundabout at an intersection, or conversion of a signalized intersection to a roundabout.

ODOT will develop a list of locations for potential projects using its Safety Priority Index System (SPIS), and Safety Implementation Plans for three emphasis areas including potential remedies and countermeasures: Roadway Departure, Intersections and the Pedestrian and Bicycle. Local agencies can use the SPIS list or whatever method they choose to pick the best potential projects. These projects must address locations with a crash history of at least one fatal or serious injury crash within the last five years.

Local agencies and ODOT will both prepare applications for the projects that they believe will be the most effective at reducing fatal and serious injury crashes and yet have a good benefit cost ratio. All the proposed hotspot countermeasures must be from theODOT CRF List.

Projects are prioritized based on benefit cost ratio. The projects selected for funding and addition to the Statewide Transportation Improvement Program (STIP) are those with the highestbenefit cost.

To access data and tools, visit the ARTS Program website.

7. ***What is the Systemic method and how will the Systemic projects be selected?***

The Systemic method takes a broader view by looking at the crash history and risks associated with an entire roadway/corridor and then applying proven low-cost countermeasures to reduce the risk along the entire roadway, corridor or jurisdiction. Examples of systemic projects include installation of curve warning signs, reflectorized backplates on signals, rumble strips, countdown pedestrian timers and conversion to flashing yellow left turn arrow (FYLTA) signal heads for protected-permitted left turn (PPLT) signal operation.

The ARTS Program consists of three emphasis areas for systemic improvements: Roadway Departure, Intersection, and Pedestrian and Bicycle. Systemic project locations may be selected from ODOT’s list of priority corridors for these three areas or from other sources. The systemic funds are roughly proportional to the number of fatalities and serious injuries that occur within the region.

Like the hotspot approach, the systemic approach is an application-based process. ODOT and all local jurisdictions within a region can submit an application for available Systemic funding. All the proposed systemic countermeasures must be from theODOT CRF List. Projects are prioritized based on benefit cost ratio (for Roadway Departure and Intersection projects) and cost effectiveness index (Pedestrian and Bicycle projects).

8. Can the same countermeasures be used for Hotspot as Systemic projects? Can a single location use a Systemic approach?

While systemic and Hotspot countermeasures may be applicable at the same location, ODOT asks applicants to submit separate applications for hotspot and for systemic measures during this round. Once approved for funding, the measures can be combined under one project if desired. Separate applications allow similar comparisons of benefits for both methods.

9. ***If a local jurisdiction has supplemental crash data, can that data be used during the project selection***

process?

ODOT recognizes that some jurisdictions may have supplemental crash data (e.g. police reports) that might be different from ODOT crash data. This data is exempt from project prioritization and benefit cost analysis. For fairness and consistency, crash data from 2012-2016 obtained from ODOT Crash Reports must be used for analysis purposes. However, the supplemental data may be informative for selecting appropriate countermeasures at a given location.

10. How is the final project list prepared?

All projects in the refined lists (for both hotspot and systemic) go through multi-disciplinary assessment to verify the applicability of the proposed solution. A final list (100 percent list) is prepared and prioritized based on the best benefit cost ratios (Pedestrian and Bicycle projects are ranked based on cost effectiveness).

11. Can a Hotspot or Systemic safety project from the final list be combined with another Statewide Transportation Improvement Program (STIP) project at the same location?

Yes, if a hotspot or systemic safety project from the final list is at a location where another STIP project is planned, these two projects may be combined for efficiency. Similarly, if a Hotspot project is selected in a location that is in the corridor where there will be a systemic project, both projects may be combined to a single project for efficient design and delivery of the project. This typically occurs after project lists are completed and before the STIP is adopted.

12. Who designs and delivers the projects?

After the final 100 percent list is complete, ODOT regions work with the local jurisdictions to determine the delivery methods, timelines, and delivery agencies. Local agencies are encouraged to consider fund exchange (State Funded Local Projects) and deliver the projects themselves. The delivering agency is responsible for timely and fiscally responsible delivery.

13. ***Will a local match be required for selected projects?***

The federal HSIP requires a 7.78 percent match for projects. This requires local agencies to contribute 7.78 percent of the total project cost. Local agencies are encouraged to fund exchange for state funds. More information can be found on theLocal Agency Guidelines website.

14. ***Do HSIP projects follow Statewide Transportation Improvement Program process?***

All the projects selected under the ARTS Program follow the STIP process. Refer to theSTIP website for more information on the STIP process and stakeholder involvement.

15. **Do the engineering countermeasures impact driver behaviors such as drinking and driving and speeding?**

A direct relationship between countermeasures and driver behaviors has not been determined. Some countermeasures may directly improve driver behaviors, others may not, however the improvement may prevent similar crashes in the future. For example, a roadway with a countermeasure installed — such as a median barrier or centerline rumble strips — may prevent an intoxicated driver from crossing into oncoming lanes.

Countermeasures that effectively reduce crashes are developed using data from all types and causes of crashes. The Crash Reduction Factor represents the relative change in crash frequency for a particular countermeasure regardless of cause of a crash. Engineering judgment may be needed to determine the

appropriate countermeasure to mitigate poor driver behaviors.

16. ***So what can my local agency do to start preparing for ARTS?***

ODOT will reach out to local agencies in each region this fall. In the meantime, local agencies and ODOT can begin thinking about and looking for good safety project candidates that meet funding eligibility. ODOT will update theARTS webpage as more information becomes available. The following are available now:

The most recent 2016 SPIS reports for State Highways andLocal Roads and

- The new Roadway Departure Plan.

17. ***Who should I contact if I have questions?***

For questions regarding the ARTS Program, please contact your local ODOT Region Traffic Office. While the FAQs are informative, some items like schedule and timelines could change.

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Project Implementation

Funds Programmed

Reporting period for HSIP funding.

State Fiscal Year

During the period of 2022 through 2024, approximately $30 million per year will be available for the ARTS program. This funding will be determined by the Oregon Transportation Commission (OTC).

Funds will be allocated to each ODOT region based on the proportion of fatalities and serious injuries that occurred within the region during the last five years. The region allocations during the last round of ARTS funding was approximately: Region 1 - 33% Region 2 - 34% Region 3 - 15% Region 4 - 11% Region 5 - 7%

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

FUNDING CATEGORY	PROGRAMMED	OBLIGATED	% OBLIGATED/PROGRAMMED
HSIP (23 U.S.C. 148)	$30,000,000	$30,000,000	100%
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)	$9,500,000	$9,500,000	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	$39,500,000	$39,500,000	100%

ODOT has approximately $166 million of funding for five years between 2017 and 2021 for the first round of the ARTS Program. ODOT has approximately $87,396,000 of funding for the next three years between 2022 and 2024 for the second round of the ARTS program. Safety Leverage HB 2017 - The Safety Leverage Funds are meant to help improve the safety of the state highway system where the Agency is planning to make a separate Fix-It program investment. The intent is to improve the most important safety issues that are in the general area of a planned Fix-It project. Investment decisions from this leverage fund will follow the general priorities outlined in the 2016 Transportation Safety Action Plan (TSAP).

The funds should be used for engineering countermeasures that can demonstrate a measurable cost-effective benefit and should generally follow the prioritization guidelines below:

• Tier 1 - Infrastructure improvements that will reduce serious / fatal crashes within the Emphasis Areas of the 2016 TSAP, such as Intersection, Roadway Departure, Pedestrian, and Bicycle crashes.

• Tier 2 - Regional safety priority areas, such as top 10% Safety Priority Index System (SPIS) sites, region-wide systemic safety features, or other documented crash locations. Safety leverage opportunities are identified by the following process:

• Regions review the Fix-It programs 150% lists for Tier 1 and 2 Safety Leverage qualification.

• Scoping teams review the Fix-It programs 150% lists for project details, including: status of each project, location, noting whether it qualifies as Safety Leverage (identifying safety mitigation as appropriate), or explaining why the project does not qualify in the "Leverage Opportunities" section of the Business Case.

• The Safety Leverage portion of all projects is prioritized by Regions and ACTS within Tier 1 and 2.

• Funding limitations are applied: Tier 1 in priority order first, then Tier 2 if funding allows. The outcome of Safety Leverage prioritization will be documented for each eligible project in the "Leverage Opportunities" section of the Business Case. Region Funding Allocation: Region 1 $10,680,000 Region 2 $9,273,000 Region 3 $4,431,000 Region 4 $3,108,000 Region 5 $2,508,000 Total $10,066,953

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

40%

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

40%

The objective of the ARTS Program is to select the best safety projects using a jurisdictionally blind and data-driven approach to significantly reduce the occurrence of fatalities and serious injuries on all roads in the state. A data-driven approach uses crash data, risk factors, or other data supported methods to identify the best possible locations to achieve the greatest benefits.

Benefit-cost analysis, which compares the economic benefits of the crash reductions to the project cost, is the traditional analysis tool that is used to determine financial viability of a project and to prioritize projects. The ODOT Benefit-Cost Workbook shall be used to calculate benefit-cost ratio for the ARTS Program. ODOT requires that five years of the most recent crash data available be used for the analysis and that the project has a benefit-cost ratio of 1.0 or greater. Projects with higher benefit-cost ratios will rank higher in the prioritized list.

ODOT's first round of ARTS has approximately $166 million of funding for the five years between 2017 and 2021. Approximate funding splits between the ODOT Regions for the first round of the ARTS Program are as shown, Region 1 = 33%, Region 2 = 34%, Region 3 = 15%, Region 4 = 11%, Region 5 = 7%. ODOT's second round of ARTS has approximately $29,132,000 of funding for three years between 2022 and 2024. Approximate funding splits between the ODOT Regions for the second round of the ARTS Program are shown, Region 1 = 31.4%, Region 2 = 35.7%, Region 3 = 15.7%, Region 4 = 10.2%, Region 5 = 7%.

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

$218,000

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

$218,000

These funds are used for roadway departure enforcement thru the Transportation Safety Division (TSD).

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

0%

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

0%

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

Oregon DOT does a great job obligating the HSIP funds to appropriate safety project but the challenge is getting the safety projects programmed and built in an appropriate time frame. We are working on writing IGA's with local agencies to ensure the HSIP funds get spent in a timely fashion. The Region Traffic offices monitor their safety funds. More progress needs to be gained in constructing safety projects earlier in the STIP instead of later.

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

One of the biggest challenges in HSIP implementation is programming and constructing these projects in a timely fashion, especially local safety projects. On State highway HSIP safety projects, the challenge is letting a lot of small dollar projects where the administration costs overrides the project costs. Some Regions have bundled safety projects where practical to reduce administration costs.

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
OR99: Young Street Safety and ADA Ramps (Woodburn) 16008	Roadway	Roadway - other		Numbers			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Pedestrians	Safety Improvements for Pedestrians by rebuilding ADA ramps
OR99E: Creel Rogue Valley Reduce to 3-Lanes (17478)	Roadway	Roadway narrowing (road diet, roadway reconfiguration)		Miles			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Bicyclists	Added bike lanes
Workzone Enforcement FFY2018 (17670)	Speed management	Speed management - other		Locations			Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Spot		Workzone enforcement
FFO - US30: Old Portland Road to Millard Lower Columbia River Intersection Improvements (17702)	Intersection geometry	Intersection geometry - other		Intersections						0		State Highway Agency	Spot	Intersections	Improvements to Intersections
OR8: SW 185TH Ave. Sec. Tualatin Valley Hwy., Washington, County (17704)	Roadway	Roadway - other		Miles	$48,311		HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
NW Cornelius Pass Rd US30 - NW Kaiser Rd. (18147)	Lighting	Lighting - other		Numbers	$3,055,315		HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Pedestrians	Safety and Lighting Improvements
OR551 @ Ehlen Road (18664)	Intersection geometry	Intersection geometry - other	1	Intersections	$583,860		HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	Intersection Safety Improvement
OR140: Brett Way Extension (K-Falls) 18731	Roadway	Roadway - other		Miles						0		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
OR 213 @ S Union Mills Rd Cascade S Intersection (18789)	Intersection geometry	Intersection geometry - other		Intersections	$145,938		HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	Intersection improvements
OR8 @ OR219 and SE 44TH Ave. (Hillsboro(18791	Intersection traffic control	Intersection traffic control - other		Intersections			State and Local Funds			0		State Highway Agency	Spot	Intersections	
OR8: SW 192nd Ave. (Aloha) - SW 160th Ave. (Beaverton) 18839	Roadway	Roadway - other		Miles			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
OR217: OR10 - OR99W (18841)	Roadway	Roadway - other		Miles			HSIP (23 U.S.C. 148)			0			Systemic	Roadway Departure	
OR 38: US 101 - Dean Creek Paving and PED Improvements (18869)	Pedestrians and bicyclists	Medians and pedestrian refuge areas		Locations			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Pedestrians	Pedestrian Improvements
Region 5 curve warning signs 2016 (18984)	Roadway signs and traffic control	Roadway signs (including post) - new or updated		Signs			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	Update curve warning signs
I-84: NE OR snow zone safety improvements (18994)	Parking	Parking - other		snow zone chain up areas			HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Roadway Departure	Snow zone safety improvements for drivers
US 95: Idaho - Burns Junction durable striping (19007)	Roadway delineation	Improve retroreflectivity		Miles	$403,731		HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	Installation of durable pavement striping
Region 4 Curve Warning Signs (19124)	Roadway signs and traffic control	Curve-related warning signs and flashers		Signs			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	Installation of curve warning signs
OR39: Crest Street - Madison Street (19261)	Roadway	Roadway - other			$615,858	$976,956	Penalty Funds (23 U.S.C. 164)			0		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
City of Salem Signalized Intersection Improvement (19447)	Intersection traffic control	Modify traffic signal - miscellaneous/other/unspecified					HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic		
US97: S Century Drive to USFS Boundary (19451)	Roadside	Roadside - other								0		State Highway Agency	Systemic		
A Street Rail Safety Improvements (Rainer) 19462	Roadway	Roadway - other								0		State Highway Agency	Spot		
Safety Features for Local Roads and Streets 2018 (19666)	Roadway	Roadway - other								0		City or Municipal Highway Agency	Systemic		
I-84 and I-205 Barrier Installation (19691)	Roadside	Barrier - cable		Miles			Penalty Funds (23 U.S.C. 164)	Rural	Principal Arterial-Interstate	0		State Highway Agency	Systemic	Roadway Departure	
Region 2 Centerline Rumble Strips (Unit 3) 19692	Roadway	Rumble strips - center		Miles	$2,929,398		Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Systemic	Roadway Departure	
HSIP 2016 Siganlized Improvements (Portland) 19722	Intersection traffic control	Intersection traffic control - other		Intersections			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Intersections	
HSIP City of Portland Bike/Ped (19723)	Pedestrians and bicyclists	Miscellaneous pedestrians and bicyclists					HSIP (23 U.S.C. 148)			0		City or Municipal Highway Agency	Systemic	Pedestrians	
All Roads Transportation Safety (City of Bend) 19806	Pedestrians and bicyclists	Miscellaneous pedestrians and bicyclists					HSIP (23 U.S.C. 148)			0		City or Municipal Highway Agency	Systemic	Pedestrians	
Grants Pass Signal and Pedestrian Upgrades (19960)	Intersection traffic control	Intersection traffic control - other			$3,097,946		HSIP (23 U.S.C. 148)			0		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	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
OR 140 Lake of the Woods (20025)	Roadway	Roadway - other		Miles			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
OR 99E: Enhance Pedestrian Crosswalks (Woodburn) 20093	Pedestrians and bicyclists	Modify existing crosswalk		Crosswalks	$323,010		HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Pedestrians	
US395 Ukiah-Nye Junction sign upgrades (20108)	Roadway signs and traffic control	Roadway signs (including post) - new or updated			$2448,199		HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Sign Upgrades	
Region 2 (Central and South) Rural Signal Improvements (20137)	Intersection traffic control	Intersection traffic control - other		Intersections	$4,186		HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
US 20 @ Knox Butte/OR226 (20140)	Intersection geometry	Intersection geometry - other			$195,986		Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Spot	Intersections	
OR22 @ Smithfield Rd/Kings Valley (20141)	Intersection geometry	Intersection geometry - other		Intersections			HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
OR211 @ Canby Marquam Hwy. (20142)	Intersection geometry	Intersection geometry - other		Intersections	$162,393		HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
13th Ave: Lincoln St. to Alder St. (Eugene) 20165	Roadway	Roadway - other		Miles	$2,398,411		HSIP (23 U.S.C. 148)			0		City or Municipal Highway Agency	Systemic	Roadway Departure	
US30 @ 8th St. (Astoria) 20177	Intersection traffic control	Intersection traffic control - other		Intersections			HSIP (23 U.S.C. 148)			0		City or Municipal Highway Agency	Spot	Intersections	
OR99E @ Airport Rd (Albany) 20183	Intersection traffic control	Intersection traffic control - other		Intersections	$390,169		HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	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	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
US20: Geary St. to Waverly St. (Albany) 20184	Pedestrians and bicyclists	Miscellaneous pedestrians and bicyclists		Miles	$578,199		Penalty Funds (23 U.S.C. 164)			0		City or Municipal Highway Agency	Systemic	Bicyclists	
OR99: Ashland Pedestrian Upgrades (20186)	Pedestrians and bicyclists	Miscellaneous pedestrians and bicyclists					HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Pedestrians	
City of Salem Signal Enhancements (Unit 3) 20187	Intersection traffic control	Intersection traffic control - other		Intersections			HSIP (23 U.S.C. 148)			0		City or Municipal Highway Agency	Systemic	Intersections	
Region 2 (North) Curve Warning Upgrades (20189)	Roadway signs and traffic control	Curve-related warning signs and flashers					Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Systemic	Roadway Departure	
Region 2 (Central and South) Curve Warning Upgrades (20190)	Roadway signs and traffic control	Roadway signs (including post) - new or updated					HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
US199: MP 25 to Kerby Shoulder Widening (20191)	Roadway	Roadway widening - travel lanes					HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
Region 2 (South) Curve Warning Upgrades (20193)	Roadway signs and traffic control	Roadway signs (including post) - new or updated			$191,149		Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Systemic	Roadway Departure	
Josephine County Safety Improvements (20194)	Roadway	Roadway - other					HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
OR234: Gold Hill - Sams Valley Intersection (20196)	Intersection traffic control	Intersection traffic control - other					HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
Mission St. Adaptive	Intersection traffic control	Modify traffic signal timing - signal coordination		Intersections			HSIP (23 U.S.C. 148)			0		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	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
Signal Timing (Salem) 20214															
City of Eugene Signal Enhancements (20216)	Intersection traffic control	Intersection traffic control - other		Intersections	$37,303		Penalty Funds (23 U.S.C. 164)			0		City or Municipal Highway Agency	Systemic	Intersections	
OR540: Broadway @ Newmark Realign (North Bend) 20219	Intersection geometry	Intersection geometry - other		Intersections			HSIP (23 U.S.C. 148)			0		City or Municipal Highway Agency	Spot	Intersections	
City of Salem Local Road Signal Enhancements Unit 2 (20220)	Intersection traffic control	Intersection traffic control - other		Intersections	$124,681		HSIP (23 U.S.C. 148)			0		City or Municipal Highway Agency	Systemic	Intersections	
Albany and Corvallis Signal Improvements (20221)	Intersection traffic control	Intersection traffic control - other		Intersections	$552,489		Penalty Funds (23 U.S.C. 164)			0		City or Municipal Highway Agency	Systemic	Intersections	
West Lane County Curve Warning Upgrades (20223)	Roadway signs and traffic control	Roadway signs (including post) - new or updated					HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
OR99: Urban Upgrade (Cottage Grove) 20242	Intersection traffic control	Intersection traffic control - other			$441,588		HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Intersections	
OR99: Eugene - Junction Cit Safety Barrier (20244)	Roadside	Barrier - other		Miles	$1,283,560		HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
US101: Johnsn Ave. Intersections (Cooc Bay)	Intersection traffic control	Intersection traffic control - other		Intersections			HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
Southern Oregon Warning Sign Upgrades (20247)	Roadway signs and traffic control	Sign sheeting - upgrade or replacement					HSIP (23 U.S.C. 148)			0		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
OR66@ Delap Pit Road (Klamath Falls) 20256	Roadway	Roadway - other		Intersections			HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
Region 4 Sign Upgrades (20271)	Roadway signs and traffic control	Sign sheeting - upgrade or replacement			$3,969		Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Systemic	Roadway Departure	
City of Portland Safety Project (20304)	Roadway	Roadway - other					Penalty Funds (23 U.S.C. 164)			0		City or Municipal Highway Agency	Systemic	Pedestrians	
Central Systemic Signals and Illumination (Portland) 20334	Lighting	Lighting - other			$904,396		Penalty Funds (23 U.S.C. 164)			0		City or Municipal Highway Agency	Systemic	Intersections	
Central Systemic Signals and Illumination (ODOT) 20335	Lighting	Lighting - other					HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Intersections	
Systemic Signals and Illumination (Clackamas) 20336	Lighting	Lighting - other			$160,831		Penalty Funds (23 U.S.C. 164)			0		City or Municipal Highway Agency	Systemic	Intersections	
Rumble Strips and Bike/Ped Conflict Markings (Portland) 20340	Pedestrians and bicyclists	Miscellaneous pedestrians and bicyclists		Miles	$402,870		HSIP (23 U.S.C. 148)			0		City or Municipal Highway Agency	Systemic	Pedestrians	
Systemic Signals and Illumination (Beaverton) 20374	Intersection traffic control	Intersection traffic control - other		Intersections	$626,864		HSIP (23 U.S.C. 148)			0		City or Municipal Highway Agency	Systemic	Intersections	
West Systemic Signals and Illumination (ODOT) 20376	Intersection traffic control	Intersection traffic control - other		Intersections			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Intersections	
I-5 MP 303.27 to MP 308.63 (20430)	Roadway	Roadway - other		Miles			Penalty Funds (23 U.S.C. 164)			0		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
OR99W (Barbur Blvd) at SW Capital Hwy (20438)	Intersection traffic control	Intersection traffic control - other		Intersections	$88,800		Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Spot	Intersections	
OR99W (Barbur Blvd): MP 8.01 to MP 11.50 (20439)	Roadway	Roadway - other		Miles			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
OR213 at MP 15.71 (Toliver Rd) 20478	Intersection traffic control	Intersection traffic control - other		Intersections	$501,001		Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Spot	Intersections	
Region 1 Bike Ped Crossings (20479)	Pedestrians and bicyclists	Miscellaneous pedestrians and bicyclists		Intersections	$230,386		Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Systemic	Pedestrians	
I-205 Exit Ramps at SE Division St. (20480)	Intersection traffic control	Intersection traffic control - other		Intersections	$112,437		HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
OR207: 11th @ Elm & Orchard Signals (Hermiston) 20671	Intersection traffic control	Intersection traffic control - other		Intersections			HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
Region 1 High Friction Surface Treatment (20719)	Roadway	Pavement surface - high friction surface					Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Spot	Intersections	
OR99W: SW Naito Parkway - SW Huber St Phase 2 (21071)	Roadway	Roadway - other		Miles			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
OR82: Minam Curve and Bank Stabilization (21169)	Roadway	Roadway widening - curve		Curves	$455,126		HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Bank Stabilization Project	
OR214: Jefferson St. (Silverton) 21190	Intersection traffic control	Intersection traffic control - other		Intersections	$30,709		Other Federal-aid Funds (i.e. STBG, NHPP)			0		State Highway Agency	Spot	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	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
US20: Safety Upgrades (Albany to Corvallis) 21191	Roadway delineation	Roadway delineation - other		Miles			Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Systemic	Roadway Departure	
2019 Roadway Departure Enforcement (21286)	Speed management	Speed management - other		Locations			HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Roadway Departure	
US26: Timberline Hwy - OR35 Sherwood Campground (21289)	Roadway	Roadway - other		Miles	$65,874		HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
Wickiup Junction Area Refinement Plan (21295)	Roadway	Roadway - other		Intersections			Other Federal-aid Funds (i.e. STBG, NHPP)			0		State Highway Agency	Spot	Intersections	
Southern Oregon Signal Upgrades (21308)	Intersection traffic control	Intersection traffic control - other		Intersections			Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Systemic	Intersections	
OR99W: Orrs Corner Rd. - Clow Corner Road (21374)	Intersection traffic control	Intersection traffic control - other		Intersections			HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
OR99: Rogue Valley Intersection Improvements (21408)	Intersection traffic control	Intersection traffic control - other		Intersections			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Intersections	
OR99: Rogue Valley Intersection Improvements (21408)	Intersection traffic control	Intersection traffic control - other		Intersections			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Intersections	
US30: Millard and Bennett Roads (St. Helens) 21459	Roadway	Roadway - other		Miles			HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
Region 4 Sign Upgrades Phase 2 (21482)	Roadway signs and traffic control	Sign sheeting - upgrade or replacement					HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	

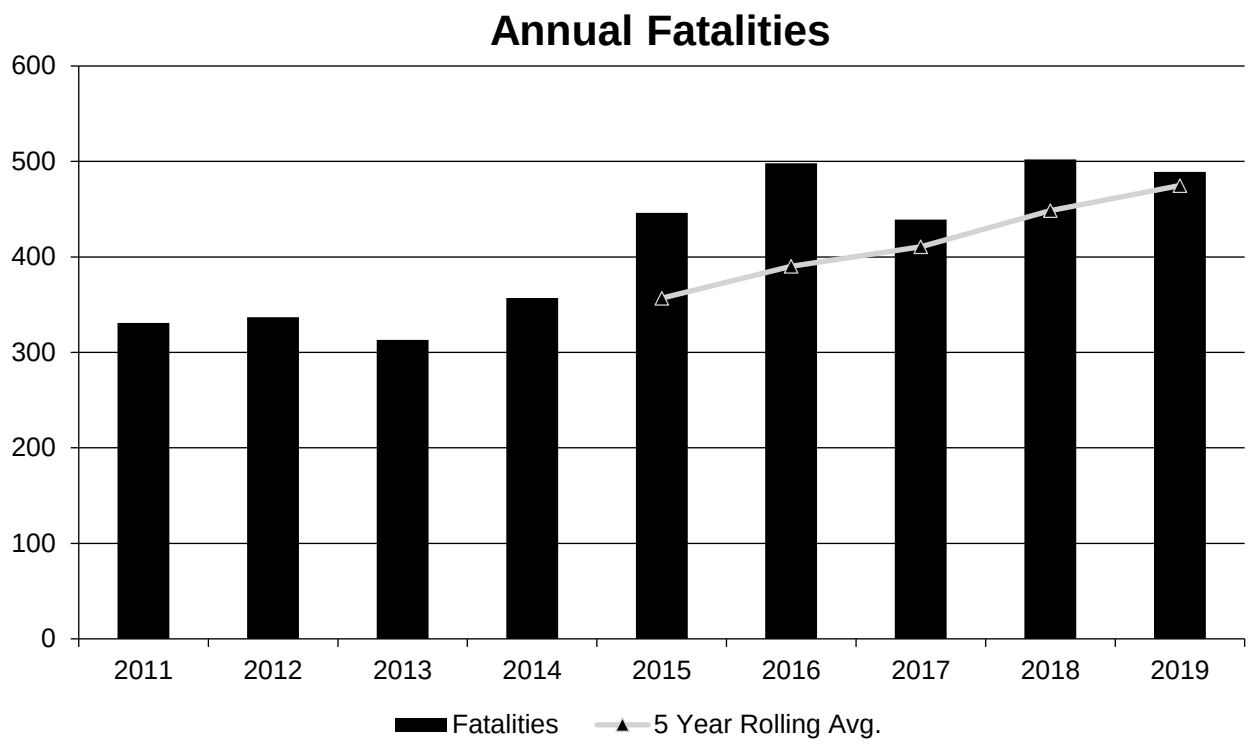
PROJECT NAME	IMPROVEMENT CATEGORY	SUBCATEGORY	OUTPUTS	OUTPUT TYPE	HSIP PROJECT COST($)	TOTAL PROJECT COST($)	FUNDING CATEGORY	LAND USE/AREA TYPE	FUNCTIONAL CLASSIFICATION	AADT	SPEED	OWNERSHIP	METHOD FOR SITE SELECTION	SHSP EMPHASIS AREA	SHSP STRATEGY
US395: Cape Horn to Dale Freight Improvements (21523)	Roadway	Roadway - other		Miles	$511,821		HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
OR281, OR282 and OR35 Signs, Signals and Lighting (21637)	Roadway signs and traffic control	Roadway signs and traffic control - other			$162,981		Penalty Funds (23 U.S.C. 164)			0		State Highway Agency	Spot	Intersections	
Eastern Oregon Variable Message Signs (21651)	Roadway signs and traffic control	Curve-related warning signs and flashers		Locations	$444,000		HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Roadway Departure	
US20: Ward / Hamby Rd. Intersection (21667)	Intersection traffic control	Intersection traffic control - other		Intersections	$64,489		HSIP (23 U.S.C. 148)			0		State Highway Agency	Spot	Intersections	
OR42: Slater Creek - Hard Cash Lane and Slide Repair (21678)	Roadside	Roadside grading		Miles	$57,323		HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	
US 199: Clear Zone Improvements (21714)	Roadside	Roadside - other		Miles	$133,200		HSIP (23 U.S.C. 148)			0		State Highway Agency	Systemic	Roadway Departure	

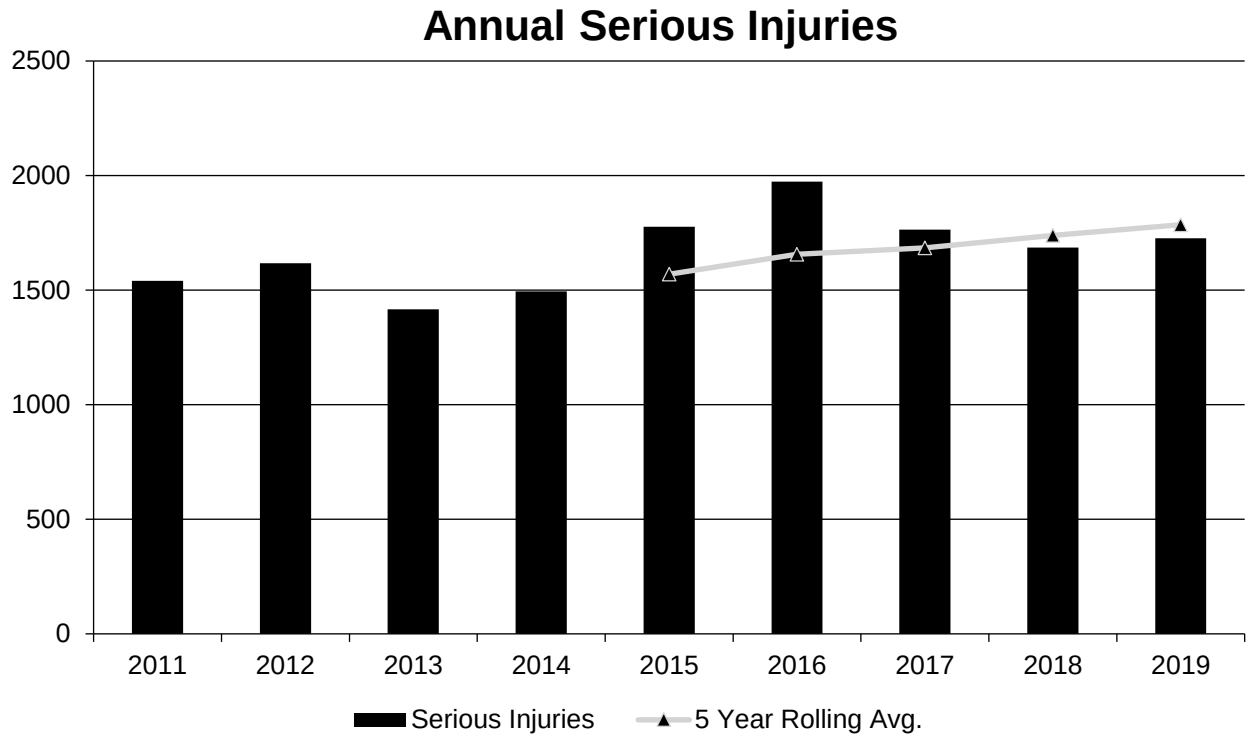
Safety Performance

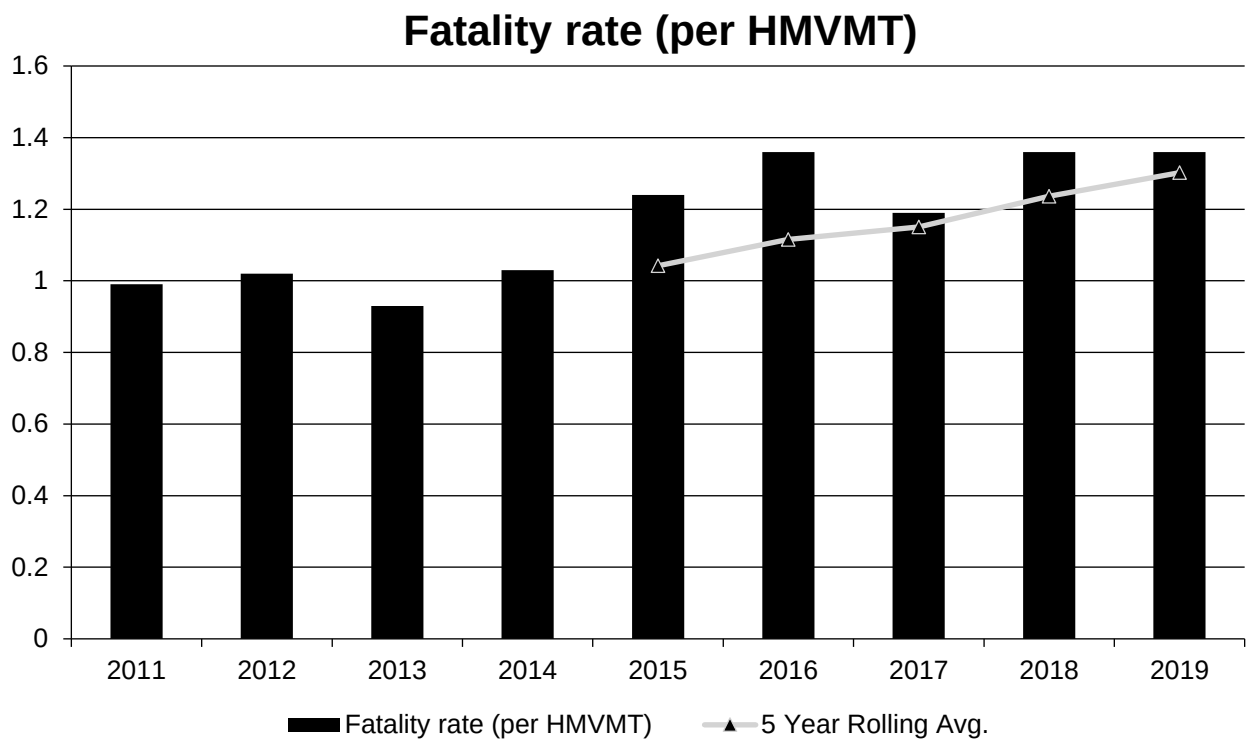
General Highway Safety Trends

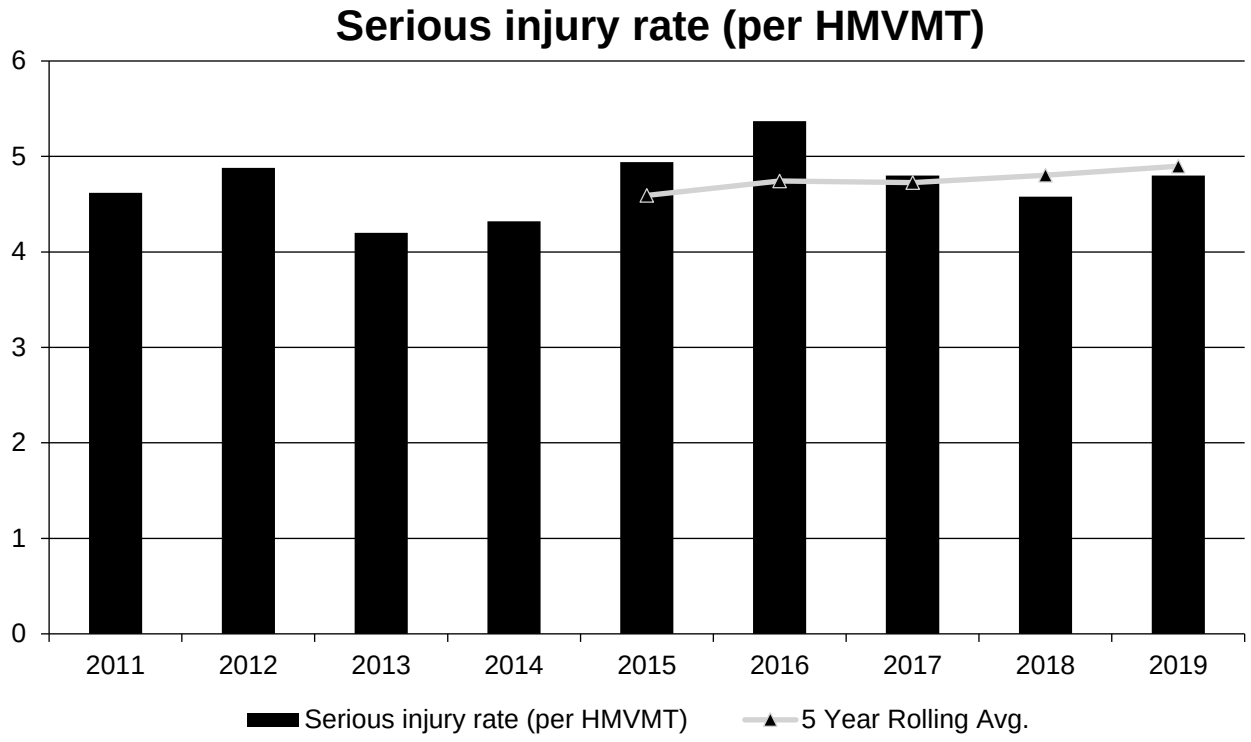
Present data showing the general highway safety trends in the State for the past five years.

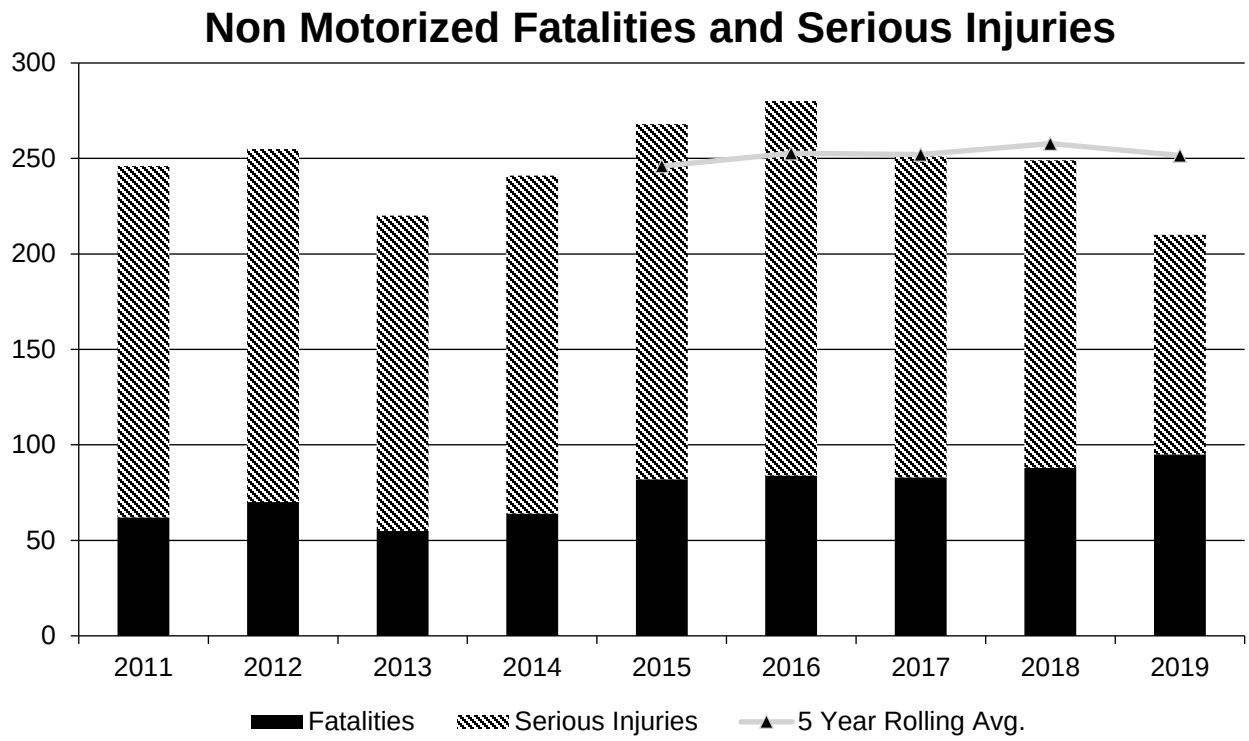
PERFORMANCE MEASURES	2011	2012	2013	2014	2015	2016	2017	2018	2019
Fatalities	331	337	313	357	446	498	439	502	489
Serious Injuries	1,541	1,618	1,416	1,495	1,777	1,973	1,764	1,686	1,727
Fatality rate (per HMVMT)	0.990	1.020	0.930	1.030	1.240	1.360	1.190	1.360	1.360
Serious injury rate (per HMVMT)	4.620	4.880	4.200	4.320	4.940	5.370	4.800	4.580	4.800
Number non-motorized fatalities	62	70	55	64	82	84	83	88	95
Number of non-motorized serious injuries	184	185	165	177	186	196	168	161	115
PDO Crashes	24,853	25,036	26,228	26,716	26,025	29,321	28,926	21,936	0

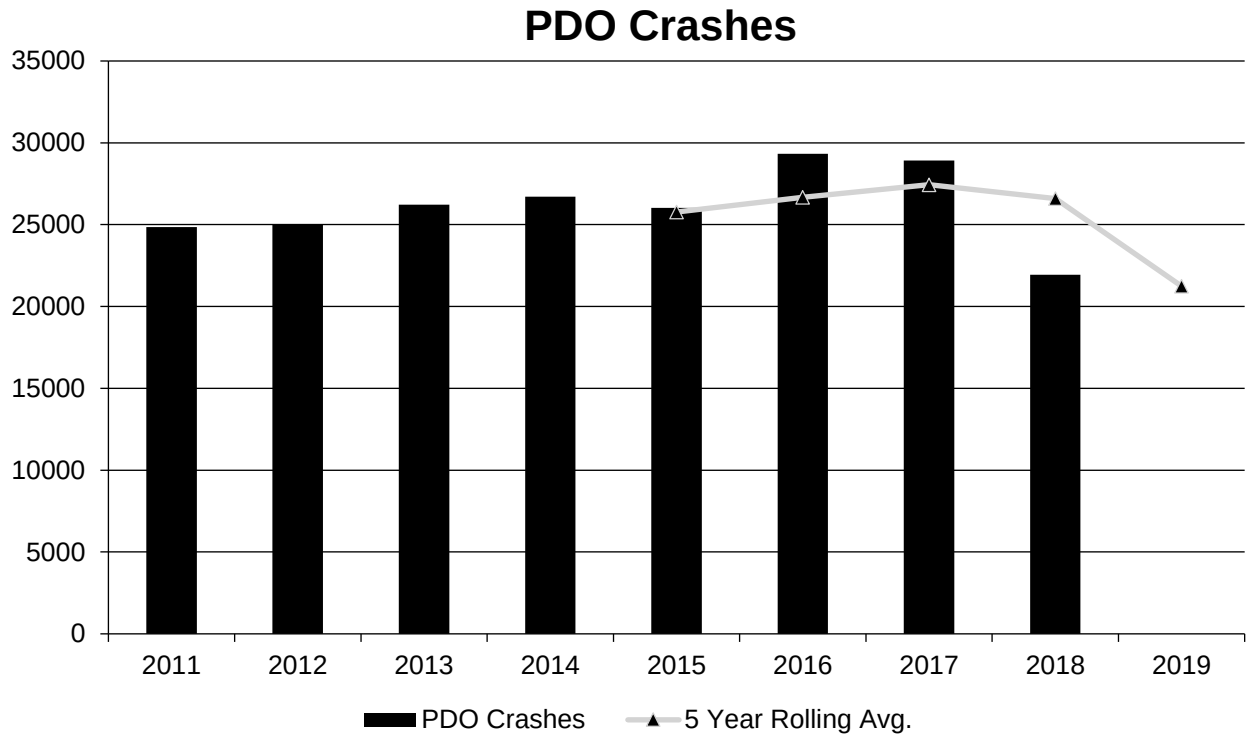

Annual Fatalities
600
500
400
300
200
100
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
Fatalities
5 Year Rolling Avg.


Annual Serious Injuries
2500
2000
1500
1000
500
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
Serious Injuries
5 Year Rolling Avg.


Fatality rate (per HMVMT)
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
Fatality rate (per HMVMT)
5 Year Rolling Avg.


Serious injury rate (per HMVMT)
6
5
4
3
2
1
0
2011
2012
2013
2014
2015
2016
2017
2018
2019
Serious injury rate (per HMVMT)
5 Year Rolling Avg.





Describe fatality data source.

Other

If Other Please describe

2020 Oregon Highway Safety Improvement Program

Oregon Department of Transportation (ODOT) Crash Data Base System in comparison with FARS data

Primarily, we use the Oregon Department of Transportation (ODOT) crash data base system because the data is available sooner than the FARS data. We compare our ODOT fatality crash data with FARS when possible.

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	20	46	0.5	1.16
Rural Principal Arterial (RPA) - Other Freeways and Expressways				
Rural Principal Arterial (RPA) - Other	99.4	235.8	2.35	5.58
Rural Minor Arterial	55.6	157.4	3.01	8.54
Rural Minor Collector	19.4	47.2	3.07	7.58
Rural Major Collector	63	163	3.43	8.88
Rural Local Road or Street	20.8	53	1.3	3.1
Urban Principal Arterial (UPA) - Interstate	20.2	88.2	0.35	1.54
Urban Principal Arterial (UPA) - Other Freeways and Expressways	4.8	27.8	0.33	1.92
Urban Principal Arterial (UPA) - Other	85.6	416.8	1.52	7.4
Urban Minor Arterial	48	310.2	1.09	7.08
Urban Minor Collector	1.8	10.6	0.66	3.92
Urban Major Collector	28.2	164.2	1.04	6.08
Urban Local Road or Street	8	65.2	0.39	3.18

Year 2018

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	263.6	845.6	1.25	4.04
County Highway Agency	116.2	362.4		
Town or Township Highway Agency				
City or Municipal Highway Agency	66.8	530.4		
State Park, Forest, or Reservation Agency	1.4	0.6		
Local Park, Forest or Reservation Agency				
Other State Agency				
Other Local Agency				
Private (Other than Railroad)				
Railroad				
State Toll Authority				
Local Toll Authority				
Other Public Instrumentality (e.g. Airport, School, University)				
Indian Tribe Nation				

Safety Performance Targets

Safety Performance Targets

Calendar Year 2021 Targets *

Number of Fatalities:306.0

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

The annual HSIP performance targets were developed during the last Strategic Highway Safety Plan update and were agreed upon by a multidisciplinary working group. Decrease traffic fatalities to 306 by December 31, 2021.

Number of Serious Injuries:1274.0

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

The annual HSIP performance targets were developed during the last Strategic Highway Safety Plan update and were agreed upon by a multidisciplinary working group. Decrease serious traffic injuries to 1,274 by December 31, 2021.

Fatality Rate:0.730

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

The annual HSIP performance targets were developed during the last Strategic Highway Safety Plan update and were agreed upon by a multidisciplinary working group. Reduce the fatality rate to 0.73 by December 31, 2021.

Serious Injury Rate:3.780

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

The annual HSIP performance targets were developed during the last Strategic Highway Safety Plan update and were agreed upon by a multidisciplinary working group. The serious injury rate for our 2021 target is 3.78 people per 100 million vehicle miles traveled (VMT).

Total Number of Non-Motorized Fatalities and Serious Injuries:200.0

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

The annual HSIP performance targets were developed during the last Strategic Highway Safety Plan update and were agreed upon by a multidisciplinary working group. The non-motorized fatalities plus serious injuries for our 2021 target is 200 people.

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

The annual HSIP performance targets were developed during the last Strategic Highway Safety Plan update and were agreed upon by a multidisciplinary working group including the SHSO (and including a representative of an MPO). Afterwards ODOT held meetings with the MPOs from around the state and explained the process and the outcome. The Oregon Transportation Safety Action Plan 2016 http://www.oregon.gov/ODOT/TS/docs/TSAP/TSAP_2016_web.pdf . There is some discussion around revisiting the annual HSIP performance targets in the near future. ODOT is in the process of updating the Oregon Transportation Safety Action Plan (TSAP) where the safety performance targets will be re-evaluated by stakeholders.

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	343.0	474.8
Number of Serious Injuries	1432.0	1785.4
Fatality Rate	0.830	1.302
Serious Injury Rate	4.240	4.898
Non-Motorized Fatalities and Serious Injuries	225.0	251.6

There are probably several reasons why the State's 2018 Safety Performance Targets are not being met. The primary reasons is assumed to be distracted driving issues, a limited presence of law enforcement officers due to budget cuts and an increase in people moving to Oregon. Our 2018 safety performance targets were more aspirational goals than obtainable goals. ODOT is in the process of updating the Oregon Transportation Safety Action Plan where these goals will be re-evaluated by stakeholders. We are also in the process of developing an HSIP implementation plan this summer.

Applicability of Special Rules

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

No

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

PERFORMANCE MEASURES	2013	2014	2015	2016	2017	2018	2019
Number of Older Driver and Pedestrian Fatalities	56	58	68	86	67	102	99
Number of Older Driver and Pedestrian Serious Injuries	134	167	197	232	219	206	238

ODOT just completed the following research project, "Addressing Oregon's Rise in Deaths and Serious Injuries for Senior Drivers and Pedestrians". https://www.oregon.gov/odot/Programs/Pages/Research-Publications.aspx . ODOT plans to incorporate several of the recommendations for practice into several of ODOT policy and procedure manuals https://www.oregon.gov/ODOT/Engineering/Pages/Highway-Safety.aspx .

Evaluation

Program Effectiveness

How does the State measure effectiveness of the HSIP?

- Benefit/Cost Ratio
- Change in fatalities and serious injuries
- Other-Fatal free days

In Oregon, the HSIP program funds the All Roads Transportation Safety (ARTS) program, an application-based program funding to address safety concerns on public roadways within the State.

The ARTS Program is designed to address safety needs on all public roads in Oregon by collaborating with local road jurisdictions. The Oregon Department of Transportation can expect to:

- Increase awareness of safety on all roads.
- Promote best practices for infrastructure safety.
- Compliment behavioral safety efforts.
- Focus limited resources to reduce fatal and serious injury crashes in the state of Oregon by selecting projects with the highest benefit/cost ratio.

The program is data driven to achieve the greatest benefits in crash reduction and should be blind to jurisdiction.

Here is a link to the 2018 ODOT ARTS Program Summary Report
https://www.oregon.gov/odot/Engineering/Docs_TrafficEng/ARTS_SUmmary-Report-2018.pdf

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

Historically Oregon’s fatalities and serious injuries have trended downwards, Since 2013 however there have been annual increases, this increase has been common across the country. Project level evaluations has shown that the projects implemented under HSIP funding have improved the locations where invested. A recent comparison of Roadway Departure has also shown that the last few years of investments in this key area has lessened the percentage of total roadway departure crashes, indicating Oregon’s investments in systemic roadway departure has been moving the numbers.

Here is a link to the 2018 ODOT ARTS Program Summary Report
https://www.oregon.gov/odot/Engineering/Docs_TrafficEng/ARTS_SUmmary-Report-2018.pdf

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

- HSIP Obligations
- Increased awareness of safety and data-driven process
- Increased focus on local road safety
- More systemic programs
- Policy change

With the implementation of the ARTS program, there is an increased awareness of safety and a data-driven process for developing safety projects across all jurisdictions in Oregon. Policy level changes that are a direct result of HSIP implementation efforts like the use of safety edge now incorporated into our Highway Design Manual. Improved guidance in our signing and striping manuals to reduce wrong way driving at interchange ramps taken from a recent research project that was completed in September 2017. Improved guidance in our signal policy and guidelines to eliminate conflicts between left turn traffic and pedestrians. ODOT recently completed research SPR 828, "Addressing Oregon's Rise in Deaths and Serious Injuries for Senior Drivers and Pedestrians" and we anticipate that several of the recommendations for practice will be incorporated into ODOT policy guidance and procedure manuals.
Here is a link to the 2018 ODOT ARTS Program Summary Report
https://www.oregon.gov/odot/Engineering/Docs_TrafficEng/ARTS_SUmmary-Report-2018.pdf

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

ODOT has revised their Safety Priority Index System (SPIS) flagging tool that assists Region Traffic Investigators in identifying high crash locations for the potential development of safety projects to reduce fatal and serious injury crashes in Oregon.

Here are some of the major changes to this year's SPIS program:

- No Property Damage Only (PDO) crashes in SPIS (only fatal and injury crashes)
- All SPIS reports will now include connectors (ramps) and frontage roads
- All SPIS reports now display the top 15% SPIS sites
- Changed the SPIS qualifying criteria from "one fatal or 3 crashes" to "one fatal or one serious injury A or three injury crashes" to generate a SPIS value

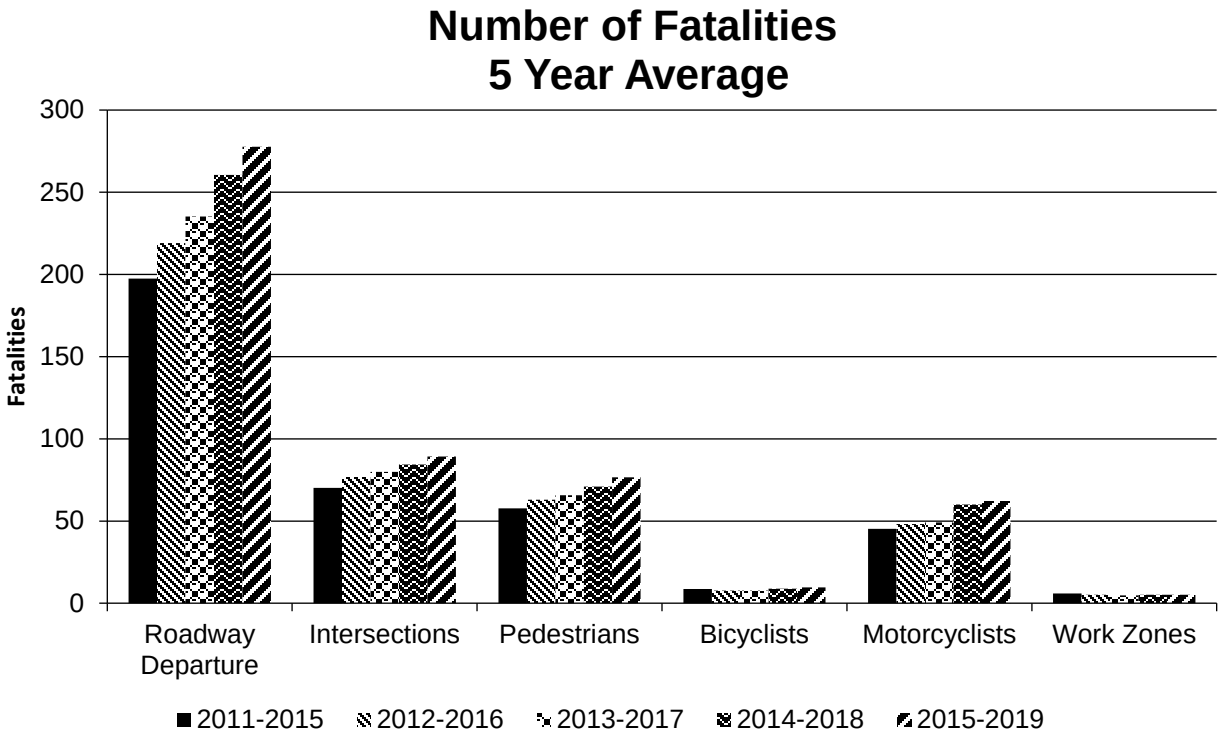
Here is a link to SPIS information and reports, https://www.oregon.gov/ODOT/Engineering/Pages/Highway-Safety.aspx

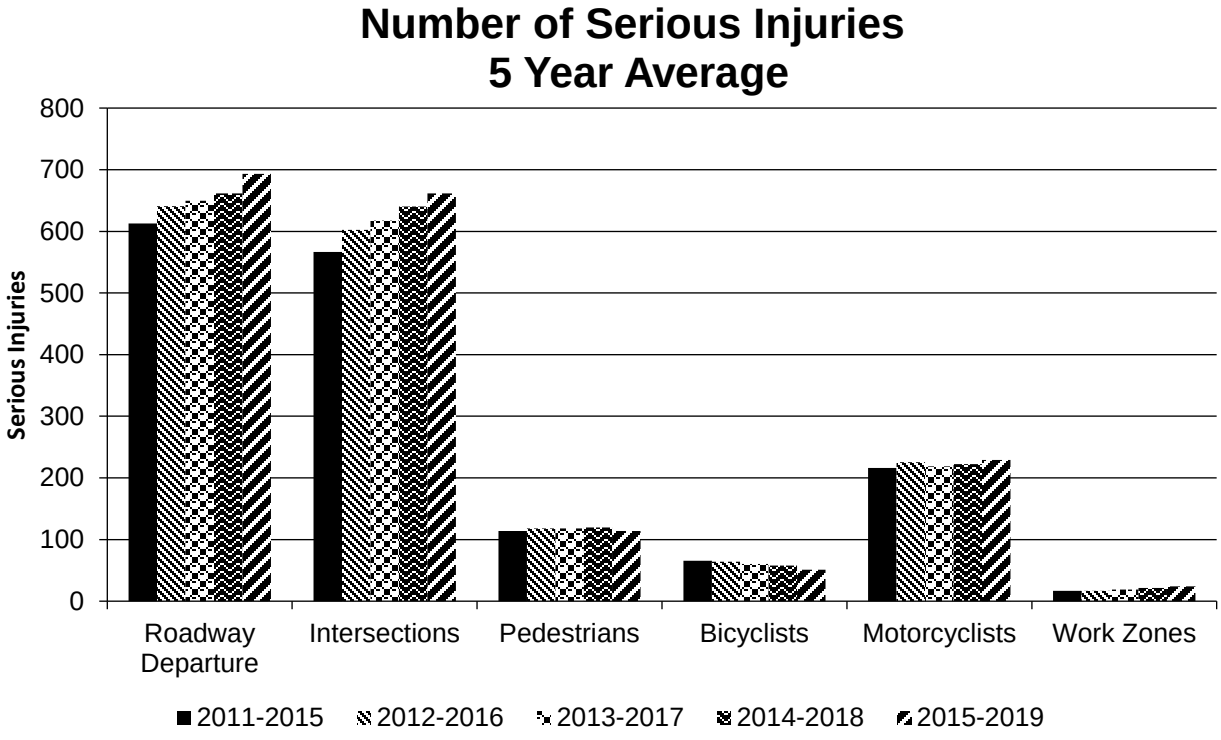
Effectiveness of Groupings or Similar Types of Improvements

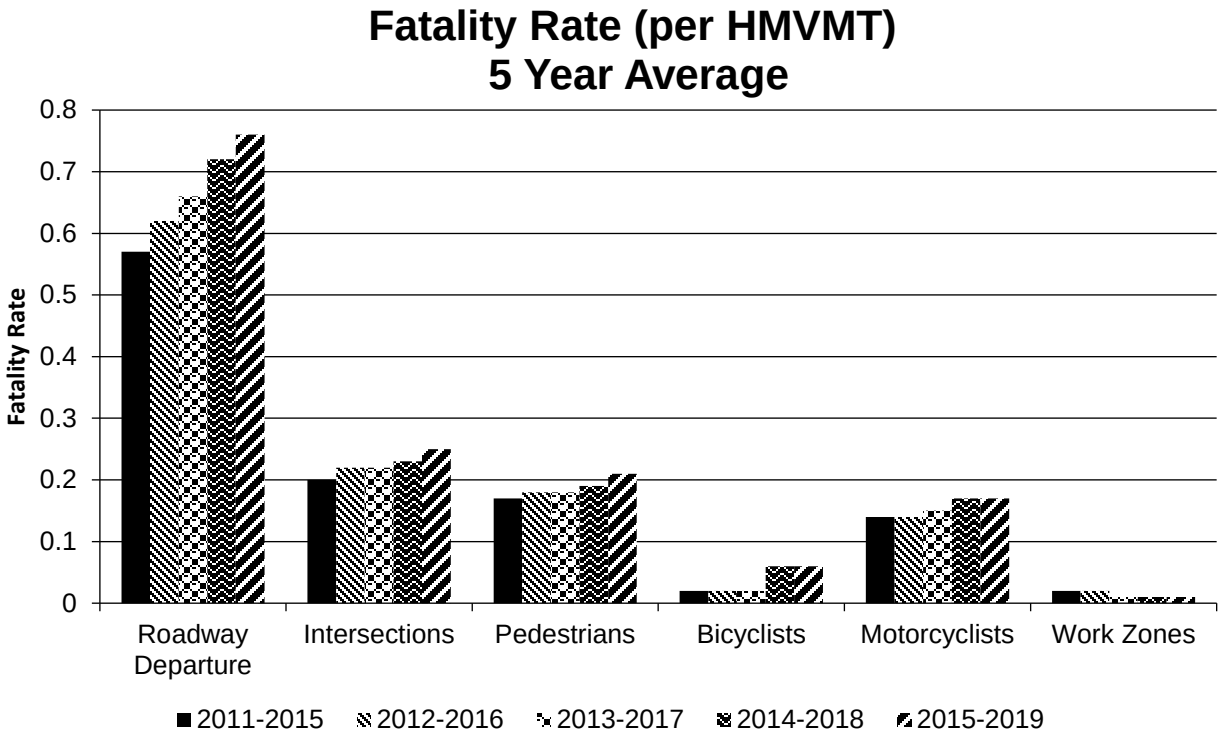
Present and describe trends in SHSP emphasis area performance measures.

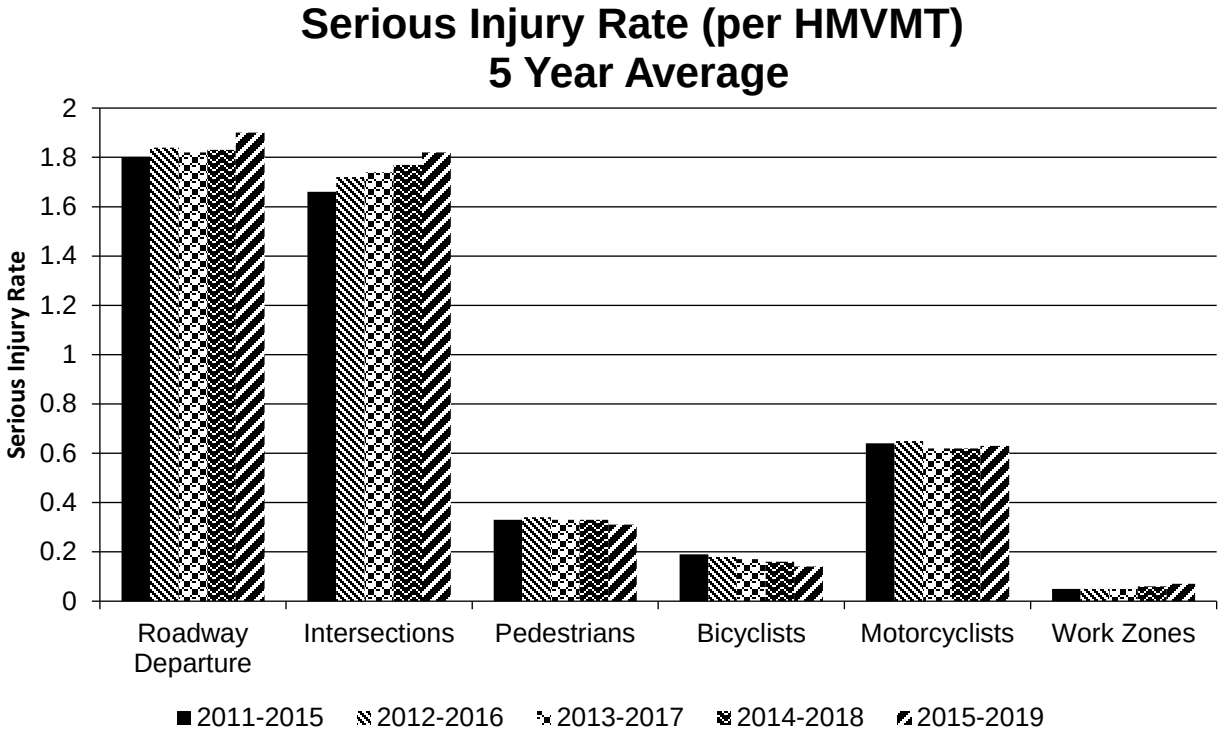
Year 2019

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)
Roadway Departure	Run-off-road	277.6	693	0.76	1.9
Intersections	Intersections	89.2	661.8	0.25	1.82
Pedestrians	Vehicle/pedestrian	76.6	114	0.21	0.31
Bicyclists	Vehicle/bicycle	9.6	51.2	0.06	0.14
Motorcyclists	Motorcyclists	62.2	229.2	0.17	0.63
Work Zones	Work Zone	5.2	24	0.01	0.07


Number of Fatalities
5 Year Average
Fatalities
300
250
200
150
100
50
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Motorcyclists
Work Zones
2011-2015
2012-2016
2013-2017
2014-2018
2015-2019


Number of Serious Injuries
5 Year Average
Serious Injuries
800
700
600
500
400
300
200
100
0
Roadway Departure
Intersections
Pedestrians
Bicyclists
Motorcyclists
Work Zones
2011-2015
2012-2016
2013-2017
2014-2018
2015-2019





** ODOT revised its Roadway Departure query criteria in February 2020 to align more closely with FHWA's 2009 criteria and state TSAP category

definitions. Roadway Departure figures for years 2015 to 2019 in this table were updated to reflect this change.

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)
FFO-US26: MP49.2 - MP 57.45 (13717)	Rural Principal Arterial (RPA) - Other	Roadway	Pavement surface - miscellaneous	47.00	17.00	1.00		5.00	3.00	34.00	21.00	87.00	41.00	
Greenhill Road Rail Xing Safety Project (Eugene) 16075	Urban Local Road or Street	Intersection traffic control	Intersection traffic control - other											
OR213: Intersection Improvements (16150)	Urban Principal Arterial (UPA) - Other	Intersection traffic control	Intersection traffic control - other	107.00	50.00	1.00		6.00	3.00	155.00	82.00	269.00	135.00	
Region 5 ROR Safety Improvements (17447)	Various Locations	Roadway	Rumble strips - unspecified or other	325.00	243.00	12.00	12.00	31.00	33.00	248.00	273.00	616.00	561.00	
St. Louis Road Rail-xing Safety Project (17472)	Various Locations	Railroad grade crossings	Protective devices											
OR213: (82nd Ave): SE Duke Street (17708)	Urban Principal Arterial (UPA) - Other	Intersection traffic control	Intersection traffic control - other	14.00	5.00			1.00	1.00	8.00	6.00	23.00	12.00	
OR224 (Clackamas Hwy): SE 232nd Dr. (17716)	Rural Minor Arterial	Roadway	Roadway widening - add lane(s) along segment	4.00	1.00			1.00		4.00	3.00	9.00	4.00	
Rail Crossing Improvements (UPRR) Linn County 17752	Various Locations	Railroad grade crossings	Upgrade railroad crossing signal	1.00								1.00		
US97: Romaine Village Way - Lava Butte (7807)	Rural Principal Arterial (RPA) - Other	Roadside	Barrier - concrete	35.00	10.00			4.00		21.00	15.00	60.00	25.00	

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)
US 101 @ NE Devils Lake Rd. (17611)	Rural Principal Arterial (RPA) - Other	Roadway	Roadway widening - add lane(s) along segment	7.00	2.00		1.00	1.00		7.00	5.00	15.00	8.00	
OR551 @ Keil Road (17812)	Rural Minor Arterial	Roadway	Roadway widening - add lane(s) along segment	5.00				1.00	2.00	7.00	3.00	13.00	5.00	
US30: Traffic Signals at McAlister RD. (RX1659) 18228	Urban Principal Arterial (UPA) - Other	Intersection traffic control	Intersection traffic control - other							2.00		2.00		
I-5 SB: Broadway-Weidler Exit Ramp (Portland) 18262	Urban Principal Arterial (UPA) - Interstate	Interchange design	Interchange design - other	10.00	11.00					6.00	15.00	16.00	26.00	
George Millican Rd: OR126-Reservoir Rd. (18446)	Urban Local Road or Street	Roadway	Roadway - other											
OR126: Torrence Rd. - Cornerstone Dr. (18613)	Rural Principal Arterial (RPA) - Other	Roadway	Pavement surface - miscellaneous	14.00	5.00		1.00	1.00	1.00	17.00	19.00	32.00	26.00	
US395: Alkali-Abert (18694)	Rural Principal Arterial (RPA) - Other	Roadway	Pavement surface - miscellaneous	3.00	4.00			1.00		2.00	2.00	6.00	6.00	
US26: SE Cesar E. Chavez Blvd-Wolf Dr. (18785)	Urban Principal Arterial (UPA) - Other	Roadway delineation	Roadway delineation - other	637.00	290.00	7.00	5.00	26.00	26.00	809.00	513.00	1479.00	834.00	
US30BY (Sandy Blvd): NE 105th Ave. (Portland) 18796	Urban Principal Arterial (UPA) - Other	Intersection geometry	Intersection geometrics - miscellaneous/other/unspecified	12.00	5.00			1.00		14.00	6.00	27.00	11.00	
Region 2 Dynamic Warning Signs (19094)	Rural Principal Arterial (RPA) - Other	Advanced technology and ITS	Dynamic message signs	11.00	1.00	1.00		4.00	1.00	14.00	7.00	30.00	9.00	

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)
Region 4 HSIP Transition Rural (19165)	Varioous Location	Roadway delineation	Roadway delineation - other											
Region 4 HSIP Transition Urban (19166)	Various locations	Intersection traffic control	Intersection traffic control - other											
City of Eugene Signalized Intersection Improvements (2015) 19406	Various locations	Intersection traffic control	Intersection traffic control - other											
Coos & Douglas County Signs and Delineation Upgrades (19491)	Various locations	Roadway delineation	Roadway delineation - other											
Garden Valley Signal Upgrades (19494)	Various Locations	Intersection traffic control	Intersection traffic control - other											
Region 5 Local Jurisdiction Sign Grades 2016 (19509)	Various locations	Roadway signs and traffic control	Roadway signs (including post) - new or updated											
2016 Region 1 Local Roads Signal Upgrades (HSIP) 19528	Urban Minor Arterial	Intersection traffic control	Intersection traffic control - other											
US97: UPRR O'xing-Millitary Xing and OR58: Hwy 429 - Hwy4 (19585)	Rural Principal Arterial (RPA) - Other	Roadway	Pavement surface - miscellaneous	75.00	11.00	2.00		3.00	4.00	32.00	27.00	112.00	42.00	

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

Effective Safety Countermeasures

ODOT has developed an extensive list of countermeasures with Crash Reduction factors proven to be effective. There are many examples of effective safety countermeasures

- Installing hundreds of miles of rumble strips on rural highways, Oregon has reduced these severe crashes by 20-30%.
- Cable guard rail has been used on many of the portions of interstates and other major routes, almost entirely eliminating the median crossover crashes, which are often fatal.

- Roundabouts have been installed on state highways intersections and in many cities where intersections were experiencing fatal and serious injury crashes every year, those severe crashes are almost entirely eliminated.
- Wrong way safety countermeasures included installing enhanced “DO NOT ENTER” and “WRONG WAY” low mounted signage at interchange ramp terminals along I-84 and I-5 is an example of the installation of safety countermeasures that reduce wrong way driving and result in reductions of fatal and serious injury wrong-way crashes.
- Installing lighting at signalized intersections and designing every new signalized intersection to include lighting reduces night time crashes by 38% and pedestrian and bicycle crash by over 40%.
- Upgrading signal hardware like installing reflectorized backplates which reduces intersection crashes by 20%.
- Installing Rectangular Rapid Flashing Beacons with medians that reduce pedestrian crash by more than 50%.
- Installing upgraded curve signing and chevrons that reduce run off the road crashes by 16%.
- Installing bike lanes and separated bike facilities reducing bicycle crashes by 40-60%.

ODOT countermeasures have been developed from multiple sources. From the Crash Modification Factors Clearinghouse, the Highway Safety Manual, NCHRP Report Series 500 and other guidance documents such as the Pedestrian Safety Guide and Countermeasure Selection System and the Handbook for designing Roadways for the Aging Population. The countermeasures were also gathered from other states and various research efforts and are documented as to the source of the measure.

Here is a link to ODOT's Crash Reduction Factor list: https://www.oregon.gov/odot/Engineering/Pages/ARTS.aspx

Project selection requires a comprehensive process to select and implement cost effective and beneficial countermeasures. ODOT has a data driven process and using traditional and systemic network screening processes to guide professionals to sites with promise. It requires expertise and training to diagnose safety problems and select appropriate countermeasures. This process results in selecting projects and measures that assure the elimination of at least some fatal and serious injuries in Oregon.

These efforts demonstrate how Oregon will continue to program effective projects despite a continued national increase or at least lack of progress in meeting performance measures.

One example of effective programs is the following excerpt from the Oregon Roadway Departure Implementation plan showing the results of the implementation of countermeasures to reduce fatal and serious injury roadway departure crashes. Roadway departure fatalities decreased 19.3 percent during the study period (2009-2014), far more dramatically than overall fatal crashes which only decreased 5.6 percent.

Improved data and analysis techniques, continued research into proven countermeasures and better project cost estimating are just a few improvements that will continue to move the needle. In addition the Oregon legislature approved more funds for safety in HB 2017, the bill dedicates $10 million more towards safety measures on Oregon roads.

Compliance Assessment

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

10/01/2016

What are the years being covered by the current SHSP?

From: 2016 To: 2021

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

2021

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

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

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

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

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]										
	Ramp Length (187) [177]										
	Roadway Type at Beginning of Ramp Terminal (195) [185]										
	Roadway Type at End Ramp Terminal (199) [189]										
	Interchange Type (182) [172]										
	Ramp AADT (191) [181]										
	Year of Ramp AADT (192) [182]										
	Functional Class (19) [19]										
	Type of Governmental Ownership (4) [4]										
Totals (Average Percent Complete):		**100.00**	**50.00**	**0.00**	**0.00**	**0.00**	**0.00**	**88.89**	**33.33**	**20.00**	**0.00**

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

Three years ago we had plans to do more collecting MIRE fundamental data elements but priorities like the ADA litigation requirements temporarily delayed our efforts.

We are currently working on establishing an intersection ID, planning for a non-state road ID in Trans Info and plan to conduct an operations evaluation for MIRE element to start in 2021.

All three of these effort will help us in collecting the MIRE fundamental data elements for all roads by September 30, 2026.

Please note the table in question 49 was difficult to provide exact percentages at this time.

MIRE Fundamental Data Elements: Non Local Paved Roads – Segment , State 70%, Non-State 15%; Non Local Paved Roads – Intersection , State 70%, Non-State 5%; Non Local Paved Roads – Ramps , State 60%, Non-State 20%; Local Paved Roads , State 90%, Non-State 5%; Unpaved Roads , State 90%, Non-State 5%.

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.

We are currently working on establishing an intersection ID, planning for a non-state road ID in Trans Info and plan to conduct an operations evaluation for MIRE element to start in 2021.All three of these effort will help us in collecting the MIRE fundamental data elements for all roads by September 30, 2026.

Oregon DOT performed a phase 1 pilot to estimate the work necessary to collect intersection data on state highways, the finding of the pilot are being used to plan a phase pilot to collect signalized intersection data in the most populous region of the state. While there are about 500 signalized intersections on state highways in this region, the quantity and density will be very useful to hone the attributes collected and the methods used for optimum efficiency. In addition, Region 1 was identified for collection of signalized intersection data so HSM methods could be used to identify signalized intersections which, are often over capacity and already identified as crash hot spots, for potential safety improvements.

The objectives of this pilot is to collect the FDE for signalized intersection only, utilize HSM methods of network screening for potential safety improvements and finalize the methodology before implementation in other regions of the state. Tentatively we have a planned schedule of collection of the data elements.

Winter 2017 Prepare to implement Phases 3-7

Spring 2018 Begin Phase 3, FDE data collection for signalized intersections in Regions 2, 3, 4 and 5

Fall 2020 Estimated completion of Phase 3 collection of FDE

Spring 2021 Begin Phase 4, FDE data collection for signalized interchange-only intersections state-wide

Winter 2021 Estimated completion of Phase 4 collection of FDE

Spring 2022 Begin Phase 5, FDE data collection for signalized intersections on local roads

Winter 2023 Estimated completion of Phase 5 collection of FDE

Spring 2024 Begin Phase 6, FDE data collection for state-owned highway segments between signalized intersections state-wide

Winter 2024 Estimated completion of Phase 6 collection of FDE

Spring 2025 Begin Phase 7, FDE data collection for local road segments between signalized intersections state-wide

Winter 2026 Estimated completion of Phase 7 collection of FDE

Spring 2027 Data maintenance cycle begins

Optional Attachments

Program Structure:

odot_safety_program_guide[1].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.