Item # 2

Commuter Connections TERM Analysis
July 2005-June 2008
Evaluation Framework Update

Review of 2002-2005 Framework and Proposed New Elements
November 21, 2006

Overview of Update

- TERM Evaluation Framework is updated for each triennial evaluation cycle – last update was in 2003 for 2002-2005 evaluation cycle
- Framework defines TERMs to be evaluated and details methodology, data collection tools, and analysis methods for assessing impacts of Commuter Connections' TERMs
- Framework also identifies issues related to evaluating TERMs and changes from last framework

Proposed Framework Document Outline

1. Overview
2. Evaluation objectives and issues
3. Performance Indicators
4. Evaluation components for each TERM
5. Data collection sources and tools
6. Basic program impact calculation methodology
7. Recommended evaluation schedule
8. Long-term evaluation issues and opportunities

Overall Objective of Evaluation

To measure of the impacts of the TERMs implemented by Commuter Connections using meaningful performance measure in order to provide useful information back to program managers and policy-makers.

Evaluation Principles

- Provide sound, definitive, and useful information about the results of the program
- Assure objective evaluation by using a third-party (other than a funding or implementing agent)
- Avoid double counting by separating out the impacts of individual program elements or TERMs
- Report only impacts directly associated with the TERMs and that can reasonably be measured
- Follow accepted and recognized evaluation techniques
- Be rigorous, ongoing, and compatible with regional, state, and national practices
- Be resource efficient and unobtrusive for COG partners

TERMs to be Evaluated – 2005-2008

1. Telework Resource Center
2. Guaranteed Ride Home
3. Employer Outreach
4. Mass Marketing
5. InfoExpress Kiosks
   Also, Commuter Operations Center

Proposed Data Collection and Analysis Tools

Review 2002-2005 data collection tools and tracking systems and recommend modifications as appropriate to collect data for 2005-2008 evaluation:

- Surveys
  - Employee survey (voluntary administration by employers)
  - State of the Commute survey
  - Guaranteed Ride Home survey
  - TRC employer follow-up survey
  - Commuter Connections applicant Placement Rate survey (completed in FY06)
  - Bike-to-Work Day survey

- Databases/other tracking data
  - ACT! Employer Contact database (Employer Outreach program)
  - Commuter Connections applicant database (GRH, kiosk, internet applicants)
  - Commuter Operations Center activity tracking

- Analysis tools
  - EPA COMMUTER model (Employer Outreach program) (review in FY 06)

Note: Several tools used in the 2002-2005 evaluation are assumed to be deleted, because Commuter Connections will no longer count credit for these activities:

- Telework center occupancy and telecenter users travel pattern surveys
- Metrochek employer survey
- Metrochek employer data records/Metrochek sales information

Basic Impact Calculation Methodology Steps

The basic impact calculation methodology is consistent for all TERMs (except Employer Outreach). The methodology starts with a "population of interest," population of commuters who potentially were influenced by the TERM, and applies several calculation factors derived from surveys of a sample of the population to estimate behavior change among the full population and the travel and air quality impacts of the change. The five major calculation factors include:

1) Placement rate (percent of commuters in the population of interest who shifted to commute alternatives as a result of the TERM)
2) Vehicle trip reduction (VTR) factor (average number of vehicle trips reduced per day by each "placement" - commuter who shifts to a commute alternative)

3) Average one-way commute trip distance of placements
4) Drive alone access percentage (proportion of ridesharers and transit users that drive alone to the location where they meet their carpool, vanpool, bus, or train)
5) Drive alone access distance (distance commuters travel to rideshare/transit meeting points)

These factors are applied within the basic methodology steps listed below to calculate program impacts for each TERM (Note that Employer Outreach uses a different method).

1) Estimate commuter population of interest "base" for the TERM (e.g., all commuters, GRH applicants, rideshare matching applicants, kiosk users, etc.)
2) Estimate the number of new commute alternative placements – Multiply number of commuters in the population of interest by the placement rate for that population
3) Estimate vehicle trips reduced – Multiply number of placements by the Vehicle Trip Reduction (VTR) factor for that TERM
4) Estimate VMT reduced – Multiply number of vehicle trips reduced by average commute distance
5) Adjust vehicle trips and VMT for access mode – Discount vehicle trips reduced and VMT reduced to account for commuters who drive alone to meet rideshare modes and transit
6) Estimate NOx and VOC emissions reduced – Multiply adjusted vehicle trips and VMT reduced by emissions factors consistent with the regional planning process

Proposed Methodology Enhancements – 2005-2008

Continue the basic methodology as outlined above, but integrate enhancements to the overall TERM evaluation method and to specific TERMs to refine and validate impacts for individual TERMs:

1. Update framework to reflect changes in Commuter Connections programs / TERMs and to reflect methods used in 2002-2005 TERM analysis for each TERM:
   - Consolidate TERM evaluation methods into five TERMs: TRC (combine with Expanded TW), GRH, Employer Outreach (combine with Employer Outreach for Bicycling), Mass Marketing, and InfoExpress Kiosks
   - Consolidate Integrated Rideshare Software Upgrades into Commuter Operations Center
   - Refine evaluation objectives and goals for each TERM
   - Refine data collection activities, schedule, and roles and responsibilities to delete surveys that will not be included in the 2005-2008 analysis (e.g., Metrochek, Telecenter occupancy)
   - Refine Mass Marketing TERM method to reflect 2002-2005 methodology: 1) Behavior change assessed for both "direct influence" (mode change influenced by ad without Commuter Connections contact) and "indirect influence" (encouraged expanded contacts to Commuter Connections program contacts during specific marketing campaigns), 2) Method developed to account for overlap between MM and other TERMs, and 3) examined "interim" steps of continuum from awareness to mode shift (e.g., aware of program, consider making change, tried new mode, etc.)
   - Adjust GRH and Commuter Operations Center impacts methods to discount VMT traveled outside the MWCOG non-attainment area

   Recommendation – Update framework as described above.

2. Update framework to incorporate new methodology issues since 2002-2005 framework:
   - Explore options to assess duration of benefits for each TERM impacts – e.g., do benefits extend beyond the three-year triennial cycle?
   - Recent volatility in gas prices has made it difficult to attribute all behavior change to program activities. How much have gas prices influenced mode change?

   Recommendation – Examine research on typical duration of rideshare arrangements and attempt to assess through survey questions an estimate of arrangements formed with Commuter Connections assistance. Explore options to estimate contribution of changing gas prices on program activity and impacts.

3. Explore options for internet application of some data collection, such as web-based surveys. Internet access has become prevalent in business and home communication and might offer a cost-effective alternative to the more costly telephone option. However, survey issues particular to internet application (e.g., survey sampling, self-administration, response bias) could affect statistical reliability of survey data.

   Recommendation – Utilize internet for survey respondent alert notification when emails are known. Pilot test web survey option for GRH survey to assess feasibility of this technique. Replicate 2004 GRH telephone survey to assure statistically valid results.

4. Assess new analysis tools for Employer Outreach, the one TERM for which actual data on behavior change cannot be easily obtained. In the 1999-2002 evaluation framework, a switch was made from using the FHWA TDM Evaluation Model to the EPA COMMUTER Model in order to better estimate the impact of modified employer trip reduction program activities. A new model, the CUTR Worksite Trip Reduction Model is now available which might offer an even better tool for estimating these impacts.

   Recommendation – Investigate the CUTR Worksite Trip Reduction Model and compare its estimation capabilities to the EPA Commuter Model. If a larger number of Employer Outreach employers are conducing follow-up surveys, it might be possible to use results of the follow-up surveys to validate the model predictions, enhancing the accuracy of the predictive results. We also suggest exploring the need to account for possibility that not all employees at a worksite are aware of commuter services offered by employer. If the models assume that most or all of the employees are aware of programs and this is not the case, the models could overestimate impacts.
5. Examine regional transportation issues and policies that might influence the ways in which TERM success is measured and communicated. If the focus of TERMs' objectives evolves from air quality to congestion and quality of life, additional performance measures could be useful to assess TERM impacts and communicate TDM/TERM impacts in terms that resonate with decision-makers, funders, program staff, and the traveling public.

   For example, Funders will want to know the cost-effectiveness of program funds. Transportation planners are likely to be most interested in the impacts of the TERMs on the operation of the transportation system. For example, the National Transportation Operations Coalition recommends measures such as temporal and spatial extent of congestion, travel time reliability, extent of delay, for tracking changes in congestion. Travelers are most likely to respond to information about Commuter Connections' performance in offering a range of high quality travel services or its contribution to reducing traffic congestion and air pollution.

The focus of evaluation also could expand from assessing regional impacts to impacts along travel corridors or in activity centers. Another possible expansion could be to assess TERM impacts on use of alternative modes for non-commute trips.

Recommendation – These issues could suggest a need to collect new data for current or future evaluations. Initiate discussion of new and enhanced TERM performance measures and communications methods in the 2005-2008 TERM Evaluation Framework.

Other Discussion Items

Facilitate local jurisdictions assessment of locally-operated programs and services through existing TERM analysis tools. The objective would be to recognize the role and influence of these local programs without undertaking separate and unique evaluations of these programs.

Possible ideas include, for example:

- Adding a limited set of selected questions and/or including local programs in response categories for the State of the Commute survey and other surveys conducted in this evaluation
- Identifying synergies between local and regional demand management programs in the TERM Analysis Report
- Offering guidance to local jurisdictions on data they might collect for valid evaluations
- Conducting jurisdiction-level "mini-analyses" of data collected for TERM analyses.

Recommendation – Explore opportunities for local jurisdiction interest in integrating local program evaluation needs with regional TERM evaluation, surveys and analysis.