EXPEDITING EMERGENCY CONSTRUCTION PROCUREMENTS: CASE STUDIES IN SUCCESS

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Contract Law – Barrier to Emergency Construction

- Construction contracting is based on competitive tendering process.
- National laws have restrictive definitions of the term “competition”
- Most permit the suspension of rules in an emergency….
- BUT ….
Contract Law – Barrier to Emergency Construction

- Emergency projects draw maximum scrutiny from the public and press.
  - Criticism for not moving fast enough
  - Criticism for sacrificing quality
  - 20-20 hindsight after the fact including accusations of abuse or impropriety.

- Hence…. Agency leaders are reluctant to vary from the tried and true procurement process.
Emergency Construction
Alternative Project Delivery Methods

- Many options world-wide.
- Purpose is to accelerate the delivery of needed transport infrastructure projects.
- Victor Mendez – Director US FHWA
  
  …”it’s imperative we pursue better, faster, and smarter ways of doing business”
- Note: Smarter not Cheaper
Suite of Alternative Project Delivery Methods
The Common Thread

- All engage the construction contractor in the design process in some manner.
- Early contractor design involvement (EDCI) = more constructable design = ability to complete construction as fast as practical.
- Therefore – EDCI makes sense in an emergency.
Methodology

- Case study research
  - 9 US Emergency Projects

- Range of project delivery methods – DBB, CMGC, ECI, DB, IDIQ.

- Range of project size – typical small project to mega-project

- Range of project location – regionally dispersed

- Both in-house and out-sourced design
<table>
<thead>
<tr>
<th>Agency</th>
<th>Scope</th>
<th>PDM Choice Rational – Procurement Procedures – Permits</th>
<th>Incentive Details</th>
<th>Expedited Procurement Tools</th>
<th>Time to Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caltrans</td>
<td>Replace I-580 overpass and I-880 deck</td>
<td>- DBB with I/D only authorized PDM</td>
<td>$200K/day capped at $5 million</td>
<td>- Limited competition - Standing list - Incentivize critical success factors</td>
<td>Award: Demo – 1 day New – 2 days Complete: 27 days</td>
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<td></td>
<td></td>
<td>- Invitation only prequalified contractors</td>
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<td></td>
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<td>- Emergency permit waiver</td>
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<td>- Need single source of design and construction</td>
<td>$250K/day capped at $3 million</td>
<td>- Limited competition - Abbreviated contract docs - Co-locate design on site - Use of available materials - Contractor design involvement - Incentivize critical success factors</td>
<td>Award: 1 day Complete: 91 days</td>
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<td></td>
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<td>- Invitation only prequalified contractors</td>
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<td>- Used expedited award with hand-written scope</td>
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<td></td>
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<td>- Emergency permit waiver</td>
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<tr>
<td></td>
<td></td>
<td>- Need contractor input to design</td>
<td>None</td>
<td>- Limited competition - Standing list - Use of available materials - Contractor design involvement</td>
<td>Award: 2 days Complete: 82 days</td>
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<tr>
<td></td>
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<td>- Invitation only prequalified contractors – negotiated GMP</td>
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<td></td>
<td></td>
<td>- Emergency permit waiver</td>
<td></td>
<td>- Confident ATCs - Confidential one-on-one meetings - Co-locate design on site - Contractor design involvement - Incentivize critical success factors - Abbreviated contract docs</td>
<td>Award: 50 days Complete: 339 days</td>
</tr>
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| MoDOT  | I-270 landslide repair | - DBB project known to be in high land-slide zone.  
- Nested DB provision with specialty contractor to repair slide if req’d  
- No permits required | None | - Anticipated emergency with special provision  
- Contractor design involvement | Award: none  
Complete: 120 days |
| MDT    | US-2 rockfall mitigation | - Need single source of design and construction  
- Nested UP provision in LS contract  
- Contractor pulled permits | None | - Anticipated emergency with special provision  
- Contractor design involvement  
- Confidential ATCs  
- Confidential one-on-one meetings | Award: 87 days  
Complete: 157 days |
| NYSDOT | Replace 981G bridge | - Need stand-by contractor  
- IDIQ procured before emergency  
- Emergency permit waiver | None | - Anticipated emergency with special provision  
- Contractor design involvement | Award: none  
Complete: 57 days |
| ODOT   | I-35 Culvert Repair | - DBB with I/D only authorized PDM  
- Invitation only prequalified contractors  
- Emergency permit waiver | $16K/day capped at $100K | - Limited competition  
- Standing list  
- Use of available materials  
- Incentivize critical success factors | Award: 1 day  
Complete: 15 days |
| UDOT   | SR-14 landslide repair | - Need contractor input to design  
- Invitation only prequalified contractors  
- Minimized info req’d in proposals; | None | - Abbreviated proposal docs  
- Contractor design involvement | Award: 38 days  
Complete: 360 days |
Case Study Procurement Analysis

- Need for contractor design involvement to react to emergencies:
  - Need for speed = Need for constructability
  - Caltrans, Oklahoma DOT, and Maine DOT sought special authority to use DB and CMGC.
  - New York used IDIQ with on-board contractor furnishing information on available materials, ROW needs, and means/methods
  - Montana and Utah: Assigned contractor to pull the necessary permits.
Case Study Incentives Analysis

- 4 of 9 projects used incentives
- Montana, Missouri, and New York anticipated the emergency – therefore, no need to incentivize
- Maine and Utah used CMGC – agency made expeditious completion part of the award.
- Winning contract became the incentive.
- “By far the most important incentive that an owner has is the promise of repeat work” (Thomsen 2006).
Procurement Tools for Expediting Emergency Projects

Procurement Tool: a specific technique or approach used to expedite the procurement of either design and construction services on an urgent or emergency basis.
## Procurement Tools Identified

<table>
<thead>
<tr>
<th>Expedited Procurement Tool</th>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>Contractor design involvement</td>
<td>6</td>
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<tr>
<td>Limited competition</td>
<td>4</td>
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<tr>
<td>Incentivize critical success factors</td>
<td>4</td>
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<tr>
<td>Anticipated emergency with special provision</td>
<td>3</td>
</tr>
<tr>
<td>Standing list of prequalified contractors</td>
<td>3</td>
</tr>
<tr>
<td>Abbreviated contract documents</td>
<td>3</td>
</tr>
<tr>
<td>Use of immediately available materials</td>
<td>3</td>
</tr>
<tr>
<td>Co-locate design team on project site</td>
<td>2</td>
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<tr>
<td>Confidential Alternative Technical Concepts</td>
<td>2</td>
</tr>
<tr>
<td>Confidential one-on-one meetings</td>
<td>2</td>
</tr>
</tbody>
</table>
Case Study Procurement Tools Analysis

- Contractor design involvement most frequently used
  - Access to available construction means, methods, and materials to tailor design to the immediate need.
  - Adds a reality check to the design process
  - Encourages constructability in design.

- Limiting competition reduces procurement period
  - Anticipating emergency allows normal competition
Conclusions

- The fastest way to react to an emergency is to anticipate it and make provisions in advance of the event.
  - New York State DOT’s State-wide Emergency Bridge IDIQ contract and
  - MoDOT nested DB provision
  - MDT’s nested unit price provision
  - Standing list of emergency contractors

- Reduces limited competition protest risk.
Conclusions

Streamlined procedures for DBB, DB, and CMGC delivery of emergency projects can be developed to successfully accelerate the procurement of design and construction assets in response to a major emergency.