



MEMO

TO: Stakeholder Working Group
FROM: Abbot Flatt, Associate Transportation Planner
RE: Performance Measures Recommendation
DATE: January 26, 2016

The Technical Working Group (TWG) has reviewed Technical Memo 4.1.2, Implementation Recommendation, and Technical Memo 4.2, Transportation System Safety Performance Measures. Below is the TWG's performance measure recommendation to be used as discussion at the Stakeholder Working Group meeting on February 3rd, 2016. This memo summarizes the key findings to-date and proposes a refined suite of performance measures to measure the impact on the transportation system during long-range transportation system planning, comprehensive plan and zone changes and development review.

BACKGROUND

To help promote mobility, travel options and economic development, Clackamas County has been reviewing alternative transportation performance standards to measure the impact of development and zoning or plan changes within the *CRC Connections* project study area, as well as the entire county. An initial set of more than 60 performance measures was assembled and prioritized in Technical Memo 4.1.2. The prioritization found 10 high ranking measures. Additionally, the consultants identified an implementation recommendation for safety performance measures.

MEMO AND MEETING SUMMARIES

1. **Tech Memo 4.1.2: Implementation Recommendation:** The Technical Working Group (TWG) and Stakeholder Working Group (SWG) reviewed Technical Memo 4.1.2 in their last meetings. The key outcomes from their discussions were:
 - a. Both groups support using performance measures for the auto, bike, pedestrian and transit systems.
 - b. The public open house comments support multi-modal performance measures including safety measures.
 - c. Prioritization of performance measures has also been a concern. The Project Management Team (PMT) heard comments for prioritizing bike, pedestrian and transit measures and for prioritizing projects that support the majority of system users.
 - d. Overall, the concept of measures to support multiple modes is accepted by the working groups and the public.
2. **Development of Safety Performance Measures:** In late 2015, Clackamas County and the consultant team worked on developing a potential transportation safety performance measures. These measures will be incorporated into the broader list of alternative performance measures within the

CRC Connections project study area.

The recommended approach presents a framework for increasing the role of safety analysis in development review, in accordance with stated planning goals and policies. The recommended framework assesses existing safety performance, estimates the safety impact of development, and identifies and evaluates safety countermeasures.

The recommended approach applies a “layered” portfolio of transportation safety performance measures that include: critical crash rate, excess proportion of specific crash types, and the Highway Safety Manual (HSM) Predictive Method:

1. **Establish County Specific Safety Baseline.** It is recommended that Clackamas County develop and regularly update information for site safety reference populations using county-wide crash data. The County should also provide a regularly updated list of approved Crash Modification Factors (CMFs) for use in the safety analysis process.
2. **Apply Critical Crash Rate Methodology.** The critical crash rate is recommended as the basic safety performance standard, and any intersection or segment exceeding its critical crash rate should be considered to be not meeting the safety performance standard. The all-severity crash rate and high-severity crash rate should both be considered. At sites that exceed either the all-severity or high-severity critical crash rate, excess proportion of specific crash types should be used to diagnose and document crash patterns considering collision type, injury severity, and TSAP emphasis areas.
3. **Identify Suitable Countermeasures To Address Impacts.** This information should be used to identify as conditions of approval proposed countermeasures sufficient to reduce crashes to below the critical crash rate.

County Engineering should retain the option to use HSM Predictive to provide more refined safety analysis and forecasting capabilities when professional judgement determines it would be appropriate.

3. **ODOT Coordination:** The County and consultant team met with representatives from the Oregon Department of Transportation (ODOT) to discuss the requirements for the Multimodal Mixed-use Area (MMA). Both the County and ODOT agree that the queuing performance measure is key for I-205 and the related interchanges. A project was added to the list of *Additional Needed Infrastructure* to install “dump loops” on I-205 off-ramps to help the County and ODOT keep queues from forming on I-205 mainline.
4. **County Staff Discussion:** County staff met December 21st, 2015 to discuss the 10 high ranking performance measures and assess the feasibility of the performance measures recommended in Technical Memo 4.1.2. Staff agreed that multimodal performance measures align with current goals and policies. Slight adjustments were recommended for the measures proposed in Technical Memo 4.1.2 but the concept of mobility and safety for all modes is critical to meeting the goals established through the County’s recent Transportation System Plan Update. Additionally, staff discussed the appropriateness of the measures specifically within the MMA area related to long-range planning, the Comprehensive Plan and zone changes, and development review.

5. Technical Working Group (TWG) January 6th, 2016 meeting: The TWG met and discussed the above summary and created a recommendation for the Stakeholder Working Group to review in their February 3rd meeting. The following outlines the TWG’s recommended performance measures.

RECOMMENDATION

Overall, the TWG agrees with the consultant’s proposed performance measures, with the following changes.

1. Creating a combined measure for the pedestrian system, including components of Modified Pedestrian LOS, Pedestrian System Completeness and Pedestrian Crossing Index, as well as a review for connection to transit.
2. Creating a combined measure for the bicycle system, including Bicycle Level of Traffic Stress and Bicycle System Completeness.
3. Continuing to use Volume-to-Capacity Ratio except for in the MMA area during Comprehensive Plan and zone changes.
4. Adding the safety measures recommended in Technical Memo 4.2 with consideration for frequency of crashes in addition to the critical crash rate.
5. Not moving forward with Duration of Congestion and Destination Travel Time because of the complexity and difficulty to integrate these measures. Additionally, the Volume-to-Capacity Ratio and Motor Vehicle Queuing performance measures address vehicle performance.
6. With respect to transit, staff will continue to support transit infrastructure by requiring improvements, as required by the Zoning and Development Ordinance that allow for shelters at bus stops and targeted improvements near transit facilities during development review. Clackamas County will continue to coordinate with transit service agencies during the planning process and will pursue additional opportunities for coordination during development review.

Table 1: Technical Working Group Draft Performance Measures revises Table 4 from Technical Memo 4.1.2: Alternative Performance Measures and indicates the appropriate application of these measures.

Table 1: Technical Working Group Draft Performance Measure Recommendations

Performance Measure	Desired Outcome	Evaluation Considerations	System Planning	Zone – Comp Plan Change	Dev. Review
Pedestrian Level of Stress / with Crossing Review and Accessibility to Transit	Street frontage improved to LOS B or higher; adjoining system connected. Nearby crossings adequate. Increase accessibility to transit stops	Evaluate for frontage of all developments; evaluate nearest collector or higher for larger trip generators; nearest crossing evaluated. If none within 265 feet, evaluate need for crossing; evaluate connection to nearest frequent service transit stop	Yes	Yes	Yes
Bicycle Level of Traffic Stress w/ Completeness Review	Street frontage improved to LTS 2 or better; adjoining system connected	Evaluate for frontage of all developments; nearest collector or higher may be evaluated for larger trip generators	Yes	Yes	Yes
Volume-to-Capacity Ratio	Provide appropriate vehicular capacity at intersections; V/C measures in Comp Plan	Requires vehicle trip generation; study intersections to be identified in coordination with County staff	Yes	No -in MMA area Yes - outside of MMA area	Yes
Motor Vehicle Queuing	Intersection improvements to provide appropriate queuing conditions	Requires vehicle trip generation; study intersections to be identified in coordination with County staff	No	Yes	Yes
Safety	Improved safety	Establish County-specific baseline; apply critical crash rate methodology; identify suitable countermeasures to address impacts	No	Yes	Yes

NEXT STEPS

The SWG will discuss this proposal and the Project Management Team will integrate their comments into this process, and continue to refine and create concrete examples of how these performance measures will function if adopted.