




2020-23 TIP
Return on Investment (ROI)
for transportation projects

June 2017 Board Work Session


Presented by:
Daniel Jerrett, PhD
June 7, 2017

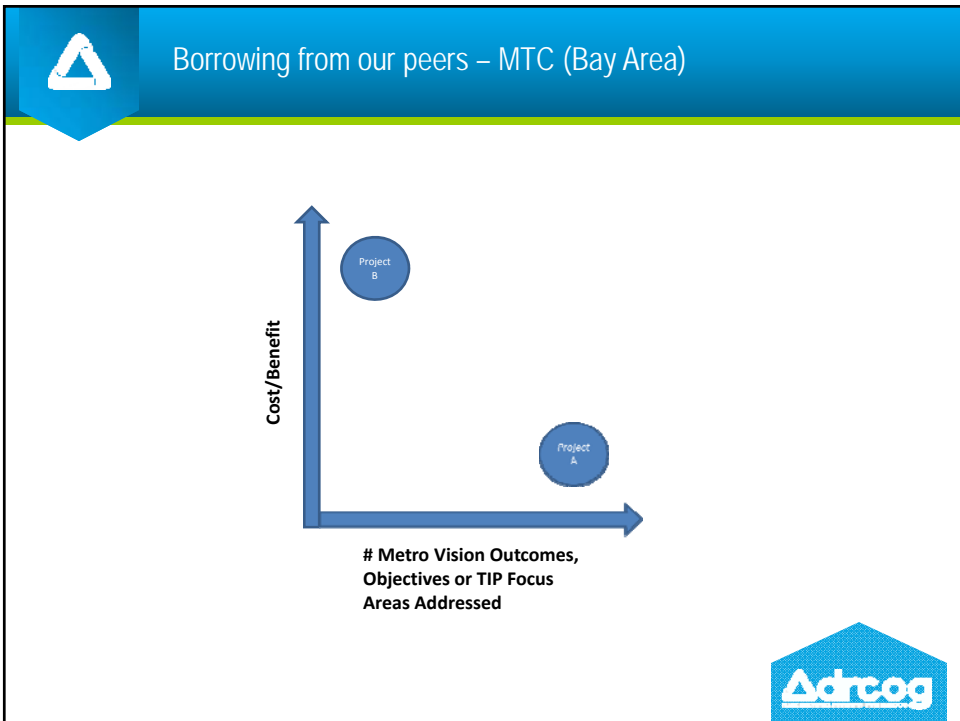
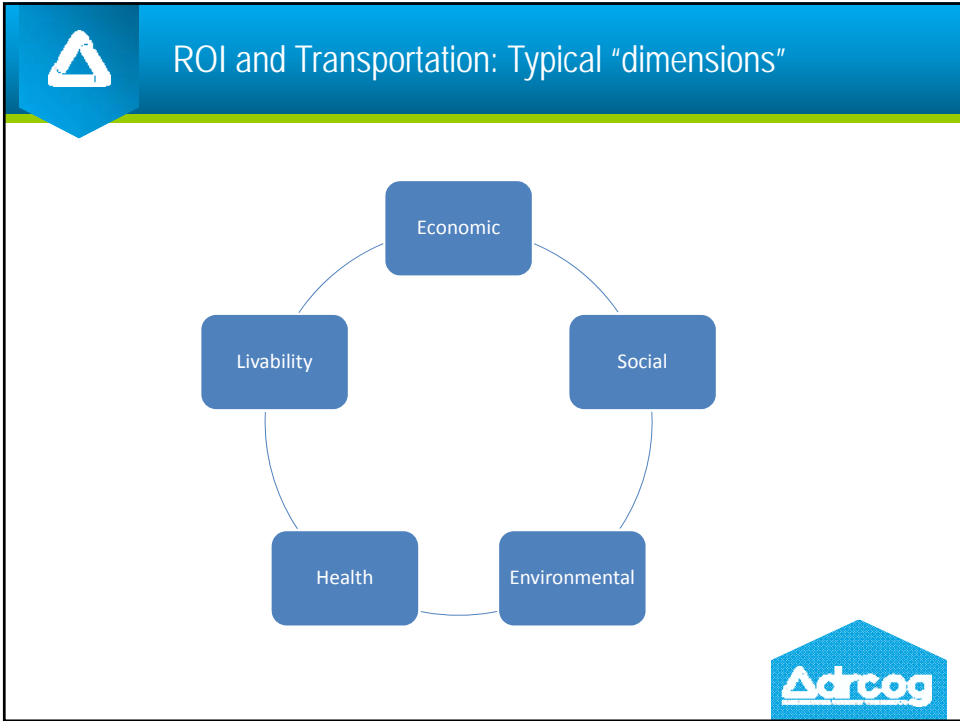


TIP White Paper – Recommendation #3

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.


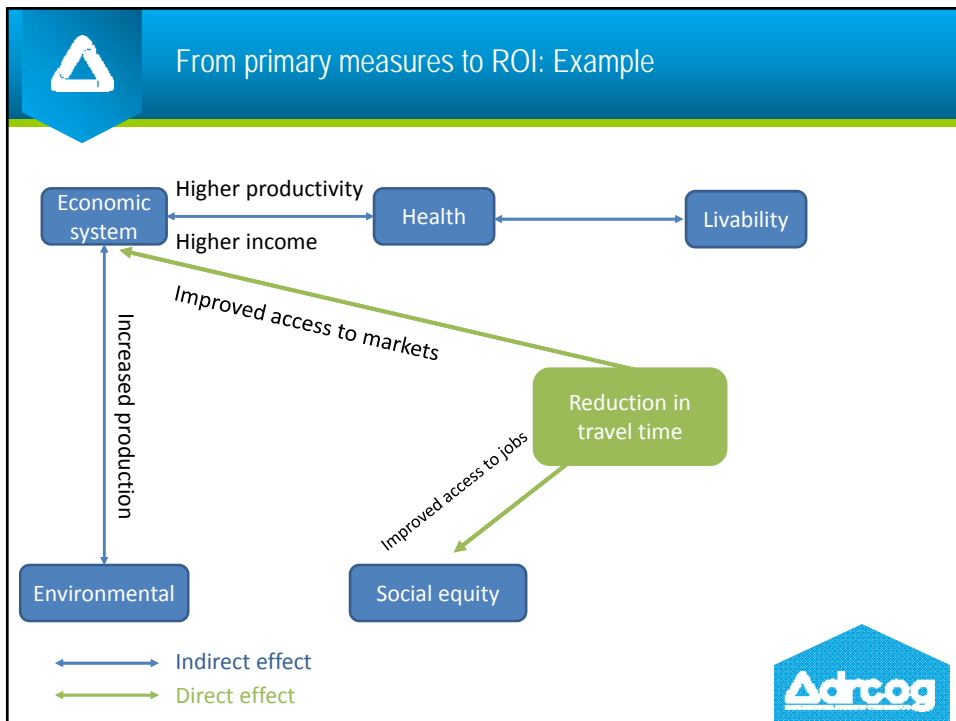




Primary measures

Measured or modeled without interpretation nor monetization:

Measures	Obtained from
Vehicle travel time	Travel model
Greenhouse gas emissions	Travel model +
Vehicle operating cost	Travel model +
Access to ADA facilities	Network Analysis
Access to recreational/cultural amenities	Travel model + Land use model
Access to transit by low income population	Travel model + Land use model
Fatalities and serious injuries	CDOT
...	...

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: ... →	\$
<div style="background-color: #0070C0; color: white; padding: 5px; text-align: center; margin-top: 5px;">Total benefits: \$</div>		

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

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