



## Memorandum

**To:** TPB Long-Range Plan Task Force  
**From:** ICF Team and TPB staff  
**Date:** October 6, 2017  
**Re:** Update - Measures of Effectiveness for Long-Range Plan Task Force Study

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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 selected MOEs 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

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the analysis. The following section summarizes the response to specific suggestions/inputs received during the task force's September 18, 2017 meeting. Additional detail on how each MOE is calculated will be discussed in the final report.

- Travel Times: The analysis will focus on work purpose trips on 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 express toll lanes (with federal mandates for minimum operating speeds).
- 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 an experimental measure intended to represent reliable intercity travel into and out of the region, including airports and Union Station. Reliable access to airports is explicitly identified as one of the challenges the region faces, and the team acknowledges that Union Station would be another important hub to include, as noted at the September task force meeting. After considering the options for developing a quantitative reliability measure specific to these hubs, 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 might change access and reliability to the airports and Union Station.
- Rail transit crowding: Increasing transit ridership is one of the priorities of the TPB, in addition to reducing transit crowding. Therefore, any MOE on rail transit crowding will be compared to total rail ridership and mode share to ensure that we are not achieving the relief in crowded conditions by driving away riders. After further examination of developing a quantitative estimate the team has concluded that analytical options available will not be viable within the project timeframe. Instead, the team will present a qualitative assessment of the MOE.
- 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. In recognition of the importance of these issues, we will provide a general statement as to whether or not each initiative will require additional right of way. Right-of-way needs and community and environmental impacts will be proposed as one of the factors to be considered as the task force and the Board considers which of the initiatives the TPB may wish to endorse for future concerted action by the Board, and we

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encourage additional exploration of these considerations for any projects that proceed.

- User costs: At the September task force meeting, several members expressed an interest in understanding how each initiative might affect users transportation costs and transportation affordability. Although the sketch-level of this analysis will not allow us to quantitatively assess the changes, we will provide a qualitative assessment of whether each initiative might tend to increase or decrease users' transportation costs.

As discussed during the task force's September meeting, a combination of quantitative and qualitative assessments will be provided to compare the 10 initiatives based on their performance on the following measures of effectiveness (MOEs) listed below.

## Measures of Effectiveness

Qualitative MOEs	Quantitative MOEs
1. Road Congestion	1. Travel Time (SOV): average travel time per trip
2. Transit Crowding	2. Travel Time (non-SOV): average travel time per trip
3. Inadequate Bus Service	3. Traditional Congestion: vehicle hours of delay
4. Unsafe Walking & Biking	4. Jobs Accessibility by Transit: # of jobs accessible within 45-minute transit commute
5. Development around Metrorail	5. Jobs Accessibility by Auto: # of jobs accessible within 45-minute car commute
6. Housing & Job Location	6. Mode Share: SOV
7. Metrorail Repair Needs	7. Mode Share: non-SOV
8. Roadway Repair Needs	8. Reliable Trips: share of trips on reliable modes
9. Incidents and Safety	9. VMT
10. Pedestrian & Bicyclist Safety	10. VMT per capita
11. Environmental Quality	11. Transit Options for Households: share of HH in zones with high-capacity transit
12. Open Space Development	12. Transit Options for Employment:
13. Bottlenecks	13. Share of jobs in zones with high-capacity transit
14. Travel Time Reliability	14. VOC Emissions
	15. NOx Emissions
	16. CO2 Emissions

The report will also discuss other considerations, such as whether the initiative requires additional right-of-way and whether users' costs may increase.