OREGON Transportation Safety Action Plan 2016

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Oregon Department of Transportation

The TSAP brought the 4 Es of safety together in several different ways and at several different times throughout the project.

- Policy Advisory Committee (PAC) directed the development of the vision, goals, policies, strategies, emphasis areas, and near-term actions. The PAC met almost monthly throughout the course of the project.
- Project Coordination Team (PCT) provided technical input on major milestones, including the vision, goals, strategies, and actions. The PCT met four times over the course of the project and was made up of staff from all divisions of ODOT.
- The public was engaged several times and in several ways on the project. There were public meetings at the beginning and end of the project to provide input on desires for the TSAP and to provide input to specific strategies and actions. There also were an on-line survey and region open houses for the public to provide input on the Plan.

Appendix A lists members of the Oregon Transportation Safety Committee (OTSC), the PAC, and PCT. The 2016 TSAP was adopted by the Oregon Transportation Commission at the recommendation of the Oregon Transportation Safety Committee on October 14, 2016.

TSAP LONG-TERM GOALS

The goals, policies, and strategies in the TSAP are focused on changing safety culture and proactively planning, designing, operating and maintaining a transportation system which eliminates fatalities and serious injuries. Everyone is responsible for ensuring their own safety and responsible to protect the lives of others traveling on the transportation system. Only when residents and visitors adopt safe traveling behaviors and decision-makers invest in safety programs, policies, and projects will we meaningfully reduce the number of fatalities and serious injury crashes in Oregon. Recognizing that decision-makers and stakeholders always have to balance competing demands for insufficient resources, the Plan was developed with a safety first perspective to envision and work towards the safest transportation system possible.

> Sustainable changes in behavior across the road network can be achieved by creating a social environment that intrinsically supports safe driving behaviors.
>
> Primer for Traffic Safety Culture, ITE Journal, November 2013

Over the long term, the goals of the TSAP are:

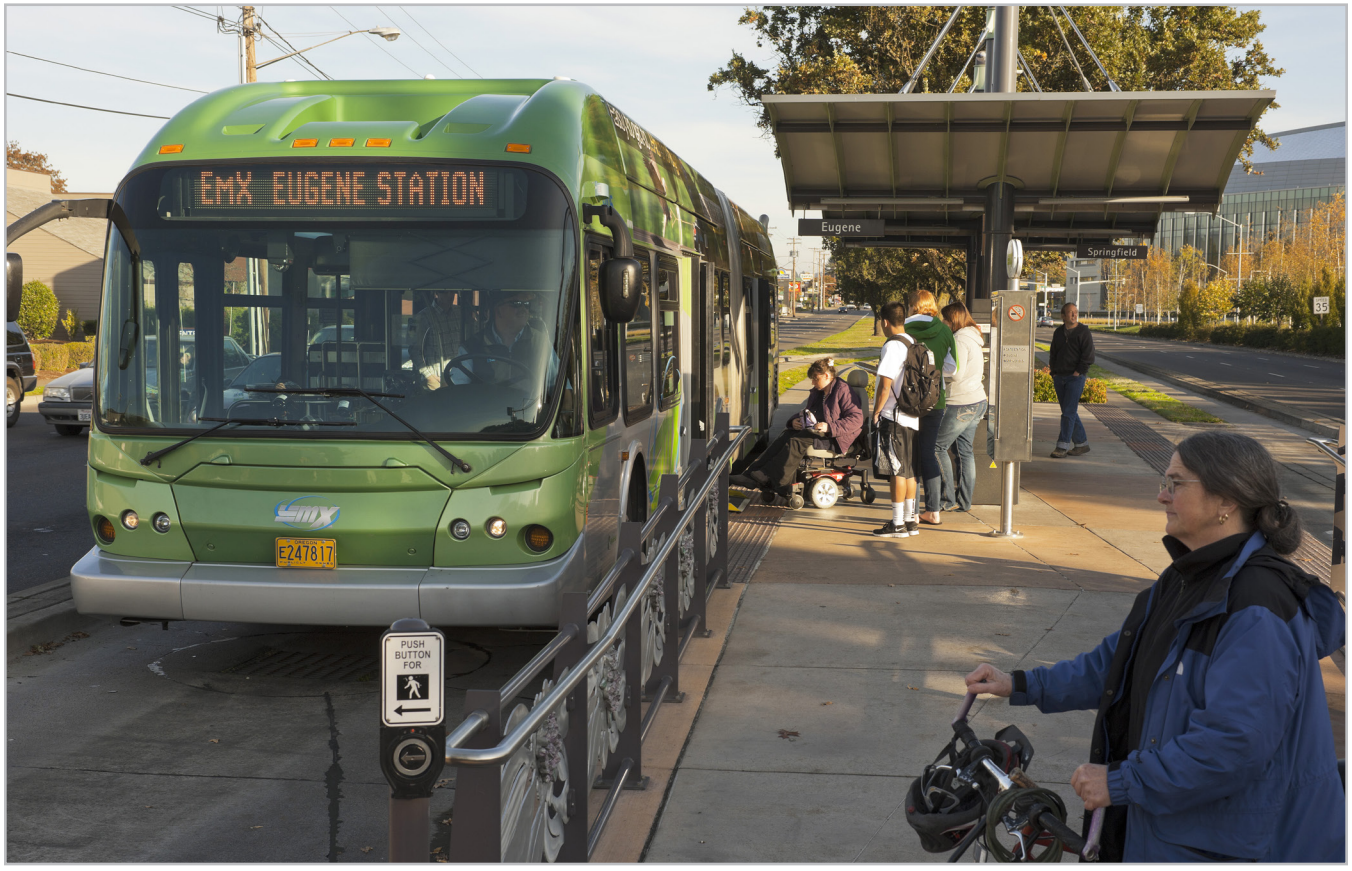
- **Safety Culture –** Transform public attitudes to recognize all transportation system users have responsibility for other people's safety in addition to their own safety while using the transportation system. Transform organizational transportation safety culture among employees and agency partners (e.g., state agencies, MPOs, Tribes, counties, cities, Oregon Health Authority, stakeholders and public and private employers) to integrate safety considerations into all responsibilities.
- **Infrastructure –** Develop and improve infrastructure to eliminate fatalities and serious injuries for users of all modes.
- **Healthy, Livable Communities –** Plan, design, and implement safe systems. Support enforcement and emergency medical services to improve the safety and livability of communities, including improved health outcomes.
- **Technology –** Plan, prepare for, and implement technologies (existing and new) that can affect transportation safety for all users, including pilot testing innovative technologies as appropriate.
- **Collaborate and Communicate –** Create and support a collaborative environment for transportation system providers and public and private stakeholders to work together to eliminate fatalities and serious injury crashes.

There also was extensive outreach to public and private stakeholders. In addition to the public input, there were several key activities that contributed to the development of the Plan. These include:

- A Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis synthesized and built on the public input that occurred early in the project. Additional interviews were conducted with key safety stakeholders from ODOT, an MPO (Lane Council of Governments), and a County government (Clackamas County) to identify important considerations and themes for the development of the TSAP. The SWOT analysis also identified gaps in the 2011 TSAP in respect to Moving Ahead for Progress in the 21st Century (MAP-21) requirements,[1] and to subsequent changes put in place by the Fixing America's Surface Transportation (FAST) Act,[2] to ensure that the updated plan meets Federal regulations.
- Crash data from 2009 through 2013 were reviewed to identify trends and problematic crash types and behaviors. The analysis helped the PAC and PCT understand the *"who, why, where,* and *what"* of crashes, fatalities, and serious injuries in Oregon.
- The PAC developed a Vision for the TSAP along with supporting Goals, Policies, and Strategies. The Goals, Policies, and Strategies define Oregon's long-term approach to eliminating fatalities and serious injuries on its transportation system. The PCT provided feedback to the PAC throughout this process.

[1] MAP-21 Final Safety Performance Rules, https://www.fhwa.dot.gov/tpm/rule.cfm.

[2] FAST Act Federal Legislation, https://www.fhwa.dot.gov/fastact/.



STATE AND FEDERAL REQUIREMENTS

State Planning Requirements and Relationships to State Laws

Oregon Transportation Commission (OTC) Role - Duties and Responsibilities

ORS 184.618(1) states:

> *As its primary duty, the Oregon Transportation Commission shall develop and maintain a state transportation policy and a comprehensive, long-range plan for a safe, multimodal transportation system for the State, which encompasses economic efficiency, orderly economic development, and environmental quality. The plan shall include, but not be limited to, aviation, highways, mass transit, pipelines, ports, rails, and waterways. The plan shall be used by all agencies and officers to guide and coordinate transportation activities and to insure transportation planning utilizes the potential of all existing and developing modes of transportation.*

Oregon has designated the Oregon Transportation Plan, the adopted mode and topic plans (Aviation, Bicycle and Pedestrian, Freight, Highway, Public Transportation, Rail, Transportation Options, and Transportation Safety Action), and facility plans as the state transportation policy and comprehensive long-range plan. Thus the OTP and each of the mode, topic, and facility plans have legal authority.

The OTP and its modal and topic elements achieve the statutory planning requirement for the Oregon Transportation Commission and the Oregon Department of Transportation (ODOT). The OTP is the umbrella document, which may be further detailed in the mode and topic plans. ORS 184.618(1) requires state agencies to use the OTP to "guide and coordinate transportation activities" but it does not authorize the OTC to impose OTP goals, policies, and performance measures on other state agencies. The OTP operates within the legal context of the State Agency Coordination Program and the Land Conservation and Development Commission's Transportation Planning Rule (TPR) (discussed further below), which impose additional requirements related to the public decision process and consistency among plans in all affected jurisdictions. The OTP, and its elements, must also comply with Federal legislation.

TSAP Relationship to State Land Use Planning Goals and Administrative Rules

State Agency Coordination Program (OAR 731-15-0045)

The Oregon Transportation Commission adopted rules to implement ODOT's State Agency Coordination (SAC) Program in September 1990.

The adoption of transportation policy falls under the requirements of those State Agency Coordination Program rules (OAR 731-15). The rules require ODOT to involve interested parties and affected jurisdictions when developing plans or adopting major amendments to plans. The Department has found that the Plan is in compliance with all applicable statewide planning goals (see Appendix C).

Transportation Planning Rule (OAR 660-012)

Oregon's statewide planning goals established state policies in 19 different areas. The TPR implements the Land Conservation and Development Commission's Planning Goal 12 (Transportation) which requires ODOT to prepare a Transportation System Plan (TSP) to identify transportation facilities and services to meet state needs. The Oregon Transportation Plan and adopted multimodal, mode, topic, and facility plans serve as the state TSP.

Shifting Demographics

Oregon's population grew by over 5 percent from 2010 to over 4 million people in 2015, which was slightly faster than the U.S. overall. This growth translates into higher levels of travel and commercial activity, especially in metropolitan areas where most of the growth has occurred.[10]

Oregon also is experiencing an increase in the older driver population as baby boomers move into and through the retirement years. The portion of the population 65 years or older increased from 12.8 percent in 2000 to 13.9 percent in 2010 and 16 percent in 2014.[11] Although older drivers are safer in many respects than younger and middle age drivers, they have lower survival rates when involved in crashes, which could contribute to an increase in motor vehicle fatalities.

CHANGING TRAVEL DEMOGRAPHICS

- More people.
- More older drivers.
- More travel and commercial activity – especially in urban areas

Competing Priorities in Urban Areas

In urban areas there is a high mix of modes of travel, speed of travel and trip purpose. Trucks move freight and vehicles, bicycles and transit move people to work, recreation, and shopping. There is inherent conflict and risk in this mix of modes, trip purposes, and speed of travel. Implementing a range of transportation solutions in urban areas is necessary to meet transportation goals, such as safety, mobility, reliability, or improved air quality. Planners and engineers need to draw on the best available evidence to implement a data-driven approach to safer systems.

COMPETING PRIORITIES

- High mix of modes in urban areas.
- Balancing safety, mobility, reliability, air quality, access.
- Equity.
- Transit availability.

There also are equity considerations in planning for safer transportation systems in urban areas. Research shows that pedestrian crash incidents are more common in areas with higher crime rates, lower transit availability, and population demographics such as lower income levels or number of children. In these areas it may be critical to consider safety specifically.[12]

Technology Concerns

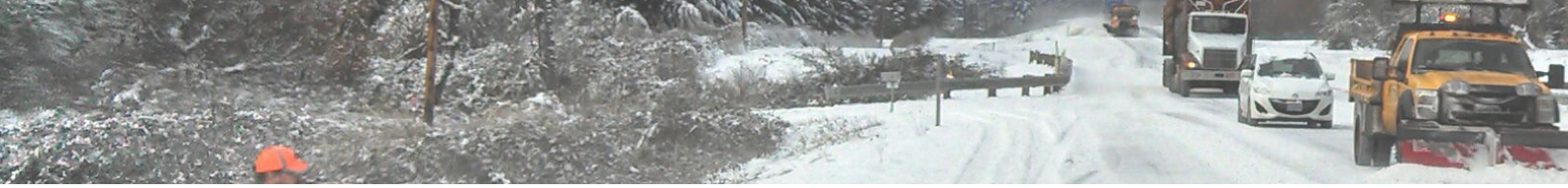
Technology has made and continues to make significant contributions to transportation safety, but it is not always beneficial. For example, the proliferation of cell phones and other handheld devices has given rise to an increasingly distracted population. Unfortunately, reliable statistics on the use of cell phones while driving and as a contributor to crashes and injuries are difficult to obtain, but available data and anecdotal evidence point to distraction as a significant traffic safety concern. A recent survey conducted by Southern Oregon University found that three out of four drivers surveyed engage in distracted driving. Furthermore, 83 percent of respondents felt that distracted driving is an important safety concern on Oregon's roads.[13] Research into the impact of various types of distraction on

[10] Portland State University Population Research Center. Oregon Annual Population Report. 2014. http://www.pdx.edu/prc/sites/www.pdx.edu.prc/files/Oregon_Annual_Pop_Report_Tables_2014_v3.pdf.

[11] U.S. Census Bureau. American Fact Finder.

[12] Cottrill, C. Evaluating Pedestrian Crashes in Areas with High Low-income or Minority Populations. Accident Analysis and Prevention, October 2010.

[13] Angela Durant et al. Distracted Driving: an Epidemic, A Study of Distracted Driving Attitudes, Behaviors, and Barriers Preventing Change. Southern Oregon University, prepared for Oregon Department of Transportation. https://www.oregon.gov/ODOT/Documents/Distracted%20Driving%20An%20Epidemic.pdf.



vehicles will significantly impact safety outcomes. Furthermore, the widespread implementation of these vehicles and associated infrastructure will not happen overnight. Rather, the technology will be gradually integrated into the fleet as new vehicles are purchased. Regulation may help to promote or require V2V and V2I in new car purchases, but even so the turnover in the fleet is such that it may be several decades before fully autonomous vehicles are widely implemented.[17]

Safety Analytics

The use of analytical tools and processes offers a more immediate application of technology to transportation safety. The increasing quality and quantity of safety-related data (e.g., crash, roadway inventory, and volume) is enabling new insights into the causes of crashes and possible measures to reduce their occurrence or severity. Methods for collecting safety data specific to other modes such as bicycles and pedestrians are emerging and will expand capability to assess risks and identify solutions for non-auto modes. Advances in statistical modeling have enabled more reliable problem identification and application of safety countermeasures, taking advantage of available data. Some agencies have begun to use prior crash history to forecast the likely occurrence of crashes and to proactively deploy law enforcement and emergency response resources accordingly.[18] This data and proactive approach also allows communities to better plan for the safety of the transportation system in their long-range work.

SAFETY ANALYTICS

- The timeliness and quality of data can save lives.
- Better data and analytical tools will mean the right solutions at the right time.
- Staff will need training and resources to take full advantage of safety analytics.

Shifting Demographics

Like most states, Oregon's population has become increasingly focused in urban and suburban areas over the past few decades. The share of the population living in metropolitan areas increased from 77 percent in 2000 to 83 percent in 2014. This trend is likely to continue as the Portland region in particular attracts new residents from across the country.

Along with the overall trend toward living in urbanized areas, urban centers also are becoming denser. Increased density is being driven by a number of factors, including the preference among empty nesters and millennials for urban lifestyles, where a variety of amenities are within close proximity.

SHIFTING TRANSPORTATION AND LIFESTYLES

- More people are choosing urban lifestyles.
- Urban areas are becoming more dense.
- More people are choosing non-auto travel.
- Transit is one of the safest modes of travel.
- Managed speeds can significantly reduce the severity of crashes.

Transportation and land use patterns in urban areas tend to support the use of transit, bicycling, and walking, as well as relatively newer transportation forms such as car sharing and transportation network company services (e.g., Uber). Widespread use of smart phones and other mobile devices are playing a pivotal role in advancing new ways for people to travel in the city.

All of these trends associated with greater urbanization have an impact on safety outcomes. Crashes in urban areas tend to have less severe outcomes due to lower speeds and access to medical services.

[17] http://www.vtpi.org/avip.pdf.

[18] http://www.timesfreepress.com/news/local/story/2014/aug/01/new-software-predicts-when-and/263323/.

The use of transit in urban areas likely contributes to improved safety, in part due to the extent it reduces traffic volumes and conflicts. And transit is one of the safest modes of transportation.[19] It provides an alternative to driving for many commuters who would otherwise drive or who should not be operating a vehicle for health or other reasons. The role of transit in improving safety outcomes has not been fully explored in the literature, but research has demonstrated that cities with higher per capita transit use also have lower per capita fatality rates.[20]

Less is known about the relationship of the level of walking and bicycling to safety outcomes for these modes or for the broader public. A 'safety in numbers' theory has been proposed, suggesting that higher levels of walking and bicycling result in lower crash rates involving these modes. While data consistent with this theory has been presented from several countries, a consensus on this question has not been reached. For instance, data from Portland indicates that while bicycle traffic on Portland's bridges increased from 2,850 in 1991 to 18,794 in 2011 (a more than six-fold increase) the number of bicycle crashes approximately only doubled, increasing from 155 to 297. However, during the same period, bikeway facility miles increased by a factor of four (from 70 to 307 miles). It is possible that one or both of these factors played a role in reducing the crash rate, but it cannot be determined without a more rigorous study. Nonetheless, the evidence suggests that at the very least, higher levels of bicycling and walking do not result in a dramatic increase in crashes.

Another significant trend in urban areas is the emergence of the sharing economy. Car sharing and Transportation Network Companies (TNC) such as Uber and Lyft are changing the relationship between the public and their vehicles. In particular, these innovations make it easier for people to live car-free, potentially resulting in fewer serious crashes on our roadways. TNCs also may have a positive impact on risky behaviors such as impaired driving.[21]

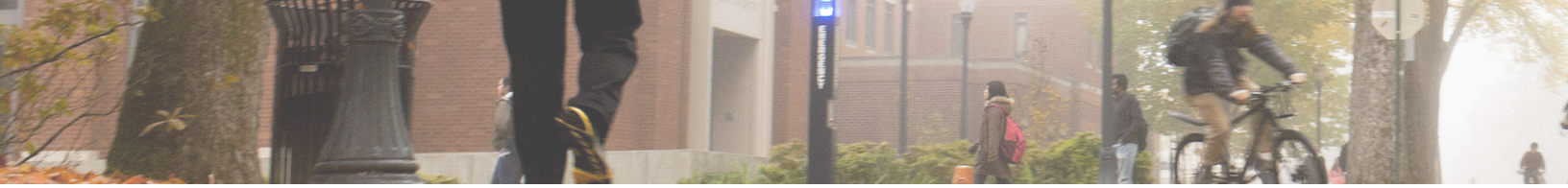
CONCLUSION

To take advantage of the opportunities and address the challenges, ODOT Divisions, partner agencies, and stakeholders have collaborated to inform the development of safety goals, policies, and strategies. This information will be used as a guide to incorporate safety into daily job functions and as part of everyone's personal responsibility to safety. The following chapter describes the policy and strategy outcomes associated with the challenges and opportunities.

[19] Bureau of Transportation Statistics. Distribution of Transportation Fatalities by Mode. http://www.rita.dot.gov/bts/sites/rita.dot.gov.bts/files/publications/national_transportation_statistics/html/table_02_04.html.

[20] Litman, T. A New Transit Safety Narrative. Journal of Public Transportation, Vol. 17, No. 4, 2014. http://www.nctr.usf.edu/wp-content/uploads/2014/12/JPT17.4_Litman.pdf.

[21] Greenwood, B. & S. Wattal. Show Me the Way to Go Home: An Empirical Investigation of Ride Sharing and Alcohol Related Motor Vehicle Homicide. Fox School of Business Research Paper No. 15-054. 2015. http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2557612&download=yes.



5. VISION, GOALS, POLICIES, AND STRATEGIES

VISION

Every day, people arrive safely at their destinations in Oregon, but tragically, fatalities and serious injuries still occur on the Oregon transportation system. Any fatality or life-changing injury is a significant loss that can be avoided by implementing state-of-the-art programs, policies, and projects related to safety engineering, emergency response, law enforcement, and education. The TSAP lays the foundation to consider and prioritize safety for all modes and all users of our transportation system in order to eliminate all deaths and life-changing injuries on the transportation system.

VISION

Oregon envisions no deaths or life-changing injuries on Oregon's transportation system by 2035.

Achieving this vision by 2035 requires commitment and engagement from a variety of Oregon's agencies and stakeholders. Engineers, emergency medical service providers, law enforcement and educators traditionally play a strong role in advocating for, planning, designing, and implementing transportation safety plans and will continue to do so. However, this plan also includes goals, policies, strategies, and actions relevant to public health professionals, the media, private stakeholders, the individual transportation system user, and others. All of these organizations and individuals will be tasked with planning and implementing safe travel options, and traveling responsibly, with the safety of all users in mind.

GOALS

Decision-makers are always faced with tradeoffs in developing a comprehensive transportation system. There are a large variety of system needs (e.g., mobility, access, reliability, environmental impacts, health impacts, equity, modal options, and safety) that need to be balanced and prioritized for a wide variety of contexts. The goals, policies, and strategies in the TSAP present a "safety- first" perspective.

There are always tradeoffs. The goals, policies and strategies in this plan are developed and presented from a "safety-first" perspective.

This portion of the TSAP outlines a strategic framework, including a vision, goals, policies, and strategies, to define what Oregonians want to achieve in the future for transportation safety. The vision outlines the aspirational, yet achievable, objective of eliminating fatalities and serious injuries by 2035. To make advancements towards the vision, six goal areas provide specificity for ODOT, stakeholder agencies, and the public to focus efforts and resources. Within each goal area, a diverse list of policies and strategies convey the mid- and long-term opportunities, programs, and activities that have the best chance of improving transportation safety for all modal users. Incorporation of the goals, policies, and strategies into all ODOT and stakeholder plans will help Oregon achieve its vision.

GOAL AREAS

- Improving Safety Culture.
- Improving Infrastructure.
- Facilitating Healthy and Livable Communities.
- Best Available Technologies.
- Communicating and Collaborating.
- Strategic Investments.

Goal 1: Safety Culture

Background

Developing and sustaining a strong safety culture, where safety is integrated into everyday decision-making, is key to reducing unnecessary deaths and serious injuries related to transportation. Cultural change is not a simple thing – it involves educating all those who participate in developing (planners, designers, engineers, operations, and maintenance and staff) and using the transportation system that they have a basic responsibility to consider the safety of themselves and others as part of their job functions and daily activities.

For those who address transportation and/or safety in their jobs, including the state legislature, ODOT, metropolitan planning organizations, local jurisdictions, emergency responders, law enforcement, health services providers, rail and transit providers, nonprofit organizations, industries, and other organizations, cultural shifts will be seen when safety is prioritized as a core value. A strong safety culture means that agency leadership and employees, at all levels, are encouraged and rewarded for prioritizing safety, and identifying safety issues and solutions while carrying out their agency's missions and their individual job responsibilities.

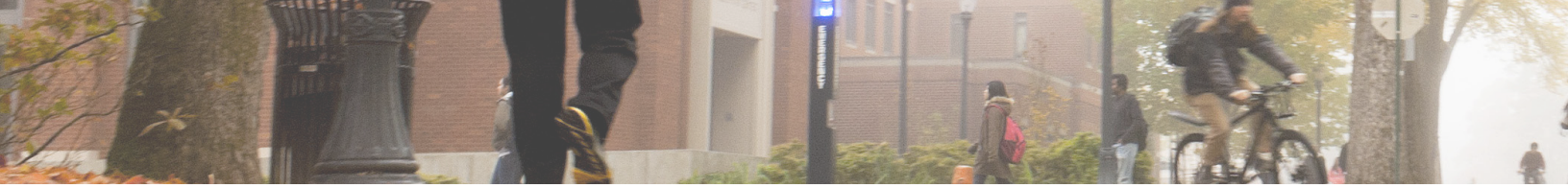
Inspiring a strong safety culture among the public (individual drivers, passengers, bicyclists and pedestrians) can be implemented in a number of ways. Good public information and education on the rules of the road and changes in regulations; broadly available and up-to-date driver training; clear communication of the benefits of transportation law enforcement in changing social norms to expect slower speeds; respect and responsibility for other users; and community engagement in transportation safety plans and programs; can all contribute to higher awareness of how individual choices influence the safety of all system users.

Opportunities to address safety culture are different based on the types of decisions being made and on who is making those decisions, but Oregon will achieve shifts on all fronts to elevate awareness of safety issues and identify safety solutions.

GOAL: Transform public attitudes to recognize that all transportation system users have responsibility for other people's safety in addition to their own safety while using the transportation system. Tr[a]nsform organizational transportation safety culture among employees and agency partners (e.g., state agencies, MPOs, local agencies (Tribes, counties, cities), Oregon Health Authority, stakeholders, and public and private employers) to integrate safety considerations into all responsibilities.

Policies

- **Policy 1.1.** Communicate proactively with system users about safety culture.
- **Policy 1.2.** Promote safety culture within agencies, stakeholder organizations, and employers.
- **Policy 1.3.** Implement regulatory changes, including legislative concepts and administrative rule changes, as needed, to provide incentives or remove impediments to developing a multimodal transportation safety culture.



Policies and Strategies

- **Policy 1.1** – Communicate proactively with system users about safety culture.
  - **Strategy 1.1.1** – *Promote safe travel behavior through educational initiatives, focusing on how system user behavior can contribute to a safer transportation system for all.*
  - **Strategy 1.1.2** – *Tailor safety culture marketing and media tools to specific user groups with specific needs (e.g., youth, older travelers, walkers, motorcyclists, bicyclists, minority groups, and different income groups).*
  - **Strategy 1.1.3** – *Continuously evaluate the effectiveness of policies, programs or projects implemented to improve public understanding of safety culture and changes in positive transportation safety behaviors.*
- **Policy 1.2** – Promote safety culture within agencies, stakeholder organizations, and employers.
  - **Strategy 1.2.1** – *Provide transportation and safety leaders and staff with training, information, and education on proven methods to integrate safety into all aspects of the planning, programming, project development, construction, operations, and maintenance processes.*
  - **Strategy 1.2.2** – *Implement best practices for ongoing enhancement of safety culture training, information, and tools within ODOT and across agencies and stakeholders.*
  - **Strategy 1.2.3** – *Coordinate and collaborate with public and private employers to implement work- related transportation safety programs.*
- **Policy 1.3** – Implement regulatory changes, including legislative concepts and administrative rule changes, as needed, to provide incentives or remove impediments to developing a multimodal transportation safety culture.
  - **Strategy 1.3.1** – *Collaborate with state, regional, tribal, county and city transportation and safety agencies, and other stakeholders, to identify unsafe walking, biking, or driving behaviors which could be addressed through legislation. Identify and pursue legislation to modify these behaviors.*

Goal 2: Infrastructure

Background

Transportation infrastructure should be planned, designed, built, operated, and maintained to provide the safest feasible environment for all transportation users. When safety is considered during all of these stages and proven treatments are applied, small user mistakes may not result in serious injuries.

Oregon's transportation infrastructure includes state and local public facilities (streets, freeways, paths, sidewalks, transit, bicycle facilities, signs, lights, traffic signals, interchanges, barrier rail, guard rail, etc.) and other transportation assets, including technology resources that support transportation operations, planning, and decision-making. The design of these facilities influences how people interact with and use the transportation system. People driving, riding, walking and bicycling navigate the transportation system using visual cues, signage, regulations, and their personal expectations about how other people will use the transportation system. Infrastructure for all travelers needs to be planned, designed, constructed, operated, and maintained to clearly convey travel speed and behavior consistent with the surrounding land uses and anticipated users, and to carefully manage interactions and expectations across modes.

Inevitably, crashes will occur, but the transportation system can be planned and designed to limit the severity of crashes. This is achieved by creating environments that minimize potential conflicts within and across modes; planning and designing facilities consistent with the desired context and use of the facilities; and implementing countermeasures with known or high potential to minimize crash severity and frequency.

GOAL: Develop and improve infrastructure to eliminate fatalities and serious injuries for users of all modes.

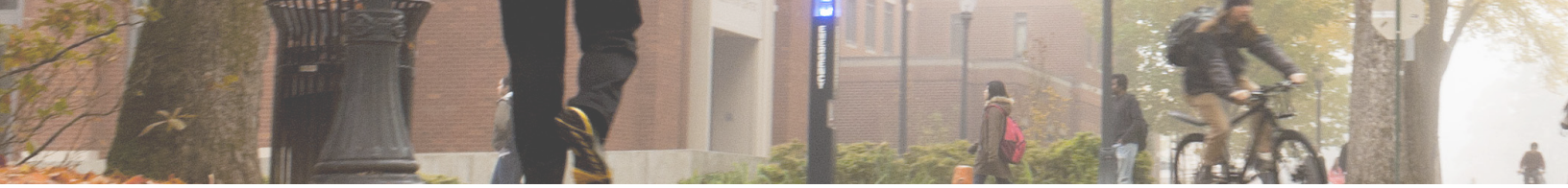
Policies

- **Policy 2.1.** Continually improve and implement safety data collection, management, and distribution for data-driven decision-making for infrastructure planning and development and operations activities, across all divisions at ODOT, and with partner agencies and stakeholders.
- **Policy 2.2.** Continually improve and implement design and analysis techniques for safety-related decision-making in transportation planning, programming, design, construction, operations and maintenance for all modes.
- **Policy 2.3.** Plan, design, construct, operate, and maintain the transportation system to achieve healthy and livable communities and eliminate fatalities and serious injuries for all modes.
- **Policy 2.4.** Implement regulatory changes, including legislative concepts, administrative rule changes, and updates to design standards, as needed, to enable and/or remove impediments to new approaches to safety engineering.

Policies and Strategies

- **Policy 2.1.** Continually improve safety data collection, management, and distribution for data-driven decision-making for infrastructure planning and, development and operations activities, across all divisions at ODOT, and with partner agencies and stakeholders.
  - **Strategy 2.1.1 –** *Develop a strategic plan for safety data enhancement using a coordinated effort with ODOT and partner agencies and stakeholders. Integrate the findings with other strategic data planning efforts at ODOT.*
  - **Strategy 2.1.2 –** *Identify and implement new methods for crash, roadway and exposure (e.g., vehicle, pedestrian and bicycle volume) data collection, sharing, and storage.*
  - **Strategy 2.1.3 –** *Support national safety research and lead state local research to identify opportunities to enhance data analysis techniques and test countermeasures to eliminate fatalities and serious injuries.*
  - **Strategy 2.1.4 –** *Review state crash report forms to ensure appropriate data is collected and extraneous data is eliminated. Provide training and education to state and local enforcement agencies on resulting form(s).*

- **Policy 2.2.** Continually improve and implement design and analysis techniques for safety-related decision-making in transportation planning, programming, design, construction, operations and maintenance for all modes.
  - **Strategy 2.2.1 –** *Update ODOT manuals, guides, processes and procedures, etc., to include quantitative safety analysis in planning, project development and design, programs and maintenance activities.*
  - **Strategy 2.2.2 –** *Implement reactive, risk-based, and predictive safety analysis and tools into all stages of the project development process.*
  - **Strategy 2.2.3 –** *Incorporate quantitative and/or risk-based safety benefits and disbenefits into project prioritization processes.*
  - **Strategy 2.2.4 –** *Develop and monitor planning, program, and project-level performance measures and/or indicators to assess transportation safety outcomes for all modes.*



- **Policy 2.3.** Plan, design, construct or improve, operate and maintain the transportation system to achieve healthy and livable communities and eliminate fatalities and serious injuries for all modes.
  - **Strategy 2.3.1 –** *Implement Practical Design[a] and/or other proven and innovative approaches to address transportation safety issues for all system users.*
  - **Strategy 2.3.2 –** *Plan, design and construct or retrofit facilities for desired operating speed.*
  - **Strategy 2.3.3 –** *Coordinate and collaborate with local jurisdictions to identify community safety concerns and establish solutions.*
  - **Strategy 2.3.4 –** *Educate transportation planning and design professionals on how to incorporate safer context-sensitive designs into community projects.*
  - **Strategy 2.3.5 –** *Implement best practices to eliminate work zone-related fatalities and serious injuries.*
  - **Strategy 2.3.6 –** *Continue to identify and implement best practices related to traffic incident management services to reduce secondary crashes and improve system operations and reliability.*
  - **Strategy 2.3.7 –** *Implement access management practices that improve system safety for all modes consistent with state statutes and rules.*
  - **Strategy 2.3.8 –** *Continue to plan, design and implement best practices for rail safety program and systems management, particularly rail crossings.*
  - **Strategy 2.3.9 –** *Evaluate safety countermeasures for pilot projects and large-scale implementation as appropriate.*
  - **Strategy 2.3.10 –** *Coordinate with freight interests to plan, design, and construct infrastructure that safely accommodates commercial motor vehicles and enhances economic interests.*
  - **Strategy 2.3.12 –** *Collaborate with ODOT Rail and Public Transit Division, transit service providers and researchers to evaluate infrastructure techniques to improve safety for transit riders. Update codes and policies to support best practices.*

- **Policy 2.4.** Support regulatory changes, including legislative concepts, administrative rule changes, and updates to design standards, as needed, to enable and/or remove impediments to new approaches to safety engineering.
  - **Strategy 2.4.1 –** *Work with state, regional, tribal, county, and city agencies to implement best practices in setting design speeds and speed limits.*
  - **Strategy 2.4.2 –** *Work with school districts, state, regional, tribal, county, and city governments and local education interest groups to evaluate and implement best practices for safety in school zones.*

[a] Practical Design is "a systematic approach to deliver the broadest benefit to the transportation system, within existing resources, by establishing appropriate project scopes to deliver specific results." http://www.oregon.gov/odot/hwy/techserv/pages/practical_design.aspx.

Goal 3: Healthy, Livable Communities

Background

Cities and counties plan their transportation systems in relation to planned land uses. Increased interest in livability and providing access to transportation options is leading communities to develop walkable neighborhoods and think more about how infrastructure can be safe, equitable, convenient, and contribute to positive health outcomes. The TSAP provides safety strategies and actions to integrate into local planning and programming activities.

Crashes causing deaths or life-changing injuries are a major public health issue in communities. Effective traffic law enforcement is an important tool for reducing risky behavior and reinforcing safety culture. In addition, timely response by law enforcement and emergency medical responders can lead to decreases in transportation-related fatalities and serious

injuries. With appropriate resources, more emergency medical responders can be trained and made available to respond to crashes in a timely manner and law enforcement can target dangerous behaviors such as speed and impaired driving and implement proven approaches and programs for protecting public safety.

GOAL: Plan, design and implement safe systems; and support enforcement and emergency medical services to improve the safety and livability of communities, including health outcomes.

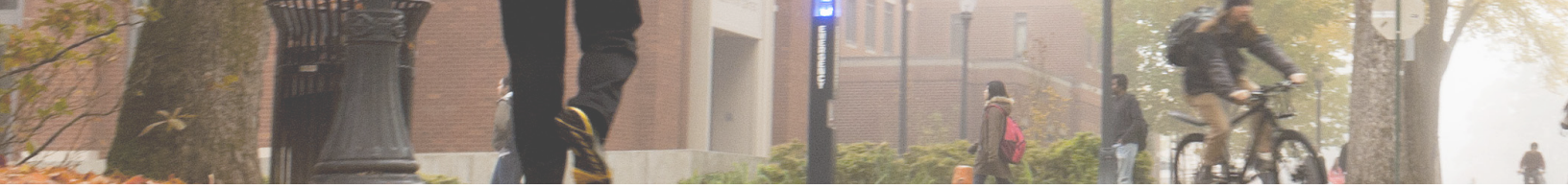
Policies

- **Policy 3.1.** Advance coordination and collaboration between law enforcement and state, regional, tribal, county and city transportation agencies, including freight and rail, public health agencies, mental and physical health care providers, and private stakeholders, to make communities safer places.
- **Policy 3.2.** Support traffic enforcement funding to provide sufficient resources for officers to respond to incidents, increase levels of ongoing traffic enforcement, conduct focused enforcement, and participate in activities such as emphasis patrols.
- **Policy 3.3.** Support emergency medical service (EMS) funding to provide sufficient resources to train first responders and to respond to transportation-related crashes and other medical emergencies fully equipped and in a timely manner.
- **Policy 3.4.** Invest in transportation system enhancements that improve safety and perceptions of security for people while traveling in Oregon.
- **Policy 3.5.** Provide all regions and localities in Oregon with resources and tools to offer programs and education based on local needs and issues, considering issues of equity.

Policies and Strategies

- **Policy 3.1.** Advance coordination and collaboration between law enforcement and state, regional, and tribal, county and city transportation agencies, public health agencies, mental and physical health care providers, and private stakeholders to make communities safer places.
  - **Strategy 3.1.1 –** *Support a data-driven approach to law enforcement, using data analysis to efficiently deploy enforcement resources to locations or corridors.*
  - **Strategy 3.1.2 –** *Support a high-visibility enforcement program increasing traffic, bicycle and pedestrian law enforcement capabilities (priority and funding).*
  - **Strategy 3.1.3 –** *Conduct best practice traffic investigations to reduce traffic delays and to improve quality and timeliness of crash data.*
  - **Strategy 3.1.4 –** *Engage law enforcement in community safety activities such as teaching education classes on safer behaviors.*
  - **Strategy 3.1.5 –** *Conduct education and outreach to law enforcement to increase understanding and enforcement of traffic, commercial vehicle, pedestrian, and bicycle laws.*

- **Policy 3.2.** Support traffic enforcement funding to provide sufficient resources for officers to respond to incidents, increase levels of ongoing traffic enforcement, conduct focused enforcement, and participate in activities such as emphasis patrols.
  - **Strategy 3.2.1 –** *Identify community needs for funding and training to enhance traffic safety programs and enforcement.*



- **Policy 3.3.** Support emergency medical service (EMS) funding to provide sufficient resources to train first responders and to respond to transportation-related crashes and other medical emergencies fully equipped and in a timely manner.
  - **Strategy 3.3.1 –** *Identify community needs for funding and training to enhance EMS systems and improve response times and services. Recognize and address the differing needs of paid and volunteer providers.*
- **Policy 3.4.** Invest in transportation system enhancements that improve safety and perceptions of security for people while traveling in Oregon.
  - **Strategy 3.4.1 –** *Enhance perceptions of bicycling, walking, and transit safety and security by identifying and implementing appropriate facility design, lighting, and other changes to the built environment to improve personal security for pedestrians, bicyclists, and transit riders.*
  - **Strategy 3.4.2 –** *Identify opportunities to improve transportation system redundancy and otherwise safeguard critical infrastructure against natural and manmade disasters.*
- **Policy 3.5.** Provide all regions and localities in Oregon with resources and tools to offer programs and education based on local needs and issues, considering issues of equity
  - **Strategy 3.5.1 –** *Explore methods to distribute and implement safety programs and funding between urban and rural communities to eliminate fatalities and serious injury crashes.*
  - **Strategy 3.5.2 –** *Provide transportation safety educational opportunities for people of all ages, ethnicities, and income levels.*
  - **Strategy 3.5.3 –** *Support adequate funding for EMS particularly in rural and remote areas, to the extent that this is the most efficient use of resources to eliminate fatalities and serious injuries.*
  - **Strategy 3.5.4 –** *Encourage implementation of Safe Communities statewide.*[a]

[a] The Safe Communities model is a long-standing approach to reducing injuries and deaths. It works through engaging local partners who care about safety, using data to identify leading causes of injury, making a plan to address the issues using proven methods and measuring success. There is a Safe Communities America® accreditation program through the National Safety Council. (http://www.nsc.org, accessed March 18, 2016).

Goal 4: Technology

Background

As recently as just a few years ago, safety improvements were focused on changes to transportation design and human behavior. Today, those issues remain critical to address, but incremental changes to infrastructure and automobile technology are shifting the conversation about safety. For example, vehicle fleets are now coming with standard safety features, such as automatic lights, forward collision avoidance systems, backup cameras, blind spot monitoring, lane departure warnings, and other custom features.

Transportation infrastructure also is becoming "smarter," – traffic lights can be synchronized to better address roadway incidents, overhead signs can alert drivers of a crash or provide speed guidance as a function of traffic or weather conditions, and signals can let transit users know when a train or bus is approaching.

Successful, low-cost practices in Oregon include the implementation of intelligent transportation solutions (ITS). ODOT and other transportation agencies, such as MPOs have utilized Closed Circuit Television (CCTV) cameras to quickly and efficiently detect, verify, and plan responses for highway incidents, including crashes. Speed Warning Systems are used to provide information to motorists who are traveling at unsafe speeds and Over-Length Warning Systems use detectors to determine whether approaching vehicles (typically commercial trucks) are too long to safely maneuver a challenging roadway geometry. With the technology in place to implement ITS solutions throughout Oregon, such solutions are increasingly feasible for more regional, tribal, county, and city transportation agencies transportation and safety agencies and stakeholders to expand their use of lower cost technologies. ODOT currently is exploring how and where to deploy ITS solutions more widely in both urban and rural environments.

FINDINGS: The Transportation Safety Action Plan does not directly address transportation safety in the context of recreational lands, but effective safety programs help create conditions for an area to be more likely to appeal to and attract return visits from recreational users. Recreation issues that were discussed during the plan development process included concerns that bike touring maps did not appear to consider bicycle safety on some of their remote routes, and that poor delineation of roadways after sanding and plowing reduced safety for winter visitors as well as locals in snowy regions. Tourists and recreationists also benefit from effective enforcement, education about seasonal safety conditions, road maintenance and emergency services.

The Transportation Safety Action Plan is in compliance with and supports Statewide Planning Goal 8, Recreational Needs.

Goal 9. Economic Development – The purpose of Goal 9 (OAR 660-015-0000(9)) is "To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens."

FINDINGS: The Transportation Safety Action Plan supports economic development by promoting a safe, reliable transportation system. A safe transportation system can provide employees safe and reliable access to jobs, and help attract and retain skilled workers. Safe transportation also supports tourism.

The Transportation Safety Action Plan is in general compliance with and supports Statewide Planning Goal 9, Economic Development.

Goal 10. Housing – The purpose of Goal 10 (OAR 660-015-0000(10)) is "To provide for the housing needs of citizens of the state."

FINDINGS: The Transportation Safety Action Plan does not have direct application to the provision of housing and no issues directly related to meeting housing needs were raised in the plan development process.

The Transportation Safety Action Plan does not affect housing needs or supplies, and so is in general compliance with Statewide Planning Goal 10, Housing.

Goal 11. Public Facilities and Services – The purpose of Goal 11 (OAR 660-015-0000(11)) is "To plan and develop a timely, orderly and efficient arrangement of public facilities and services to serve as a framework for urban and rural development."

FINDINGS: The Goal does not address transportation safety, but improving safety improves the efficiency of the transportation system by reducing incident-related congestion and by supporting the notion that everyone using the transportation system should arrive safely at their destination.

The Transportation Safety Action Plan is in compliance with and supports Statewide Planning Goal 11, Public Facilities and Services.

Goal 12. Transportation – The purpose of Goal 12 (OAR 660-015-0000(12)) is "To provide and encourage a safe, convenient and economic transportation system."

FINDINGS: The purpose of the TSAP is to further encourage safety for all transportation system users.

The Transportation Safety Action Plan is in compliance with and supports Statewide Planning Goal 12, Transportation.

Goal 13. Energy Conservation – The purpose of Goal 13 (OAR 660-015-0000(13)) is "To conserve energy."

Goal 13 states that "land and uses developed on the land shall be managed and controlled so as to maximize the conservation of all forms of energy, based upon sound economic principles."

The Transportation Safety Action Plan is in general compliance with Statewide Planning Goal 17, Coastal Shorelands.

Goal 18. Beaches and Dunes – The purpose of Goal 18 (OAR 660-015-0010(3)) is "To conserve, protect, where appropriate develop, and where appropriate restore the resources and benefits of coastal beach and dune areas; and to reduce the hazard to human life and property from natural or man-induced actions associated with these areas."

FINDINGS: The Transportation Safety Action Plan does not plan for specific land uses or infrastructure that would impact beach and dune resources.

The Transportation Safety Action Plan is in general compliance with Statewide Planning Goal 18, Beaches and Dunes.

Goal 19. Ocean Resources – The purpose of Goal 19 (OAR 660-015-0010(4) is "To conserve marine resources and ecological functions for the purpose of providing long-term ecological, economic, and social value and benefits to future generations."

FINDINGS: The Transportation Safety Action Plan does not plan for specific land uses or infrastructure that would impact ocean resources.

The Transportation Safety Action Plan is in general compliance with and supports Statewide Planning Goal 19, Ocean Resources.

E. TRANSPORTATION PLANNING RULE[40]

OAR 660-012-0000, Transportation Planning Rule Purpose

(1) This division implements Statewide Planning Goal 12 (Transportation) to provide and encourage a safe, convenient, and economic transportation system. This division also implements provisions of other statewide planning goals related to transportation planning in order to plan and develop transportation facilities and services in close coordination with urban and rural development. The purpose of this division is to direct transportation planning in coordination with land use planning to:

(a) Promote the development of transportation systems adequate to serve statewide, regional and local transportation needs and the mobility needs of the transportation disadvantaged;

(b) Encourage and support the availability of a variety of transportation choices for moving people that balance vehicular use with other transportation modes, including walking, bicycling and transit in order to avoid principal reliance upon any one mode of transportation;

(c) Provide for safe and convenient vehicular, transit, pedestrian, and bicycle access and circulation;

(d) Facilitate the safe, efficient and economic flow of freight and other goods and services within regions and throughout the state through a variety of modes including road, air, rail and marine transportation;

(e) Protect existing and planned transportation facilities, corridors and sites for their identified functions;

(f) Provide for the construction and implementation of transportation facilities, improvements and services necessary to support acknowledged comprehensive plans;

(g) Identify how transportation facilities are provided on rural lands consistent with the goals;

[40] Sections of OAR 660-012 that are not referenced in these findings do not apply to long-range planning and/or do not apply to transportation planning by the state.