MEASURING UP:
MORE BANG FOR THE BUCK IN TRANSPORTATION PROJECT SELECTION

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METROPOLITAN TRANSPORTATION COMMISSION
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1. **Impetus for Enhanced Performance Analysis:**
   *We’ve run out of money - now we’ll have to start thinking!*

2. **Establishing a Level Playing Field:**
   *How do you compare a pothole to a BRT?*

3. **Performance Assessment in the MAP-21 Era:**
   *Do more with less, or less with less?*
POTENTIAL MPO & STATE DOT PERFORMANCE RESPONSIBILITIES

Yesterday: Performance Monitoring

Today: Performance-Based Planning

Tomorrow: Performance-Based Programming
States and metropolitan areas across the country are struggling with limited funding in a time of growing maintenance backlogs. This results in significant challenges when pursuing ambitious targets for system performance. It places a premium on matching constrained expansion dollars to the right expansion projects.
**TOP 20 MPOS: O&M VERSUS EXPANSION FUNDING**

<table>
<thead>
<tr>
<th>MPO</th>
<th>O&amp;M</th>
<th>Expansion</th>
</tr>
</thead>
<tbody>
<tr>
<td>CMAP</td>
<td>98%</td>
<td></td>
</tr>
<tr>
<td>NYMTC</td>
<td>97%</td>
<td></td>
</tr>
<tr>
<td>SPC</td>
<td>97%</td>
<td></td>
</tr>
<tr>
<td>BMPO</td>
<td>94%</td>
<td></td>
</tr>
<tr>
<td>DVRPC</td>
<td>92%</td>
<td></td>
</tr>
<tr>
<td>EWGCOG</td>
<td>89%</td>
<td></td>
</tr>
<tr>
<td>NJTPA</td>
<td>88%</td>
<td></td>
</tr>
<tr>
<td>MTC</td>
<td>87%</td>
<td></td>
</tr>
<tr>
<td>SEMCOG</td>
<td>87%</td>
<td></td>
</tr>
<tr>
<td>ARC</td>
<td>74%</td>
<td></td>
</tr>
<tr>
<td>MWCOCG</td>
<td>70%</td>
<td></td>
</tr>
<tr>
<td>SCAG</td>
<td>60%</td>
<td></td>
</tr>
<tr>
<td>PSRC</td>
<td>57%</td>
<td></td>
</tr>
<tr>
<td>SANDAG</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td>H-GAC</td>
<td>55%</td>
<td></td>
</tr>
<tr>
<td>MAG</td>
<td>53%</td>
<td></td>
</tr>
<tr>
<td>DRCOG</td>
<td>50%</td>
<td></td>
</tr>
<tr>
<td>NCTCOG</td>
<td>40%</td>
<td></td>
</tr>
<tr>
<td>BMC</td>
<td></td>
<td>insufficent data provided by MPO</td>
</tr>
<tr>
<td>MC</td>
<td></td>
<td>insufficent data provided by MPO</td>
</tr>
</tbody>
</table>

- O&M: Operating and Maintenance
- Expansion
Funding constraints and ambitious targets are not the only performance challenges for MPOs and state DOTs.

Decision-making authority is widely dispersed across many levels of government, making it challenging to advance toward goals and to maximize accountability.
Performance assessment is not for the faint of heart.
A. Establish Performance Targets
B. Assess Project Performance
C. Assess Scenario Performance
D. Assess Plan/EIR Performance
E. Monitor Performance of Adopted Plan
**Brief History of Performance Assessment at MTC**

<table>
<thead>
<tr>
<th>Year</th>
<th>2001</th>
<th>2005</th>
<th>2009</th>
<th>2013</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>2001 Regional Transportation Plan</strong></td>
<td>Transportation investment packages</td>
<td>Transportation investment packages</td>
<td>Transportation investment packages</td>
<td>Integrated transportation &amp; land use scenarios</td>
</tr>
<tr>
<td><strong>Scenario Planning</strong></td>
<td>Transportation targets</td>
<td>Transportation targets</td>
<td>Transportation targets</td>
<td>Integrated targets</td>
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<tr>
<td><strong>Performance Targets</strong></td>
<td>None</td>
<td>Goals-based</td>
<td>Goals-based</td>
<td>Targets-based</td>
</tr>
<tr>
<td><strong>Qualitative Project Assessment</strong></td>
<td>None</td>
<td>None</td>
<td>Limited benefit-cost analysis</td>
<td>Rigorous benefit-cost analysis</td>
</tr>
<tr>
<td><strong>Quantitative Project Assessment</strong></td>
<td>None</td>
<td>None</td>
<td>Limited benefit-cost analysis</td>
<td>Rigorous benefit-cost analysis</td>
</tr>
<tr>
<td><strong>Number of Projects Analyzed</strong></td>
<td>0</td>
<td>400</td>
<td>700</td>
<td>&gt;1,000</td>
</tr>
</tbody>
</table>
• First regional plan to integrate transportation, land use, and housing

• Sustainable Communities Strategy initiated by California Senate Bill 375
<table>
<thead>
<tr>
<th><strong>ECONOMY</strong></th>
<th><strong>ENVIRONMENT</strong></th>
<th><strong>EQUITY</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase gross regional product</td>
<td>Reduce per-capita greenhouse gas emissions from cars and light-duty trucks</td>
<td>House all of the region’s projected housing growth</td>
</tr>
<tr>
<td>Economic Vitality</td>
<td>Direct all non-agricultural development within the urban footprint</td>
<td>Adequate Housing</td>
</tr>
<tr>
<td><strong>TRANSPORTATION</strong></td>
<td><strong>CLIMATE PROTECTION</strong></td>
<td><strong>DECREASE HOUSEHOLD BUDGETS</strong></td>
</tr>
<tr>
<td>Reduce VMT per capita</td>
<td>Reduce premature deaths from exposure to particulate emissions</td>
<td>Decrease housing and transportation costs as a share of low-income household budgets</td>
</tr>
<tr>
<td><strong>SYSTEM EFFECTIVENESS</strong></td>
<td>Reduce injuries and fatalities from collisions</td>
<td>Equitable Access</td>
</tr>
<tr>
<td>Maintain the transportation system</td>
<td>Increase average daily time spent walking or biking</td>
<td></td>
</tr>
</tbody>
</table>
SCENARIO

TRANSPORTATION PROJECTS

LAND USE PATTERN

PLANNING FRAMEWORK

PERFORMANCE ASSESSMENT FRAMEWORK

SCENARIO-LEVEL TARGETS ASSESSMENT

SCENARIO-LEVEL EQUITY ASSESSMENT

PROJECT-LEVEL TARGETS ASSESSMENT

PROJECT-LEVEL BENEFIT-COST ASSESSMENT
Only projects that have environmental clearance and full funding secured are treated as committed. This effectively means that only projects under construction or about to begin construction are exempt from performance analysis.

**Number of Projects**
- Assess by project type
  - 700
  - Committed: 200
  - Assess individually: 500

**Cost of Projects (in billions of $)**
- Assess by project type
  - 170
  - Committed: 10
  - Assess individually: 160

Number and cost of projects are approximated for simplicity.
TARGETS ASSESSMENT

Determine impact on targets adopted by MTC and ABAG

Analyzed all 900 uncommitted projects

BENEFIT-COST ASSESSMENT

Compare benefits & costs

Analyzed most significant projects (approximately 100 in total)
Individual project evaluation allows for greater transparency and accountability.
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Project Performance Assessment: Selected Transit Projects

Bubbles labeled for projects with greater than $15 million in annual benefits. Bubble size represents the project benefits.
Analysis results can also be summarized by project type to highlight the performance of overall strategies.

**Project Performance Assessment: Results by Project Type**

Bubble size represents the total annual benefits for all projects of that type.

- **Road Project**
- **Transit Project**
- **Regional Program**
Sample High-Performing Projects
Prioritized for Regional Funding

Sample Moderate-Performing Projects
“Nothing to See Here, Move Along”

Sample Low-Performing Projects
Required Compelling Case for Inclusion in Plan

BART Metro
Urban BRT Systems
Freeway Performance Initiative

Caltrain Downtown Extension
Urban Bus Frequency Improvements
Express Lane Network

SMART Expansion
Dumbarton Rail
Freeway Widening (US-101 & SR-239)
Projects re-scoped:
(7) Environmental phase only
(5) Sponsor agreed to fully fund project locally
(1) Down-scoped to achieve B/C ratio greater than 1

Projects withdrawn by sponsors

Compelling cases approved:
(6) Communities of Concern
(1) Air quality
(1) Recreational trips

Case slated for rejection; “settled out of court”
Lessons Learned from Plan Bay Area Performance Assessment

• Given the limited budget for expansion projects, performance data can make the difference.

• Performance results helped to advance good projects and weed out bad ones.

• Tread carefully when picking:
  a. performance objectives
  b. which projects to evaluate

• Incorporating state of good repair investments into this performance-based framework is a critical next step.