Briefing for Transportation Finance Panel

- Corridor Economic Impact Analysis
- Status Report
Economic Analyses
of Let’s Go CT Transportation Investments

Where we are in the process:
• ready to deliver new type of information to assist decision makers
• to assess value of investments relative to cost

Economic assessment: of transportation investments
• new measures to gauge the worth of investments
• beyond standard transportation measures like accident & congestion reduction

Today’s presentation: first part of economic analysis
• corridor-level analysis
• 3 highway corridors
  – with the largest & boldest improvements
  – important conduits of commerce
  – among our most congested.

Summary of initial findings: good return on investment
• Demonstrate that transportation investments will spur growth in jobs, business, & income.
• Economic benefits will far exceed the cost of building the projects
1. **Introduction:**  Tom Maziarz, CTDOT
   - Overview plus schedule for remaining analyses
   - Explanation of 3 corridors to be presented today
   - Purpose & approach to conducting the economic analyses

2. **Methods & Results:**  Glen Weisbrod, Economic Development Research Group
   - **Methods**
   - **Results**
     - I-95 West corridor
     - I-95 East corridor
     - I-84 West corridor
Economic Analyses
Scope of analysis & Timeline for completion

Highway analyses:

• Major corridor ‘packages’: **TODAY**
  o Present major corridors as full packages first
  o Major projects & key segments being analyzed individually

• Individual projects: *end of October*

Transit analyses:

• Metro North mainline: New Haven to NY: **end of October**
  o *Special & more detailed analyses* using NEC data
  o Assess impacts of more frequent and faster service
  o **2+2 track configuration**: 2 tracks for local & 2 tracks for express service.

• Other individual projects: Waterbury Branch, Hartford Line, SLE: *end of Oct.*
Three Major Highway Corridors

I-84 West
- Widen I-84 from New York to Waterbury
- Replace I-84 Viaduct
- Replace I-84 Mixmaster

I-95 West
- Widen I-95 from New York to New Haven

I-95 East
- Widen I-95 from Branford to Rhode Island

Hartford Viaduct & Waterbury Mixmaster not included
### Three Major Highway Corridors

**Current conditions**

<table>
<thead>
<tr>
<th></th>
<th>I-95 West</th>
<th>I-95 East</th>
<th>I-84 West</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Length (Miles)</strong></td>
<td>50</td>
<td>60</td>
<td>37</td>
</tr>
<tr>
<td><strong>Daily Traffic</strong></td>
<td>135,000</td>
<td>84,000</td>
<td>80,000</td>
</tr>
<tr>
<td><strong>% Trucks</strong></td>
<td>13.6%</td>
<td>10.5%</td>
<td>12.7%</td>
</tr>
<tr>
<td><strong>Daily VMT</strong></td>
<td>6,500,000 miles</td>
<td>3,700,000 miles</td>
<td>3,100,000 miles</td>
</tr>
<tr>
<td><strong>Annual VHT</strong></td>
<td>45.1M hours</td>
<td>24.0M hours</td>
<td>29.2M hours</td>
</tr>
<tr>
<td><strong>Annual Delay</strong></td>
<td>5.3M hours</td>
<td>2.1M hours</td>
<td>2.6M hours</td>
</tr>
</tbody>
</table>

*Vehicle Miles Traveled*

*Vehicle Hours Traveled*

*Hours of congestion*
I-95 West: NY to New Haven
Highway Corridor Package
I-84 West Corridor plus Mixmaster & Viaduct

- Heavily congested Danbury section
- Widen I-84 from New York to Exit 3
- Widen I-84 from Exit 3 to Exit 8
- Replace I-84 Mixmaster
- Replace I-84 Viaduct
Traditionally, transportation plans were based on standard measures of safety, congestion, & mobility. For this strategic plan, we need to go beyond standard measures.

Purpose of economic analysis:
Assess project’s ability to support other strategic goals of CT (especially economic growth)

• Assess “economic value” of safety, congestion, & mobility improvements

• Assess a project’s potential to facilitate or spur economic growth

Glen will explain multiple methods used to get more & better insights into value of projects
Glen Weisbrod
President, Economic Development Research Group

• 37 years experience on economic assessments of energy, transportation, & economic development programs

• Advised over 20 state DOT’s

• Former Chair of Transportation Research Board’s (TRB) ‘Committee on Transportation & Economic Development’

• Coauthored:
  o TRB guide: Assessing Social-Economic Impacts of Transportation
  o FHWA guide: Measuring Economic Impacts of Highways
  o APTA’s guide: Economic Impacts of Public Transportation
Evaluation of changes in economy due to monetary transactions.
## Benefit Categories

<table>
<thead>
<tr>
<th>Economic Impact Factors</th>
<th>Travel Factors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vehicle Operating Costs</td>
<td>VMT, Mix of Vehicle Types, Congestion</td>
</tr>
<tr>
<td>Time &amp; Reliability <em>(Business)</em></td>
<td>VHT, Trip Purpose, Congestion</td>
</tr>
<tr>
<td>Logistics Productivity</td>
<td>Truck Fleet Mix, Commodity Mix, Congestion</td>
</tr>
<tr>
<td>Market Access</td>
<td>Effective Size of Labor and Delivery markets</td>
</tr>
</tbody>
</table>

### Other Societal Benefits

<table>
<thead>
<tr>
<th>Personal Time <em>(Not Business)</em></th>
<th>VHT, Trip Purpose, Congestion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Safety</td>
<td>VMT, Speed, Road Class/Design</td>
</tr>
<tr>
<td>Environment</td>
<td>Fleet Mix, VMT, Congestion</td>
</tr>
</tbody>
</table>
Trip Characteristics & Economic Impact

% of Trips by Mode / Purpose

- Truck - Freight
- Psgr Car Personal
- Psgr. Car Commute
- Psgr. Car Business

Direct Cost to Business
Affects Business Productivity

I-95 West  I-84  I-95 East
EIA Results: Sustained, Long-term Jobs

Jobs in 2050: 3,309
Jobs in 2050: 1,309
Jobs in 2050: 1,220
Job Impacts Industry Profile: Travel Efficiency (I-95 West, I-84, & I-95 East – All Corridors)

- Business Services, 10%
- Professional Services, 11%
- Retail Trade, 15%
- Health Care, 16%
- All others, 21%
- Other Services, 5%
- Finance & Insurance, 5%
- Real Estate & Leasing, 3%
- Arts, Entert., & Recreation, 3%
- Education Services, 3%
- Food Services, Drinking Places, & Accomodations, 7%
Selected Economic Impacts

- Market Access
- Logistics Productivity
- Transportation Efficiency

Business Sales (Output) in $M's

- I-95 West
- I-84
- I-95 East
## EIA Results
### Sustained, Long-term Travel Efficiency & Market Access

<table>
<thead>
<tr>
<th>Added Business Sales (output)</th>
<th>I-95 West</th>
<th>I-84 West*</th>
<th>I-95 East</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total Long-Term Impact</strong></td>
<td>$11.4 billion</td>
<td>$4.4 billion</td>
<td>$4.2 billion</td>
</tr>
<tr>
<td><em>(total of 27 year-cash output stream)</em></td>
<td></td>
<td></td>
<td></td>
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* Not including Mixmaster & Viaduct
EIA Results - Construction Jobs by Year
### EIA Results - Construction Impacts

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<th>Added Business Sales (output)</th>
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<th>I-84 West*</th>
<th>I-95 East</th>
</tr>
</thead>
<tbody>
<tr>
<td>Construction Period Impact (2021-2026)</td>
<td>$13.9 billion</td>
<td>$2.2 billion</td>
<td>$2.7 billion</td>
</tr>
</tbody>
</table>

* Not including Mixmaster & Viaduct
Total Societal Benefits

Stream of future benefits is discounted to present value

- Societal benefits are added
- Value of personal time savings is added
- Savings for pass-through traffic are added

Benefits in $M's

- Environmental
- Safety
- Market Access
- Logistics
- Productivity
- Time & Reliability
- Vehicle Operating Costs
### BCA Results

**Comparative Long-term Costs & Benefits**

<table>
<thead>
<tr>
<th>Present Value</th>
<th>I-95 West</th>
<th>I-84 *</th>
<th>I-95 East</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Benefits ($ billions)</td>
<td>$11.6</td>
<td>$3.8</td>
<td>$4.5</td>
</tr>
<tr>
<td>Project Costs ($ billions)**</td>
<td>$7.0</td>
<td>$1.1</td>
<td>$1.3</td>
</tr>
<tr>
<td>Benefit/Cost Ratio</td>
<td>1.65</td>
<td>3.30</td>
<td>3.42</td>
</tr>
</tbody>
</table>

* Not Including Mixmaster and Viaduct
** Project costs are discounted at a rate of 3% to year(s) of expenditure
Summary

• The three packages of projects address severe congestion along key economic corridors

• Completion of these projects will enable Connecticut to add roughly 5,800 jobs (that would otherwise not occur)

• The impacts will be spread widely across the State’s economy

• All three projects have Benefit/Cost ratios well over 1.0, meaning that there is a positive Return on Investment

• The next step is to conduct more analysis of individual highways and transit investments
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• All three projects have Benefit/Cost ratios well over 1.0, meaning that there is a positive Return on Investment

• Represent critical interventions to support the state’s economic future
  – they allow CT to remain competitive as a business location site
  – without these projects, the high costs of congestion would drive away a portion of the state’s business growth.
  – there would be over 5,000 fewer long term, permanent jobs in CT

• Next step: conduct more analysis of individual highways & transit investments