

## TECHNICAL MEMORANDUM

April 11, 2024

Project# 29087

To: Zachary Horowitz, PE | ODOT

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CC: Garth Appanaitis, PE | DKS Associates

RE: TPR Modeling and Analysis Guides Update

Tech Memo #8: Summary of Prior Performance Measures and  
Performance Standards Projects

This memorandum summarizes a review of four recent performance measure and performance standard projects. The purpose of this review was to identify key findings that may guide identification and evaluation of potential supplementary performance measures to address recent Oregon Administrative Rules (OARs) changes related to DLCD's Climate Friendly and Equitable Communities (CFEC) rulemaking process. The review was completed for the following projects/documents:

- Metro Regional Mobility Policy (RMP) Update project
- Oregon Highway Plan (OHP) Mobility White Paper
- ODOT Transit Development Planning Guidebook
- ODOT Pedestrian and Bicycle Performance Measures Report

The following text provides a high-level summary of each document, the purpose of the document, the intended audience, and key findings. Any metrics that are included in the following documents will be considered for the list of potential performance standards in Tech Memo #9: Performance Measures and Performance Standards Framework. The key findings and evaluation criteria discussed for each document will be considered for the recommended evaluation criteria established in Tech Memo #9.

## METRO REGIONAL MOBILITY POLICY UPDATE PROJECT

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### Purpose

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The Metro RMP Update project was completed in January 2023. The project identified a draft new RMP to be tested and applied through Metro's upcoming 2023 Regional Transportation Plan (RTP) update project. Pending approval by

the Joint Policy Advisory Committee on Transportation, the Metro Council, and the Oregon Transportation Commission, the RMP will be adopted through the 2023 RTP adoption process and then incorporated into Policy 1F of ODOT's OHP.

The RMP applies to system planning and plan amendment processes only within the Portland metropolitan area. The RMP is one of many policies that helps the region choose where to focus resources and how to manage the transportation system today and into the future. The goal of this updated mobility policy is to better align the policy and measures with shared regional values, goals, and desired outcomes identified in the RTP and 2040 Growth Concept, as well as with local and state goals. Specifically, the updated policy is intended to support mobility outcomes related to equity, efficiency, access and options, safety, and reliability. Six policies and three measures are included in the draft RMP that have direct relationships to their desired mobility outcomes.

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## Summary

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The Metro RMP Update project was completed in January 2023, although the end product was a draft RMP that will be further tested and refined through the RTP update process. In addition to the draft RMP document, there are several materials from the project that are relevant when considering performance measures and performance standards. The most relevant project materials are the:

- Screening and Evaluation Criteria Memorandum
- Best Practices Memorandum
- Potential Mobility Policy Elements Memorandum
- Most Promising Mobility Measures for Testing Memorandum
- Most Promising Mobility Measures: Methodologies & Preliminary Evaluations Memorandum
- System Planning and Plan Amendment Case Study Analysis Memorandum
- Case Study Example of Plan Amendment Process
- VMT/Capita Reduction Target Example
- Draft Regional Mobility Policy for the 2023 Regional Transportation Plan

These materials are described below and included in Attachment A. They summarize the process that the project team completed to develop the draft RMP. In developing the updated policy and measures, the consultant

team identified 38 performance measures in the Best Practices Memorandum for evaluating access, time efficiency, reliability, safety, and travel options. These were screened down to 12 measures in the Most Promising Mobility Measure for Testing Memorandum, which were further evaluated and tested through the case studies. Finally, the measures were further screened down through the case studies to three measures for inclusion in the RMP. The Draft Regional Mobility Policy for the 2023 Regional Transportation Plan established the draft RMP to support the desired outcomes and mobility policy elements.

## **Screening and Evaluation Criteria Memorandum**

This memorandum provided the draft screening and evaluation criteria used to select potential mobility policy performance measures. An initial set of screening criteria were used to select performance measures for testing that aligned with the desired outcomes of the mobility policy, including:

- Addressed multiple desired outcomes
- Access to opportunities, social connections, and goods
- Travel choices
- Reliable and efficient mobility
- Equity
- Climate change and air quality
- Safety
- Land use
- Fiscal stewardship

Once the screening criteria selected measures that aligned with the desired mobility policy outcomes, a different set of evaluation criteria were used to evaluate performance measures during the case studies and included:

- Technical feasibility and clarity
- Appropriateness for intended applications and different scales
- Legal defensibility
- Emerging best practice
- Ability for ODOT, Metro, and local agencies (alone or working together) to impact outcome/show progress
- Comparison between alternatives
- Flexibly based on geographical and roadway functional context

The outcome of this memo was establishing the criteria to screen and then evaluate the potential mobility performance measures.

### **Best Practices Memorandum**

This memorandum identifies 38 potential performance measures related to the mobility policy elements. The measures are sorted by the mobility policy element(s) they relate to, with additional information about where, for whom, when, why, and for what types of applications they can be applied. Attachment A of this memorandum includes a glossary for all the performance measures.

The outcome of this memo was establishing an initial list of potential mobility performance measures to then go through the screening process and then an evaluation process.

### **Potential Mobility Policy Elements Memorandum**

This memorandum reviewed potential mobility policy elements that would guide the direction of the RMP update. This includes exploring different approaches to combining the elements. Through workshops and discussions with interested parties, the project team identified five mobility policy elements that help define the desired outcomes of the RMP. There is no single definition of mobility, and this document helps define mobility for the Metro region to support an updated RMP. The identified mobility policy elements are:

- Access
- Time efficiency
- Reliability
- Safety
- Travel options

The outcome of this memo was selecting policy elements and outcomes that the mobility policy needs to measure and impact. The mobility elements were critical to help shorten the list of potential mobility performance measures.

## **Most Promising Mobility Measures for Testing Memorandum**

This memorandum describes the process used to screen down the 38 potential performance measures to the 12 most promising performance measures to test through the case studies. The process utilized the screening criteria established earlier in the project. The potential performance measures were given screening rankings and the project team identified the top scored measures for each mobility policy element to help pare down the list.

The outcome of this memo was utilizing the screen criteria to shorten the list of potential mobility performance measures. The TPR Modeling and Analysis Guides Update project team could use a similar process for screening potential performance standards based on the OAR objectives.

## **Most Promising Mobility Measures: Methodologies & Preliminary Evaluations Memorandum**

This memorandum provides a preliminary evaluation for each of the 12 most promising performance measures. Key questions answered include:

- Which performance measures best support the region's desired mobility outcomes?
- Which performance measures best meet the region's technical needs?
- Which performance measures work best for different planning applications?

The memorandum includes recommendations of which measures to still consider for each planning application and key questions that the project team wanted to explore through the case studies. Additionally, Attachment A of the memorandum includes a factsheet for each of the 12 performance measures evaluated, which include:

- Duration of congestion
- Queuing
- Throughput (person and goods)
- Travel speed
- Travel time
- Travel time reliability

- VMT/capita
- Access to destinations/opportunity
- Level of traffic stress
- Multimodal level of service
- Pedestrian crossing index
- System completion

The TPR Modeling and Analysis Guides Update project team can utilize the factsheets from this memo when creating the toolbox of potential performance standards.

## **System Planning and Plan Amendment Case Study Analysis Memorandum**

This memorandum summarizes analysis output and findings for system planning plan amendment case studies. Key questions reviewed include:

- How well does the measure help compare outcomes in Equity Focus Areas (EFAs) to other areas?
- How sensitive is the measure to changes in land use?
- How could measures that are not sensitive to land use changes be applied in plan amendments?
- Does Metro's Dynamic Traffic Assignment (DTA) model identify different needs than the travel demand model at the system level? Does it offer significantly different post-processed intersection volumes?

Eight performance measures were tested through the case study applications. Key findings about applying the individual measures are provided. Additionally, Attachment A of the memorandum provides more detail about the case study analysis.

The TPR Modeling and Analysis Guides Update project team can utilize the case study applications from this memo when creating the toolbox of potential performance standards.

## **Case Study Example of Plan Amendment Process**

This memorandum reviews example completed plan amendments to consider if the proposed plan amendment would have had a "significant impact" based on the draft updated RMP. "Significant impact" is proposed to be based off of VMT/capita and could trigger further evaluation of the other mobility policy

measures. These examples highlight how a policy with multiple measures could be implemented.

The TPR Modeling and Analysis Guides Update project team can utilize the plan amendment process shown to consider impacts of using multiple performance standards. It is recommended that one standard is used to specifically consider “significant impact” so that there are not conflicting evaluations of whether there is an impact based on which standard is used.

### **VMT/Capita Reduction Target Example**

This memorandum shows an example of how to apply the VMT/capita and VMT/employee measures for an imaginary district. The example shows the target for this imaginary district to illustrate how to evaluate the measures and consider when a model would need to be used.

The memo recommends to run the Regional Travel Demand Model when evaluating system plans or plan amendments that include elements that both increase and decrease VMT/capita. For example, a plan amendment may add housing to areas that have higher VMT/capita than the regional average, resulting in higher VMT/capita within the District, while also adding services and retail capacity that would reduce the distances residents need to drive to meet their needs. Another scenario when to run the model is when evaluating changes outside of the plan area due to changes within the plan area, such as changes within a single TAZ affecting the District where it's located.

### **Draft Regional Mobility Policy for the 2023 Regional Transportation Plan**

This document provides the draft updated RMP that will be further tested in the RTP update process. The documented desired mobility outcomes of the policy include:

- Equity
- Efficiency
- Access and options
- Safety
- Reliability

The performance measures incorporated into the policy include:

- VMT/Capita for home-base trips and VMT/Employee for commute trips to/from work
- System completeness
- Hours of congestion

The performance measures are used differently depending on the scale of application, such as when developing a transportation system plan versus when evaluating a land use decision, and where they are applied for system planning or plan amendments. This document includes the performance measure targets based on application type and further delineated by RTP motor vehicle designation for hours of congestion.

The document outlines the process for applying the multiple performance measures for both system planning and plan amendments. This includes identifying other guidance documents to be used as well.

Lastly, the document includes a draft implementation plan, highlighting what Metro, ODOT, and its partners will need to accomplish in 2023, 2024, and 2025 and beyond to bring the draft RMP into use throughout the region.

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## Intended Audience

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Materials from the Metro RMP Update project were intended to be used by Metro staff, ODOT staff, and agency partners working together to update the RTP and RMP.

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## Key Findings Related to Performance Measures

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Key findings from Metro RMP Update project include:

- When a performance measure is applied at different geographic scales and through different application processes, there is potential for unintended consequences.
- Performance measures should be based on desired outcomes that an agency wants to monitor.
- Data availability and feasibility of analysis tools are important considerations. These aspects could remove a potential performance measure from the list or help identify future agency needs to address limited data or missing tools to invest in.



- Not all measures are easily applied as a standard. At the system-level, a measure may be applied as a target, with assessment whether a system is trending appropriately or if a project is projected to move the system closer to the target.
- When there are multiple performance measures, it is recommended to use one standard for each application and/or geographic scale.

## OREGON HIGHWAY PLAN (OHP) MOBILITY WHITE PAPER

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### Purpose

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The OHP Mobility White Paper was created to review the current mobility policy in advance of the OHP and Oregon Transportation Plan (OTP) updates. The white paper reviewed the history of the mobility policy, evaluated current use and shortfalls, and identified potential approaches for updated the policy as part of upcoming state plan updates.

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### Summary

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The OHP Mobility White Paper was finalized in August 2020. Section 1 includes an introduction of the current mobility policy and its challenges. This section also highlights update considerations and provides an overview of the white paper.

Section 2 discusses the Oregon highway system, including goals of the highway system and how it is currently planned.

Section 3 provides an overview of the history, revisions, and implementation of the current mobility policy. This section also describes the process for developing alternative mobility targets with examples of where they have been applied.

Section 4 discusses the different ways to define and measure mobility. This section includes mobility policies and measures from other agencies around the country, supplemented by Attachment D of the white paper.

Section 5 summarizes five approaches for how the mobility policy could be updated, ranging from no change to amending the Transportation Planning Rule (TPR). Key considerations for the mobility policy update and the OHP update are provided.

The full paper and its supporting factsheet are provided in Attachment B.

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## Intended Audience

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The OHP Mobility White Paper was intended to be used by ODOT staff to help inform scoping for the OHP and OTP updates related to the mobility policy.

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## Key Findings Related to Performance Measures

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Key findings from the OHP Mobility White Paper include:

- The current mobility policy has perceived benefits that users appreciate:
  - Provides clear and measurable standards
  - Is easy to use and explain
  - Ensures vehicular impacts of development are evaluated and discussed for state facilities
- Based on feedback provided during the project, the current policy has perceived issues that frustrate users, including ODOT staff, local agency staff, developers, and consultants:
  - Is not multi-modal and does not account for the overall system
  - Does not adequately reflect current and future needs of the transportation system and the surrounding community
  - Does not provide flexibility
  - Does not reflect fiscal constraints
  - Does not always align with other state goals and policies
- Consideration should be given to how a performance measure is applied, especially if it is used for several processes such as the current mobility policy measure of vehicular volume-to-capacity ratio (v/c). This current policy has unintended consequences in some communities.
- The project team evaluated 17 key performance measures related to safety, preservation, mobility, and stewardship. The measures were evaluated for their ability to address various dimensions of mobility, focusing less on eliminating peak-hour congestion and more on improving mobility as a whole. This highlighted how “mobility” as a term can be defined in many different ways, which impacts which measures to use and what outcomes an agency is trying to impact. When selecting performance standards, agencies are recommended to fully consider what outcomes they want to move toward.

# ODOT TRANSIT DEVELOPMENT PLANNING GUIDEBOOK

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## Purpose

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ODOT's Transit Development Planning Guidebook was created to provide guidance to Oregon's transit providers when preparing a Transit Development Plan (TDP) or Transit Master Plan (TMP). The guidebook documents what a TDP should do and what a TDP could do, detailing the recommended process to follow in the development of the plan.

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## Summary

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ODOT's Transit Development Planning Guidebook was finalized in January 2018. Chapters 1 through 3 are introductory, defining a TDP and how it works with other plans, discussing the process for scoping and preparing to create a TDP, and considerations about what and why to include specific elements in a TDP.

Chapter 4 describes how to involve interested parties and conduct outreach.

Chapter 5 guides the development of the vision and goals for the transit system. This chapter also discusses performance measurement as a valuable tool for transit providers to understand if the transit services are meeting their vision and goals. The guidebook includes tips for determining performance measures and performance targets, providing a recommended core set of performance measures in the example TDP outline in Appendix C of the guidebook.

Chapters 6 through 9 outline the analysis and assessment steps of the process, including determining baseline conditions, assessing needs, developing alternatives, and assessing the financial context and potential scenarios.

Chapter 10 provides guidance for making recommendations and an implementation plan, supported by Chapter 11's guidance on documentation. As noted in the guidebook, "The implementation plan should cover each alternative that moves forward from Chapters 8 and 9."

Lastly, Chapter 12 discusses other components and studies that could be included in a TDP, such as visioning and goal-setting, development of a performance measurement program, development of transit design standards,

comprehensive operations assessment, Title VI program, development of a transit asset management plan, proposed amendments to local codes and plans, development of a park-and-ride program, and review of governance and/or administrative structure.

The full report is provided in Attachment C.

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## Intended Audience

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As stated in the document, "...this guidebook is intended to benefit transit provider staff from multiple departments, Oregon Department of Transportation (ODOT) staff, local government staff and decision-makers, regional agency staff and decision-makers, and members of the community who are invested in the success of the transit system."

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## Key Findings Related to Performance Measures

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ODOT's Transit Development Planning Guidebook includes several key findings related to performance measurement, including:

- When setting performance targets, it is important to be realistic but visionary.
- As noted in the guidebook, "A transit provider can and should consider available and anticipated funding sources when establishing performance targets. Funding constraints may force providers to choose between frequency and service coverage, between a focus on regional or local service, or between conditions that are optimal for riders and those that are optimal for providers (e.g., desirable passenger loads). At the same time, the targets must represent what the community wants the transit system to become. Performance targets inform needs assessment in the TDP, and needs assessment should be visionary as well as realistic."
- The guidebook also stresses the importance of establishing performance measures that are objective and that rely on available high-quality data.
- The number of performance measures should not be overwhelmingly high, even when trying to reflect multiple aspects of transit performance. The guidebook did not make a specific recommendation about the number of performance measures to use.

- When performance measures and reporting are completed outside of the agency (such as through the National Transit Database), it is important to understand how the information is measured and calculated so that the agency understands how to impact the outcomes and move toward targets.

## ODOT PEDESTRIAN AND BICYCLE PERFORMANCE MEASURES REPORT

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### Purpose

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ODOT's Pedestrian and Bicycle Performance Measures Report was created to establish new performance measures that help ODOT understand the impacts of agency decisions on people walking and biking. The previous pedestrian and bicycle performance measures were not aligned with ODOT's goals of improving safety and accessibility for people walking and biking across the state, which made them ineffective in supporting long-term decision-making. In particular, ODOT was interested in replacing the previous Key Performance Measure (KPM) used to report pedestrian and bicycle progress to the legislature because they weren't representing the progress and investments that were being completed to the pedestrian and bicycle systems.

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### Summary

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ODOT's Pedestrian and Bicycle Performance Measures Report was finalized in September 2021. The first section of the report discusses why ODOT needed new performance measures for people walking and biking.

Second, the report outlines how the project team determined the new performance measures. Over approximately a year and half, the project team worked with ODOT staff, agency partners, university partners, an advisory committee, and interested parties to identify desired outcomes and select new performance measures. This process included review of best practices and current ODOT practices, evaluation of currently available data and potential measures, recommendation of new measures, and development of methodologies, a data collection strategy, and an implementation framework.

The next section of the report outlines the desired outcomes (informed by the Oregon Pedestrian and Bike Plan) that the project team and the advisory committee determined could be measured for walking and biking in Oregon. These desired outcomes were the basis for the new recommended performance measures.

The fourth section of the report described the 10 new performance measures developed by the project team and advisory committee. The performance measures are grouped by the desired outcome they help track. They are also split into near-term and future performance measures. Near-term measures can be implemented immediately, while the future measures require data that is not currently available but that ODOT is preparing to invest in or collect in the future. This section of the report also includes layouts reporting the available yearly data and target for each new near-term performance measure. The full methodologies for the new performance measures are documented in Appendix A of the report.

The last section of the report discussed the importance of data for tracking investments and their impacts. It is recommended that ODOT create a statewide pedestrian and bicycle count program and a statewide repository and inventory of walkways and bikeways of infrastructure owned by all agencies across the state. A Non-Motorized Data Management Strategy is documented in Appendix B of the report.

The full report is provided in Attachment D.

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## Intended Audience

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ODOT's Pedestrian and Bicycle Performance Measures Report is intended to be used primarily by ODOT staff who run the Pedestrian & Bicycle Program and who support annual performance measure reporting.

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## Key Findings Related to Performance Measures

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ODOT's Pedestrian and Bicycle Performance Measures Report includes a section about what makes a good performance measure, including:

- Predictable
- Directly related to agency program and policy goals
- Can be applied in a consistent manner by many people
- Measures outcomes the agency has some level of control over
- Appropriate for the level of decision being made
- Data is feasible to collect and analyze
- Easy to understand
- Meaningful and relevant
- Helps the agency tell a story to interested parties and decision-makers

## NEXT STEPS

The project team will be utilizing the projects and documents described above to identify metrics for potential performance standards Tech Memo #9: Performance Measures and Performance Standards Framework. The key findings and evaluation criteria from the projects and documents will also provide a starting point for identifying evaluation criteria for selecting the metrics to provide in the potential performance standard toolbox. Finally, any documentation of methodologies or target-setting will support development of the potential performance standards toolbox.