



2021 OREGON TSAP UPDATE

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TO: Mary McGowan | Oregon DOT

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SUBJECT: **Technical Memo 3: TSAP Implementation**

Project #20020-004

The purposes of this memorandum are to review current implementation of the Oregon Transportation Safety Action Plan (TSAP); review federal and state requirements for TSAP development, implementation, and evaluation; and determine how implementation could be improved or expanded. Findings and recommendations will be incorporated into the 2021 revision to the Oregon TSAP and potential future efforts.

STRATEGIC HIGHWAY SAFETY PLAN (SHSP) REQUIREMENTS

The Oregon TSAP serves as Oregon's Strategic Highway Safety Plan (SHSP), a required planning document under the responsibility of the Oregon DOT under the federal government's Highway Safety Improvement Program, 23 USC Section 148.¹

Each SHSP update process must include a description of the following elements, as described in FHWA's *SHSP Guidance*.²

- **Consultative Process:** Describe a process that demonstrates States have consulted with stakeholders, as identified in 148(a)(11)(A), early in the SHSP development process, considered their input prior to decision making, and routinely involved them with actions taken regarding SHSP development.
- **Coordination:** Describe coordination of the SHSP with other transportation plans, and how the State aligns the high-level goals, objectives, and strategies of other (relevant) plans with the SHSP.
- **Data-Driven Process:** Describe how priority or emphasis areas were selected. Demonstrate that the selection was data-driven and considered additional safety factors. Summarize the data and methods used for analysis.
- **Performance-Based Approach:** Describe how goals and objectives will be used to track and monitor the status of SHSP implementation efforts and progress. Discuss how the performance measures are directly tied to the goals and objectives established in the SHSP

¹ https://safety.fhwa.dot.gov/shsp/legislation_guidance/

² https://safety.fhwa.dot.gov/legislationandpolicy/fast/shsp_guidance.cfm

and how they are consistent with performance measures established by U.S. Department of Transportation in accordance with 23 U.S.C. 150 and coordinated with other State highway safety programs.

- **Strategy Selection:** Describe the process used to select effective emphasis area strategies and how the 4Es (engineering, education, enforcement, and emergency medical services) of safety were addressed as key factors in strategy selection.
- **Schedule to Evaluate and Update SHSP:** Document the State's plans and schedule to evaluate and update the SHSP.

The most relevant topics from this list are the Performance-Based Approach, which is tied to required performance measures and targets, and Strategy Selection, which is focused on those strategies and activities to reduce the number and severity of crashes in Oregon.

CURRENT STATE OF PRACTICE: OREGON TSAP IMPLEMENTATION

2016 TSAP ORGANIZATION

The 2016 TSAP organizes actions in two primary ways, as described in Chapters 5 and 6.

- **Chapter 5: Vision, Goals Policies, and Strategies**
 - 6 Goal Areas: Safety Culture; Infrastructure; Healthy/Livable Communities; Technology; Communicating/Collaborating; Strategic Investments
 - 22 Policies
 - 75 Strategies
- **Chapter 6: Emphasis Areas (EA)**
 - 4 Emphasis Areas: Risky Behaviors, Infrastructure, Vulnerable Users, and Improved Systems
 - 15 Subareas
 - 68 Actions

In total, the TSAP includes 143 strategies/actions, some of which overlap, but many do not. Some actions from Chapter 6 have an identified champion, as described below. There is no known tracking mechanism for the Chapter 5 strategies.

CURRENT STRATEGIES AND ACTIONS

Each EA and subarea in Chapter 6 includes a detailed list of actions. For example, Impaired Driving, a subarea under Risky Behaviors, includes a list of seven actions to be acted upon as part of TSAP implementation, as shown in the table below.³

³ 2016 Oregon TSAP, Table 6.1, page 74

TABLE 1. OREGON TSAP IMPAIRED DRIVING ACTIONS

Tier 1	
Action 6.1.1:	Change social norms by increasing awareness of the types of impaired driving (e.g., drunk driving, drugged driving, and driving under the influence of prescription drugs).
	Co-Benefits: Roadway Departure, Motorcycles, Pedestrians, Bicyclists, Older Road Users
Action 6.1.2:	Provide training and education on marijuana impairment detection for law enforcement.
	Co-Benefits: Roadway Departure, Motorcycles, Pedestrians, Bicyclists, Older Road Users, Training, Enforcement
Action 6.1.3:	Conduct targeted impaired driving enforcement.
	Co-Benefits: Roadway Departure, Motorcycles, Pedestrians, Bicyclists, Older Road Users, Data, Enforcement
Action 6.1.4:	Adopt National Transportation Safety Board recommendation to reduce Blood Alcohol Concentration limit to 0.05.
	Co-Benefits: Roadway Departure, Motorcycles, Pedestrians, Bicyclists, Older Road Users, Enforcement
Action 6.1.5:	Revise DUIL statutes with the objective of eliminating impaired driving as a crash cause.
	Co-Benefits: Roadway Departure, Motorcycles, Pedestrians, Bicyclists, Older Road Users, Enforcement
Tier 2	
Action 6.1.6:	Strengthen laws aimed at reducing repeat DUIL offenders
	Co-Benefits: Roadway Departure, Motorcycles, Pedestrians, Bicyclists, Older Road Users, Enforcement
Action 6.1.7:	Improve DUIL arrest and adjudication processes
	Co-Benefits: Roadway Departure, Motorcycles, Pedestrians, Bicyclists, Older Road Users, Enforcement

TSAP EA actions are broken into two tiers, with 39 actions in Tier 1 and 29 actions in Tier 2, each of which includes an activity and identified co-benefits for other EA subareas. Actions are a mix of broad ideas and specific activities, which can result in challenges to determine measurable results. For example, Action 6.1.4 reads, “Adopt National Transportation Safety Board recommendation to reduce BAC limit to 0.05,” which is very easy to understand and measure (e.g., did Oregon adopt 0.05 or not?). However, the next step, who will take that step, when might it be completed, and how that step will lead to the action being implemented are unanswered.

Another example, Action 6.1.7, is “Improve DUIL arrest and adjudication processes.” This is broad and difficult to measure. As written, there is no way to determine if one or both processes have been improved, or what steps Oregon safety stakeholders should take to begin the process.

TSAP IMPLEMENTATION PLANNING AND REPORTING

The Oregon Transportation Safety Committee (OTSC) developed and distributed a *TSAP Action Completion Plan* form and a *TSAP Action Report Form* that request the following information regarding each TSAP Emphasis Area Actions.

TSAP Action Completion Plan

1. Action Number and Description
2. Action Lead (individual or agency)
3. Key Stakeholders
4. Existing Data Available and Additional Data Needed
5. Describe Anticipated Barriers to Success and Actions Taken as a Result of these Barriers
6. Planned Activities and Timelines
7. Define Successful Action Completion (may include ongoing activity)
8. Describe How Equity is to be Addressed
9. Describe Supporting Information, e.g., Current Trends and other Factors Expected to Impact Action

TSAP Action Report Form

1. Action Number and Description
2. Action Lead (individual or agency)
3. Describe Stakeholder Involvement
4. Describe Action Progress to Date
5. Describe Identified Barriers to Success and Actions Taken as a Result of these Barriers
6. Action Next Steps and Goals
7. Describe How Equity is Addressed
8. Describe Supporting Information, e.g., Current Trends and other Factors Expected to Impact Action
9. Describe how the Completion Plan for this Action is met. Describe any Changes made to the Action Completion Plan.

RECENT IMPLEMENTATION SUCCESSES

The following is a sample of TSAP-related successful actions during this round of TSAP (2016 through November 2019) as reported in the TSAP Action Report Forms.

- **6.1.2 Law Enforcement Training for Marijuana Impairment.** Oregon maintained an average of 227 Drug Recognition Experts (DREs). Oregon State Patrol (OSP) committed to training all Patrol Troopers in Advanced Roadside Impaired Driving Enforcement (ARIDE) during 2019.
- **6.1.3 Targeted Impaired Driving Enforcement.** OSP arrested 3,104 impaired drivers during sustained enforcement efforts in Federal Fiscal Year 2017-18.
- **6.3.2 Speed Enforcement and Education.** ODOT Traffic Safety Division (TSD) awarded \$545k statewide in speed enforcement overtime grants and an additional \$55k for public information and education and a public information survey.

- **6.3.6 Focus Facility Design on Safe Speeds.** ODOT developed the Blueprint for Urban Design (BUD) that includes a focus on achieving target speeds consistent with safety goals, context, users, and land use.
- **6.4.1 Support Distracted Driving Task Force.** Law was amended to include Distracted Driving on crash reports and citations.
- **6.7.1 Implement Roadway Departure Treatments.** Updated the Roadway Departure Safety Implementation Plan.
- **6.14.1 Equitably Enforce and Prosecute.** HB 2355 requires collection of data on all traffic stops. Strategic Transparency of Policing (STOP) project is focused on reporting requirements, analyzes for racial profiling.
- **6.16.1 Evaluate Pedestrian and Bicycle Risk Factors.** Developing a systemic bicycle and pedestrian safety plan based on NCHRP 17-73 research.

STAKEHOLDER FEEDBACK

As part of the 2021 TSAP update project, the consultant team and ODOT staff have reached out to a variety of Oregon’s safety stakeholders, including ODOT staff, regional planners, law enforcement personnel, and safety advocates. During these feedback opportunities, responses have indicated a need for the TSAP to be more focused on **actions, tracking, and evaluation.**

Management and Evaluation. According to many interviewees and survey respondents, the TSAP is not focused or detailed enough to guide the necessary work, identify specific activities, or hold responsible parties accountable to implement it. For example, pedestrian and bicycle actions in the TSAP are so general that it is easy to say Oregon is meeting them. Bolstering the TSAP with more specific strategies that refine the focus of the current emphasis areas, coupled with accountability of responsible parties, could help increase implementation toward TSAP goals and the ultimate vision.

TSAP Stakeholder Coordination. Oregon does not convene regular meetings of the TSAP stakeholder community focused specifically on implementation of the TSAP. The state does bring safety professionals together at the annual TSD workshop and annual Transportation Safety Conference.

Many other states bring primary stakeholders from all disciplines together on a regular basis (i.e., multiple times per year) to provide an opportunity to discuss the status of implementation and seek guidance on addressing roadblocks. Stakeholders have expressed interest in additional opportunities to collaborate with other safety advocates during implementation, and not just for planning.

State DOTs and their safety partners navigate SHSP implementation in various ways. One common approach includes a structured governance that incorporates a variation of teams, groups, or committees.

1. **Executive Committee** of Director-level executives with decision-making authority to fund SHSP implementation efforts and impact other aspects (e.g., legislation, organizational structures at the agency level).
2. **Emphasis Area Coalitions** focused on a subset of SHSP implementation based on their interests and skill sets.
3. **Regional Coalitions** that use grass roots community strategies to implement SHSP actions in cities and counties.
4. **Regular Tracking and Evaluation** of activities to determine what is and is not effective about addressing safety needs, and then pivoting as necessary to new strategies and actions.

Following are a few samples to show how other States implement their SHSPs.

FLORIDA

Implementation Coalitions. Florida has a coalition for nearly every Emphasis Area (EA), each of which is charged with implementing SHSP strategies. Since the SHSP strategies are broad in nature, it is the responsibility of the coalitions to develop, implement, and track programs they implement to address traffic safety that also tie to the SHSP strategies. For EAs where no coalition exists, FDOT is encouraged to develop additional subcommittees.

Tracking Performance Measures. The various coalitions meet regularly to develop and track progress on detailed data-driven strategic plans that focus on proven strategies. SHSP outlines the importance of working with MPOs to coordinate target setting and performance measures between the state and local plans.

Accountability. It is up to each coalition to set up and hold organizations and people accountable to the performance measures they have developed.

LOUISIANA

The Louisiana Department of Transportation and Development (DOTD) has a robust SHSP development and implementation structure.⁴ The EA teams and Regional Safety Coalitions collaborate essentially as a matrix organization for SHSP implementation. The Regional Safety Coalition leads are housed in local Metropolitan Planning Organizations, and the positions are funded by DOTD. These leaders work with local coalitions to implement actions from the SHSP. The SHSP includes EA action plans with outputs and outcomes per action item. DOTD has made limited efforts to record and track resolution of these items.

⁴ <http://www.destinationzerodeaths.com/Images/Site%20Images/ActionPlans/SHSP.pdf>

MISSOURI

Founded in 2004, the Missouri Coalition for Roadway Safety is a partnership of safety advocates throughout the state focused on ending traffic fatalities and serious injuries on public roadways. Missouri's SHSP is called *Show-Me Zero*, and it outlines the state's plan for achieving success by implementing strategies most effective at mitigating the behaviors and issues most associated with fatal and serious injury crashes.

The Coalition meets quarterly to share activity reports, new data as it becomes available, and to learn from each other. Several subject-specific teams meet regularly to move specific actions forward, and a Director-level MCRS Executive Committee oversees the efforts of the organization.

Regional Coalitions. Each of Missouri DOT's seven District Offices serve as a regional home for safety implementation, bringing together local traffic engineers and planners, city police and county sheriffs, community organizers, higher education, and other like-minded organizations that support health and safety outcomes. Regional coalitions can submit applications for MCRS grant funding for non-infrastructure activities like outreach events, paid advertising, and materials.

MONTANA

At the time of Montana's last SHSP update, MDT had Emphasis Area teams that were charged with implementing the SHSP. Each team had an action plan with outputs or outcomes for each action item. Each quarter the Emphasis Area teams completed a progress report to track activities. The level of completeness of these reports and actions varied; some teams built momentum and got things done while others were not as effective in completing SHSP activities. In some cases, the tasks that were accomplished were things in a person's normal job description anyway, so the additional level of tracking and record keeping did not seem to influence SHSP implementation progress.

VIRGINIA

Like Oregon, the Virginia SHSP includes a comprehensive listing of strategies and actions within each Emphasis Area. The SHSP Executive Committee, which includes members from various agencies and disciplines, oversees SHSP implementation and meets at least once per year with a focus on collaboration. Each Emphasis Area team implements their area of the SHSP with support of the Steering Committee and reporting responsibilities to the Executive Committee.

The Steering Committee meets regularly throughout implementation to provide direction and direct assistance to the Emphasis Area teams and any of the stakeholders who are working to implement the strategies and actions.

Emphasis Area teams meet as needed to discuss action step progress, coordinate next steps, identify problems or barriers (which they report to the Steering Committee), suggest

new or modified actions, track, and report progress, and evaluate strategy and action effectiveness to connect their activities to decreases in fatalities and serious injuries.

PLAN IMPLEMENTATION: OREGON EXAMPLES

Closer to home, other transportation plans in Oregon include robust implementation sections, and some have led to successful completion, as described below.

ODOT ROADWAY DEPARTURE IMPLEMENTATION PLAN

ODOT's first Roadway Departure (RwD) Implementation Plan was delivered as an FHWA-funded study that provided consultant support to analyze RwD crash locations and subtypes. This systemic safety approach matched common attributes (e.g., horizontal curves, crossing the centerline) with cost-effective safety countermeasures. The plan was focused on implementing a set of identified safety treatments on identified State and local roads that exhibited an overrepresentation of these targeted crash types. An important aspect of implementation was limiting the scope to a relatively small number of different solutions and applying them widely.

The first RwD Implementation Plan was completed in 2010 and then programmed in the next STIP cycle (approximately 2013-2015) and subsequent cycles. ODOT contracted an update to the study in 2017 and the projects from that effort are being implemented now.

Key to Success: Quantified Costs and Benefits. The RwD Implementation Plans estimated the cost of statewide implementation and the benefits in terms of lives saved and serious injuries prevented. For example, the 2017 RwD Implementation Plan concludes its executive summary with the following statement: "With implementation of the full recommendations and deployment levels, an estimated reduction of nearly 10,000 RwD crashes can be realized, and 480 lives saved over the next 10-year period."

TRAFFIC RECORDS COORDINATING COMMITTEE (TRCC) STRATEGIC PLAN

Implementation. The data system stakeholders reviewed all findings from the NHTSA assessment rated as *does not meet* or *partially meets* to prioritize the findings as high, medium, or low for the Traffic Records Strategic Plan. Based on the comments in the interviews, assessment findings were categorized as high priority/accomplishments possible soon, mid priority/accomplishments possible within the next five years, and low priority/accomplishments possible in the distant future. Although findings may be initially labeled a medium or low priority they could be elevated to high priority within a year or two once other accomplishments have been achieved. As priorities evolve and benchmarks are achieved for high priority issues, they will trigger the prioritization of others.

Tracking Metrics. The traffic records data system stakeholders developed quantitative performance measures, action steps, and assigned leaders to develop traffic records improvement strategies rated as 'very important'.

Accountability. Each year the high priority performance measures noted in the Traffic Records Strategic Plan are updated in terms of their progress by the assigned action leader of the performance measure. Although there is no penalty for not achieving a performance measure within the assigned timeline, For Oregon to qualify for Section 405c funding from NHTSA they must show a demonstrated achievement of quantitative improvement each year in at least one data system area (crash, vehicle, driver, roadway, citation, injury surveillance) to qualify for the funding.

ODOT CRASH ANALYSIS REPORTING UNIT STRATEGIC BUSINESS PLAN

The ODOT CAR Unit Five-Year Business Plan, delivered in 2020, outlines key strategies to guide the Unit closer to their ultimate vision: to create, maintain, and report high quality, easily accessible, and timely data that allows their customers to make sound data-driven decisions.

Tiered Recommendations. The Strategic Business Plan was developed by an outside consultant for ODOT’s consideration and use. It was important to prioritize the recommended implementation actions based on feasibility for completing the action and its impact on meeting the Unit’s goals. Following is the table of tiered recommendations with descriptions.

TABLE 2. ODOT CAR UNIT STRATEGIC BUSINESS PLAN RECOMMENDATIONS

	RECOMMENDATIONS ⁷	PRIORITY/FEASIBILITY/IMPACT
TIER A	WF-1 Address Technical Skills Gap	Addressing workforce needs is the single highest priority, since the CAR Unit staff will be the ones who address all other recommendations.
	WF-2 Improve Staff Satisfaction and Engagement	
	CDR-1 Improve Output Data Timeliness	
	CDR-2 Encourage Electronic Crash Reporting	Although the shift to electronic crash reporting requires significant external support, advocating for the change must remain a top priority for the CAR Unit as it is the most critical technical enhancement for improving all aspects of crash data coding and reporting.
	CDR-3 Optimize QA/QC Procedures	
	CDU-1 Improve Crash Data Accessibility	
	CDU-2 Improve User Understanding of Crash Data Development and Changes	
TIER B	WF-3 Increase Staff Retention	Staff retention and productivity can be improved after technical skill gaps are filled and employees are engaged.
	WF-4 Increase Staff Productivity	
	CDR-4 Optimize Reporting Procedures and Data Product Development	Data integration is complex, so setting a framework and reaching out to partners will be the most important first steps.
	CDR-5 Update Data Management Technology	
	CDR-6 Improve Source Data Timeliness	
	CDR-7 Improve Source Data Accuracy and Completeness	
	DI-1 Set a Framework for Future Integration Possibilities	
CDU-3 Address Crash Data User Requests		
TIER C	WF-5 Optimize Staffing Levels	Integration with other databases will increase in value as the CAR Unit's database becomes more accurate, complete, and timely.
	DI-2 Expand Integration with Other TDS Databases	
	DI-3 Pursue Integration with OHA Databases	
	DI-4 Pursue Integration with DMV Databases	

⁷Identifies the associated chapter and number of each recommendation. WF = Workforce, CDR = Crash Data and Reporting, CDU = Crash Data Usage, DI = Data Integration

A PATH FORWARD: IMPLEMENTATION PLAN AND GOVERNANCE

Based on a review of Oregon’s current TSAP implementation, SHSP requirements, other noteworthy practices by State DOTs, and the implementation of other Oregon transportation plans, the consultant team recommends ODOT consider the following steps for successful implementation of the 2021 TSAP toward the State’s vision of zero fatalities and serious injuries.

CLARIFY THE STRUCTURE OF VISION, GOALS, POLICIES, EMPHASIS AREAS, SUBAREAS, STRATEGIES, AND ACTIONS

The 2016 TSAP includes several organizational structures that can be easily confused by Oregon’s safety stakeholders regardless of their knowledge of the inner workings of the plan. Simplifying the current structure as follows could help focus stakeholders on a reasonable number of strategies and activities to meet TSAP goals.

1. **Vision:** Maintain the current vision of zero fatalities and serious injuries
2. **Goals:** Change the current mission statements to quantified goals based on the Emphasis Areas. For example, one Infrastructure EA goal could be, “Fewer than X fatal and serious injury crashes by 2023,” using 2019-2023 data as the next crash data set.
3. **Strategies:** Develop a combination of 2016 TSAP Strategies and EA Actions, separated by near-term (to be completed by 2025) and long-term (to continue into the 2026 TSAP). For example, one near-term strategy could be, “Update the Oregon Intersection Safety Implementation Plan” using the most recent crash data available.
4. **Daily Actions and Activities:** These will be handled at the EA team level during implementation.

DEVELOP A TSAP IMPLEMENTATION PLAN

An Implementation Plan can be focused on the daily work required to save lives in Oregon. It should be developed concurrent with or immediately following TSAP completion to keep the momentum of the planning effort. Immediate implementation plan development also helps to force stakeholders to focus on realistic and feasible actions.

An implementation plan could include the following topics:

- **Governance.** Establish governance in the form of assigning TSAP implementation responsibilities to existing committees, offices, etc., or developing new teams as appropriate.
 - SHSP Lead Individual
 - Executive Committee
 - Multidisciplinary Steering Committee
 - Emphasis Area Teams
 - Quick Action Teams for Special Projects
- **Action Tracking.** Develop reporting mechanisms based on Oregon’s current EA action reports. Establish a responsible party for each action within the EA team structures.

- **Evaluation.** Establish regular evaluation of safety efforts. For example, develop and implement an ongoing, statewide safety evaluation of infrastructure projects with statistically-robust before/after analysis. Use the results to inform Oregon-specific Crash Modification Factors, project cost estimates, and program administration (e.g., ARTS).

Next steps toward implementation plan development could include asking and answering the following questions:

- Are there ODOT examples of a team successfully moving a plan into implementation to “move the needle” on an issue?
- If so, how did/does that group achieve this?
- What would moving the needle look like for this plan?
- Is there a desire for that level of action and commitment?

TSAP RENEWAL CONSIDERATIONS

While the TSAP is required to be updated at least every 5 years per FHWA rules, it might make sense to update it more frequently to align with other Oregon planning processes, biennial budgets, etc. Alternatively, a mid-cycle update of crash data only--coupled with the ongoing activity reporting in the Implementation Plan--could provide better information to ODOT and safety stakeholders of emerging safety needs.