What Do We Get and How Do We Pay For It?

How Economic Analysis Can Inform Transportation Investment Decision Making

presented to
ITED Conference

presented by
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How Can Economic Analysis Inform the Discussion?

- Enhance decision making
- Promote accountability
- Communicate broader role of transportation
- Inform funding discussions
Understanding the Economic Tradeoffs

<table>
<thead>
<tr>
<th>Costs</th>
<th>No investment</th>
<th>Invest</th>
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<tbody>
<tr>
<td>Transportation impacts</td>
<td></td>
<td>Funding impacts</td>
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Benefits

| Invest | Travel efficiencies |
Getting Buy-in

- Define a data driven, stakeholder led process
- Identify meaningful metrics
- Use existing data & tools
- Maximize transparency

Results that can stand up to public scrutiny
How Do We Communicate Economic Return on Investment?

- Focus on few key metrics
- Know your audience
- Transparency in process
- Get private sector involved
- Use real world examples
Key Takeaways for Using Economic Analysis

- Increasing need to integrate economic analysis
- No single “right way”... but lots of “wrong ways”
- Don’t get lost in the economic models and data
- Focus on objective, transparent process
- Engage stakeholders
Examples
Examples

- Long term planning
  - MIDOT
  - GDOT

- Medium term planning
  - Atlanta Regional Commission

- Short range planning
  - KDOT
Benefit Estimation System for Transportation (BEST)

- Evaluated four alternative programmatic scenarios
- Integrated transportation planning tools (TDM, Revenue forecasting model and cost estimation tool) with 84 region economic model

Purpose of economic analysis

- Provide policymakers and general public information on return on investment
- Facilitate “what if” and trade-off analysis across categories of investment
Example: Georgia DOT

Evaluate 5 year work program

Evaluate options for Long Range Plan

Specific project level evaluation

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<tr>
<th>INSTRUCTIONS</th>
<th>Step-By-Step Instructions</th>
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| Step 1: PARAMETERS | - Review standard parameters and ensure values are appropriate for each factor in the "PARAMETERS" tab.  
- Select the appropriate study region highlighted in the orange colored drop-down menu provided.  
- Enter in the appropriate speed for autos and trucks, where applicable, in the order colored box.  Please enter only numeric values. |
| Step 2a: TRAVEL DEMAND MODEL INPUTS | - Collect and input Travel Demand Model (TDM) values in daily format.  
- The values should be collected for a minimum of two scenarios, one base and one alternative.  The alternative scenario should differ from the base so as to represent a change to the existing infrastructure or network. |
| Step 2b: ANNUALIZED TD | - Annualizes the Travel Demand Model inputs using data from Step 1 and Step 2a.  
- All estimates reflect total annual amounts (e.g. no longer daily) |
| Step 3: SAFETY AND EMISSIONS | - To calculate the safety impacts, identify the number of crashes by severity type for both time periods, base year and future year.  
- To calculate the emissions impacts, identify the distance traveled and Average Annual Daily Trips (AADT) using the "INPUT-TDM Output" tab.  Follow the calculations to calculate idling or moving emissions amounts in order to monetize. |
| Step 4: AUTO INPUTS | - The "INPUT-AUTO" tab includes the input values needed to monetize three main metrics; value of time (VOT) for both fuel and non-fuel costs, vehicle miles traveled (VMT), and reliability.  
- Ensure the growth rate calculated is appropriate given the base year and future years identified in Step 2.  
- Given the specific region selected in Step 1, the appropriate consumer and business transportation cost factors by industry are calculated as this tool is calibrated to use region specific transportation and industry factors. |
Example: Atlanta Regional Commission, TSPLOST Analysis

- Regional sales tax referendum in 2012 designated to pay for specific transportation projects over 10 year period
- Economic analysis input in project selection and program outreach
- Includes BCA, EIA and ROI analysis
- Integrating TDM and economic model to estimate total economic impact
Example: Kansas DOT Economic Development Program

- Program for competitive grants for small scale projects
- Program expanded to all modes and funding increased
- Key project funding criteria is economic development impacts as measured by permanent jobs
- Economic impact modeling accounts for transportation user benefits, accessibility benefits and connectivity benefits
- Economic analysis used in other planning activity as mandated by legislation (68-2314b.)
Remainder of Session

- Caroline Mays – Texas DOT
- Jon Lee – Florida DOT