



SPR Research Program Stage 2 Problem Statement FY 2010-11

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I. PROBLEM NUMBER

PEA-10-04

II. PROBLEM TITLE

Supplemental Performance Measures for Oregon Highway Plan (OHP) Mobility Standards

III. RESEARCH PROBLEM STATEMENT

The 1999 Oregon Highway Plan (OHP) directs the manner in which ODOT plans, manages and funds state highway facilities. While several OHP policies define general mobility objectives, OHP Policy 1F establishes specific highway mobility standards. These mobility standards have three primary uses: documenting performance for planning activities; evaluating local plan amendments and zone changes pursuant to the Transportation Planning Rule (TPR); and guiding operations decisions to maintain acceptable highway performance. Currently, many segments of the state highway system (primarily in urban areas) do not meet OHP mobility standards, and many other segments are forecasted to fail mobility standards in the future.

The OHP measures highway mobility performance through volume to capacity ratios (v/c), which were selected after extensive analysis of different measures and relationships to other OHP policies. A number of legal and policy activities rely on the v/c measures, making it important to retain them as the standard for mobility. While v/c effectively serves many aspects of planning work, it is less effective under congested conditions, as well as for assessing operations, safety and alternate mode improvements.

One very "visible" consequence of the mobility standards is their effect on local decisions around comprehensive plan amendments and zone changes associated with TPR requirements. This has taken on a greater emphasis for several reasons:

- In the evaluation of local plan amendments and zone changes, the TPR requires that if facilities are not adequate to meet additional demand - as measured by mobility standards for state facilities - needed improvements must have committed funding, be identified in a financially constrained MPO plan, or be addressed by a written statement from ODOT that such improvements are "reasonably likely" to be provided by the end of the planning period. A lack of revenue is causing more projects to be deemed "not-reasonably likely," thus impacting local land use planning and development decisions.
- The current economic downturn has increased pressure to facilitate economic development. While mobility standards are intended to maintain system performance for the benefit of the state and local economy, they are often seen as an obstacle to site-specific development.

As it becomes increasingly difficult to meet current mobility standards, more parties are looking toward the development of alternate mobility standards, which must be v/c-related for application consistency. Which measures hold the most promise for alternate mobility standard development? What supplemental measures (including non-v/c) may best be used to more fully represent the functioning of the transportation system? What are the considerations and implications of using these other measures in differing situations? What thresholds should be considered?

IV. RESEARCH OBJECTIVES

The goal of this project is to identify alternative performance measures that can effectively supplement the v/c mobility standards that currently guide ODOT planning practices. The objectives of the project include the following: a) prepare an inventory of potential alternative measures; b) assess the validity of the alternative measures against internal (i.e., data and measurement-related) and external (i.e., context and application-related) criteria; and c) assess the compatibility of the alternative measures with other ODOT objectives (e.g., least cost planning, reducing greenhouse gas emissions, facilitating economic development).

V. WORK TASKS, COST ESTIMATE AND DURATION

The work tasks are organized in two phases. Phase I tasks include identifying an inventory of alternative performance measures and completing an evaluation of their validity and general applicability to Oregon. Phase II tasks will use case studies (selected to represent the full range of contexts in which the alternative measures would potentially be employed) to examine how ODOT decision-making would be affected.

Task No.	Task Description
Phase I	
Task 1	Literature search to identify/inventory alternative mobility measures
Task 2	General evaluation of internal/external validity of alternative measures
Task 3	Assessment of compatibility with other ODOT objectives
Task 4	Prepare draft & final Phase I reports
Phase II	
Task 5	Define case study criteria & select case studies
Task 6	Complete case studies
Task 7	Prepare draft & final Phase II reports
<i>Duration: 14-18 months</i>	
<i>Estimated Cost: \$127,500</i>	

VI. IMPLEMENTATION

ODOT has formed a staff task force and technical advisory committee to examine mobility standard issues and the development of alternative mobility standards. The task force will prepare a Guidance Document on alternative mobility standards for implementation by ODOT Regions and local governments. Findings from the research associated with this Problem Statement would complement the Guidance Document and provide additional evidence in support of enhanced mobility standard discussions.

VII. POTENTIAL BENEFITS

The OTC has expressed priority for mobility standards and performance measure development as part of their current work program. Through this research, ODOT and local governments will be able to focus on v/c-related and supplemental measures appropriate for mobility standard issues in different parts of Oregon (both urban and rural). The benefits of the research will be critical to managing the work associated with the increasing number of areas encountering mobility standard issues. The research will give more certainty and allow ODOT to have broader discussions and perform broader analysis of the transportation system in terms of balancing and achieving other important objectives such as least cost planning, reducing greenhouse gas emissions and enhancing state and local economic vitality. Additionally, ODOT and local governments will likely be turning more often to operational improvements, increasing transportation options and other “non-traditional” transportation solutions in the face of costly and difficult capacity expansion decisions. These supplemental measures can help inform and measure benefits of these other types of solutions, while still allowing the agency to maintain v/c and v/c-related measures as the primary mobility standard for necessary applications.

VIII. SUBMITTED BY

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