



Memorandum

To: TPB Long-Range Plan Task Force
From: ICF Team and TPB staff
Date: October 12, 2017
Re: Selected Measures of Effectiveness for Long-Range Plan Task Force Study

This memo includes revisions and updates to the recommended MOEs in response to feedback received at the task force's September meeting. In instances where the input could not be addressed as part of the MOE, the memo describes how we plan to respond to the suggestion.

Desired MOE Characteristics

It is useful to recall the characteristics of the MOEs that are being sought on several desired outcomes:

1. The MOEs should address the regional goals and challenges that the task force hopes these initiatives will address, which articulate the specifics of the task force's dissatisfaction with the anticipated long-term performance of the transportation system in the CLRP.
2. The same MOEs will be reported for each initiative and will be reported at the regional level, and no MOEs will be reported at a jurisdictional or sub-regional level.
3. The MOEs should reflect best practices in measuring what matters to the public and transportation system performance outcomes.
4. The number of MOEs should be manageable (ideally no more than about 12-16) to facilitate comparisons and clearly communicate the most important issues to the region. The number of MOEs currently shown may be more than is appropriate for final reporting, and the ICF team seeks the task force's input on whether to prioritize or eliminate any.
5. For some MOEs, it may be more meaningful to present the final results as a percentage change from the CLRP rather than reporting raw numbers.
6. Finally, the MOEs must be assessable within the context of the rapid sketch planning-level analysis being conducted. Quantifiable measures that would take significant

time to develop or calculate cannot be used in the context of this study timeframe, and qualitative ratings will be used where quantified figures cannot be developed.

MOEs Selected For Use

The table below lists the selected MOEs which reflect regional goals and challenges, as well as best practices. They also represent what can be generated under the sketch planning framework and schedule adopted for the analysis. As discussed during the task force's September meeting, a combination of quantitative and qualitative assessments of the MOEs will be provided to compare how each initiative performs relative to the others. Additionally, details on how each MOE is calculated will be discussed in the final report.

Measures of Effectiveness

1. Travel time (average travel time per trip for each mode)
2. Traditional congestion (vehicle hours of delay)
3. Accessibility by transit (% change in # of jobs accessible within 45 min transit commute)
4. Accessibility by auto (% change in # of jobs accessible within 45 min car commute)
5. Mode share for work trips (non-single occupant vehicle, transit)
6. Daily vehicle miles traveled (VMT) or VMT per capita
7. Rail transit crowding (qualitative)
8. Transit options for households (share of households in high capacity transit zones)
9. Transit options for employment (share of jobs in high capacity transit zones)
10. Reliable trips (share of trips on reliable modes – express lanes, BRT and transit)
11. Access/reliability to interregional hubs (major airports and Union Station, qualitative)
12. Mobile/on-road emissions (VOC, NOx, and CO2)
13. Water quality/habitat (qualitative)
14. Open space development (qualitative)
15. Safe walking and biking options (qualitative)
16. Metrorail repair needs (qualitative)
17. Roadway repair needs (qualitative)

The following section summarizes the response to specific questions/suggestions received during the task force's September 18, 2017 meeting.

- Travel times: The analysis will focus on work purpose trips on a typical weekday. The report will describe how each MOE is being measured.

- Reliable trips: This measure is a surrogate for a more direct measurement of travel reliability that is not possible with sketch planning tools. The measure will represent the proportion of typical weekday work trips that will be made on a relatively reliable mode of travel such as transit on a dedicated travelway or vehicles using express toll facilities.
- Mode share: This measure will provide the share of a typical weekday work trips as single occupant vehicles, rideshare (carpool/vanpool) and transit (bus and rail).
- Airport reliability/access: This was proposed as an experimental measure intended to represent reliable intercity travel into and out of the region's airports. Reliable access to airports is explicitly identified as one of the challenges the region faces. As discussed during the September meeting, the team acknowledges that Union Station would be another key facility that facilitates intercity travel. The team believes that this measure could more aptly be titled Access/reliability to interregional hubs and include the major airports and Union Station. After considering the options for developing a quantitative assessment for this measure, the team has concluded that analytical options available will not be viable within the project timeframe. Instead, we will present a qualitative assessment of how each initiative would change access and reliability to the airports and Union Station.
- Rail transit crowding: At the last task force meeting, it was noted that increasing transit ridership is one of the priorities of the TPB, in addition to reducing transit crowding. Therefore, reducing transit crowding should not come at the expense of transit ridership but through enhancements to transit capacity in areas facing crowded conditions. After further examination of analytical options for developing a quantitative estimate of crowding within transit vehicles (particularly Metrorail) the team has concluded that it will not be viable within the project timeframe to develop a quantitative measure of transit crowding impacts for all ten of the initiatives. Instead, the team will present a qualitative assessment of how each initiative will affect rail transit crowding.
- Transit options: These measures will capture the improvement in access to high-capacity transit by households and by jobs. For this analysis, high-capacity transit will include Metrorail, Commuter rail, BRT and Light rail, as is standard in COG's other studies. The list of MOEs distributed to the task force during its September meeting had erroneously referred to high-capacity transit as "high-quality" transit, and this has been corrected.
- Right-of-way needs: Given the conceptual nature of the various infrastructure improvement initiatives and the lack of specific alignment and engineering information, we will not have specific enough information to produce estimates of right-of-way needs and potential community and environmental impacts as a performance measure. In recognition of the importance of these issues, however,

right-of-way needs and associated community/environmental impacts is proposed as one of the additional factors to be considered (in addition to costs and other feasibility factors) as the task force and the Board evaluates which of the initiatives the TPB may wish to endorse for future concerted action (see memo on process recommendations). For that evaluation, we will provide a general statement as to whether or not each initiative will require additional right of way.

- User costs: At the September task force meeting, several members expressed an interest in understanding how each initiative might affect user's transportation costs and transportation affordability. Although the sketch-level of this analysis will not allow us to quantitatively assess the changes in user costs as a performance measure, user costs is proposed as one of the additional factors to be considered as the task force and the Board evaluates the initiatives to endorse for future concerted action (see memo on process recommendations). We will provide a qualitative assessment of whether each initiative might tend to increase or decrease users' transportation costs.