Potential Mobility Policy Elements and Most Promising Performance Measures to Consider for Testing

Metro and the Oregon Department of Transportation (ODOT) are working together to update the policy on how we define and measure mobility in the Portland region in the Oregon Highway Plan (OHP), Regional Transportation Plan (RTP), local transportation system plans (TSPs) and corridor plans, and during the local comprehensive plan amendment process.

This document summarizes the potential mobility policy elements and most promising performance measures to consider for testing. Throughout April and May, Metro and ODOT will engage the Metro Council, regional advisory committees (JPACT and the Metro Policy Advisory Committee), county coordinating committees (staff and policy-levels), and other stakeholders to seek feedback on the key policy elements and most promising measures identified to date.

Potential Mobility Policy Elements

The project team reviewed existing state and regional policy documents and past stakeholder input from the 2018 Regional Transportation Plan update, development of the Get Moving 2020 funding measure and the Scoping Engagement Process for this effort. Based on this review and subsequent feedback received through two workshops with the Transportation Policy Alternatives Committee (TPAC) and Metro Technical Advisory Committee (MTAC) in fall 2020, five key transportation outcomes were identified as integral to how we view mobility in an urban environment, specifically in the Portland region:

- **Access** - All people and goods can get where they need to go.
- **Time Efficiency** – People and goods can get where they need to go in a reasonable amount of time.
- **Reliability** - Travel time is reliable or predictable for all modes.
- **Safety** - Available travel options are safe for all users.
- **Travel Options** - People can get where they need to go by a variety of travel options or modes.

TPAC and MTAC also provided feedback on criteria to be used to screen and select potential mobility performance measures for testing that address one or more mobility policy elements. Since January 2021, the Consultant team applied the criteria through a four-step process to narrow a list of 38 potential mobility measures to 12 potential mobility measures that appear most promising for testing through case studies this summer. The screening process is summarized on page 2.

Most Promising Performance Measures to Consider for Testing

The most promising performance measures to consider for testing are shown below. As a group, the measures cover all modes. Seven of the 12 measures relate to more than one mobility policy element. Seven of the measures can be used for both system planning and plan amendments, the focus of this regional mobility policy update.

		Mobility Policy Elements					Planning Applications		
ID	Measure	Access	Time Efficiency	Reliability	Safety	Travel Options	System Performance/ Scenario Testing/Target	Needs Identification/ Project Identification	Plan Amendments/ Standard
13A	Multimodal Level of Service (MMLOS)	●			●	All modes		●	
13B	Level of Traffic Stress (LTS)	●			●	Bike, Pedestrian		●	●
15	Pedestrian Crossing Index	●	●		●	Pedestrian		●	●
24	System Completeness	●			●	All modes	●	●	●
27	Travel Speed			●	●	Vehicle, Freight, Transit	●	●	●
2	Accessibility to Destinations	●				All modes	●	●	
10	Hours of Congestion/Duration of Congestion		●	●		Vehicle, Freight, Transit	●	●	●
29	Travel Time Reliability (Planning and Buffer Travel Time Indexes)			●		Vehicle, Freight, Transit	●	●	●
36	VMT per Capita		●		●	Vehicle, Freight, Transit	●	●	
28	Travel Time		●			All modes	●	●	●
38	V/C for Roadway Links		●			Vehicle, Freight	●	●	●
37	Volume-to-Capacity Ratio (V/C) at Intersections		●			Vehicle, Freight		●	●

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Together, the technical screening process and stakeholder input will help shape staff's recommendation to JPACT and Council on the key policy elements and measures recommended for testing through case studies.

Screening Process Leading to Most Promising Mobility Measures For Testing

Step 2: Ranked Measures	Step 3: Top Scoring from Each Element	Step 4: Most Promising Mobility Measures for Testing
• Multimodal Level of Service (MMLOS)	• **Multimodal Level of Service (MMLOS)**	• **Multimodal Level of Service (MMLOS)**
• Level of Traffic Stress (LTS)	• **Level of Traffic Stress (LTS)**	• **Level of Traffic Stress (LTS)**
• Pedestrian Crossing Index	• **Pedestrian Crossing Index**	• **Pedestrian Crossing Index**
• System Completeness	• **System Completeness**	• **System Completeness**
• Bicycle/Pedestrian Network Directness/Connectivity	• **Bicycle/Pedestrian Network Directness/Connectivity[1]**	• Bicycle/Pedestrian Network Directness/Connectivity
• Travel Speed	• **Travel Speed**	• **Travel Speed**
• Accessibility to Destinations	• **Accessibility to Destinations**	• **Accessibility to Destinations**
• Person Throughput	• **Person Throughput[2]**	• Person Throughput
• Accessibility to Employment	• Accessibility to Employment	• Mode Share
• Accessibility to Transit	• Accessibility to Transit	• **Hours of Congestion/Duration of Congestion**
• Mode Share	• **Mode Share[3]**	• Freight Delay
• Opportunity Index	• Opportunity Index	• Vehicle Miles Traveled (VMT)
• Hours of Congestion/Duration of Congestion	• **Hours of Congestion/Duration of Congestion**	• **Travel Time Reliability (Planning and Buffer Travel Time Indexes)**
• Freight Delay	• **Freight Delay[4]**	• **VMT per Capita**
• Vehicle Miles Traveled (VMT)	• **Vehicle Miles Traveled (VMT)[5]**	• **Travel Time**
• Travel Time Reliability (Planning and Buffer Travel Time Indexes)	• **Travel Time Reliability (Planning and Buffer Travel Time Indexes)**	• **V/C for Roadway Links**
• Transit Ridership	• Transit Ridership	• **Volume-to-Capacity Ratio (V/C) at Intersections**
• VMT per Capita	• **VMT per Capita**	
• Travel Time	• **Travel Time**	
• Person Capacity	• Person Capacity	
• Vehicle-Bicycle Crashes	• Vehicle-Bicycle Crashes	
• Vehicle-Pedestrian Crashes	• Vehicle-Pedestrian Crashes	
• V/C for Roadway Links	• **V/C for Roadway Links**	
• Accessibility to Freight Terminals, Ports, and Industry	• Accessibility to Freight Terminals, Ports, and Industry	
• Percent System Reliable	• Percent System Reliable	
• Person Hours of Travel (PHT)	• Person Hours of Travel (PHT)	
• Person Miles Traveled (PMT)	• Person Miles Traveled (PMT)	
• Queuing	• Queuing	
• Recurring Delay/Non-Recurring Delay	• Recurring Delay/Non-Recurring Delay	
• Vehicle Hours of Delay (VHD)/Peak Hour Excessive Delay	• Vehicle Hours of Delay (VHD)/Peak Hour Excessive Delay	
• Congestion Extent	• Congestion Extent	
• Fatal and Serious Injury Crashes and Crash Rates	• Fatal and Serious Injury Crashes and Crash Rates	
• Total Crashes	• Total Crashes	
• Percent of Congested Traffic	• Percent of Congested Traffic	
• AADT/Capacity	• AADT/Capacity	
• Trip Length/Trip Length Distributions	• Trip Length/Trip Length Distributions	
• Level of Service	• Level of Service	
• Volume-to-Capacity Ratio (V/C) at Intersections	• **Volume-to-Capacity Ratio (V/C) at Intersections**	
• Vehicle Hours Traveled (VHT)	• Vehicle Hours Traveled (VHT)	
38 measures	**17 measures**	**12 measures**
Note: All measures ranked by screening criteria ranking.	Note: Top scoring measures for each mobility policy element based on screening criteria ranking in previous step.	Note: Further narrowing of the top scoring potential measures based: on ease of analysis, suitability to multiple applications, direct correlation to mobility, and overlap with other elements.

[1] Removed because of its similarities to System Completeness and Accessibility to Destinations.
[2] Although a useful corridor-level metric, removed because is a difficult to apply.
[3] Removed because it is an outcome and goal for the region, rather than a direct measure of mobility.
[4] Removed because of its similarity to Hours/Duration of Congestion..
[5] Removed because VMT per capita better reflects impacts to mobility.