TSAP Action Completion Plan

This document summarizes the leadership, key stakeholders and actions needed to complete 2016-2020 Oregon Transportation Safety Action Plan Tier 1 Actions. This document also defines success/completion for each Action.

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1. Action Number and Description:

Action 6.10.1: *Evaluate the safety impacts of innovative bicycle facilities. Continue implementing the most effective.*

2. Action Lead:

ODOT Active Transportation Section

3. Key Stakeholders:

Interested parties include the Oregon Bicycle and Pedestrian Advisory Committee, ODOT's Safe Routes to School Advisory Committee, Oregon Walks and the Street Trust.

4. Existing Data Available and Additional Data Needed:

The National Institute for Transportation and Communities (NITC) at Portland State University (PSU) has been a key partner in evaluating the safety impacts of innovative bicycle facilities such as: buffered bike lanes, separated bike lanes (cycle tracks), green conflict markings, bike boxes, left turn queue boxes, road reconfigurations (road diets), and bicycle signals. The National Association of City Transportation Officials (NACTO), Pedestrian and Bicycle Information Center (PBIC) at University of North Carolina, National Cooperative Highway Research Program (NCHRP), and Federal Highway Administration (FHWA) have also conducted significant national research and synthesis of lessons learned on this topic. Many lessons learned on this topic will be incorporated into the upcoming update of the AASHTO Guide for Development of Bicycle Facilities.

Existing data limitations include:

- Limited information on bicyclist exposure (counts) to develop crash rates and evaluate impact of innovate bicycle facilities on usage
- Absence of data on bicyclist crashes not involving a motor vehicle (e.g. caused by poor infrastructure conditions)
- Limited data on crashes involving bicyclists that do not meet DMV reporting thresholds (transport to hospital or $2,500 in damage)

- Limited number of applications of innovative bicycle treatments for study in field

NCHRP Research in progress:

- NCHRP 20-44: Implementation of NCHRP Research Report 893: The Oregon DOT Statewide Pedestrian and Bicycle Safety Implementation Plan Update
- NCHRP 15-63: Guidance to Improve Pedestrian and Bicycle Safety at Intersections (in publication)
- NCHRP 08-102: Bicyclist Facility Preferences and Effects on Increasing Bicycle Trips
- NCHRP 17-84: Pedestrian and Bicycle Safety Performance Functions for the Highway Safety Manual

5. Describe Anticipated Barriers to Success & Proposed Actions to be Taken as a Result of These Barriers:

- Additional detailed design guidance and training is needed for ODOT and local agency planners, designers, and engineers on how to implement innovative facilities such as separated bike lanes (cycle tracks). Designing innovative facilities to accommodate stormwater management, access management, and freight and traffic operations are areas of particular need.
    - ODOT is currently working on developing design guidance for innovative bicycle facilities through the Urban Design Initiative and updates to technical manuals and standard drawings. Active Transportation Unit is also developing a training for ODOT staff on pedestrian and bicycle design issues and exploring opportunities to receive training on these topics from FHWA and other national partners.

- Concern from ODOT and local agency maintenance departments on increased cost of additional striping, green paint, and separator materials needed to implement separated bike lanes and other innovative treatments. Sweeping and plowing separated bike lanes also requires new specialized equipment and additional maintenance labor.
    - Additional resources are needed to address the added maintenance needs associated with building out a complete and safe bicycle facility network and maintaining that network at an acceptable level of service. Maintenance staff would also benefit from additional training on innovative bicycle facilities, maintenance best practices, and cost effective durable materials (e.g. green paint vs thermoplastic vs MMA).

6. Planned Activities and Timelines:

<u>Planning, Design, and Maintenance:</u>

- Region offices will continue evaluating and implementing innovative designs such as road diets, separated bike lanes (cycle tracks, and buffered bike lanes as part of projects, as appropriate.
    - Timeline: ongoing
- Urban Design Initiative- ODOT's Blueprint for Urban Design (BUD) presents a framework to determine the urban context along state roadways. The guide helps practitioners determine performance based design outcomes for each facility based on the urban context and to identify ways in which design flexibility can accommodate vulnerable user needs. Slower speeds, regularly spaced crossings, and other design elements such as separated bicycle facilities and wide sidewalks are considered in the guide as strategies to improve safety and comfort of the anticipated users (bicyclists, pedestrians, and transit riders). The BUD defines the appropriate type of facility for people riding bikes using speed and volume to determine the amount of protection needed. This facility selection process supports the implementation of innovative facilities such as physically protected and buffered bike lanes.
    - Timeline: The final document anticipated early fall of 2019. Implementation activities will begin in the fall of 2019.

- ODOT Active Transportation has begun conversations with Maintenance Leadership Team regarding best practices and potential policies to ensure consistent and clear maintenance expectations for pedestrian and bicycle facilities and to streamline implementation of innovative bicycle facilities.
    - Timeline: ongoing

Safety and Crash Data:

- ODOT's Highway Safety Division is leading an update to the Pedestrian and Bicycle Safety Implementation Plan- This effort will identify and prioritize locations with high risk characteristics that occur across the statewide roadway network. The results of this analysis will be used by the State's HSIP program to select and develop projects to improve safety for pedestrians and bicycles. This effort will also include researching the latest literature on countermeasures and will propose any new measures and update effectiveness of current measures for Oregon.
    - Timeline: Project expected to kickoff fall 2019. Project completion anticipated October 2020.
- ODOT and the Oregon Health Authority have signed a Memorandum of Understanding to explore data sharing opportunities to enhance understanding of transportation related crashes and injuries in Oregon. ODOT's Active Transportation Research Coordinator is also seeking out funding opportunities to evaluate National Emergency Medical Services Information System (NEMSIS) data for additional information on bicycle crashes in Oregon. Reporting to NEMSIS will be mandatory as of January, 1st, 2019 and will become the most comprehensive database of crash injury data in the state making it an ideal data set for comparison purposes. These data include other valuable data elements that can inform the nature of pedestrian and bicycle injuries like home address which can be used to understand outcomes with an equity lens.
    - Timeline: ongoing

Training:

- ODOT's Pedestrian and Bicycle Program is developing a 2-day training course for ODOT staff that will introduce attendees to basics of planning and designing for safe pedestrian and bicycle travel, including information on innovative bicycle facilities. The first day of the course will be in classroom training and the second day of the course will include experiential training walking and biking through areas with innovative bicycle facilities in the field.
    - Timeline: Two one-day experiential trainings completed in Region 1 to date. First 2-day course to be offered in Nov 2019 or February 2020.
- ODOT is developing a series of trainings to assist with rollout and implementation of the Blueprint for Urban Design. This training will include information on application of the new Bike Facility Selection Process and implementation of innovative bicycle facilities.
    - Timeline: Trainings will begin in the fall of 2019.

7. Define Successful Action Completion (May include ongoing activity):

See above.

8. Describe How Equity is to be Addressed:

Vulnerable users are overrepresented in fatal crashes in Oregon and nationwide. Approximately 13% of all trips are made by walking and biking, but over 18% of traffic fatalities are people walking and biking. Additionally, people over the age of 50, who are black or African American, and people in low income neighborhoods are more than 50% more likely to be killed by a motor vehicle while walking than other pedestrians. As part of Urban Renewal and other national and state programs, state DOTs have historically

constructed large, high speed transportation facilities through disadvantaged neighborhoods and subsequently underinvested in basic pedestrian and bicycle facilities and safety improvements in these areas.

The training being developed through the initiatives described above will expand awareness of equity issues related to transportation investment and pedestrian and bicycle safety. They will also build capacity for ODOT and local agencies to plan for and design innovative facilities to help improve safety outcomes in transportation disadvantaged neighborhoods. Efforts to improve and evaluate crash data will allow ODOT to better understand patterns contributing to fatal vulnerable user crashes in communities that are disproportionately impacted.

9. Describe Supporting Information; e.g. Current Trends and Other Factors expected to impact Action:

Blueprint for Urban Design Bicycle Facility Selection Table (based on recent FHWA guide and forthcoming AASHTO Guide update)