2018

ODOT ARTS

Program Summary Report

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DKS

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The 2018 ODOT All Road Transportation Safety (ARTS) program was developed through a collaborative effort among various public agencies. Input and assistance by the following people helped make this round of ARTS a success.

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For additional information about the ARTS program, visit https://www.oregon.gov/ODOT/Engineering/Pages/ARTS.aspx.

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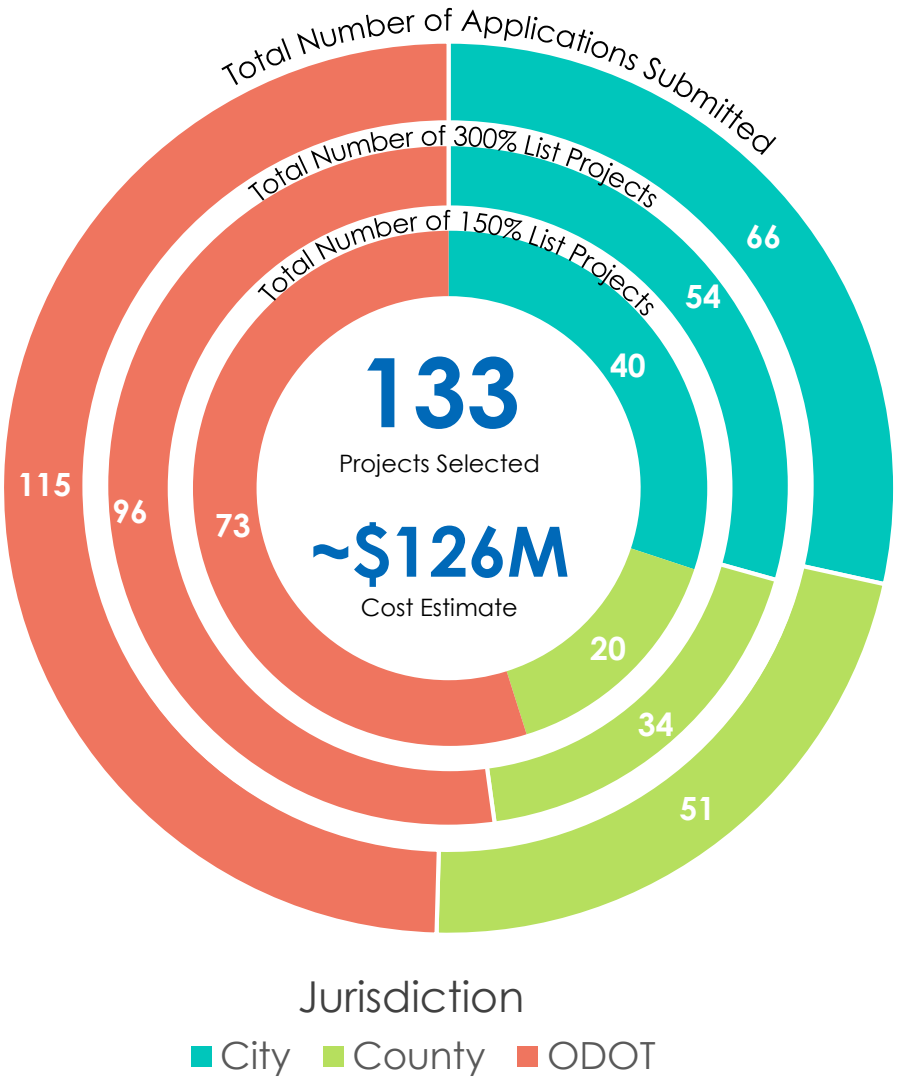
Executive Summary

The Oregon Department of Transportation (ODOT) administers the federally-funded Highway Safety Improvement Program (HSIP) to implement safety projects aimed at reducing the number of fatalities and serious injuries on Oregon's roadways. ODOT developed the All Roads Transportation Safety (ARTS) Program to achieve the goals of the HSIP using a data-driven, jurisdictionally-blind process. Through the ARTS program, projects on all public roads in Oregon, regardless of roadway ownership, compete for HSIP funding.

In 2018, ODOT Headquarters solicited ARTS applications from ODOT Regions and local agencies for safety projects to be included in the upcoming Statewide Transportation Improvement Program (STIP). In partnership with a consultant team, ODOT provided basic crash history data, ARTS Program training, and application assistance to local agencies to increase participation.

ODOT Regions and local agencies submitted 232 ARTS applications in 2018 requesting $245 million in HSIP funding. ODOT ranked the projects based on their cost-effectiveness using two calculation tools: benefit-cost ratio analysis and the Cost Effectiveness Index. ODOT narrowed the list of selected projects, based on available HSIP funding, to a 150% List to move forward into scoping. 133 potential projects were selected for the 150% List with a combined planning-level cost estimate of approximately $126 million. The final 100% list for implementation will be determined as part of the next STIP cycle, which is a separate process that is not yet completed.

The objective of this Summary Report is to describe the 2018 ARTS program processes and procedures, identify the projects selected this round, and share findings and recommendations for process improvements to be applied in the next round of ARTS. The consultant team identified lessons learned related to roadway safety data collection and analysis, cost and benefit estimate calculations, and outreach to local agency ARTS applicants.



The 300% list includes enough projects to spend 300% of available funding, which provides ODOT flexibility in project scoping and delivery. The 150% list of candidate projects moves forward into scoping.

1. Introduction

The Oregon Department of Transportation (ODOT) has received federal transportation funding for decades that has helped ODOT build the state's current transportation infrastructure, including a high-hazard location program in 1973 to address transportation safety. In 2005, the Highway Safety Improvement Program (HSIP) was made a core program by the federal government to focus on reducing traffic fatalities and serious injuries on all roadways.

Historically, federal funding provided to ODOT had been applied primarily to ODOT facilities. However, approximately half of the fatalities and serious injuries occur on other public roadways, including non-state-owned roadways and roads on Tribal lands. To ensure HSIP funding was applied to the true safety needs across the state, ODOT expanded the HSIP to include all public roads in Oregon. In February 2013, ODOT entered a memorandum of understanding (MOU) with the Association of Oregon Counties and the League of Oregon Cities. The MOU established broader eligibility for use of HSIP funds. This led to the development of the All Roads Transportation Safety (ARTS) program.

Because HSIP funding was already assigned to projects on ODOT roads through 2016, the agency used a transition process to apply additional funding to safety projects on local roadways until the full ARTS system could be implemented. Table 1 summarizes the differences between the HSIP Transition program and the two subsequent rounds of the ARTS program.

Table 1. Summary of Current and Previous ARTS Efforts

	2013 HSIP Transition	2015 ARTS	2018 ARTS
ARTS Funding Years	2015-2016	2017-2021	2022-2024
Hot Spot Project Identification	HSIP funds were earmarked for certain projects prior to inception of the ARTS program. No additional hot spots were identified in the Transition phase.	Consultant-led analysis and recommendations.	Applications submitted by local agencies and ODOT regions.
Systemic Project Identification	Consultant-led analysis and recommendations.	Applications submitted by local agencies and ODOT regions.	Applications submitted by local agencies and ODOT regions.
Consultant Assistance	Conducted jurisdictionally-blind systemic analyses on local roadways only. Provided ODOT with prioritized 300% list of systemic projects.	Conducted jurisdictionally-blind hot spot analyses on state and local roadways. Provided ODOT with prioritized 300% list of hot spot projects.	Assisted local agencies with data analysis, countermeasure selection, and preparing applications. Provided QA/QC of all application materials. Provided ODOT with prioritized 300% list.
Funding Allocation	100% to systemic projects. Allocated to ODOT regions for local agency projects based on percentage of fatal and severe injury crashes.	50% to systemic projects and 50% to hot spot projects. Systemic funds further broken down by category: intersection, roadway departure, and bike/ped (proportions varied by region). Allocated to ODOT regions, for state and local agency projects, based on percentage of fatal and severe injury crashes occurring within region.	

The goal of the ARTS program

is to reduce the frequency of fatal and serious injuries on all public roads through a data-driven process that is blind to jurisdictional ownership.

By following the goal of the program, ODOT intends to increase awareness of safety on local roads, promote best practices for infrastructure safety, complement behavioral safety efforts, and focus limited resources on the areas most likely to reduce the number of fatal and serious injury crashes in Oregon. The following themes form the backbone of the ARTS program.

Fatal and Serious Injury Crashes

While ODOT's transportation safety program is intended to reduce all crashes, it is focused on those resulting in serious injuries and fatalities. The greatest economic benefit is realized from reducing the highest severity crashes, and more importantly, reducing fatal and serious injury crashes has the greatest societal benefit in Oregon communities.

Appropriate use of 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 reduction in such fatalities or serious injuries. To achieve the maximum benefit, the focus of the ARTS program is on the use of funds to implement cost effective treatments addressing fatal and serious injury crashes.

Jurisdictionally Blind—Data Driven

ODOT's ARTS program considers safety on all roads in Oregon regardless of jurisdiction. The program focuses on the greatest safety needs wherever they are – a state highway, city street, county road, Tribal road, or other public facility. The ARTS program uses a data-driven process to identify potential hot spot and systemic safety projects. Geocoordinates tied to crash records are used to identify where the greatest number and severity of crashes occur on the roadway network. In addition, each crash and its attributes can be plotted on a map to help evaluate hot spot locations or identify systemic corridors or identify systemic corridors.

Local Agency Outreach

ODOT provided local agencies with safety analysis and application support so that all agencies had equal access to funding. Region staff engaged their local jurisdictions to explain the ARTS program requirements, encourage their participation, and identify safety needs and potential improvements. These events took the form of in-person workshops, webinars, and one-on-one meetings.

Funding and Project Delivery

A match is required for projects where HSIP funding will be used. For the ARTS programs, this local match is 7.78% of the project cost. Local agencies were encouraged to fund exchange for state funds through the State Funded Local Projects (SFLP) program, as described on the Local Agency Guidelines website.[1] In some cases local agencies offered to contribute more than the 7.78% match to a project. These additional funds were not considered in the benefit-cost (BC) analyses for project prioritization. It was decided that doing so would have artificially increased the BC ratio of a project and thereby increased its overall rank above other projects that may provide a more cost-effective safety benefit. If any agency planned to provide additional funding in support of the project, they indicated that as part of a narrative within the project application.

[1] Local Agency Guidelines (LAG) Manual, https://www.oregon.gov/ODOT/LocalGov/Pages/LAG-Manual.aspx

2. ARTS Program Guidelines

The ARTS program principal guidelines include:

- 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 will be overseen by ODOT regions.
- Both "hot spot" methodology and systemic methodology will be used.
- Only proven countermeasures from the ODOT Crash Reduction Factor list will be used.

The Strategic Highway Safety Plan (SHSP) is a requirement of HSIP. The Oregon Transportation Safety Action Plan serves as Oregon's SHSP. It is a coordinated statewide plan that provides a comprehensive framework for reducing fatalities and serious injuries in Oregon and contains strategies and actions for implementation. The ARTS sub-programs of both systemic and hot spots, including intersections, roadway departure, bicycle and pedestrian crashes are included as priorities within Oregon's Plan. Therefore, the ARTS program is split into four sub-programs, each of which competes separately:

1. **Hot Spot**
2. **Systemic Intersections**
3. **Systemic Roadway Departure**
4. **Systemic Bicycle-Pedestrian**

This report documents the process used to develop suitable projects in each subprogram.

1. Hot Spot

Hot spot projects focus on specific locations within the roadway network - such as intersections, curves, or short segments – with a history of at least one fatal or serious injury crash within the last five years. Hot spot projects were identified using geocoordinates attached to historical crash data to identify locations where the most crashes occurred. Once locations were identified, the characteristics and details about the crashes were used to select countermeasures for each location. Examples include construction of left or right turn lanes, installation of a traffic signal, or conversion of a stop-controlled intersection to a roundabout.

Systemic

Systemic projects address safety concerns along entire corridors, roadway segments, at multiple intersections, or throughout communities. This approach attempts to address the random nature of crashes by applying the countermeasure to a larger section of roadway rather than specific locations where crashes have occurred. Locations suitable for systemic treatment in the ARTS program had a history of fatal or serious injury crashes or a risk of high severity crashes and preferably were selected from priority corridors within previously-established ODOT systemic plans.

ODOT regions and local agencies were required to submit applications for locations they felt warranted traffic safety improvements in three systemic focus areas.

2. Systemic Intersection This subprogram was focused on low-cost treatments applied at multiple intersections in a jurisdiction. Examples projects included installing reflectorized back plates at signalized intersections and installing intersection warning signs at unsignalized intersections.

3. Systemic Roadway Departure This subprogram addressed run-off-road and head-on crashes, mostly in rural areas, through the application of countermeasures like curve warning signs, rumble strips, pavement markings, and high friction surface treatments.

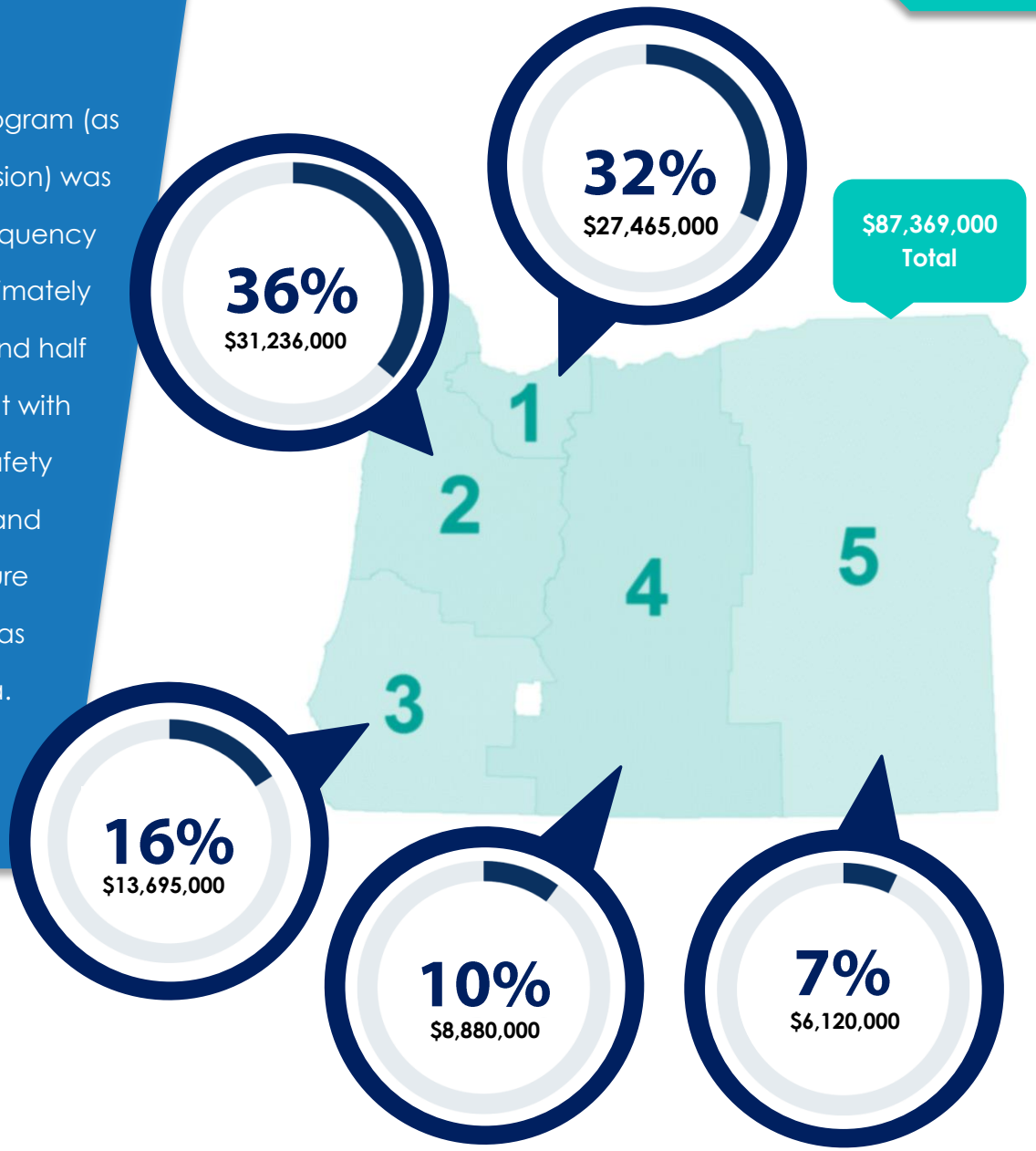
4. Systemic Bicycle-Pedestrian Treating bicycle and pedestrian safety is sometimes not as crash-data-focused as the others, due to the relatively low frequency and random geographic distribution of bike/ped crashes in a jurisdiction. Treatments in this subprogram include pedestrian lighting, enhanced pedestrian crossings, bicycle lanes, and cycle tracks.

Project Selection

ODOT evaluated all applications for completeness and accuracy and prioritized the projects based on the calculated benefit. To be considered for funding, each project was required to use only approved treatments as listed in the Crash Reduction Factors (CRF) List or CRF Supplemental List. Potential projects within each region were prioritized by their benefit and cost which factors in the number and severity of crashes, the crash reduction potential of the enhancement, and the project cost. Projects selected for funding and addition to the Statewide Transportation Improvement Program (STIP) are those with the highest cost effectiveness.

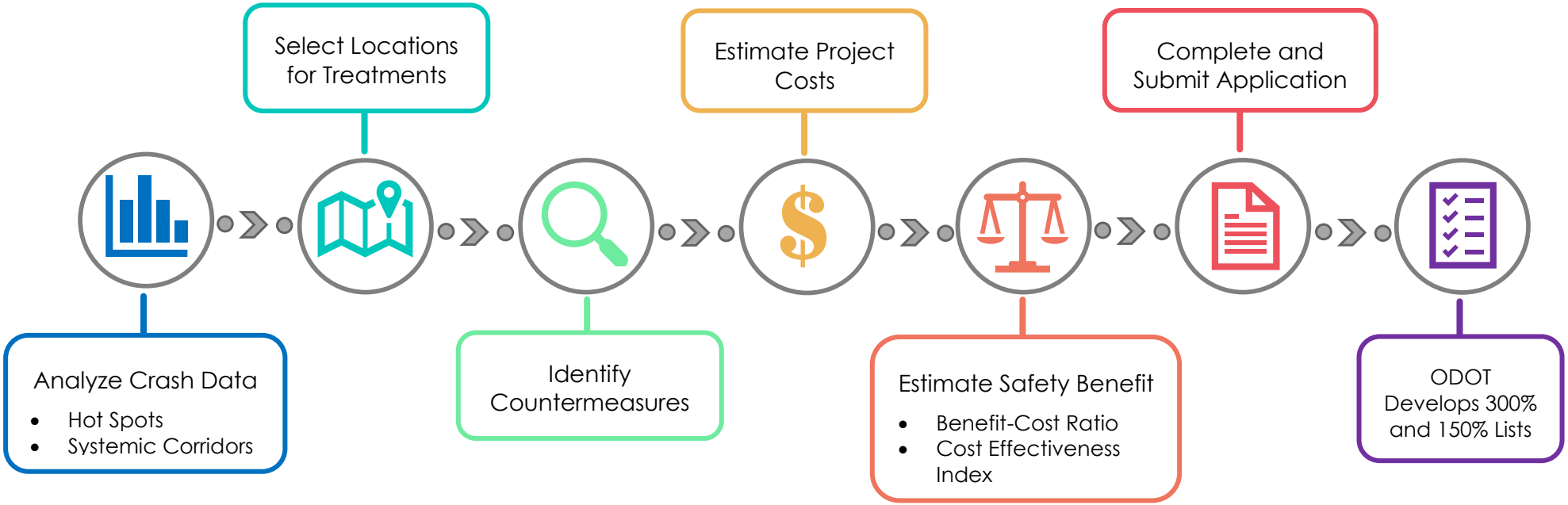
Funding Breakdown

The $87 million of 2022-2024 funds for the ARTS program (as determined by the Oregon Transportation Commission) was allocated to each ODOT region based on the relative frequency of fatalities and serious injuries. Within each region, approximately half of the funding was allocated for hot spot projects and half was allocated to systemic projects. This split is consistent with strategies identified in 2016 Oregon Transportation Safety Action Plan (TSAP), which identifies intersections and roadway departure as subareas under the Infrastructure Emphasis Area; and pedestrians and bicyclist as subareas under the Vulnerable Users Emphasis Area.



3. ARTS Program Process

ARTS program project selection requires a multi-step process. ODOT Headquarters staff provided oversight and direction, while ODOT region transportation safety leaders both supported the local agencies and submitted their own state route ARTS applications. Local agencies identified needs, calculated costs and benefits, and completed applications for review. The consultant team conducted initial data analysis, supported each of these participants at various steps in the process, reviewed all applications for accuracy, and documented lessons learned along the way. The figure below illustrates the ARTS program process:



Data Analysis and Reporting

Crash data played a key role in the ODOT ARTS program. Consultants obtained crash data on state and local roads from the ODOT Crash Analysis and Reporting Unit for the most recent five years of available data. To help identify and diagnose safety issues, all crash severities were collected and analyzed.

ODOT recognized that some jurisdictions have supplemental crash data available from their own sources, like local police reports that were not added to the State database, or a very recent fatal or serious injury crash. To maintain fair competition among all applicants, ODOT determined that those data could not be used in project prioritization and BC calculations. The ODOT Crash Reports database was considered the official source of data for all analyses, and the regions and agencies were required to use either 2011-2015 or 2012-2016 [1] periods to support the quantitative sections of their applications. Any supplemental data could be used as additional information to support the application, and the supplemental data could be useful in selecting the most appropriate safety treatments.

The consultants conducted region-wide analysis of crashes in Regions 1, 3, 4, and 5 using crash data from 2011 to 2015 [2,3]. The consultants completed spatial analysis using heat maps and point maps to identify crash locations along roadways or within a geographic area. During local agency outreach, the consultants provided data analysis results to each local jurisdiction.

Hot Spots

The consultants provided each local agency and ODOT region (except for Region 2) with a list of locations where a fatal or severe injury crash had occurred within their jurisdiction (i.e., locations that qualified for ARTS hot spot funding), and a map showing the location of each fatal and severe injury crash.

Systemic Corridors

The consultants provided each local agency and ODOT region (except for Region 2) a list of corridors with the following characteristics to help identify potential locations for systemic projects:

- At least one fatal or severe injury crash,
- At least one additional crash of any severity, and
- At least 25% of all crashes falling into one of the ARTS systemic categories (intersection related, roadway departure, or bicycle/pedestrian).

During the application period, the consultant conducted tailored data analyses at the request of several local jurisdictions. These analyses involved identification of crash patterns and diagnosis of crash causes and contributing factors to aid in countermeasure selection.

[1] 2016 crash data included only crashes that resulted in a personal injury or fatality.

[2] Region 2 had completed an in-depth data analysis ahead of time that included a detailed set of tables for each local agency in that region (see Appendix B).

[3] Some agencies used 2012-2016 data for individual ARTS applications.

Approved Countermeasures

ODOT has developed a toolbox of approved countermeasures with associated approved Crash Reduction Factors (CRFs) based on the Highway Safety Manual, FHWA's Crash Modification Factors Clearinghouse, and other research studies. ODOT made available three separate documents related to countermeasures on the ARTS website.

1. CRF List

This was the primary list of approved countermeasures for regions and local agencies to use.

2. CRF List Supplemental

This list included newly-added treatments that had not originally been included in either the CRF List or the CRF Appendix.

3. CRF List Appendix

This document provides a one-page summary of each countermeasure, including when it should be used, considerations for use, etc. It included write-ups for the "CRF List" treatments only (not the supplemental list).

For each treatment, the ODOT documentation includes the following information:

- Treatment description
- Applicable crash types (turning, angle, rear end, etc.)
- Applicable crash severities (injury, PDO)
- Service life (5, 10, or 20 years)
- Applicable traffic control type (signalized/unsignalized)
- Applicable Setting (urban, rural, both)
- Crash Reduction Factor (CRF)

Treatments were categorized as Hot Spot and Systemic, and jurisdictions were required to use the appropriate treatment type in their applications (with some exceptions made on a case-by-case basis). Hot spot countermeasures are proven treatments typically ranging from medium to high cost for addressing a specific location (e.g., roundabout). Systemic countermeasures are limited to low cost, proven treatments that can be applied along a corridor (e.g., rumble strips).

Matching countermeasures to locations' needs.

Based on the crash history and an assessment of existing conditions at the location, agencies identified potential countermeasures to consider from the approved lists. For example, a traffic signal or roundabout would be a potential countermeasure for a two-way stop-controlled intersection with a history of angle crashes. However, this is a high cost countermeasure, so its installation may result in a low BC ratio if crash frequency or severity were relatively low. An alternative group of low-cost countermeasures for the existing traffic control were also considered, such as signing and advanced flashers, and in some cases, these provided a higher BC ratio.

$ Cost Estimates

To consistently compare potential safety projects while also considering regional differences, ODOT used previously-developed planning level cost estimates as a baseline. These estimates included civil components, traffic components, design, contingencies, right-of-way, hazardous materials mitigation, and temporary traffic control. Each element was applied, as applicable, to develop the estimate. Some estimates accounted for special project needs or costs. For example, the City of Florence submitted an ARTS application to replace the two-way stop-controlled intersection of Kingwood St and 9th St with a roundabout. In addition to basic construction costs (e.g., asphalt and concrete, signing, lighting, temporary traffic control), the City identified a need to purchase right-of-way for installation. In this case the City made adjustments as appropriate to account for these additional costs. It was important that the costs were as realistic as possible to ensure the City will have sufficient funding for implementation.

ODOT Region 1 is unique due to its urban nature, additional constraints, and generally higher costs. Therefore, the Region developed a tailored cost estimate form used for all ARTS applications developed by ODOT and the local agencies in that region.

Safety Benefits

The economic benefits of each countermeasure were calculated based on the expected crash reduction and the Comprehensive Economic Value per Crash established by ODOT. When multiple countermeasures were proposed for a single location, a combined benefit was calculated consistent with ODOT and Highway Safety Manual methodology. This was important to avoid "double-counting" safety benefits; a single crash could only be eliminated once by a safety treatment, so these combination calculations accounted for that reality. For example, if permissive left turns were converted to protected-only left turns at a signalized intersection, the associated crashes are reduced by 99%. An additional treatment like reflectorized backplates cannot further reduce left turn crashes – even though the backplates have a CRF of 15% for all signalized intersection crashes - because future left turn crashes are "already prevented" by the change in signal phasing.

The expected service life of each treatment was also considered when estimating the safety benefit. For example, installing a traffic signal is expected to provide safety benefits for 20 or more years, while new pavement markings tend to wear much sooner, requiring maintenance or reapplication. Therefore, the annual benefit is multiplied by a corresponding present worth factor to address these differences.

ODOT developed and shared a Benefit-Cost Form that handles most of these calculations. The result of this form is a BC ratio in decimal form (the higher the ratio the better), with typical values in these ranges:

- Hot Spot: 1 to 10
- Systemic: 5 to 40+

Cost Effectiveness Index (CEI)

For bicycle and pedestrian safety projects, jurisdictions used the CEI form to determine the economic value of safety treatments at intersections and along segments. The CEI tool is primarily focused on pedestrian or bicyclist-involved crashes and associated safety treatments. However, due to the relative rarity of bicycle and pedestrian crashes, this tool also allows for benefits to be calculated based on other factors, including the following:

- Roadway or intersection type (divided/undivided, number of lanes)
- Segment length
- Vehicle volume (AADT of segment or entering vehicles at an intersection)
- Pedestrian crossing volume
- Type of parking
- Median width
- Presence of left- and right-turn lanes
- Presence of lighting
- Presence of automated speed and/or red-light enforcement
- Number of driveways
- Number of fixed objects
- Type of left-turn signal phasing
- Number of lanes cross by pedestrians
- Presence of nearby bus stops, schools, and alcohol sales establishments

The output of the CEI is a value identified as the estimated cost to reduce one pedestrian or bicycle-related crash. Values generally range from $500,000 to $3,000,000 and can be used to compare projects for ranking purposes (the lower the CEI cost value the better).

4. Agency Outreach and Coordination

ODOT region and local agency staff involvement throughout this process has been key to ensuring that high priority locations are selected for safety treatment and appropriate solutions are identified. This chapter discusses the engagement process with local agency and ODOT staff in developing each Region's 300% project list.

Regional Kick-off Meetings. The Consultant met with staff in each ODOT Region to develop a local agency outreach plan to ensure that all agencies were aware of the ARTS program and understood the requirements and schedule.

Initial Data Analysis. The Consultant provided ODOT region staff the safety data reports for each jurisdiction where at least one fatal or severe injury crash had occurred during the study period.

Local Agency Informational Meetings. ODOT region staff and the Consultant coordinated meetings with local agencies to introduce this round of the ARTS program, review program goals, provide details about the application requirements, and share initial data analysis results. In some regions, this entailed multiple in-person meetings throughout the geographic area of the region. In other regions, the information was shared via a single virtual meeting.

Support Workshops. In addition to the informational meetings described above, the Consultant facilitated local agency support workshops to provide one-on-one assistance to agencies with any aspect of application development, including safety issue diagnosis, countermeasure selection, cost estimation, and benefit-cost analysis. Workshops were held in Region 1, Region 4, and Region 5.

Virtual Support by Phone and E-mail. The Consultant and ODOT staff provided support to local agencies as they developed applications.

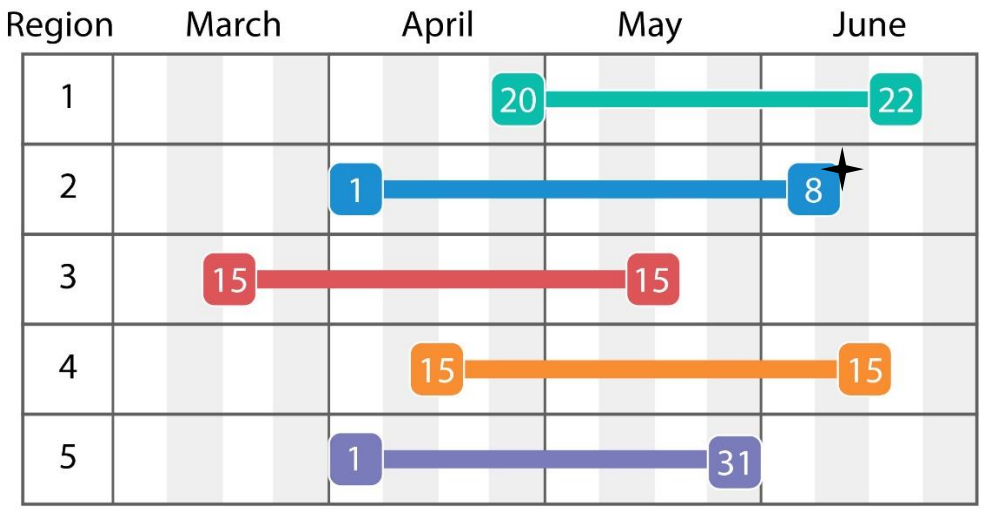
- **Identifying Potential Applications.** The consultant met with cities and counties to help them interpret their crash data, discuss the locations for potential treatments, and identify any previous safety projects to determine how the agency should proceed in application development.
- **Compiling and Analyzing Additional Data.** The Consultant queried crash databases to supplement the initial data reports. The agencies used this information to further support their applications.
- **Benefit Calculations.** One of the most complex steps in the process, especially for local agencies, was calculating the BC ratio or CEI correctly. The Consultant provided support for these calculations, in many cases completing the forms for the agency.
- **Developing Draft Applications.** The Consultant compiled information from the crash database, agency background information, and other application pieces online (e.g., overhead and street view maps) to produce initial draft applications for some local agencies. The agencies then used that base draft to complete the remainder of the application.

70% of local agencies used ODOT-provided consultant technical support for ARTS applications.

Application Submittal Process

Both local agencies and ODOT regions were required to submit application materials via a consultant-provided website. At a minimum, application materials were required to include an application form, benefit-cost analysis worksheets, cost estimates, and supporting crash data. Each region had a roughly 60-day window for application submissions, as shown in the figure below:

2018 ARTS Application Submission Schedule



The original Region 2 submission period ended May 31.

These deadlines were sometimes relaxed. As noted in the table, Region 2 had an initial window of April 1 to May 31. Upon a request from local agencies, the Region decided to extend the window one additional week. In Region 5, ODOT received a request from Union County to submit an application after the official May 31 deadline. Since this Region had funding available due to a low number of local agency applications, this request was approved.

Reviewing Agency's Draft Applications

In some cases, the agency completed the initial steps in the application development process and then requested a technical review of their application for accuracy or areas to improve. The Consultant provided this review and sent comments to the agency to correct or bolster their application.

Post-submittal Quality Assurance / Quality Control (QA/QC) Reviews

After ODOT Regions and local agencies submitted their ARTS applications, the Consultant conducted a QA/QC review of each application for completeness and accuracy. Upon completion of each review, the Consultant sent each jurisdiction a set of comments and suggested modifications to those applications that required edits. See Appendix C for an example QA/QC review.

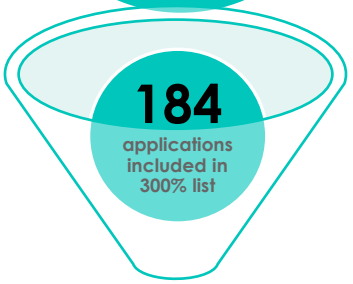
Local Agency Feedback

"I just submitted my ARTS applications…and was very pleased with the process and the support provided by [the consultant] …We looked at four possible options, determined that two of them would not be good applications, and then prepared two applications that we believe will be competitive."

"[The consultant's] work, time and effort has made a tremendous difference in my ability to understand the ins/outs of the application and its process."

5. ARTS-Funded Projects

232
applications submitted



132
applications included in 150% list

- **38.6% Hotspot**
- **61.4% Systemic**

Percent of submitted applications that made the 150% List by subprogram:

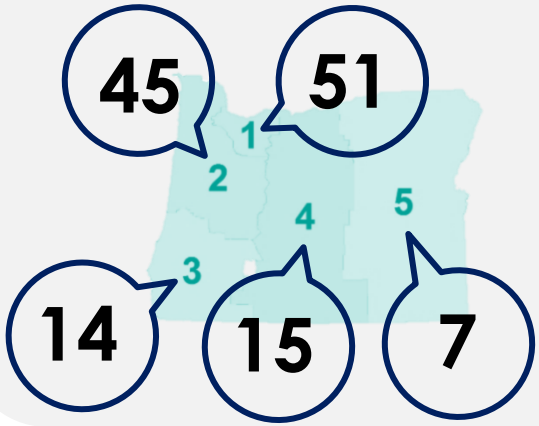
53.7% 45.8% 63.2% 75.0%

How many agencies submitted applications?

17
Unique Cities

15
Unique Counties

How many projects per region? (150% List)



The cumulative product from the previous steps was a 300% project list for each ODOT Region, separated by the four different subprograms:

- **Hot Spot**
- **Systemic Intersection**
- **Systemic Roadway Departure**
- **Systemic Bicycle-Pedestrian**

Each region's list contained up to enough projects to spend 300% of available funding, which will provide flexibility to ODOT. It provides a list of projects to "backfill" the list in case of changes like lower-than-expected cost estimates or the removal of a higher-ranked project. The list was prioritized based on BC ratio for Hot Spot, Systemic Intersection, and Systemic Roadway Departure applications. It was prioritized based on CEI for Systemic Bicycle-Pedestrian projects. Each project on the 300% list is included in the appendix with its location description, roadway jurisdiction, countermeasure(s) proposed, cost, and benefit (either BC ratio or CEI).

ODOT regions reviewed their 300% List and then developed a 150% list of candidate projects that would move forward into project scoping. These lists are included in Appendix D. The 100% list for implementation will be determined as part of the next STIP cycle.

6. Lessons Learned and Recommendations

This is the second cycle of the statewide safety program that encompasses all public roads. ODOT applied lessons from the first round of ARTS in 2015 to make this cycle a success. In addition, ODOT and the consultant learned several new lessons along the way that can be used to further improve the process next time. This section presents successes and recommendations for improvement.

ODOT-Consultant Communication

Basecamp, a project management and real-time communications tool, helped keep ODOT Headquarters, ODOT Region leads, and the consultant on the same page, and it served as an excellent depository for sharing large files among the team. ODOT should continue using this tool or something similar to support communication and file management.

ARTS Schedule, Application Window

Some ODOT Region staff and local agencies requested an earlier start to ARTS outreach activities to allow time for additional resource planning and consultant technical support. ODOT should consider a set timeline (e.g., 6 months) for ARTS. One survey respondent noted that, "For smaller jurisdictions, earlier outreach would be very beneficial. We generally do not have dedicated grant writing staff, so providing enough time to allocate resources to the application is quite important."

The 60-day staggered application window was deemed sufficient by applicants.

Funding Categories

Some Regions expressed a desire for separate funding or increased prioritization for a subset of treatments (e.g., FHWA's Proven Safety Countermeasures). For example, some roundabouts and road diet projects were not competitive due to the cost of pavement, while a high number of traffic separators were included in the 150% List. ODOT should consider whether a subset of "special" countermeasures should be prioritized to encourage their use.

Communication of Previous ARTS Funding Decisions

Some agencies were not aware of whether their previous ARTS applications were approved or denied, and in some cases they submitted applications a second time that had been previously funded during the first round of ARTS. ODOT should clarify approved funding from previous ARTS cycles in advance of the next round.

Data Analysis

ODOT started the ARTS process this cycle by providing an overview of crash data to each local agency with a history of at least one fatal or serious injury crash in the 2011-2015 study period. This gave every agency an opportunity to review their crashes and start thinking about potential ARTS applications. The overview tables and maps were successful for local agencies to see their high-level safety needs and whether they should pursue ARTS funding. The fact that 32 different agencies participated in ARTS this round shows an interest by cities and counties, and this initial sharing of data was an important part of that introduction.

For most regions the consultant developed some basic overview data tables and maps for each local agency. However, ODOT Region 2 handled this task on their own and provided a more detailed set of tables to cities and counties that included more information about each crash and a list of recommended countermeasures for each location (see Appendix B). Region 2's early data analysis efforts led to 13 cities and counties submitting 48 applications. ODOT should consider developing similarly-detailed crash data reports for all eligible local agencies in the next cycle.

88% of local agencies that provided feedback said the ARTS process identified locations with known safety concerns.

Years of Data Used

Part-way through this round of ARTS the 2016 crash data became available in the ODOT Crash Data System. When that occurred, ODOT allowed Regions and local agencies to choose between the 2011-2015 or 2012-2016 periods for their ARTS applications. This might have created a gap between those agencies with experience in crash data analysis and those without who continued to rely on the data that was initially provided. On the other hand, ODOT providing this option gave applicants an opportunity to capture locations with a safety need in 2011-2015 that did not manifest as a fatal or severe injury crash until 2016. ODOT should re-evaluate this practice and decide up front whether multiple time periods will be allowed next time.

Database Differences

DKS produced the initial data runs from the 2011-2015 raw data from ODOT's GIS database. As mentioned, Region 2 used the ODOT Crash Data System and Decoder tool to provide formatted tables to agencies in that region. There were minor differences in the databases used and the manner in which the data, analysis, interpretation, and reporting were displayed. The use of multiple databases and types of queries could have introduced inconsistencies among applicants. In the future ODOT should consider using a single database for supplying data for ARTS application to improve consistency.

Countermeasure Selection

Having two lists of approved safety treatments (CRF List and CRF Supplemental List) was confusing for some agencies, and in some cases a city or county was not aware that the second, supplemental list was approved for use (even though ODOT did convey that information through training, the FAQ, and on the ARTS website). ODOT should combine all approved treatments into a single CRF List, or at least move the Supplemental List into a second tab within the same Excel workbook for easier access.

The CRF List Appendix is a powerful tool, but it seemed to be underutilized by ARTS applicants. ODOT should consider promoting it more during training to help agencies learn about each countermeasure's benefits, best use cases, and limitations. The answers to many local agency questions were readily available in the Appendix.

ODOT Regions identified that some countermeasures were missing from the CRF List. Some agencies seemed to know that they could propose treatments not on the list, but others did not. ODOT should consider improving this process as follows:

- Review the current state of the practice and continue to add any new treatments to the CRF List.
- Clarify the process an agency can go through to request an "off the list" countermeasure be included in ARTS.
- Share any additional approved ARTS countermeasures immediately so other agencies will have the same access to use the treatment in their application.
    - In addition to contacting agencies with new treatments, convert the CRF List into a living document during the ARTS process by continuously updating it as needed.

Definitions: There are a few crash types and contributing circumstances with "grey area" in their definitions.

Examples include:

- ***Dark Crashes.*** Agencies might not have used the exact same definition when calculating benefits for dark crashes, as different interpretations could include using either all or only some of the following lighting conditions: Darkness - no street lights; Darkness with street lights; Dusk (Twilight); Dawn (Twilight).
- ***Angle Crashes.*** Some reviewers might have included only 90-degree-angle crashes involving two through vehicles, but others might have also included turning movements that resulted in angle crashes.

ODOT should consider standardizing definitions of all crash types and contributing circumstances for every type used in BC or CEI analyses for approved safety countermeasure

Cost Estimates

Estimating project costs was the most complicated, and potentially inconsistent, element to this round of ARTS applications. For Regions 2, 3, 4, and 5, ODOT provided a PDF document that included embedded background calculations. For many applications, more detailed cost estimation was needed to fully describe the required costs, and some agencies expressed confusion about the purpose of the PDF document. The consultant developed a basic spreadsheet tool to help agencies provide more cost estimate information; it was based on estimates from the previous round of ARTS. In the end, there were some inconsistencies with how the same treatment was priced by different agencies. For example, the contingency value was not always calculated the same. That said, in a single region cost estimates were relatively consistent, so this observation is mostly reserved for any potential comparisons between regions.

There were also differences in the types of tools used in each region. ODOT Region 4 used a cost estimating spreadsheet in the same format as other STIP projects for region consistency. ODOT Region 1 developed and disseminated a Region-specific cost estimate workbook for Region staff and local agencies to use in support of their applications. It was much more detailed and provided a consistent method of estimating.

ODOT should consider developing a consistent tool for all to use, factoring in the successes in Regions 1 and 4 this round. The tool may require separate tabs by region due to differences in constraints and risks around the state.

Benefit Calculations

Many local agencies struggled to accurately complete the BC ratio and CEI calculations, as reflected in their responses to a survey ODOT conducted at the conclusion of this round. This is the section of the applications that required the most consultant QA/QC review and rework. There may be a training opportunity to teach agencies how the tools work and encourage review of each tool's instructions.

For the BC calculations, the most common error was over-calculating safety benefits by not accounting for the reality that multiple treatments of the same crash type cannot be "stacked." For example, if Treatment A reduces all signalized intersection crashes by 30%, and Treatment B reduces left turn crashes by 50%, when both are applied it is important that Treatment B only provides a benefit of 0.50*(1.00-0.30) = 0.35 (a 35% reduction) to the left turn crashes because 30% of those crashes had already been addressed by Treatment A.

ODOT should consider two actions in preparation for the next round.

1. Develop additional training for this calculation with a series of the most common examples.
2. Add more macros (e.g., background calculations, look-ups) in the workbook to address these countermeasure combinations, if feasible.

Some agencies expressed appreciation that ODOT incorporated bicycle and pedestrian safety risk factors other than crash history. However, the CEI form was confusing and/or cumbersome for some users, especially if it was their first time using the tool.

Selecting the number of segments and intersections for an application was not always easy, and in some cases following the instructions resulted in 20+ segments and 20+ intersections for a single application, resulting in a high level of effort.

The CEI attempts to address not only crash history, but also other risk factors like traffic volume, traffic control, driveway density, and the number of fixed objects. However, these risk factors are weighted so low in comparison to crash history, that at any segment or intersection with even one bicycle or pedestrian crash in the study period these other risk factors are not used in the benefits calculation. ODOT should consider the following improvements related to the CEI tool:

1. Provide additional training of the CEI form.
2. Separate the application rankings of systemic bicycle/pedestrian projects ***with*** crashes from those ***without*** crashes.
3. Develop a new, simpler method for evaluating the cost effectiveness of bicycle and pedestrian projects.
4. Provide sample CEI calculations.

Application Submittal Website

The consultant developed and maintained the website **www.applyforodotarts.com** for local agencies and ODOT regions to submit ARTS applications. ODOT should consider enhancing this site with FAQs, updated forms, e-mail updates, etc., in real-time so applicants have a single source for the most recent ARTS-related information.

Local Outreach

Region 1 in-person local outreach seemed to be quite successful, as shown by the number of applications submitted. Of the agencies that attended at least one local outreach event at the ODOT Region 1 office, most submitted at least one application. Region 2 held ARTS meetings at multiple locations to make attendance convenient for local agencies. This resulted in high attendance and engagement at the events, and ultimately a high number of local agency applications. In Region 4, however, local agencies did not attend the open house events, preferring one-on-one support instead so they could ask specific questions.

ODOT should review the need for in-person workshops and Q-and-A sessions in other Regions (including on-site at local agency offices) to encourage more applications in those regions. ODOT should also consider expanding region-specific ARTS web pages to keep local agencies in each region apprised of updates throughout the process. This could be more effective than e-mail.

Application Completion

The shorter application was very popular with ODOT Regions and local agencies, and it was likely a factor in the increased quantity of applications submitted (see 2018 ARTS Application in Appendix E). In one region there was inconsistency in the information provided in the Page 2 narrative sections, so ODOT should review those questions to improve clarity and provide additional guidance and examples to agencies to improve consistency.

7. Conclusion

The goal of the ARTS program is to reduce the frequency of fatal and serious injuries on all public roads through a data-driven process that is blind to jurisdictional ownership. By following this program direction, ODOT promoted best practices for infrastructure safety on state and local roadways to improve transportation safety in Oregon.

The 2018 ARTS application submittal process was a success, with ODOT Regions and local agencies submitting 232 applications requesting $245 million. At the end of this round, the 150% List included 133 projects with a total cost estimate of approximately $126M to be implemented between 2022 and 2024. These safety projects are expected to reduce the number and severity of traffic crashes in Oregon, ultimately saving lives.

Appendices

APPENDIX A.....ARTS FUNDING DETAILS, 2022-2024

APPENDIX B.....EXAMPLE LOCAL AGENCY DATA REPORT FROM ODOT REGION 2

APPENDIX C.....EXAMPLE LOCAL AGENCY DATA REPORT FROM CONSULTANT

APPENDIX D.....QA/QC REVIEW EXAMPLE

APPENDIX E.....300% & 150% LISTS BY REGION

APPENDIX F.....ARTS APPLICATION FORM

APPENDIX A: ARTS FUNDING DETAILS, 2022-2024

	2022	2023	2024	Total
Region 1	$9,155,000	$9,155,000	$9,155,000	$27,465,000
Region 2	$10,412,000	$10,412,000	$10,412,000	$31,236,000
Region 3	$4,565,000	$4,565,000	$4,565,000	$13,695,000
Region 4	$2,960,000	$2,960,000	$2,960,000	$8,880,000
Region 5	$2,040,000	$2,040,000	$2,040,000	$6,120,000
Quick Fix*	$600,000	$600,000	$600,000	$1,800,000
Guardrail**	$6,000,000	$6,000,000	$6,000,000	$18,000,000
RwD Enforcement***	$218,000	$218,000	$218,000	$654,000
Rail HSIP	$3,000,000	$3,000,000	$3,000,000	$9,000,000
Total	$38,950,000	$38,950,000	$38,950,000	$116,850,000

* Quick fix- state funds for state hwys only

**Guardrail upgrades from 1R paving

***HSIP funds to TSD for Roadway Departure Enforcement Grants

Location ID 10
Street Name Kings Blvd
No. of Crashes 13 (2 A)

Applicable Countermeasures

BP8 - Install Pedestrian Activated Warning Beacon at Intersection
BP13 - Install Advance Pedestrian or Bicycle Warning Signs
I10 – increase intersection triangle sight distance (Tyler)

Notes

Taylor and NW Kings Blvd is within a 2016 SPIS site

CRASH ID	DATE	TIME	STREET	RD CHAR	TYPE	SURF	WTHR	LIGHT	PART.	SEVER	FROM	TO	ERROR	CAUSE 1	EVENT 1
									DRVR	NONE	W	N	NO ROW TO PED	NO ROW	
1402278	3/15/2011	4:00 PM	TAYLOR ST	INTER	PED	WET	RAIN	DAY	PED	INJB			NO ERROR	NO ROW	
									DRVR	NONE	N	S	FLW TOO CLOSE	FLW TOO CLOSE	
									DRVR	NONE	N	S	NO ERROR	FLW TOO CLOSE	VEH FORCED BY IMPACT
1515637	5/20/2013	6:00 PM	TAYLOR ST	INTER	REAR END	DRY	CLEAR	DAY	DRVR	INJC	N	S	NO ERROR	FLW TOO CLOSE	PED INDIRECTLY INVLVD
									DRVR	NONE	N	S	FAIL AVOID STOP VEH	FLW TOO CLOSE	
1560636	1/7/2014	6:00 PM	TAYLOR ST	STRGHT	REAR END	WET	RAIN	DARK (SL)	DRVR	NONE	N	S	NO ERROR	FLW TOO CLOSE	
									DRVR	NONE	N	S	FLW TOO CLOSE	FLW TOO CLOSE	
									DRVR	INJC	N	S	NO ERROR	FLW TOO CLOSE	VEH FORCED BY IMPACT
									DRVR	INJC	N	S	NO ERROR	FLW TOO CLOSE	
1626416	10/30/2015	4:00 PM	TAYLOR ST	STRGHT	REAR END	DRY	CLOUDY	DAY	PSNG	INJC	N	S	NO ERROR	FLW TOO CLOSE	
									DRVR	NONE	N	S	NO ROW TO PED	NO ROW	
1577855	8/20/2014	8:00 PM	TAYLOR ST	INTER	PED	DRY	CLEAR	DUSK	PED	INJA			NO ERROR	NO ROW	
									DRVR	NONE	S	N	INATTENT	INATTENT	
									DRVR	INJC	S	N	NO ERROR	INATTENT	PED INDIRECTLY INVLVD
1515695	5/28/2013	5:00 PM	TAYLOR ST	INTER	REAR END	DRY	CLEAR	DAY	PSNG	INJC	S	N	NO ERROR	INATTENT	PED INDIRECTLY INVLVD
									DRVR	NONE	W	E	DISRGRD STOP SIGN	PASS THE STOP	
									DRVR	INJC	N	S	NO ERROR	PASS THE STOP	
									PSNG	INJB	N	S	NO ERROR	PASS THE STOP	
									PSNG	INJC	N	S	NO ERROR	PASS THE STOP	
1461935	1/25/2012	1:00 PM	TAYLOR ST	INTER	ANGLE	DRY	CLOUDY	DAY	PSNG	INJC	N	S	NO ERROR	PASS THE STOP	
									DRVR	NONE	N	S	FAIL AVOID STOP VEH	FLW TOO CLOSE	
									DRVR	NONE	N	S	NO ERROR	FLW TOO CLOSE	
1464761	2/9/2012	8:00 AM	TYLER ST	INTER	REAR END	WET	RAIN	DAY	DRVR	NONE	N	S	FAIL AVOID STOP VEH	FLW TOO CLOSE	
									DRVR	NONE	N	S	FAIL AVOID STOP VEH	FLW TOO CLOSE	
1579115	10/31/2014	9:00 AM	TYLER ST	INTER	REAR END	WET	RAIN	DAY	DRVR	NONE	N	S	NO ERROR	FLW TOO CLOSE	
									DRVR	NONE	E	W	NO ROW	NO ROW	
1520904	10/6/2013	6:00 PM	TYLER ST	INTER	ANGLE	DRY	CLEAR	DUSK	DRVR	NONE	N	S	NO ERROR	NO ROW	
									DRVR	INJA	N	S	NO ERROR	NO ROW	
1569433	2/1/2014	5:00 PM	TYLER ST	INTER	ANGLE	DRY	CLEAR	DAY	DRVR	NONE	E	W	NO ROW	NO ROW	
									DRVR	NONE	W	E	NO ROW	NO ROW	
1515421	5/3/2013	2:00 PM	TYLER ST	INTER	ANGLE	DRY	CLEAR	DAY	DRVR	INJB	S	N	NO ERROR	NO ROW	
									DRVR	NONE	S	E	NO ROW TO BIKE	NO ROW	
1515483	5/6/2013	7:00 AM	TYLER ST	INTER	TURNING	DRY	CLEAR	DAY	BIKE	INJB			NO ERROR	NO ROW	

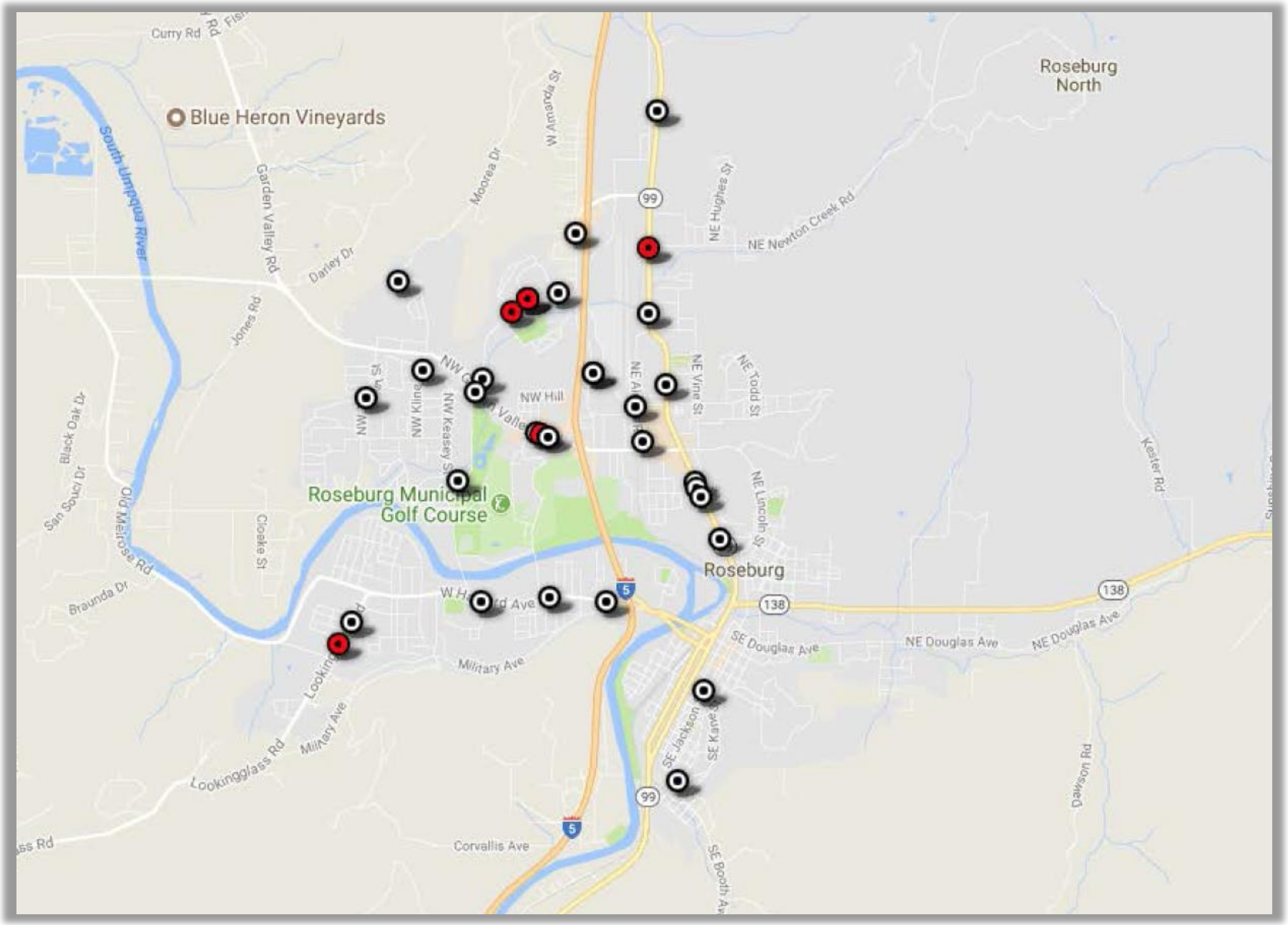
APPENDIX C: EXAMPLE LOCAL AGENCY DATA REPORT FROM CONSULTANT

Location ID: Roseburg

Years: 2011-2015

Crash ID	Street Name	Nearest Intersecting Street	Distance from Nearest Intersection	Direction from Nearest Intersection	Crash Type	Collision Type	Traffic Control	Total Fatalities	Total Injuries Type A	Alcohol Involved	Drugs Involved	Speeding Involved
1400904	STEWART PKY	GARDEN VALLEY BLVD	500	NE	O-1TURN	TURN	L-GRN-SIG	0	1	0	0	0
1423124	STEPHENS ST	HEWITT AVE	300	S	PED	PED	NONE	0	1	0	0	0
1439588	MERCY DR	STEWART PKY	0	NE	FIX OBJ	FIX	TRF SIGNAL	1	0	0	0	0
1448669	MAIN ST	SANFORD AVE	0	CN	ANGL-OTH	TURN	STOP SIGN	0	1	0	0	0
1500328	KLINE ST	VALLEY VIEW DR	0	NE	S-1STOP	REAR	STOP SIGN	0	1	0	0	0
1489270	GARDEN VALLEY BLVD	DOGWOOD ST	100	SE	PED	PED	NONE	1	0	1	1	0
1498472	EDENBOWER BLVD	SWEETBRIAR AVE	0	S	S-1STOP	REAR	UNKNOWN	0	1	0	0	0
1497653	STEPHENS ST	CHESTNUT AVE	100	SE	S-1STOP	REAR	UNKNOWN	0	1	0	0	0
1475662	MERCY DR	STEWART PKY	0	CN	O-1TURN	TURN	TRF SIGNAL	1	0	0	0	0
1498217	MERCY DR	STEWART PKY	0	CN	O-1TURN	TURN	UNKNOWN	0	1	0	0	0
1498483	AIRPORT RD	GARDEN VALLEY BLVD	300	N	PED	PED	UNKNOWN	0	1	0	0	0
1509972	DOGWOOD ST	GARDEN VALLEY BLVD	0	CN	ANGL-OTH	TURN	TRF SIGNAL	0	1	0	0	0
1518028	STEWART PKY	MERCY DR	200	NE	PED	PED	UNKNOWN	0	1	0	0	1
1522568	HARVARD AVE	STANTON DR	0	S	BIKE	TURN	STOP SIGN	0	1	0	0	0
1538227	LOOKINGGLASS RD	NORMANDY CT	100	SW	PED	PED	UNKNOWN	1	1	1	1	0
1538731	STEPHENS ST	DIXON AVE	50	NW	ANIMAL	OTH	UNKNOWN	0	1	1	0	0
1544568	GARDEN VALLEY BLVD	STEWART PKY	0	CN	ANGL-OTH	ANGL	TRF SIGNAL	0	1	0	0	0
1544576	DELRIDGE AVE	TROOST ST	0	W	NON-COLL	NCOL	STOP SIGN	0	1	0	0	0
1556101	HARVARD AVE	FIR ST	50	NE	S-1STOP	REAR	NONE	0	1	0	0	1

Crash ID	Street Name	Nearest Intersecting Street	Distance from Nearest Intersection	Direction from Nearest Intersection	Crash Type	Collision Type	Traffic Control	Total Fatalities	Total Injuries Type A	Alcohol Involved	Drugs Involved	Speeding Involved
1563149	STEPHENS ST	MOBRIDGE AVE	50	S	S-1STOP	REAR	BUS STPSGN	0	1	0	0	0
1576933	AIRPORT RD	STEWART PKY	0	N	S-1STOP	REAR	TRF SIGNAL	0	1	0	0	0
1581547	STEPHENS ST	NB WINCHESTER ST	300	SE	FIX OBJ	FIX	UNKNOWN	0	1	0	0	1
1587021	STEWART PKY	HARVEY AVE	920	N	O-STRGHT	HEAD	NONE	0	2	0	0	1
1587049	HARVARD AVE	UMPQUA ST	350	E	S-1STOP	REAR	UNKNOWN	0	1	0	0	0
1592243	AVIATION DR	STEWART PKY	0	CN	O-1TURN	TURN	TRF SIGNAL	0	1	0	0	0
1599501	STEPHENS ST	DIXON AVE	100	SE	S-1STOP	REAR	BUS STPSGN	0	1	0	0	0
1592474	MERCY DR	STEWART PKY	0	CN	O-1 L-TURN	TURN	L-TURN REF	1	1	0	0	1
1609032	MOORE AVE	KLINE ST	415	N	FIX OBJ	FIX	UNKNOWN	0	1	0	0	0
1609994	GARDEN VALLEY BLVD	SB EX GARDEN VLY C4	275	NW	S-1STOP	REAR	UNKNOWN	0	1	0	0	0
1610150	MULHOLLAND DR	STEWART PKY	0	CN	O-1 L-TURN	TURN	TRF SIGNAL	0	1	0	0	0
1610936	STEPHENS ST	ROSELAND AVE	285	S	BIKE	TURN	NONE	0	1	0	0	0
1611729	JACKSON ST	MOSHER AVE	0	CN	BIKE	ANGL	NONE	0	1	0	0	0
1612620	LOOKINGGLASS RD	W CHATEAU ST	95	NE	S-1STOP	REAR	UNKNOWN	0	1	0	0	0
1614376	NEWTON CREEK RD	STEPHENS ST	0	CN	ANGL-OTH	TURN	TRF SIGNAL	1	0	0	0	1


Curry Rd
Blue Heron Vineyards
South Umpqua River
Garden Valley Rd
Darley Dr
Jones Rd
Moorea Dr
W Amanda St
Roseburg North
NE Hughes St
NE Newton Creek Rd
NW Hill
NE Vine St
NE Todd St
NW Keasey St
Roseburg Municipal Golf Course
Black Oak Dr
San Souci Dr
Old Melrose Rd
Cloake St
Braunda Dr
NE Lincoln St
Roseburg
Kester Rd
Military Ave
SE Douglas Ave
NE Douglas Ave
Lookingglass Rd
SE Jackson St
Dawson Rd
Corvallis Ave
SE Booth Ave

Oregon DOT
Region 3

Corridor Systemic: Non-State Roads with at least 1 Fatality or A-level Injury
2011-2015

	Total Crashes	Fatal	Severe Injury	Pedestrian	Intersection	Bicycle	Roadway Departure
Roseburg							
AIRPORT RD	37	0	1	1	35	2	0
DOGWOOD ST	8	0	1	1	8	0	0
EDENBOWER BLVD	50	0	1	0	26	0	1
GARDEN VALLEY BLVD	295	1	2	2	167	3	5
HARVARD AVE	81	0	1	2	53	4	5
JACKSON ST	3	0	1	0	3	1	0
LOOKINGGLASS RD	2	1	1	1	1	0	0
MAIN ST	7	0	1	0	6	0	2
MERCY DR	25	3	1	0	25	0	1
MULHOLLAND DR	9	0	1	0	7	0	0
NEWTON CREEK RD	6	1	0	0	6	0	0
STEPHENS ST	142	0	4	4	80	3	3
STEWART PKY	105	0	2	2	52	2	8

APPENDIX D: QA/QC REVIEW EXAMPLE

Following is an example of the QA/QC review conducted by the consultant team for each agency.

			QAQC Review				
Application # (Type)	**Jurisdiction (Project Engineer)**	**Project Description**	**Cost Estimate**	**Crash Data Confirmation**	**Benefit/Cost or Cost Effectiveness Calculation**	**General Comments**	**Consultant QAQC Reviewer**
1 (Intersection Systemic)	ODOT Region 3 (Aaron Brooks)	I-5 Wrong Way Driving	✓	Attached Crash spreadsheet shows 6 fatal crashes and 3 injury A. B/C form shows 3 fatal and 4 injury A. Provide breakdown of crashes for Angle type improved by I12A and I12B	Concern the Composite CRF is not appropriate. It is being applied to I-5 Crashes that aren't really improved by Countermeasures I12A and I12B. Consider separate calculation for I12A and I12B'		Mansur
2 (Bike/Ped Systemic)	ODOT Region 3 (Aaron Brooks)	OR-42 Highway #35 Grade Seperated X-ings	Based on ARTS direction, Active Transportation Contribution cannot be reduced from the total cost.	✓	Cost Effectiveness must be based on total cost. Active Transportation Contribution cannot be reduced.		Mansur
3 (Hotspot)	ODOT Region 3 (Aaron Brooks)	OR-42 (Coos Bay-Roseburg Hwy) Roundabout	Based on ARTS direction, Leverage Funds cannot be reduced from the total cost.	✓	B/C calculation must be based on total cost. Leverage funds cannot reduce the total cost.		Mansur
4 (Road Departure Systemic)	ODOT Region 3 (Aaron Brooks)	I-5 Clear Zone Removal	✓	Crash data numbers seem low compared to the attached summary.	B/C combines all four countermeasures. Since they treat different crash types, Countermeasures RD12 and H28 will need to be evaluated separately than RD1 and RD3.		Mansur
5 (Hot Spot)	ODOT Region 3 (William Fitzgerald)	Lake of the Woods Highway (OR 140) Left Turn Lanes @ Lakeview Drive		✓	✓		Mansur

Legend:

Looks Good, No Comments ✓	Consider Confirming	Needs to be Revised

Application # (Type)	Jurisdiction (Project Engineer)	Project Description	QAQC Review: Cost Estimate	QAQC Review: Crash Data Confirmation	QAQC Review: Benefit/Cost or Cost Effectiveness Calculation	General Comments	Consultant QAQC Reviewer
6 (Hot Spot)	ODOT Region 3 (William Fitzgerald)	OR 62/OR 234 Roundabout	Cost Estimate seems a little low. Typical ODOT Roundabouts run on average $4.5 million.	✓	✓		Mansur
7 (Hot Spot)	ODOT Region 3 (William Fitzgerald)	OR 140, OR 234, US 199 Rural High-Speed Intersection Treatments	Cost Estimate seems a little low. Was mark-up for Engineering, Contingency, and Construction included?	✓	✓	This application is marked as a Hotspot project. However, countermeasures I12, I14 and I15 were proposed. This should be changed to Intersection Systemic project correct?	Mansur
8 (Hot Spot)	ODOT Region 3 (Dan Dorrell)	US-199, Redwood Highway, Route 25 (Ken Rose Lane) Left Turn Lane	✓	✓	✓		Mansur
9 (Hot Spot)	ODOT Region 3 (Dan Dorrell)	US-199, Redwood Highway, Route 25 (Redwood Avenue) Left Turn Lane and Illumination	✓	✓	✓		Mansur
10 (Roadway Departure Systemic)	ODOT Region 3 (Dan Dorrell)	US-199, Redwood Highway Fixed Object Removal	Cost Estimate seems a little low. Was mark-up for Contingency and Traffic Control/Construction included?				Mansur
11 (Roadway Departure Systemic)	ODOT Region 3 (Dan Dorrell)	Green Springs Highway, OR-66 Shoulder Widening	✓				Mansur

Legend:

Looks Good, No Comments ✓	Consider Confirming	Needs to be Revised

REGION 1

REGION 1 HOTSPOT

Region 1 Budget	$	13,732,500.00
150% Budget	$	20,598,750.00
300% Budget	$	41,197,500.00

App #	Description	Countermeasures Identified in Application	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost
2	Extend Median OR8 (TV Hwy)	H34	ODOT	Washington	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 23,000	50.39	1	$ 23,000
7	Median at SE Division St	H57	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 1,541,000	18.81	2	$ 1,564,000
18	Raised Median OR-213(82nd Ave, MP 2.38)	H34	ODOT	Multnomah	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 45,000	16.62	3	$ 1,609,000
12	Median at SE Stark	H57	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 811,000	14.35	4	$ 2,420,000
16	Raised Median Cascade Hwy N(OR213, 82nd)	H35	ODOT	Clackamas	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 65,000	14.00	5	$ 2,485,000
21	Raised Median TVH, 192nd Ave	H34	ODOT	Washington	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 66,000	13.22	6	$ 2,551,000
4	Intersection Lighting OR 212	H25	ODOT	Clackamas	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 171,000	12.61	7	$ 2,551,000
1	Raised Median OR8 (TV Hwy)	H34	ODOT	Washington	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 97,000	11.43	8	$ 2,819,000
5	Rasied Median OR8 (TV Hwy) @ Yew St	H35	ODOT	Washington	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 107,000	10.37	9	$ 2,926,000
9	Speed Humps Fremont St	H59	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 279,000	6.25	10	$ 3,205,000
1 (14)	Widening and L turn lane, West Union	H9	Washington County	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 420,000	6.06	11	$ 3,625,000
11	Signal rebuild SW Shattuck	I2A, I4	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 893,000	3.99	12	$ 4,518,000
5	Improved Signal SE Gladstone	I2	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 936,000	3.63	13	$ 5,454,000
8	Signal rebuild SE Flavel St	I2A, I4, I1	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 1,068,000	3.36	14	$ 6,522,000

App #	Description	Countermeasures Identified in Application	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost	
1	Signal, median SE JCB/79th-80th	H33, H20, BP14	Clackamas County	Clackamas	Carl Olson	colson@clackamas.us	$ 1,470,000	3.33	15	$ 7,992,000	
7	Roundabout OR 213, Spangler	H16	ODOT	Clackamas	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 3,440,000	2.30	16	$ 11,432,000	
22	Roundabout OR 213, S Macksburg Rd	H16	ODOT	Clackamas	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 4,067,000	2.25	17	$ 15,499,000	
19	Signal Rebuild/Raised Median OR213(82nd)	H25, I4, I2A, H34	ODOT	Multnomah	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 1,378,000	2.00	18	$ 16,877,000	
10	Roundabout SE Mt Scott Blvd	H16	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 2,319,000	1.70	19	$ 19,196,000	
8	Roundabout OR 213, S Toliver Rd	H16	ODOT	Clackamas	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 3,440,000	1.61	20	$ 22,636,000	150% List
6	Improved signal SE Hawthorne Blvd	I2	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 916,000	1.35	21	$ 23,552,000	
1	Signal at SW Allen/SW Erikson	H25, I4, I2, H12	Beaverton	Washington	Tina Nguyen	tnguyen@beavertonoregon.gov	$ 3,456,000	1.24	22	$ 27,008,000	

REGION 1 SYSTEMIC - INTERSECTION

Region 1 Budget	$ 6,866,250.00
150% Budget	$ 10,299,375.00
300% Budget	$ 20,598,750.00

App #	Description	Countermeasures Identified in Application	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Cumulative Cost	
23	Signage improvements HCRH	I2A, I10, I12	ODOT	Multnomah	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 52,000	65.43	1	$ 52,000	
26	Improve signal/sight distance Hwy26	I2, I10, I12	ODOT	Washington	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 291,000	54.00	2	$ 343,000	
25	Sign improvements Mt Hood Hwy	I2, I10, I12	ODOT	Multnomah & Clackamas	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 89,000	53.97	3	$ 432,000	
1	Signals on Beavercreek Rd (w/Fiber) *	I2, I6, I7, I9	Oregon City	Clackamas	Dayna Webb	dwebb@orcity.org	$ 803,000	38.26	4	$ 1,235,000	
13	Signal Improvements OR10 - SW Farmington Rd	I2, I10, I12, I15	ODOT	Washington	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 558,000	33.32	5	$ 1,793,000	
3	Illumination/Signal Imrprove I-205	I1, I2, I6	ODOT	Multiple	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 1,580,000	32.56	6	$ 3,373,000	
30	Illumination/Signal Improve OR281, 282, 35	I1, I2, I10, I12	ODOT	Clackamas & Hood River	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 288,000	29.47	7	$ 3,661,000	
18	Illumination/Signal Improve OR8 TV Hwy	I1, I2, I10, I12	ODOT	Washington	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 2,304,000	28.51	8	$ 5,965,000	
28	Signal/Signage improvement OR99W(MP 8.71-16.70)	I2, I7, I12, I10	ODOT	Washington	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 1,429,000	27.06	9	$ 7,394,000	
7	Intersection & Lighting Improvements NE Portland Fwy	I2, I12, I10, I1	ODOT	Multnomah	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 711,000	25.08	10	$ 8,105,000	
15	Intersection Improvement Cascade Hwy S/I-5	I12, I2, I10, I7	ODOT	Clackamas	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 285,000	22.25	11	$ 8,390,000	
19	Improve signal/sight distance OR10 SW Farmington	I1, I2, I10, I12	ODOT	Washington	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 230,000	21.94	12	$ 8,620,000	150% List
21	Illumination/Signal Improve OR213	I2, I12, I10, I1	ODOT	Multnomah & Clackamas	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 2,885,000	21.86	13	$ 11,505,000	
11	Improvements OR211, OR224	I12, I10, I16, I2	ODOT	Clackamas	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 2,348,000	19.04	14	$ 13,853,000	

App #	Description	Countermeasures Identified in Application	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Cumulative Cost	
33	Improve signal/sight distance US30, Hwy 092	I2, I12, I10	ODOT	Multnomah	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 265,000	14.58	15	$ 14,118,000	
22	Illumination/Signal Improve I-84	I1, I2, I12	ODOT	Multiple	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 842,000	13.94	16	$ 14,960,000	
18	Signal backplates Multiple	I2A, I4	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 967,000	13.59	17	$ 15,927,000	
5	Intersection & Lighting Improvements (OR43, OR99E)	I12, I2, I10, I1	ODOT	Clackamas & Multnomah	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 3,684,000	12.57	18	$ 19,611,000	300% List
3	City Wide Intersections	I2, I1, I4, I9	Beaverton	Washington	Tina Nguyen	tnguyen@beavertonoregon.gov	$ 5,621,000	12.33	19	$ 25,232,000	
10	Intersection Improvements OR-217(MP 0.00-7.20)	I2	ODOT	Multiple	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 527,000	12.08	20	$ 25,759,000	
5	Adaptive Signals Murray Blvd	I6	Washington Co	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 600,000	11.84	21	$ 26,359,000	
14	Signal Improvements US-26 Sunset Hwy	I2, I3, I12	ODOT	Multiple	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 307,000	11.69	22	$ 26,666,000	
14	Backplates E Burnside St	!2A, I10	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 170,000	11.22	23	$ 26,836,000	
2	Intersection Improvements I-5 Corridor	I2, I9, I12	ODOT	Multiple	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 621,000	10.64	24	$ 27,457,000	
1	Signal Improvements Beaverton-Hillsdale Hwy	I2B, I2, I12	ODOT	Washington	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 326,000	10.59	25	$ 27,783,000	
1	Adaptive signals 185th Ave	I6	Washington Co	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 1,410,000	9.84	26	$ 29,193,000	
4	Intersection Improvements Hall Blvd	I2, I12, I10	ODOT	Washington	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 1,172,000	9.81	27	$ 30,365,000	
34	Signal improvements N Lombard St(MP0.00-5.52)	I2, I10, I4, I1	ODOT	Multnomah	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 1,042,000	8.46	28	$ 31,407,000	
1	Adaptive signals SE Sunnyside Rd	I2A, I2C, I6	Clackamas	Clackamas	Carl Olson	colson@clackamas.us	$ 916,000	7.25	29	$ 32,323,000	
3	Adaptive Signals Bethany Blvd & 158th Ave	I6	Washington Co	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 751,000	7.17	30	$ 33,074,000	
6	Adaptive Signals Scholls Ferry Rd	I6	Washington Co	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 773,000	6.76	31	$ 33,847,000	
4	Adaptive Signals Cornelius Pass Rd	I6	Washington Co	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 1,392,000	5.94	32	$ 35,239,000	
1	Signal backplates lighting JCB/82nd Bell/FM	I1, I2, I3, I7	Clackamas	Clackamas	Bikram Raghubansh	bikramrag@co.clackamas.or.us	$ 564,000	5.48	33	$ 35,803,000	

App #	Description	Countermeasures Identified in Application	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Cumulative Cost
15	Lighting SE Foster Rd	I1	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 519,000	4.13	34	$ 36,322,000
2	Adaptive Signals Barnes Rd	I6	Washington Co	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 1,742,000	4.06	35	$ 38,064,000
7	Adaptive Signals Hall Blvd & Greenburg Rd	I6	Washington Co	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 1,065,000	4.06	35	$ 39,129,000
13	Lighting SE 122nd Ave	I1	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 791,000	4.05	37	$ 39,920,000
12	Lighting at Intersections TVH 9th to Main	I1	Washington Co	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 3,019,000	1.65	38	$ 42,939,000
1	Signal backplates Multiple	I2A	Hillsboro	Washington	Dan Hazel	dan.hazel@hillsboro-oregon.gov	$ 1,547,000	1.50	39	$ 44,486,000
13	Lighting at Intersections TVH (Oak)	I1	Washington Co	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 3,774,000	0.98	40	$ 48,260,000
11	Lighting at Intersections TVH Sunset to Esplande	I1	Washington Co	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 6,792,000	0.96	41	$ 55,052,000

REGION 1 SYSTEMIC - BIKE/PED

Region 1 Budget	$ 3,433,125.00
150% Budget	$ 5,149,687.50
300% Budget	$ 10,299,375.00

App #	Description	Countermeasures Identified in Application	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	CEI	Rank	Cumulative Cost	
12	Bike lanes OR8, OR10	BP5, BP20	ODOT	Multiple	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 36,000	$ 119,700	1	$ 36,000	
2	Bike box S W 257th	BP6, BP13	Multnomah Co	Multnomah	Rick Buen	rick.buen@multco.us	$ 16,000	$ 190,300	2	$ 52,000	
5	W Burnside Pedestrian Enhancements	BP3, BP15	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 687,000.00	$ 263,700	3	$ 739,000.00	
4	Ped-Bike Treatments for 5 intersections	BP2, BP3, BP5, BP13	Beaverton	Washington	Stacy Revay	srevay@beavertonoregon.gov	$ 392,000	$ 304,800	4	$ 1,131,000	
4	LPI's SE Portland	BP2, BP3, BP5	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 399,000	$ 307,700	5	$ 1,530,000	
8	Road Diet extension US-30BYP	BP16, BP20	ODOT	Multnomah	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 212,000	$ 368,500	6	$ 1,742,000	
9	Various OR8, OR213, 82nd Ave, OR99W, OR10	BP2, BP5, BP8, BP8A, BP10, BP10A, BP11	ODOT	Multiple	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 1,261,000	$ 445,300	7	$ 3,003,000	
3	Medians at crosswalks, NE Killingsworth	BP7, BP3	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 351,000	$ 785,200	8	$ 3,354,000	
1	Illumination at SE Belmont St	BP2	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 682,000	$ 934,100	9	$ 4,036,000	
1	Various OR213, OR99E, US30BYP	BP2, BP5 , BP9A, BP11, BP13	ODOT	Multiple	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 714,000	$ 986,458	10	$ 4,750,000	
1	RRFBs, crosswalks at multiple	BP2, BP10A, BP11, BP8A	Gresham	Multnomah	Don Bilyeu	don.bilyeu@greshamoregon.gov	$ 581,000	$ 1,005,500	11	$ 5,331,000	150% List
10	Lighting at Intersections TVH Main to 9th	BP2	Washington Co	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 1,932,000	$ 1,385,867	12	$ 7,263,000	
2	Signal at NW Everett St	BP14	PBOT	Multnomah	Wendy Cawley	wendy.cawley@portlandoregon.gov	$ 916,000	$ 1,665,500	13	$ 8,179,000	
2	RRFB at Hall Blvd/SW 12th Ave	BP2, BP8A, BP13	Beaverton	Washington	Tina Nguyen	tnguyen@beavertonoregon.gov	$ 239,000	$ 2,303,200	14	$ 8,418,000	
1	Crosswalk improvements SW Cherry Park Rd	BP8A, BP11, BP13, I12	Multnomah Co	Multnomah	Rick Buen	rick.buen@multco.us	$ 148,000	$ 2,305,900	15	$ 8,566,000	

App #	Description	Countermeasures Identified in Application	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	CEI	Rank	Cumulative Cost	
4	RRFBs, lighting at multiple	BP2, BP5, BP8A, BP10A	Clackamas	Clackamas	Bikram Raghubansh	bikramrag@co.clackamas.or.us	$ 1,147,000	$ 2,360,300	16	$ 9,713,000	
13	Crosswalk/Refuge island I-5/N Tomahawk	BP17, BP7, BP2, BP20	ODOT	Multnomah	Katherine Carlos	katherine.s.carlos@odot.state.or.us	$ 393,000	$ 3,591,700	17	$ 10,106,000	
8	Bike Lane at Scholls Ferry	BP18	Washington Co	Washington	Melissa Norman	melissa_norman@co.washington.or.us	$ 148,000	$ 23,003,700	18	$ 10,254,000	300% List

REGION 2

REGION 2 HOTSPOT

Region 2 Budget	$ 15,618,000.00
300% Budget	$ 46,854,000.00
150% Budget	$ 23,427,000.00

App #	Description	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost	
3	State/25th median, LT pocket	City of Salem	Marion	Julie Warncke	jwarncke@cityofsalem.net	$ 325,000.00	13.84	1	$ 325,000.00	
1	OR18/Cruickshank buffered RTL	ODOT Region 2	Yamhill	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 974,498.00	13.67	2	$ 1,299,498.00	
3	Chambers lighting, left turns	City of Eugene	Lane	Matt Rodrigues	matt.rodrigues@ci.eugene.or.us	$ 470,400.00	10.19	3	$ 1,769,898.00	
1	SW 35th / SW Campus Way	City of Corvallis	Benton	Som Sartnurak	somkeart.sartnurak@corvallisoregon.gov	$ 155,893.00	10.12	4	$ 1,925,791.00	
2	Bailey Hill / Bertelsen roundabout	City of Eugene	Lane	Matt Rodrigues	matt.rodrigues@ci.eugene.or.us	$ 502,250.00	7.87	5	$ 2,428,041.00	
1	Hilyard / 18th signal, lighting	City of Eugene	Lane	Matt Rodrigues	matt.rodrigues@ci.eugene.or.us	$ 338,520.00	6.85	6	$ 2,766,561.00	
20	OR233/Starr Quary curve realignment	ODOT Region 2	Yamhill	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 329,816.00	6.01	7	$ 3,096,377.00	
4	River Rd median, LT lane, lighting	City of Eugene	Lane	Matt Rodrigues	matt.rodrigues@ci.eugene.or.us	$ 2,435,440.00	5.73	8	$ 5,531,817.00	
7	OR99W/Theona offset RT lane	ODOT Region 2	Lane	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 861,817.00	5.38	9	$ 6,393,634.00	
4	Silverton Rd @ Desart left turn lanes	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 959,140.00	5.13	10	$ 7,352,774.00	
2	OR18/Lafayette raised median/Jturn	ODOT Region 2	Yamhill	Amanda Salyer	amanda.salyer@odot.state.or.us					
14	OR99W/Orrs Corner median	ODOT Region 2	Polk	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 450,109.00	4.32	11	$ 7,802,883.00	
6	OR22/Perrydale roundabout	ODOT Region 2	Polk	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 5,264,863.00	4.26	12	$ 13,067,746.00	
5	OR22/Kings Valley roundabout	ODOT Region 2	Polk	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 7,490,931.00	4.00	13	$ 20,558,677.00	
1	9th St / Kingwood Roundabout	City of Florence	Lane	Mike Miller	mike.miller@ci.florence.or.us	$ 731,818.00	3.84	14	$ 21,290,495.00	
17	OR-126B lighting	ODOT Region 2	Lane	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 3,000,000.00	3.81	15	$ 24,290,495.00	150% List
22	US30 Road Diet	ODOT Region 2	Clatsop	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 2,000,000.00	3.14	16	$ 26,290,495.00	

App #	Description	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost	
13	OR99W/McDougal roundabout	ODOT Region 2	Yamhill	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 4,861,698.00	3.03	17	$ 31,152,193.00	
1	Centennial / Mohawk roundabout	City of Springfield	Lane	Brian Barnett	bbarnett@springfield-or-gov	$ 2,886,000.00	2.52	18	$ 34,038,193.00	
3	OR18/Lafayette-Ash roundabout	ODOT Region 2	Yamhill	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 6,403,000.00	2.39	19	$ 40,441,193.00	
5	Silverton/Blue Grass turn lanes	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 1,300,600.00	2.36	20	$ 41,741,793.00	
6	Riverside Rd sight distance	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 771,540.00	2.22	21	$ 42,513,333.00	300% List
3	Ehlen Road @ Butteville NE Roundabout	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 4,486,720.00	2.18	22	$ 47,000,053.00	
14	River Rd NE realignment	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 2,760,520.00	2.18	22	$ 49,760,573.00	
9	OR99W/Bethel left turn lanes	ODOT Region 2	Yamhill	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 2,493,385.00	2.18	22	$ 52,253,958.00	
19	OR211/Meridian roundabout	ODOT Region 2	Clackamas	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 4,145,800.00	2.12	25	$ 56,399,758.00	
11	OR99W/Clow Corner roundabout	ODOT Region 2	Polk	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 6,505,751.00	2.02	26	$ 62,905,509.00	
15	OR99W/Riverbend LT lanes	ODOT Region 2	Yamhill	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 2,282,373.00	1.98	27	$ 65,187,882.00	
8	OR99E/Belmont median	ODOT Region 2	Linn	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 450,109.00	1.91	28	$ 65,637,991.00	
5	Harlow Rd RRFB. Median	City of Springfield	Lane	Brian Barnett	bbarnett@springfield-or-gov	$ 1,443,000.00	1.86	29	$ 67,080,991.00	
8	Commercial St lighting	City of Salem	Marion	Eric Destival	edestrival@cityofsalem.net	$ 4,368,000.00	1.84	30	$ 71,448,991.00	
10	OR99W/Chapman jug handle	ODOT Region 2	Washington	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 1,069,832.00	1.78	31	$ 72,518,823.00	
1	Broadway/Hood signal	City of Salem	Marion	Eric Destival	edestrival@cityofsalem.net	$ 924,000.00	1.77	32	$ 73,442,823.00	
21	US20/Knox Butte roundabout	ODOT Region 2	Linn	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 5,556,268.00	1.75	33	$ 78,999,091.00	
16	OR99W/Roosevelt roundabout	ODOT Region 2	Lane	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 5,000,000.00	1.69	34	$ 83,999,091.00	
18	OR211/Canby Marquam roundabout	ODOT Region 2	Clackamas	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 4,987,161.00	1.58	35	$ 88,986,252.00	
4	OR22/Fern Ridge roundabout	ODOT Region 2	Marion	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 5,686,693.00	1.54	36	$ 94,672,945.00	
4	Mohawk Blvd lighting	City of Springfield	Lane	Brian Barnett	bbarnett@springfield-or-gov	$ 676,000.00	1.53	37	$ 95,348,945.00	
12	OR99W/Lingo left turn lane	ODOT Region 2	Lane	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 2,036,921.00	1.44	38	$ 97,385,866.00	

App #	Description	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost
13	River Rd NE @ Quinaby roundabout	Marion County	Marion	Julia Uravich	juravich@co.marion.or.us	$ 4,472,020.00	1.33	39	$ 101,857,886.00
3	Centennial lighting	City of Springfield	Lane	Brian Barnett	bbarnett@springfield-or-gov	$ 949,000.00	1.20	40	$ 102,806,886.00
2	Marcola / Mohawk roundabout	City of Springfield	Lane	Brian Barnett	bbarnett@springfield-or-gov	$ 2,450,000.00	1.15	41	$ 105,256,886.00
1	Cypress / 2nd signal	City of McMinnville	Yamhill	Mike Bisset	mike.bisset@mcminnvilleoregon.gov	$ 1,082,200.00	1.00	42	$ 102,806,886.00

REGION 2 SYSTEMIC - BIKE/PED

Region 2 Budget	$ 1,905,396.00
300% Budget	$ 5,716,188.00
150% Budget	$ 2,858,094.00

App #	Description	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	CEI	Rank	Accumulative Cost	
7	Lincoln St Cycle Track	City of Eugene	Lane	Matt Rodrigues	matt.rodrigues@ci.eugene.or.us	$ 400,680	$ 152,500	1	$ 400,680	
6	MLK Jr Blvd Road Diet, RRFBs, lighting	City of Eugene	Lane	Matt Rodrigues	matt.rodrigues@ci.eugene.or.us	$ 556,920	$ 354,200	2	$ 957,600	
1	SE Madison St green bike lanes	City of Albany	Linn	Ron Irish	ron.irish@cityofalbany.net	$ 104,755	$ 444,400	3	$ 1,062,355	
5	River Rd bufferd bike lans, RRFBs	City of Eugene	Lane	Matt Rodrigues	matt.rodrigues@ci.eugene.or.us	$ 1,285,480	$ 713,800	4	$ 2,347,835	
1	Multiple RRFBs, median islands	ODOT Region 2	Multiple	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 600,000	$ 948,700	5	$ 2,947,835	150% List
7	Refuge islands, bike signal, lighting	City of Salem	Marion	Anthony Gamallo	agamallo@cityofsalem.net	$ 1,101,625	$ 1,638,200	6	$ 4,049,460	
6	Ped/bike treatments at multiple locations	City of Salem	Marion	Julie Warncke	jwarncke@cityofsalem.net	$ 686,403	$ 1,904,500	7	$ 4,735,863	
5	Broadway St bike lanes, lighting	City of Salem	Marion	Julie Warncke	jwarncke@cityofsalem.net	$ 589,618	$ 1,914,000	8	$ 5,325,481	300% List
4	25th St multi-use path, lighting	City of Salem	Marion	Julie Warncke	jwarncke@cityofsalem.net	$ 2,741,025	$ 2,936,300	9	$ 8,066,506	
1	Cypress St bike lanes, RRFBs	City of McMinnville	Yamhill	Mike Bisset	Mike.Bisset@mcminnvilleoregon.gov	$ 2,673,526	$ 5,479,800	10	$ 10,740,032	

REGION 2 SYSTEMIC - INTERSECTION

Region 2 Budget	$	6,044,166.00
300% Budget	$	18,132,498.00
150% Budget	$	9,066,249.00

App #	Description	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost	
2	Commercial St signal upgrades	City of Salem	Marion	Eric Destival	edestrival@cityofsalem.net	$ 567,000.00	19.31	1	$ 567,000.00	
9	Salem signal improvements (multiple locations)	City of Salem	Marion	Eric Destival	edestrival@cityofsalem.net	$ 898,800.00	15.23	2	$ 1,465,800.00	
2	Commercial St guide signing	ODOT Region 2	Marion	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 350,000.00	10.26	3	$ 1,815,800.00	
8	Eugene Left Turn treatments at multiple signals	City of Eugene	Lane	Matt Rodrigues	matt.rodrigues@ci.eugene.or.us	$ 207,300.00	9.79	4	$ 2,023,100.00	
1	Corvallis Traffic Signal improvements at 14 locations	City of Corvallis	Benton	Som Sartnurak	somkeart.sartnurak@corvallisoregon.gov	$ 902,617.00	9.43	5	$ 2,925,717.00	
3	Queue warning - Columbia, Yamhill, Marion	ODOT Region 2	Multiple	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 1,525,790.00	5.45	6	$ 4,451,507.00	
5	TRAWS at five locations	ODOT Region 2	Multiple	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 2,622,591.00	3.68	7	$ 7,074,098.00	150% List
4	Queue warning - Eugene, Salem, Warrenton	ODOT Region 2	Multiple	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 2,285,147.00	2.68	8	$ 9,359,245.00	

REGION 2 SYSTEMIC - ROADWAY DEPARTURE

Region 2 Budget	$ 7,684,056.00
300% Budget	$ 23,052,168.00
150% Budget	$ 11,526,084.00

App #	Description	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost	
6	Rumble strips (Group 1)	ODOT Region 2	Multiple	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 1,541,000.00	69.33	1	$ 1,541,000.00	
8	US101 rumble strips	ODOT Region 2	Multiple	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 1,898,600.00	41.96	2	$ 3,439,600.00	
9	Guardrail at multiple locations	ODOT Region 2	Yamhill/Lane	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 942,986.00	30.34	3	$ 4,382,586.00	
1	Curve signing, pavement marking	Polk County	Polk	Todd Whitaker	whitaker.todd@co.polk.or.us	$ 369,981.00	28.95	4	$ 4,752,567.00	
7	Rumble strips (Group 2)	ODOT Region 2	Multiple	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 1,349,500.00	25.99	5	$ 6,102,067.00	
10	HFST on 4 curves	ODOT Region 2	Multiple	Amanda Salyer	amanda.salyer@odot.state.or.us	$ 355,000.00	24.50	6	$ 6,457,067.00	
1	Signing, flashers, guardrail on 4 roads	Lane County	Lane	Steve Gallup	steve.gallup@co.lane.or.us	$ 2,073,198.00	21.49	7	$ 8,530,265.00	
1	N Valley Rd rumble strips, signs	Yamhill County	Yamhill	William Gille	gilleb@co.yamhill.or.us	$ 83,300.00	14.26	8	$ 8,613,565.00	
2	Miami Foley Rd curves	Tillamook County	Tillamook	Chris Laity	claity@co.tillamook.or.us	$ 828,240.00	13.80	9	$ 9,441,805.00	
9	River Rd NE rumble strips, RPMs	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 291,900.00	9.16	10	$ 9,733,705.00	
1	Cascade Hwy, signing and marking	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 669,620.00	6.50	11	$ 10,403,325.00	
1	Bellfountain Rd rumble strips, intersection warning	Benton County	Benton	Laurel Byer	laurel.byer@co.benton.or.us	$ 445,118.00	6.27	12	$ 10,848,443.00	150% List
12	Howell Prairie Rd, signing and marking	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 1,023,260.00	5.86	13	$ 11,871,703.00	
11	Marion Rd SE RPMs, pavement marking	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 669,160.00	5.68	14	$ 12,540,863.00	
1	Burton Fraser Rd rumbles, shoulder	Tillamook County	Tillamook	Chris Laity	claity@co.tillamook.or.us	$ 770,140.00	4.76	15	$ 13,311,003.00	
7	Marion Rd guardrail	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 617,680.00	3.67	16	$ 13,928,683.00	
2	Delaney Rd pavement marking	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 304,780.00	2.58	17	$ 14,233,463.00	
8	Silverton Road NE edgeline striping	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 472,360.00	2.01	18	$ 14,705,823.00	
10	River Rd S pavement marking	Marion County	Marion	Jill Ogden & Cindy Schmitt	jogden@co.marion.or.us	$ 402,920.00	1.97	19	$ 15,108,743.00	

REGION 3

REGION 3 HOTSPOT

Region 3 Budget	$ 6,064,241.50
150% Budget	$ 9,096,362.25
300% Budget	$ 18,192,724.50

App #	Description	Agency	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost	
5	Lake of the Woods	ODOT	Jackson	William Fitzgerald	william.fitzgerald@odot.state.or.us	$ 650,000.00	7.21	1	$ 650,000.00	
15	Crater Lake Ave	City of Medford	Jackson	Karl MacNair	karl.macnair@cityofmedford.org	$ 1,864,100.00	6.32	2	$ 2,514,100.00	
20	Evans Creek Rd	Jackson County	Jackson	Mike Kuntz	Kuntzm@jacksoncounty.org	$ 882,560.00	6.08	3	$ 3,396,660.00	
7	Rural Highway	ODOT		William Fitzgerald	william.fitzgerald@odot.state.or.us	$ 650,000.00	5.3	4	$ 4,046,660.00	
13	10th and Cottage	City of Medford	Jackson	Karl MacNair	karl.macnair@cityofmedford.org	$ 296,000.00	4.77	5	$ 4,342,660.00	
3	OR42 @Brockway	ODOT	Douglas	Aaron Brooks	aaron.g.brooks@odot.state.or.us	$ 2,528,000.00	4.65	6	$ 6,870,660.00	
6	OR 62 Single Lane	ODOT		William Fitzgerald	william.fitzgerald@odot.state.or.us	$ 2,250,000.00	3.46	7	$ 9,120,660.00	150% List
9	US199 @Redwood Ave	ODOT	Josephine	Dan Dorrell	dan.w.dorrell@odot.state.or.us	$ 875,000.00	3.1	8	$ 9,995,660.00	
14	Columbus	City of Medford	Jackson	Karl MacNair	karl.macnair@cityofmedford.org	$ 2,620,240.00	2.97	9	$ 12,615,900.00	
23	NW Garden Valley Rd	Douglas County	Douglas	Joshua Heacock	joheacoc@co.douglas.or.us	$ 3,068,000.00	2.9	10	$ 15,683,900.00	
8	US199 @Ken Rose Ln	ODOT	Josephine	Dan Dorrell	dan.w.dorrell@odot.state.or.us	$ 875,000.00	2.72	11	$ 16,558,900.00	
18	Main Street West	City of Medford	Jackson	Karl MacNair	karl.macnair@cityofmedford.org	$ 500,000.00	1.55	12	$ 17,058,900.00	

REGION 3 SYSTEMIC - BIKE/PED

Region 3 Budget	$ 909,636.23
150% Budget	$ 1,364,454.34
300% Budget	$ 2,728,908.68

App #	Description	Agency	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	CEI	Rank	Accumulative Cost	
16	Keene Way Bikeway	City of Medford	Jackson	Karl MacNair	karl.macnair@cityofmedford.org	$ 488,040.00	$393,300	1	$ 488,040.00	150% List
17	McAndrews Cycle Track	City of Medford	Jackson	Karl MacNair	karl.macnair@cityofmedford.org	$ 1,186,670.00	$1,436,700	2	$1,674,710.00	
2	OR42 Pedestrian Improvements	ODOT	Douglas	Aaron Brooks	aaron.g.brooks@odot.state.or.us	$ 450,000.00	$2,884,700	2	$2,124,710.00	
12	RRFB's, Crosswalk, lighting, signing improve.	City of Ashland	Jackson	Scott Fleury	scott.fleury@ashland.or.us	$ 1,676,000.00	$3,011,400	4	$3,800,710.00	

REGION 3 SYSTEMIC - INTERSECTION

Region 3 Budget	$ 2,122,484.53
150% Budget	$ 3,183,726.79
300% Budget	$ 6,367,453.58

App #	Description	Agency	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost	
1	I5 Wrong Way Driving	ODOT	Various	Aaron Brooks	aaron.g.brooks@odot.state.or.us	$ 1,504,000.00	9.35	1	$1,504,000.00	150% List

REGION 3 SYSTEMIC - ROADWAY DEPARTURE

Region 3 Budget	$ 3,032,120.75
150% Budget	$ 4,548,181.13
300% Budget	$ 9,096,362.25

App #	Description	Agency	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost	
10	US199 Clear Zone	ODOT	Josephine	Dan Dorrell	dan.w.dorrell@odot.state.or.us	$ 435,885.00	49.05	1	$ 435,885.00	
4	I5 Clear Zone	ODOT	Various	Aaron Brooks	aaron.g.brooks@odot.state.or.us	$ 3,000,000.00	47.94	2	$ 3,435,885.00	
21	Libby Lane	Coos County	Coos	Shon Heern/Lance Hunt	skhe@deainc.com, lance.hunt@deainc.com	$ 28,653.00	22.74	3	$ 3,464,538.00	
19	Curve related Crashes- 13 routes	Jackson County	Jackson	Mike Kuntz	kuntzm@jacksoncounty.org	$ 1,435,000.00	20.41	4	$ 4,899,538.00	150% List
22	Seven Devils Rd	Coos County	Coos	Shon Heern/Lance Hunt	skhe@deainc.com, lance.hunt@deainc.com	$ 120,699.00	20.16	5	$ 5,020,237.00	
24	Tiller Trail Hwy	Douglas County	Douglas	Joshua Heacock	joheacoc@co.douglas.or.us	$ 723,800.00	13.28	6	$ 5,744,037.00	
11	OR66 MP 9.92 10.11	ODOT	Jackson	Dan Dorrell	dan.w.dorrell@odot.state.or.us	$ 230,000.00	3	7	$ 5,974,037.00	

REGION 4

REGION 4 HOTSPOT

Application	Description	Project Cost	B/C Ratio	Countermeasure
COB3	COB - Intersection Lighting - Corridor	$ 140,000	13.17	H25 - Corridor Lighting
COB1	COB Install Individual Changeable Speed Warning Signs	$ 189,000	7.13	H47 - Speed Warning Signs
S4	US 20 (Central Oregon Hwy #007) @ WARD / HAMBY RD (MP 3.56)	$ 3,500,000	4.39	H16 - Install Round-a-bout
S5	US 20 (McKenzie-Bend Hwy #017) @ FRYREAR RD (MP 7.87)	$ 1,500,000	3.23	H9 - Install Left turn lanes Major Approach
TD1	The Dalles - Widen West 6th - Snipes to Hostetler	$ 800,000	2.06	H29 - TWTL

REGION 4 SYSTEMIC – BIKE/PED

Application	Description	Project Cost	CEI	Countermeasure
COB4	COB - Bike Boulevard	$ 245,000	$74,800/crash	BP23 - Bike Boulevard
S6	US 97 (The Dalles-California Hwy #004) @ 4th & F Street (Madras) MP 92.4 - 92.9	$ 81,000	$242,700/crash	BP2 - Illumination, BP8 - RRFB, BP11 - Marked Crosswalk
COB2	COB - RRFB w/ Median	$ 274,400	$614,100/crash	BP10

REGION 4 SYSTEMIC – INTERSECTION

Application	Description	Project Cost	B/C Ratio	Countermeasure
S1	US 97 The Dalles-California Hwy (Redmond) Signalized Intersection Upgrades @ OR 126 Evergreen Ave (MP 121.21), OR 126 Glacier / Highland Ave (MP 121.45), SW Veteran's Way (MP 121.98) & SW Odem Medo Ave (MP 122.85)	$ 460,000	13.13	I12C- Additional and/or Advance Heads (28%) & I9 - SB Evergreen & NB Odem Medow Install Actuated/Coordinated Flashing Beacons as Advance Warning for Signalized Intersections (36%)
S2	Remaining Unsignalized Intersections from Intersection Plan: OR 126 Ochoco Hwy - Reif Rd (MP 7.8), Copely Rd (MP 8.9), SW Powell Butte Hwy (MP 6.84) & Rimrock Rd (MP 17.9) US26 Warmsprings Highway - Fir Street (MP 112.48) US 97 @ O'Neil Hwy (MP 118.52) Culver Highway - SW Bear Dr (MP 2.9), SW Highland Ln (MP 8.3), SW Iris Ln (MP 9.32) & SW Jericho Ln (MP 10.8)	$ 604,000	11.15	I12 - Enhanced Sign Marking Improvements - Unsignalized (3-4)Advance
KF1	Klamth Falls Systemic Signal Upgrades	$ 108,000	9.37	I2A - Add 3-inch yellow retroreflective sheeting to signal backplates (I2 @ $164K - 13.30)
S3	US 97 The Dalles-California Hwy (Madras) Signalized Intersection Upgrades @ US 26 (053 Warm Springs Hwy) (MP 92.08), B St (MP 92.30), & D St (MP 92.45)	$ 605,000	7.44	I2 - Systemic Signalized Upgrades (5 Signals, 3-4)
KC3	Klamth County Systemic Signal Upgrades	$ 48,000	2.09	I2A - Add 3-inch yellow retroreflective sheeting to signal backplates (I2 @ $76K - 2.95)

REGION 4 SYSTEMIC – ROADWAY DEPARTURE

Application	Description	Project Cost	B/C Ratio	Countermeasure
KC2	Klamath County - S Chiloquin Road - Curve Adjacent to US 97 Guardrail on Curves	$ 90,000	25.48	H28 - Guardrail
W1	Wasco County Curve Signing and edge striping	$ 560,000	7.69	RD7 - Rec. Curve Signs, RD 13 - Post Mounted Delineators, RD 14 - Edgeline Striping
KC1	Curve Signing and post mounted delineation	$ 1,240,000	1.02	RD6, RD13
S7	US 26 Warm Springs Hwy (MP 112.48 - 115.9) Paved Shoulder Widening	$ 4,130,000	0.81	RD18 - Install Widen Paved Shoulder by 1 ft. RD3 - Flatten slopes

REGION 5

REGION 5 HOTSPOT

Region 5 Budget	$ 3,220,000.00
150% Budget	$ 4,830,000.00
300% Budget	$ 9,660,000.00

Description	Countermeasures Identified in Application	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost
US395 @ Hailey/Tutuilla Rd (Pendleton) Signal Warning System	I9	ODOT	Umatilla	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 56,000	13.65	1	$ 56,000
US395 @ Punkin Center Signal Warning System	I9	ODOT	Umatilla	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 112,000	12.41	2	$ 168,000
OR207 @ I-84 EB Off Ramp	I15	ODOT	Umatilla	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 105,000	3.68	3	$ 273,000
I-84/US730: Interchange Ramp Improvements	H25, RD3, and RD10	ODOT	Umatilla	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 1,400,000	2.45	5	$ 1,673,000
US395: Baggett Roundabout Project	H16	ODOT	Umatilla	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 3,500,000	1.95	6	$ 5,173,000
Morgan Lake Road	H28 and H38	Union County	Union	Doug Wright	dwright@union-county.org	$ 767,828	3.26	4	$ 5,940,828
OR7: I-84 to Birch Street 4 lane to 3 laine	H48	ODOT	Baker	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 14,700	11.63	3	$ 5,955,528
US20: Burns 4 lanes to 3 lanes	H48	ODOT	Grant	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 162,400	9.69	6	$ 6,117,928
US30: Hughs/Pocahontas to Main Street 4 lane to 3 lane	H48	ODOT	Baker	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 84,000	13.56	2	$ 6,201,928
I84: Baker VSL Safety Improment	H46	ODOT	Baker	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 500,000	8.14	7	$ 6,701,928
US395: Baggett Lane Safety Improvement	H2	ODOT	Umatilla	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 348,700	3.46	9	$ 7,050,628
US730: Brownell Blvd Safety Improvements	I8 and H28	ODOT	Umatilla	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 116,000	10.38	4	$ 7,166,628
OR11: Ferndale Ave Safety Improvement	I12 and I10	ODOT	Umatilla	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 46,650	78.12	1	$ 7,213,278

REGION 5 SYSTEMIC - BIKE/PED

Region 5 Budget	$ 230,000.00
150% Budget	$ 345,000.00
300% Budget	$ 690,000.00

Description	Countermeasures Identified in Application	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost
OR7: Grove Street RRFB	BP8	ODOT	Baker	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 60,200	5	1	$ 200,000
US30: Elm Street @ Myrtle Street PED Activated School X'ing	BP8	ODOT	Baker	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 140,000	2.05	2	$ 140,000

REGION 5 SYSTEMIC - INTERSECTION

Region 5 Budget	$ 610,000.00
150% Budget	$ 915,000.00
300% Budget	$ 1,830,000.00

Description	Countermeasures Identified in Application	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost
District 12 Systemic Signal Safety Improvements	I2	ODOT	Umatilla	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 1,721,440	20.80	1	$ 1,721,440
District 13 Systemic Signal Safety Improvements	I2	ODOT	Union/Baker	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 809,480	13.65	2	$ 2,530,920
District 14 Systemic Signal Safety Improvements	I2	ODOT	Malhuer/Grant	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 979,160	11.19	3	$ 3,510,080

REGION 5 SYSTEMIC - ROADWAY DEPARTURE

Region 5 Budget	$ 2,380,000.00
150% Budget	$ 3,570,000.00
300% Budget	$ 7,140,000.00

Description	Countermeasures Identified in Application	Agency Submitting Application	County	Agency Contact Name	Agency Contact E-Mail	Project Cost	B/C Ratio	Rank	Accumulative Cost
US95: I.O.N. Dynamic Curve Warning Systems	RD11	ODOT	Malhuer	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 952,000	10.24	5	$ 952,000
Region 5 Rumble Strips (Hwy. 10,12, 66, +)	RD15	ODOT	Varies	Jeff Wise	jeff.wise@ODOT.state.or.us	$ 1750000	3.49	8	$ 2,702,000

Oregon Department of Transportation

Oregon Department of Transportation's

All Roads Transportation Safety (ARTS) Application Form

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Submit

(Choose Only One)

Hotspot : ☐ Systemic: ☐ If Systemic Indicate Type: Enter Type
(Intersection, Road Departure or Bike/Ped)

Agency: County:

ODOT Region: Enter Region # City (if applicable):

Contact Person Information

Project Engineer (Name & Title):

Email: Telephone:

Project Sponsor (Name & Title):

Project Information

Street Name (and/or Route Number):

Intersecting Cross Street(s) or From X to Y:

Scope Description:

-Be specific and include all intended work, not limited to countermeasures (See instructions for examples)

Overlapping scope / location with another project application?

Other Stakeholders/Coordination*:

*e.g: local city, local county, ODOT, school district, transit agency, etc.

Countermeasures:

Not listed (type in countermeasure here):

Not listed (type in countermeasure here):

Not listed (type in countermeasure here):

Not listed (type in countermeasure here):

Project Cost: B/C Ratio:

Form: 734-5159 (5/7/18)

Oregon Department of Transportation

Narrative Questions

These narrative questions are intended to provide additional project details for the application reviewers and project files.

1. Problem Description and Need

Describe how the agency identified the project as one of its top safety priorities. Describe the primary causes of the collisions that have occurred within the project limits. Are there patterns in the crash types? Provide a description of the specific problem(s) and/or opportunities that exist.

2. Potential Solution to Reduce Fatalities & Serious Injuries

Please provide your proposed solutions. How will they address the problems/opportunities identified above? This is not a scope statement, but items key to the project meeting its purpose and addressing underlying issues. Clearly demonstrate the connection between the problem and the proposed countermeasures utilized in the Benefit/Cost Ratio calculations (or Cost-Effectiveness Index).

3. Constraints, Risks and Leveraging Opportunities

Describe constraints and risks that impact the value of the project such as funding constraints, policy constraints and schedule expectations. Are there opportunities within or adjacent to the project limits that should be considered if this project is selected?

4. Additional Background Information

Provide any relevant background information on the problem or solutions as well as any commitments that have been made. Summarize and attach other useful information for context, such as: findings of road safety audits, practical design considerations, previous scoping documents, planning studies, etc.

Oregon Department of Transportation

Authorizing Authority and Signature

To ensure the application's quality and the agency's commitment to the safety project, the application must list the Project Sponsor (Agency's Transportation/Traffic Engineering Manager). The Project Sponsor listed below is attesting to:

1. All data in the application is accurate and represents the total scope of the planned project;

2. The agency understands the Project Delivery Requirements for the ARTS Program and is prepared to meet these requirements including Matching Funds if required; and

3. The agency understands if ODOT staff determine that any of the above requirements are not met, or data is inaccurate, or the application fails to meet the program guidelines and application instructions, the application will be rejected and will not be eligible to receive federal safety funding.

Project Sponsor:

Name (Last, First): _____

Title: _____

Signature*: _____

☐ *I am submitting an electronic copy of my application. Electronic submittal was approved by the identified authorizing individual. No signature needed if this box is checked.

Date: _____

Application Attachments

Check all attachments included in this application

☐ Cost Estimate ..... **Required**

☐ Benefit/Cost or Cost-Effectiveness Index Worksheet(s) ..... **Required**

☐ Aerial Vicinity Map / Location Map..... **Required**

☐ Traffic Analysis ..... **Required**

*Only required for applications including traffic control devices such as PHB's, signals or roundabouts or any application on a state facility requiring the approval of the State Traffic Roadway Engineer (STRE) such as those included in the Traffic Manual. For applications requiring approval, the analysis shall be completed as specified in the Traffic Manual.

☐ Crash Data Report(s) ..... **Required**

☐ Field Scope Verification..... **Recommended**

*Pictures, field observations, user behavior

☐ Conceptual Layout or Project Concept Drawing..... **Recommended**

☐ Collision Diagram(s)..... Optional

☐ Additional background information..... Optional

*Previous scoping documents such as planning studies, right of way certification or signal structural sign off

Form: 734-5159 (5/7/18)