



TEXAS DEPARTMENT OF TRANSPORTATION



INNOVATION CAPTURE INITIATIVE PROJECT SUMMARY

September 2013

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Project Purpose

- In June of 2013, TxDOT launched the Innovation Capture Initiative, an outreach effort designed to improve its public private partnership (P3) program by promoting greater innovation in highway design, construction and delivery.
- To generate ideas from the infrastructure P3 community, TxDOT sent a 14-question survey to 25 organizations, inviting them to collaborate with TxDOT on ways to break down barriers to innovation and pioneer new ideas and better P3 projects.
- TxDOT received responses from 13 organizations and engaged in one-on-one discussions with all interested responders.

Project Purpose

TxDOT's primary objectives in launching the initiative were to:

- Incentivize competition
- Provide the public with more value for money and lifecycle cost savings
- Improve project safety
- Shorten construction time
- Reduce impacts to existing traffic during construction

Outreach Effort & Response

Thirteen organizations responded to TxDOT, including:

- Two owner agencies: *Florida and Utah DOTs*
- Four engineering firms: *AECOM, ARUP, HDR and Parsons Brinckerhoff*
- Four construction firms: *Dragados, Granite Construction, Kiewit and Zachry Construction*
- One concessionaire: *Cintra US*
- Federal Highway Administration (FHWA)
- Design Build Institute of America (DBIA)

With the help of these organizations, TxDOT was able to identify:

- Key barriers to integrating project innovation
- Potential solutions to each of those barriers that promote innovation and improve P3 project delivery

Key Findings

Frequently-Cited Barriers to Innovation:

- Project scope limitations
- Environmental approval risk
- Inflexibility of design criteria
- Owner bias and subjectivity
- Inadequate owner feedback
- Time constraints / Alternative Technical Concept (ATC) development schedule
- Limited definition of ATC
- Limited stakeholder-proposer collaboration permitted

Project Scope Limitations & Environmental Approval Risk

Potential Solutions Proposed:

- Determine basic delivery methodology (DBB or DB / P3) during project planning stages
- Establish delivery model (DB vs. concession) in RFQ to allow proposers to establish teams and staff appropriately
- Build flexibility into NEPA documents and collaborate with FHWA early on
- Provide technical information early (schematics, ROW maps, utilities, etc.)
- Reduce level of design work performed by TxDOT (only carry far enough to obtain NEPA approval)
- Consider scope bids (fixed dollar; maximum scope wins)

Inflexibility of Design Criteria

Potential Solutions Proposed:

- Maximize performance-based design solutions (for example, with respect to pavement specifications)
- Apply national standards (AASHTO) or any design standard accepted in another jurisdiction
 - See I-64 Project in Missouri
- Consider ideas successfully used in other states or internationally on a comparable project

Owner Bias and Subjectivity

Potential Solutions Proposed:

- Bring in a third party to evaluate Alternative Technical Concepts (ATCs) (independent engineer or outside technical expert)
- Train personnel to avoid personal bias

Inadequate Owner Feedback (ATC Process)

Potential Solutions Proposed:

- Host ATC kick-off meeting
- Permit preliminary ATC submittals
- Host frequent discussions during ATC development:
 - One-on-ones early and often
 - Discipline-specific discussions
 - Include FHWA and decision-makers with sufficient expertise
 - Preserve confidentiality
- Provide go / no-go decisions early on
- Discuss necessary modifications for approval
- Give feedback upon rejection of ATCs

Time Constraints / ATC Development Schedule

Potential Solutions Proposed:

- Thorough explanation of ATC process in ITP
- Provide more time for development of ATCs earlier in procurement schedule
- Limit late addendums with significant technical changes
- Decrease turnaround time of ATC approval

Limited definition of ATC

Potential Solutions Proposed:

- Permit scope reductions, deferred construction, and ROW costs savings (while retaining functionality)
- Allow submission of Alternative Financial Concepts
- Allow submission of “Management approach” ATCs, relating to:
 - utility coordination
 - quality management
 - public relations
 - management processes

Other Recommended Best Practices

- Owner-to-owner collaboration and standardization of design specifications (across states and between state and local owners)
- Uniformity of evaluation standards (consistency between procurements)
- Scoring to incentivize innovation
 - More points for technical proposal
 - Increase technical score differential (e.g., highest ranking team gets full points, second-highest gets half points and lowest gets 0 per evaluation criterion)
 - Create “innovation committee”
- Shortlist fewer teams
- Increase stipend
- Reduce requirements / redundancy of requirements (smaller projects)
- Don't incorporate proposed ATCs into RFP
- Owner takes cost risk and takes or shares schedule risk
- Provide Master Utility Agreements during procurement to better quantify ATC/design risk
- Shift risk to party more capable of controlling that risk

Questions?

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