Applications of Economic Analysis for Cities and Metro Areas

Webinar: July 29, 2014
Agenda

• What is TREDIS?
• Examples of TREDIS Use
• Questions & Answers
What is TREDIS?

• Web-based Decision Support System
  ➢ Impact on your economy
  ➢ Benefits and costs of projects, policies, or plans
  ➢ Financial – Public/Private
  ➢ Fiscal – Tax and Fee Revenues
  ➢ Performance Measures

• Guided Analysis
  ➢ Based on project and audience

• Address All Transportation Modes
  ➢ Road, Rail, Aviation, Marine, Pedestrian, Bicycles, etc.
How is TREDIS being used?

- Evaluate Alternatives
- Prioritize & Select Projects
- Develop Long Range Plans
- Assess Public Policy Options
- Show Economic Role of Existing Facilities
- Determine Impact of a Single Project (Grant applications)
- Show Impact of Maintenance Decisions
Examples of MPO and City Use
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• San Francisco
  – Long Range Planning
• Portland, ME
  – Congestion Analysis
• Washington, DC
  – Investment Policies
• Warwick, RI
  – Highway Bypass (TIGER)
• Salt Lake City
  – Investment Levels ROI
• Eastport, ME
  – Port Investments (TIGER)
• Fort Worth, TX
  – Impact Fees
• Colorado Springs
  – Project Prioritization
• Toronto
  – International Highway Corridors
• Twin Cities
  – Freight Diversion
• Atlanta
  – Transit Impacts
• Chicago
  – Road Pricing
• Boston
  – Commuter Rail Impacts
San Francisco Area: Long-Range Scenarios

- **REGIONAL PLAN SCENARIO ANALYSIS**
  The MTC needed to assess five scenarios of its 25-year plan, to include measures of economic performance

- **TREDIS USE:**
  Land use improvements around transit stations - market access and contingent development in TREDIS to ZIP-code level detail

- **FINDING:**
  Agglomeration of commercial and industrial land use increase the economic performance with improved market access
Portland, OR Area: Congestion Policy

- **COST OF CONGESTION TO REGION**
  Regional need to identify the congestion cost to business competitiveness, and economic dependence on transportation

- **TREDIS USE:**
  Used to evaluate changes in business operating costs, household costs, market access and changes to future productivity

- **FINDING:**
  Unchecked congestion could threaten Portland’s economic competitiveness
WASHINGTON, DC AREA: INVESTMENT PRIORITIES

• BUSINESS ACCESS ISSUE
  Describe both the location and monetary value of accessibility improvements to different parts of town resulting from an improved transportation system.

• TREDIS USE:
  TREDIS was used in conjunction with regional travel demand models to monetize performance changes.

• FINDING:
  Accessibility gains to high-value business clusters is a major driver of regional benefit and impact.
**Warwick, RI: Highway Bypass (TIGER)**

- **THE CASE FOR FUNDING**
  Quantify the benefits building a bypass, improving both transportation performance and the livability of downtown

- **TREDIS USE:**
  Benefit-Cost analysis and economic impact analysis for a TIGER Application

- **FINDING:**
  User and societal benefits accrue when a transportation project enables other activities to occur downtown, or at more efficient locations

Photo provided by Rhode Island DOT
Salt Lake City Area: Investment Levels (ROI)

• **UNIFIED PLAN**
  Evaluation of the ROI from differing levels of investment, and impacts on city, regional and statewide areas from transportation improvement strategy

• **TREDIS USE:**
  Provided impact and benefit measures to show return on investment as well as fiscal impact

• **FINDING:**
  Enhanced transportation funding returns far more to the state and regional economy than it costs
• **SHOW ECONOMIC COMPETITIVENESS**  
  *Demonstrate the impact of improving breakwater facility in retaining tourism, fisheries and related industries in the US*

• **TREDIS USE:**  
  *Apply “contingent development” analysis to economic activity that would relocate to Canada if a key transportation facility were not in place*

• **FINDING:**  
  *Sufficient jobs, earnings, output and GDP are supported by the facility to warrant TIGER funding to keep the breakwater active*
• PUBLIC POLICY AND IMPACT FEES
The City proposed financing transportation improvements through developer-impact fees

• TREDIS USE:
Assessed the overall impact fee incidence on local businesses, along with construction spending and benefits of transportation improvements

• FINDING:
There long-term benefits of planned transportation improvements outweighs economic impacts from fees on developers
Colorado Springs, CO: Prioritization

• PRIORITIZING TRANSPORTATION
  The Council of Governments sought to develop a regional priority analysis system for rating proposed highway capacity projects

• TREDIS USE:
  VISUM / TREDIS integration enabled assessment of economic impacts for various projects

• FINDING:
  Projects with high fraction of regional traffic and fewest alternative routes had highest economic performance metrics
Toronto Region: International Highway Corridors

- **CORRIDOR ANALYSIS**
  Two of the most heavily-traveled corridors in Canada connect Southern Ontario to Detroit and Buffalo. There was a need to examine future opportunities for improving those highway and rail corridors.

- **TREDIS USE:**
  Analysis of multimodal freight and passenger needs, and effects of future highway and rail investment scenarios.

**FINDING:**
Both corridors serve a critical economic purpose to the Canadian economy and are justified for further transportation investment.
Minneapolis-St. Paul, MN: Freight Diversion

**MARITIME FREIGHT AND RIVER LOCKS**
To restrict Asian carp, an invasive species, proposed closing of the Upper Lock at St. Anthony Falls

**TREDIS USE:**
Used to identify impacts of supply-chain shifts from barge to trucking

**FINDING:**
Additional transportation handling costs for businesses, with increased truck traffic, societal impacts and changes in employment

Photo provided by Creative Commons
• **ECONOMIC IMPACTS OF TRANSIT**
  Needed to identify the economic impacts of MARTA on the Atlanta regional economy with an emphasis on service-delivery region

• **TREDIS USE:**
  TREDIS was used with other models to estimate impacts of transit system on communizing costs and labor supply

• **FINDING:**
  MARTA’s contribution to the economy of the Atlanta region is significant in terms of employment, output and increased labor mobility
IMPACTS OF EXPRESS TOLL LANES
Needed to address how congestion pricing would affect the Chicago regional economy

TREDIS USE:
Analyzed 5 congestion pricing packages with CMAP model inputs, focused on improved transportation efficiency

FINDING:
Congestion pricing would reduce net traveler costs, improve market access, and create new jobs
• **ALTERNATIVES ANALYSIS – INTERCITY RAIL**
  Needed to assess the economic implications of 6 rail and bus alternatives connecting S.E. Mass. To the Boston Metro

• **TREDIS USE:**
  TREDIS used to identify the effects of “smart growth” land use changes, frequency, travel costs, and market access to jobs and incomes in the region.

• **FINDING:**
  Identified preferred technology alternative and station area development plans
TREDIS

…Sophisticated

…Not Complicated

…Easy to use
For More Information…

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