Accelerated Bridge Construction in Connecticut
Accelerated Bridge Construction
ConnDOT Practices

Consultant Engineering Memorandum 11-05 issued April 29, 2011 - encouraged consideration of ABC design methodologies for following reasons

- Improve work zone Safety
- Minimize disruption to traveling public & surrounding area
- Maintain and improve construction quality
- Reduce Construction duration
- Reduce life cycle costs and environmental impact
Southington - Out with the old

Connecticut Department of Transportation
Southington – In with the new

Connecticut Department of Transportation
Middletown weekend replacement

Connecticut Department of Transportation
Another Successful DOT Accelerated Bridge Replacement Project: Route 17 Bridge Over Long Hill Brook in Middletown

The Connecticut Department of Transportation has completed another successful Accelerated Bridge Construction (ABC) project – this one in Middletown. The Route 17 Bridge over Long Hill Brook was replaced over the weekend and reopened nine hours ahead of schedule.

“With a lot of pre-planning, hard work by the project personnel and support services along with good weather, Route 17 was able to reopen in time for morning commuter traffic and school buses at 6:15 a.m. Monday,” said DOT Commissioner James P. Redeker. “Nine hours may not seem like a big deal, but to commuters, school kids, emergency services and area residents, any time saved is a good thing.”
Weston – Bridge in a backpack

Connecticut Department of Transportation
Weston – 2 month detour

Connecticut Department of Transportation
What will CTDOT be doing?

- PBUs – Route 4, Harwinton
- GRS-IBS abutments – I-84 off-ramp, Manchester
- Slide – I-95, Waterford
- SPMTs -Route 1/I-95, Stamford
Harwinton – PBUs

Connecticut Department of Transportation
Accelerated Bridge Construction

Decision Matrix

- ConnDOT ABC decision matrix soon to be released

- ConnDOT Decision Matrix based on Utah Example but
  - Included estimated construction inspection overhead costs associated with differing project durations for conventional versus ABC construction.
  - Included measures to weigh:
    - Cost of conventional construction with overbuild and/or temporary construction with minor long term traffic impact
    vs.
    - Cost of ABC project with road closure, detour or more significant short term traffic impact.
Accelerated Bridge Construction

Decision Matrix

Review Sample Project No. 152-157, Waterford
For ABC potential

Project Data, plans are finalized

- I-95 NB and SB over Oil Mill Road
- Bridge Nos. 00352A and 00352B
- Twin Short and Narrow Single Span Structures
- Superstructure replacement required
## ABC Decision Matrix

### Site Information
- **Project Description:** Project No. 1234, Location: 123 Main St, City, State.
- **Bidders’ Requirements:** Bidders must comply with all state and local regulations.

### Prop. ABC Method
- **Method:** Direct Bidding.
- **Primary Benefit:** Cost Savings.

### Conventional Construction Method
- **Method:** Traditional Bidding.
- **Primary Benefit:** Lower Risk.

### Roadway on Bridge
- **Average Daily Traffic:** 5000 vehicles per day.
- **Capacity:** 6000 vehicles per day.

### Tidal Sluice Bridge
- **Average Daily Traffic:** 4000 vehicles per day.
- **Capacity:** 5000 vehicles per day.

### Preliminary Cost Evaluation
- **Estimated Conventional Construction Cost:** $2,000,000.
- **Estimated ABC Cost:** $1,500,000.

### Cost Analysis
- **Cost Savings for ABC:** $500,000.

### ABC Rating
- **Audited Rating:** 87.
- **Rationale:** Meets all criteria with slight modifications.
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<th>Score</th>
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<th>Adjusted Score</th>
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**ABC Rating**

67

**ABC Rating Scale**

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<th>Decision</th>
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<td>Consider ABC</td>
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<tr>
<td>0-40</td>
<td>Do not use ABC</td>
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Note: Weight factors determined by CTDOT. Do not adjust factors without prior consultation.
Waterford – Slide

Connecticut Department of Transportation
SPMTs - Bridge 00037
U.S. Route 1 over I-95, Stamford

Connecticut Department of Transportation
Stamford - SPMTs

Connecticut Department of Transportation
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