



2021 OREGON TSAP UPDATE

DATE: January 15, 2020

TO: Mary McGowan, APM | Oregon DOT

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SUBJECT: **Technical Memo 4: Local Agency Safety Planning Support**

Project #20020-004

The purpose of this technical memorandum is to review the current state of practice for local agencies to participate in the state's/ODOT's safety planning and generate safety projects. Findings and recommendations will be incorporated into the 2021 revision to the Oregon TSAP and potential future efforts.

CURRENT OREGON STATE OF PRACTICE

ALL ROADS TRANSPORTATION SAFETY (ARTS) PROGRAM

PROGRAM OVERVIEW

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 ARTS Program to achieve the goals of the HSIP using a data-driven, jurisdictionally-blind process. 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 those areas most likely to reduce the number of fatal and serious injury crashes in Oregon.

Over the past few program cycles, ODOT has administered ARTS using consultant assistance in a variety of ways, as shown in Table 1.¹

¹ 2018 ODOT ARTS Program Summary Report

TABLE 1. SUMMARY OF PREVIOUS OREGON ALL ROADS TRANSPORTATION SAFETY (ARTS) PROGRAM 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.	

LOCAL AGENCY SUPPORT

During the 2018 ARTS program cycle, ODOT provided local agencies with safety analysis and application support so that all agencies had equal access to funding opportunities. ODOT Region staff engaged their local jurisdictions to explain the ARTS program requirements, encourage their participation, and identify safety needs and potential improvements. ODOT and consultants served local agencies with technical support via in-person workshops, e-mail, and by phone. In 2018, 70% of participating local agencies used ODOT/consultant-provided support.

In 2020, ODOT provided enhanced safety analysis tools such as a smart spreadsheet to look up potential countermeasures (Figure 1) and a Tableau-based crash data visualization tool (Figure 2). ODOT continued to offer consultant support to local agencies to help them identify needs, select safety treatments, calculate benefit/cost ratios, and complete draft applications.



	<p>ODOT All Roads Transportation Safety (ARTS) Countermeasure Search Tool Instructions</p> <p>Version 2, September 11, 2020</p>	
Contact Information:	Christina McDaniel-Wilson, Christina.A.MCDANIEL-WILSON@odot.state.or.us, 503-986-3573	
Link to ARTS Website	https://www.oregon.gov/ODOT/Engineering/Pages/ARTS.aspx	
How to Use this Tool		
<p><i>Step 1: Conduct a preliminary investigation of crash data in your jurisdiction, along a corridor, or at a specific location to identify prevalent crash patterns. (The ARTS Tableau Crash Data Viewer is a great tool for this.)</i></p> <p><i>Step 2: Select a location or crash pattern that you want to apply a countermeasure to. This can be a "systemic" pattern (e.g., not location-specific, such as roadway departure crashes at night on rural road segments) or a "hot spot" pattern (e.g., turning and rear-end crashes at the signalized intersection of Main Street/Beaver Way).</i></p> <p><i>Step 3: Enter the required data into the Countermeasure Lookup tab (orange cells are required). Select the appropriate area type (urban or rural) and location type (signalized intersection, unsignalized intersection, segment, or curve).</i></p> <p><i>Step 4: Enter at least one supplemental crash pattern Countermeasure Lookup tab (blue cells are optional, but at least one value must be selected). This includes specific crash types, lighting conditions, pavement conditions, or crash causes (all defined below).</i></p> <p><i>Step 5: Press the "Search Countermeasures" button to generate a list of all ODOT-approved countermeasures that treat one or more of the crash patterns entered.</i></p> <p><i>Step 6: Use site characteristics, local priorities, and engineering judgment to select the most appropriate countermeasure(s).</i></p> <p><i>Step 7: Incorporate the selected countermeasure(s) into an application for ARTS funding.</i></p>		
<p>Color Coding in the Worksheets - The worksheets include color coding to help users identify locations where input data is required. The respective color coding is as follows:</p>		
	Required input information (the search tool won't work if this isn't entered).	
	Optional input information that can be used to supplement the analysis if this information is available/relevant. *At least one blue cell must be filled in*	

FIGURE 1. ODOT SAFETY COUNTERMEASURE SEARCH TOOL

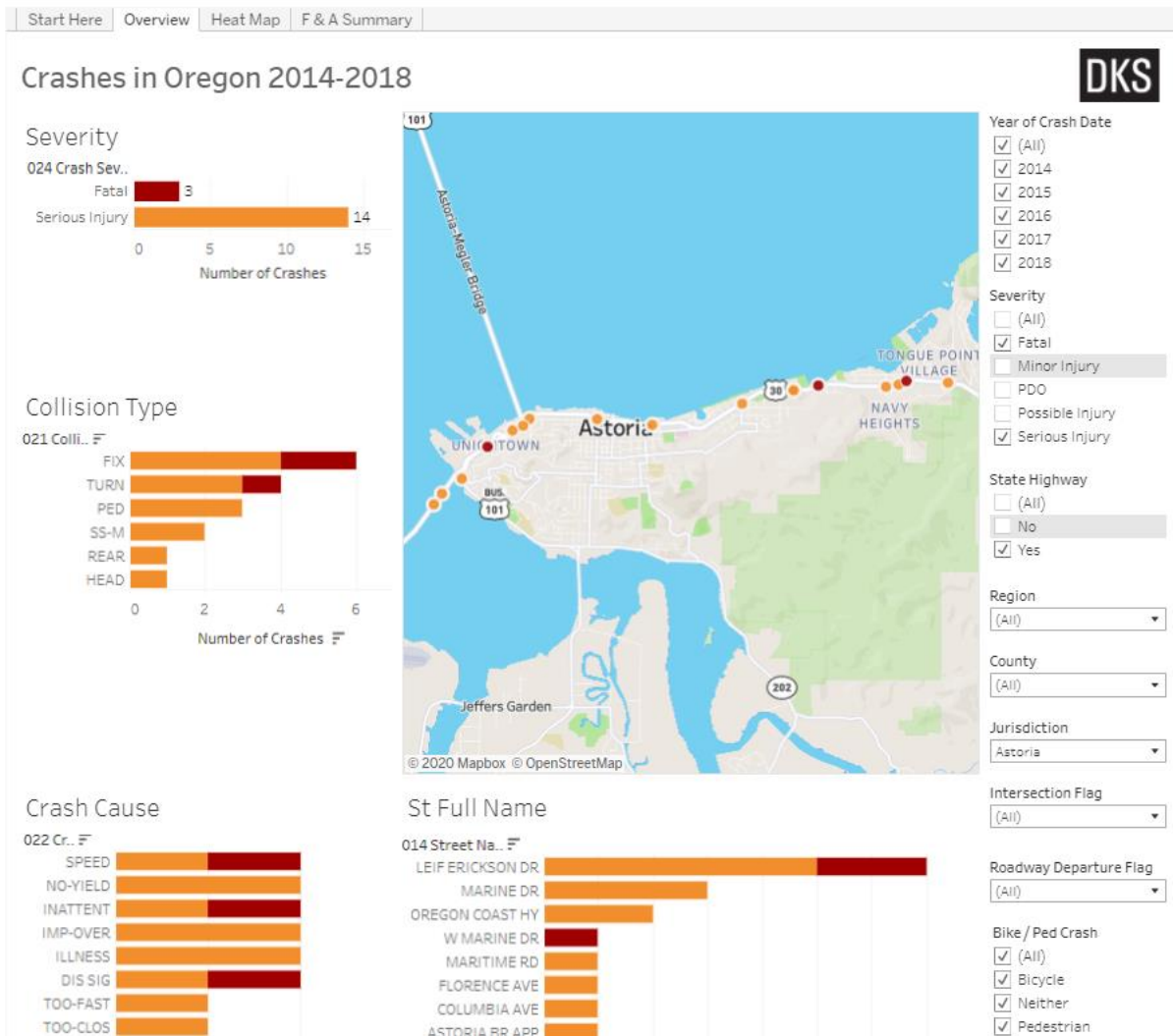


FIGURE 2. TABLEAU MAP EXAMPLE: FATAL AND SERIOUS INJURY CRASHES IN ASTORIA, OREGON, ON NON-STATE HIGHWAYS, 2014-2018

Additional details about the ARTS program include the following:

- The ARTS/HSIP program requires the local agency to provide a 7.78% funding match to receive Federal HSIP grant funding (i.e., ARTS projects are funded 92.22% by the program).
- Only infrastructure safety treatments are eligible under HSIP.
- There is a minimum threshold of \$500,000 for each ARTS application.
- Applications can be Hot Spot or Systemic (Intersection, Roadway Departure, Bicycle-Pedestrian)
- ODOT provides a list of ARTS-eligible safety countermeasures based on crash attributes and application type (e.g., hot spot, intersection systemic, pedestrian/bicycle systemic)
- For the 2020 ARTS program, ODOT split funding between State and local roadways so they no longer compete for the same funds.

Local Agency ARTS Challenges. Even with the direct outreach from ODOT Headquarters and the Regions, and technical support and tools offered by consultants, it has been a challenge to receive ARTS grant applications from local agencies for several reasons:

- **Safety Analysis Skill Set.** In general, small agencies may not have an engineer or dedicated staff to actively review and identify safety projects. Some agencies have expressed concerns about not even knowing where to start or what questions to ask to gain technical assistance.
- **Federal Contracting.** Several local agencies shy away from Federal contracts due to the real and perceived complexity of the contracting processes.
- **General Capacity.** Local agency staff wear so many hats that adding the list of activities required for ARTS can seem overwhelming. Actions include the following: analyze their road system, identify safety needs and projects, complete the grant application, respond to comments, work with a consultant and contractor to implement the project, and then evaluate its benefits.
 - Some agencies have a long project list, including ARTS projects from previous rounds, that precludes them from taking on additional project work due to lack of staff resources.
- **Differing Definitions of Safety.** ARTS focuses on the reduction of fatal and serious injury crashes. Some local jurisdictions may have different safety priorities.
- **Identifying Needs.** Some local agencies think they have already identified everything they can apply for or indicate that they do not have any safety needs.
- **Project Timing.** The time between needs identification, ARTS application, project included in the STIP, and ultimate implementation can be very long (e.g., more than 5 years). In some cases, local agencies do not want to wait that long to address a pressing safety concern.
- **Previous Unsuccessful Applications.** Some agencies have applied and not been selected in the past, so they do not want to take the time to apply again or they lack the time and resources to apply again.

RECOMMENDATIONS

- Continue to improve the ARTS program support of local agencies, incorporating another set of lessons from the 2020 cycle.
- Survey Tribal governments, cities, and counties to learn more about their needs and the best ways ODOT and FHWA can support them.
- Based on survey results, provide appropriate materials, timetables of expected grant cycles, and in-person or online workshops to address training needs of locals.
- Maintain consultant support and expand easy-to-use tools to help make ARTS applications easier to complete.

LOCAL TRANSPORTATION SAFETY ACTION PLAN (TSAP) DEVELOPMENT

Clackamas County developed the first local TSAP in Oregon in 2011, and they have since updated it. As a result of the 2016 TSAP, several local agencies developed local TSAPs as well. As of November 2020, the consultant team is aware of the following local TSAPs in the state:

- City of Beaverton
- City of Bend
- City of Eugene
- City of Hillsboro
- City of Portland (Vision Zero Plan)
- City of Tigard

- Clackamas County
- Columbia County
- Deschutes County
- Klamath County (not yet adopted)
- Lane County
- Malheur County
- Union County (upcoming per a FHWA program)
- Washington County
- Bend MPO
- Central Lane MPO

Many smaller counties do not have the administrative capacity or discretionary funds to commit to local safety committees or house a contract to develop a local safety plan. External support and technical assistance are needed to help them through the process.

A limited, one-time program for local road safety plans was available through the ODOT Transportation Safety Division several years ago. Local agencies were individually contacted and encouraged to prepare a Local TSAP. As of this writing, however, that funding is no longer available.

RECOMMENDATIONS

- Encourage local agencies to develop a local TSAP to improve the likelihood of receiving ARTS funding. Local TSAPs should include Hot Spot, Systemic, and Behavioral sections.
- Explore the benefits and possibilities for standardizing the Local TSAP program with a steady funding stream and specifics about applications, awards, and plan development.
- Encourage every agency's Transportation System Plan (TSP) to include Shall and Should conditions in the Oregon TSP Guidelines² and emphasize the value of developing a safety-specific chapter. This could be a stepping stone to local TSAP development.

LAW ENFORCEMENT COORDINATION

In many cases, local public works rarely talk to their local law enforcement agencies (LEA) about transportation safety issues. Neither knows what the other is doing. The local LEA may have received funding for speeding, impaired driving, or other special enforcement initiatives, and when they do, they may target locations likely to result in citations. If local transportation agencies coordinated and spoke with the local LEAs, they could use crash history and other risk factors to identify enforcement locations also based on data.

RECOMMENDATION

- Encourage open communication among local agency public works, engineering, planning, and law enforcement agencies during TSAP implementation.

² <https://www.oregon.gov/odot/Planning/TSP-Guidelines/Pages/default.aspx>

LOCAL AGENCY SUPPORT - PEER STATES

While Oregon is a national leader in providing financial and technical support to local jurisdictions through the programs and practices identified above, reviewing policies and practices from other State DOTs may provide confirmation of existing practices and new ideas to consider in the future. Following are summaries of the local agency transportation safety support in Washington State and California.

WASHINGTON STATE DOT LOCAL PROGRAMS

Washington State DOT (WSDOT) Local Programs assist communities in the successful delivery of transportation projects by providing educational, technical, and financial support to cities, counties, and other transportation partners such as tribal governments, ports, and transit agencies.³ The Local Programs office also serves as Washington's Local Technical Assistance Program (LTAP) that provides training to local agencies.

Within Local Programs, Traffic & Safety Services provides technical assistance and training to local jurisdictions to increase the safety and mobility of multimodal roadway users. The team promotes and facilitates information sharing between jurisdictions and serves as a liaison between them.

They also provide project development support for federal Highway Safety Improvement Program (HSIP) funding, which includes the City Safety Program, County Safety Program, and Railway-Highway Crossings Program.

Each year, WSDOT sets aside approximately \$25-30 million of HSIP funds to fund the City Safety Program (in even-numbered years) or County Safety Program (in odd-numbered years). The Call for Projects for the Local Safety Programs are released each fall, with applications due in the Spring.

Data Provided. Local Programs provides each agency with a crash data summary via Excel workbook. The summary shows information about the fatal, serious injury, and total crashes in each jurisdiction. It also shows how the jurisdiction compares with others in the state. The summary does not include detailed crash data.

Local Road Safety Plan Requirement. For an agency to be eligible, they must submit a local road safety plan (LRSP) that addresses fatal and serious injury crashes. Using specific information about the risk factors present at specific crash locations, the agency must identify locations where those risk factors are present and prioritize improvements to address the highest priority locations. This prioritized project list must be submitted with the application. WSDOT does not provide funding to local agencies for LRSP development, but they do provide training and technical support.

Local Match. Projects require a 10% local match per phase (preliminary engineering/design, right-of-way, and construction) for all eligible federal expenditures. However, if the construction phase is authorized by a certain date (approximately 2 years after award in most cases), then the construction phase is eligible for 100% funding (no local match required).

³ WSDOT Local Programs. <https://wsdot.wa.gov/localprograms/default.htm>

CALTRANS LOCAL SAFETY PLANNING SUPPORT

The California Department of Transportation (Caltrans) administers the safety management process and provides funding to local agencies under three programs:⁴

1. Highway Safety Improvement Program (HSIP)
2. Local Road Safety Plans (LRSP)
3. Systemic Safety Analysis Report Program (SSARP)

HSIP (Local Agency Share). The Caltrans Division of Local Assistance (DLA) manages California's local agency share of HSIP funds. California's Local HSIP focuses on infrastructure projects with nationally recognized crash reduction factors (CRFs). Local HSIP projects must be identified based on crash experience, crash potential, crash rate, or other data-supported means.

Caltrans releases a Call for Projects under a Cycle Number (e.g., the 2020 call was HSIP Cycle 10) and provides the following guidance documents to support local agency applications.

- HSIP Guidelines⁵
- Local Road Safety Manual⁶

Local Road Safety Plan Support. For the 2020 HSIP Cycle 10, Caltrans recommended an LRSP (or SSARP, see below) accompany each HSIP application. For the upcoming HSIP Cycle 11 (anticipated April 2022), an LRSP will be required. Caltrans has set aside State funding to support LRSP development by local agencies in the form of \$80,000 grants (\$72,000 from Caltrans + an \$8,000 local match) to hire consultant support.⁷

Systemic Safety Analysis Report Program. The state-funded SSARP was established in 2016 to assist local agencies in performing a collision analysis, identifying safety issues on their roadway networks, and developing a list of systemic low-cost countermeasures that can be used to prepare future HSIP and other safety program applications. Caltrans provided detailed guidelines to agencies for the development of their SSARP-related applications.⁸

RECOMMENDATIONS

- Review elements of other State HSIP-related local support to identify potential processes to roll into the ARTS program or other TSAP activities.
- Consider a FHWA-facilitated meeting with one or more other States to discuss noteworthy practices and lessons learned related to local agency safety support.

⁴ Caltrans Local Road Safety Planning. <https://dot.ca.gov/programs/local-assistance/fed-and-state-programs/highway-safety-improvement-program/local-roadway-safety-plans>

⁵ <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/lapq/q09.pdf>

⁶ <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsip/2020/lrsm2020.pdf>

⁷ Caltrans Local Road Safety Planning

⁸ <https://dot.ca.gov/-/media/dot-media/programs/local-assistance/documents/hsip/2018/ssarpguidelines2016feb.pdf>