TIP White Paper – Recommendation #3

Create a project selection process that places more emphasis on project benefits, overall value, and return on investment.

Establish a project selection process that applies investment decisions based on quantifiable performance metrics directly linked to Metro Vision and regional plan goals and objectives, while allowing flexibility to implement projects providing the most benefit to meet today’s needs and advance the region’s multimodal transportation system.
ROI and Transportation: Typical “dimensions”

- Economic
- Social
- Livability
- Health
- Environmental

Borrowing from our peers – MTC (Bay Area)

# Metro Vision Outcomes, Objectives or TIP Focus Areas Addressed

Cost/Benefit

Project A

Project B
Primary measures

Measured or modeled without interpretation nor monetization:

<table>
<thead>
<tr>
<th>Measures</th>
<th>Obtained from</th>
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<tbody>
<tr>
<td>Vehicle travel time</td>
<td>Travel model</td>
</tr>
<tr>
<td>Greenhouse gas emissions</td>
<td>Travel model +</td>
</tr>
<tr>
<td>Vehicle operating cost</td>
<td>Travel model +</td>
</tr>
<tr>
<td>Access to ADA facilities</td>
<td>Network Analysis</td>
</tr>
<tr>
<td>Access to recreational/cultural amenities</td>
<td>Travel model + Land use model</td>
</tr>
<tr>
<td>Access to transit by low income population</td>
<td>Travel model + Land use model</td>
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<tr>
<td>Fatalities and serious injuries</td>
<td>CDOT</td>
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<td>...</td>
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From primary measures to ROI: Example

- Economic system
  - Higher productivity
  - Higher income
  - Improved access to markets
  - Increased production

- Environmental
  - Improved access to jobs
  - Reduction in travel time

- Social equity
  - Improved access to jobs

- Health
- Livability

Direct effect
- Indirect effect
From primary measures to ROI: Pilot approach (example)

Estimating partial monetary effects:

- Reduction in GHG emissions
  - Source: FHWA
  - $

- Reduction in vehicle travel time
  - Source: ...
  - $

- Increased access to recreational amenities
  - Source: ...
  - $

Total benefits: $

Pilot approach – what we hope to test:

Expected strengths:
- Simplicity/transparency
- Sensitivities
- Consistency across project types

Potential challenges:
- Indirect effects: double counting and/or underestimation
- Finding reliable multipliers for all primary measures
- Agreement on assumptions