

Memorandum

Date: October 22, 2021
To: Caleb Winter, Metro and Scott Turnoy, ODOT
From: Briana Calhoun, Kara Hall, and Chris Grgich, Fehr & Peers
Subject: **2022– 2025 TransPort Work Plan for the 2021 Transportation Systems Management and Operations (TSMO) Strategy**

PT20-0045 ODOT Key 21411

Introduction

The 2021 TSMO Strategy (Strategy) will bolster partnerships for operators of the greater Portland region's roadways, highways, shared-use mobility services, freight, and active transportation facilities to achieve a shared vision.

One group that will have a key role in moving the region towards that shared vision is TransPort. As a subcommittee of the Transportation Policy Alternatives Committee (TPAC), TransPort's purpose is to:

- Share best practices in maintaining and continually improving upon day-to-day transportation operations and smart infrastructure.
- Collaborate on any addition of new and emerging technologies into the region's Intelligent Transportation System (ITS) Architecture to improve upon and expand capabilities and compatibility of regional systems.
- Transfer knowledge and best practices across operators, engineers, and planners.
- Provide an ongoing public forum for implementing Transportation System Management and Operations (TSMO).

While implementation of the Strategy over the next 10 years will require action from many different stakeholders, agencies, and committees within the region, a Work Plan has been developed to identify Actions in the Strategy that can be advanced by TransPort along with the appropriate subgroup to monitor and share progress with the larger group on high-priority and near-term actions in the Strategy.

TransPort Work Plan (2022 to 2025)

The DRAFT TransPort Work Plan is included as **Attachment A** to this memorandum. The Work Plan includes the 10 Actions from the Strategy for which TransPort and its related groups are identified as the best starting place for implementation. Each Action includes anywhere from two to seven smaller Actions that will need to be completed to move the region towards the Vision & Goals documented in the Strategy. It is important to note that how individual Actions and Sub-Actions are achieved will vary. Some may be achieved as the TSMO component of capital projects within the region, while some Actions may occur at the system level through a regional strategy or program requiring new resources to achieve new capabilities described in the Actions. **Figure 1** below, depicts how different groups may be involved in the implementation of TSMO at the system and project levels.

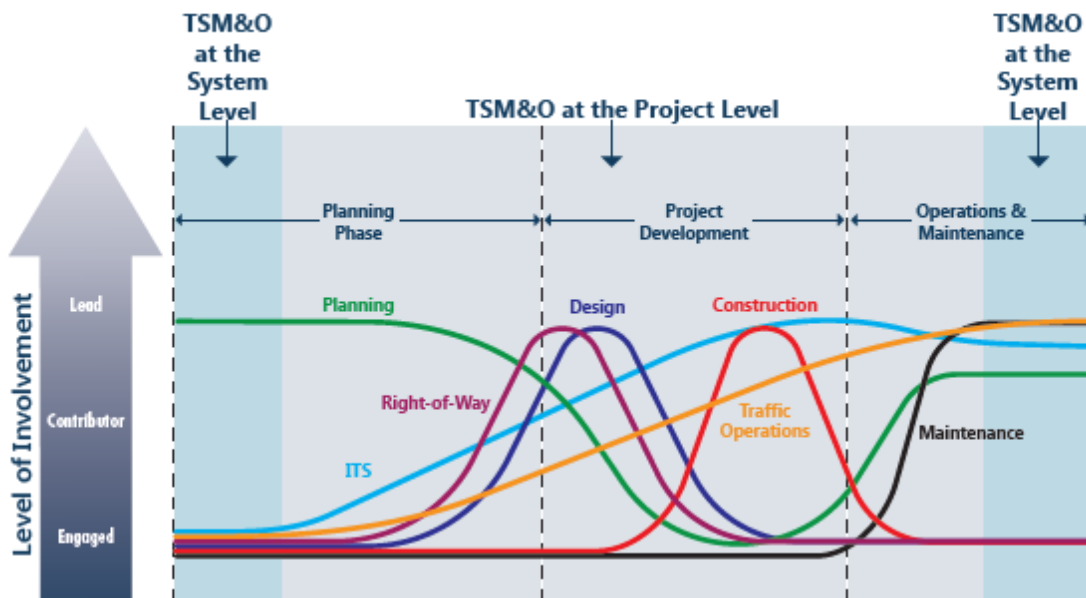


Figure 1. TSMO Program Roles & Responsibilities at the System & Project Levels

Source: The Planning For TSM&O Guidebook

The Work Plan also identifies a Responsible Party, this is the member agency and/or group related to TransPort that is best suited to monitor and report on progress towards each Action. In some cases, new groups that are needed to advance Actions may be identified.

The existing groups within TransPort that are being considered as a potential Responsible Party for the Actions include:

- ITS Architecture Group
- ITS Network Management Team

- PORTAL
- TIM Coalition
- Central Signal System Users Group
- Cooperative Telecommunications Infrastructure Committee
- Integrated Corridor Management (ICM) Data Sharing Task Force **(NEW)**
- Transit & TSMO **(NEW)**

There are also several other groups that are not identified as a group that a TransPort member may chair, but that may be positioned to advance implementation of the Strategy through their current charter. Those include:

- Vancouver Area Smart Trek (VAST) and related Communications Infrastructure Committee (CIC) (Convened by Southwest RTC)
- RITIS Probe Data Users Group (convened by ODOT)
- Emerging Technology Working Group (convened by Metro)
- Portland Freight Committee (convened by PBOT)
- Regional Disaster Preparedness Organization

Lastly, the Work Plan includes the timeline for completion. In some cases, completion of Actions may correspond to planned projects or updates to regional plans, such as the Regional Transportation Plan (RTP), while other Actions may be ongoing over the life of the Work Plan.

**Attachment A.
2022-2025 TransPort TSMO Work Plan (DRAFT)**

<i>Action Statements</i>	<i>Sub-Actions</i>	<i>Leadership</i>	<i>Timeline</i>	<i>Status/ Progress</i>
2. Inventory & Manage Regional Signal & ITS Communication Infrastructure	Create a regional inventory of traffic signal capabilities by location and operator (e.g., connected to central signal system, utilizing Next Generation Transit Signal Priority, serving freight, sensing bike and ped movements).			
	Using the inventory, plan for a high quality, reliable, and redundant signal communication network by identifying gaps and prioritizing projects.			
	Upgrade traffic signals and communication networks on regionally significant corridors to meet the needs of advanced applications such as Next-Generation Transit Signal Priority (NextGen TSP) and Automated Traffic Signal Performance Measures (ATSPM) that require Advanced Transportation Controllers (ATCs) and fiber optic communication.			
	Monitor and address signal performance on regionally significant corridors by identifying performance issues such as freight delay, transit delay, or high pedestrian and bicycle traffic stress.			
4. Manage Transportation Assets to Secure the Network	Secure the network from natural disasters, cyber-attacks, and other disruptions by physically securing signal cabinets, junction box, and other infrastructure on critical communication corridors to reduce unscheduled downtime.			
	Identify equipment approaching the end of life and replace it proactively.			
7. Continue Freight Technology and ITS Deployment	Utilize existing and pilot new freight ITS technologies to identify solutions to optimize freight operations and improve safety on critical corridors, such as optimizing progression for trucks, progress to pilot programs, freight dilemma zone detection and green extension.			
	Share TSMO-generated data resources broadly with start-ups and established freight services.			

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8. Facilitate Ground Truthing of Emerging Technology	Collaborate with ODOT on the connected vehicle infrastructure environment to reduce pedestrian related collisions.			
	Explore best practices for collision avoidance systems, policy implications, and implementation.			
	Create a readiness training program for the region to evaluate and prepare for risks from technology, economic, and ecological disruptions.			
	Identify solutions to changes in growth patterns, travel behavior, and other non-emergency travel trends.			
	Partner to increase mobility with electric vehicle (EV) adoption, including e-bikes, shared vehicles and fleets. EVs relate to connectivity index in equity focused areas, downtowns (Regional and Town Centers), main streets and employment areas.			
	Collect and evaluate safety and operational performance metrics for multimodal users (including pedestrians, bicyclists, and transit) through emerging detection technologies			
	Partner with regional university transportation research centers in identifying and implementing projects exploring emerging technologies and data sources.			
9. Establish a Regional Transit Operators TSMO Group	Identify transit stops on high frequency routes without real time bus information technology, prioritize improvements, and complete high priorities.			
	Coordinate with ODOT Rail Crossing Safety Unit to identify and implement mitigations at transit and train at grade rail crossing locations with a history of collisions.			
	Review Regional NextGen Transit Signal Priority (TSP) projects and develop a coordination standard for deploying TSP throughout the Region.			
	Coordinate with TriMet to identify TSMO solutions to support a bus on shoulder implementation plan, building on lessons learned from I-5/I-205 pilot program. Inform and review speed and reliability project need and solutions.			
	Create a standard for reviewing and deploying new technology.			

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11. Develop an ITS travel time Information Data Collection and Distribution Plan for RDPO Regional Emergency Routes	Coordinate with agency partners to identify bottlenecks on RDPO Regional Emergency Transportation Routes, Oregon State Seismic Lifeline Routes and routes lacking redundancy and develop TSMO solutions to address these.			
	Model strategies to reduce emergency response times and evacuation scenarios through technology or other actions.			
	Create an Emergency Route travel time data collection plan. The plan should: -Identify ITS travel time information data collection and distribution gaps on RDPO Regional Emergency Transportation Routes and Oregon State Seismic Lifeline Routes to inform detour routing decisions and provide alternative route information during evacuations. -Prioritize data collection and distribution gaps on RDPO Regional Emergency Transportation Routes and Oregon State Seismic Lifeline Routes. -Install data collection and distribution infrastructure on RDPO Regional Emergency Transportation Routes and Oregon State Seismic Lifeline Routes.			
14. Create a Continuous Improvement Process for Existing and New Signal Systems and Related Performance	Outline and begin continuous improvement process for signal systems and new concepts that serve major arterials and high-injury corridors. The continuous improvement process will utilize systems engineering from concept of operations through retirement of legacy systems and prioritize solutions based on effectiveness and costs.			
	In coordination with asset managers, inventory automatic traffic recorder stations, ATC controllers, and detection sensors (location, status, age, and operability). Identify through corridors and major arterials that do not currently have travel time information collection by mode to identify gaps existing system. Create a plan to mitigate identified gaps by completing high priority projects targeted for either technological upgrades (sensors, automatic traffic recorders, etc.) or crowd sourced data.			
16. Implement Integrated Corridor Management as a Component of Corridor Planning	Establish a multimodal detour policy across agencies. Define lines of communication and pre-plan emergency needs by rehearsing scenarios for a variety of events impacting operations. Provide job shadow and training experiences.			
	Create a data sharing policy and inter-agency(s) agreement with agency partners to incorporate data into PORTAL or another identified internal sharing system. Share construction schedules across agencies.			
	Implement a decision support system, employing forecast models as a tool to support regional decision making. Beginning with the next RTP update, consider corridor needs that can be met through ICM based on regional efforts and FHWA guidance and local operators.			

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20. Build and use a TSMO Toolbox	Calculate a Connectivity Index of existing pedestrian and bicycle infrastructure that includes community-voiced barriers, inventories of low stress facilities, and other identified gaps in the system. Create a toolbox that considers how pedestrian and bicycle modes interact with signals, illumination, and transit connections, while also the disparities experienced by Black, Indigenous, people of color, and people with low incomes. Prioritize investments using the toolbox to afford complete treatment to address disparities in connectivity.			
21. Update the Regional ITS Architecture	Collaborate on updates to the Regional ITS Architecture by reviewing changes on a quarterly basis and adjusting every two years to include innovations in the national and statewide architecture.			