



Innovative Contracting at UDOT



- History – 2002 Olympics
 - Enabled Best Value Selection Legislation (1999)
- First Design-Build Project
 - I-15 Reconstruction
 - \$1.34 Billion; 17 miles; 140 bridges
 - Completed on Time, Under Budget

What are the Results



- Increased Political Capital
- New Technology Introduced to Utah
- Improvements to Design-Bid-Build
 - P + T is now used on all UDOT Projects
- ABC is now used on a number of UDOT Projects
- Development of an Innovative Contracting Program
- MOT Performance Requirements

10 Years Later . . .

- I-15 CORE DB Project in Utah County
 - \$1.1 B Fixed Price Best Design
 - 26 miles of freeway improvements
 - Replacing 63 aging bridges
 - Reconfiguring 10 interchanges
 - 2 Year Schedule: 80% Complete



UDOT's Construction Program

Committed Funds by Delivery Method

by Year of Advertisement Date (\$ in Millions)



How to Use Innovative Contracting

Traditional Low Bid

- P + T Components
- Additive Bids
 - Base + Options
- Performance Based Specifications
- Project Specific Prequalification Requirements

Alternative Project Delivery

- Qualification Based Selection (RFQ)
- Best Value Selection (RFP)
- Price + Technical Proposals
 - Usually a Two Step Process



Questions to Ask When Considering Innovative Contracting

- How well defined is the project scope?
- When is funding available?
- How valuable is Contractor input during the design?
- What areas of a project are important to the Department?
- Where is there flexibility in the design?
- Where are there fixed elements in the design?



When to Use Innovative Contracting

- Traditional project delivery is used on non-complex, repeatable project types with well defined scopes, schedules, budgets, standard drawings, specifications, etc.
- Design-Build project delivery is typically selected for schedule driven projects with flexible design options (such as type of pavement, bridge, intersection, and/or interchange).
- CMGC is typically selected for very complex projects where UDOT wants to have Contractor input and retain control of the design.

Selection of Project Delivery Method



Traditional	Level of Importance
Cost	High
Schedule	Low
Innovation	Low
Risk	Low
Design Build	Level of Importance
Cost	High
Schedule	High
Innovation	High
Risk	Low-Medium
CMGC	Level of Importance
Cost	Low-Medium
Schedule	Low-High
Innovation	Medium-High
Risk	High

Why Design-Build

Benefits

- Speed
- Innovation
- Risk Management
 - Clear identification of who owns the risk
- Fewer Design Errors
- Contractor Experience Valuable During Design
- Contractor is Committed to the Design

Risks

- Compressed Schedule
 - Right of Way
 - Utilities
- Lack of Owner Control
- In an effort to minimize costs, Design-Builder may not meet Owner's "expectations"
 - Low Bid Effect

Why CMGC

Benefits

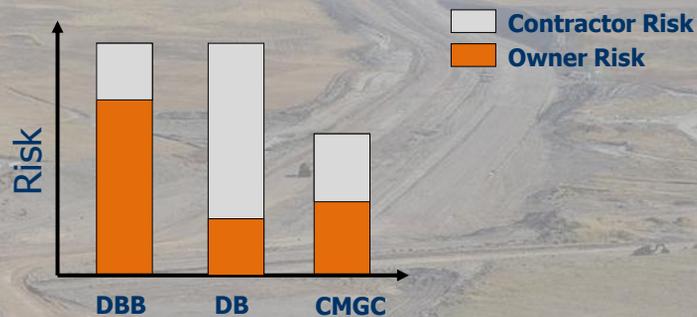
- Reduced risk, time, costs, and errors
- Early procurement
 - Long lead items
- Contractor input on a complex project
- Ability to price multiple design options and additives
- Predictable Profit

Risks

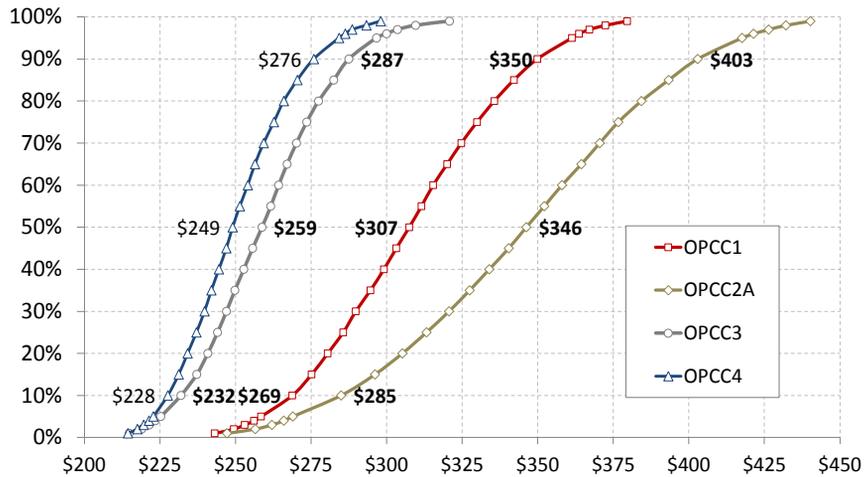
- ROW, Utilities
- Schedule control
- Arranged marriage
- Sole source contract
- Fair market price



Representation of Risk by Delivery Method



Example of Cost Savings Due to Risk Management



Innovative Contracting Expectations

- More Efficient Designs
- Shorter & More Accurate Schedules
- Lower Costs
 - Savings in Design
 - Savings in Construction
 - Savings from Innovation
 - Savings from Mitigated Risks
- **Total Team Approach – COLLABORATION!**



UDOT's Procurement Practices

- Have a Well Defined Process for Each Step
 - Builds Transparency = Consistency & Trust
- Choose the Right Project Delivery Method
 - The project team discusses the project delivery options early.
 - If an Alternative Delivery Method is selected, the discussion moves to UDOT's Technical Committee for approval.



UDOT's Procurement Practices

- Involve industry in the development of innovative contracting processes
- Spend time upfront preparing:
 - Train key project personnel
 - Develop project specific goals and strategies
 - Determine project and program staffing needs, augment as needed
- Maintain a Blind Selection up until Award
- Be clear, consistent, and concise in all discussions with Proposers
- Hold open and transparent debriefs with Proposers
 - Can reduce the number of protests

UDOT's Best Practices

- **Build & Develop Trust**
 - **Team Building, Partnering & Clear Dispute Resolution Process**
- Co-Location
- Partnering
 - Project Level
 - Executive Level
- Cost Management Strategy
- Communication
 - Project Manager
 - Project Team
 - Senior Leaders
- Site Visits
- Project Staffing Plan
- Approvals
 - Federal
 - Local Governments
- **Require More of the Owner's Time Than DBB**



UDOT's Practices: DB Procurement

- 2-Step Best Value Selection Process
 - See UDOT's DB Selection Manual of Instruction
- Performance
 - Pick the right DB team (Proposer & Project Team)
 - Give them flexibility, opportunity to succeed, and accountability
 - Reward them for good performance
- The RFP should state the problem
- The Proposal should state how the Proposer will solve the problem
- List the Added Value Areas
 - Let the Proposer know where you want them to focus their efforts

UDOT's Practices: DB Design & Construction Phases

- Develop detailed drawings and special provisions for unique items
- Remember the Owner can issue NCR's during Design, as well as Construction
- Have clearly defined roles and responsibilities
- Have clearly marked design packages (RFC's)
- Well documented FDC's and as-built drawings
- Administer the Contract
- Issue tracking log

Celebrate Success!



UDOT's Practices: DB Design & Construction Phases

- Document, Document, Document
- Scope
 - Avoid scope creep, particularly during design
- Schedule
 - Baseline Submittal
 - Monthly Updates
 - Tie to Payment
- Budget
 - Track projected overruns/underruns on a monthly basis
 - Reduces surprises at the end a project

UDOT's Practices: CMGC Procurement

- Qualifications Based Selection
- Performance Requirements
- Approach to Project
- Approach to Price
- Innovations & Risk



UDOT's Practices: CMGC Design

- Informed Decision Making
- Contractor Input
- Risk Identification & Management
- Important to watch Scope, Schedule, & Budget
 - Set goals to keep the team focused
 - Know your schedule limitations
 - Have candid budget discussions
- Value Engineering
 - Procurement and/or Design



UDOT's Practices: CMGC Design

- **Blind Bid Opening (30%, 60%, & 100%)**
- **ICE, EE, & Contractor Discussions**
 - It's okay to discuss means and methods, material sources, locations, etc.
 - It's not okay to talk dollars
 - It's valuable to have the ICE involved in project meetings
- **Documentation**
 - Decisions, Risk, Pricing, Comment Resolution, Etc.
- **Severability**

UDOT 's Best Practices: CMGC Construction

- | | |
|----------------------------------|-----------------------------------|
| • Design to Construction Handoff | • Severable Packages |
| • Payment Schedule | – Order Girders |
| • Early NTP | – Order State Furnished Equipment |
| • Risk Management Strategies | – Build Haul Road |
| – Change Orders | – Clear & Grub |
| – Contingency Line Items | – Early Utility Work |
| | – Stockpile Material |



UDOT's Integrated Project Delivery

Similar to Florida's CIM effort, UDOT's IPD focuses on the following areas:

- Schedule Management
- Change Management & Claims
- Field Data Management
- Electronic Documentation Management
- Risk Management
- Automation of Business Processes Through Work Flows



Questions?

A Contractor's Perspective On Innovative Contracting

Jody Schott
Area Manager for
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Innovative Contracting

- Methods
- Advantages/Disadvantages
- Risk Assessment
- Successful Examples
- Lessons Learned



Innovative Contracting Methods

- ⦿ Design-Build
- ⦿ Construction Manager / General Contractor (CM/GC)
- ⦿ Job/Task Order Contracting
- ⦿ Engineer-Procure-Construct (EPC)
- ⦿ Public-Private Partnerships (P3)



Advantages – Design-Build

- ⦿ Integration of Contractor and Designer
- ⦿ Expedited delivery
- ⦿ Reduction in change orders
- ⦿ Early knowledge of project costs
- ⦿ Risk transfer
- ⦿ Cost savings
- ⦿ Single source responsibility



Disadvantages – Design-Build

- ⦿ Not established way of doing business
- ⦿ Steep learning curve for inexperienced contractors
- ⦿ Fast project delivery requires fast owner responses
- ⦿ Limits owners involvement in design



Advantages – CM/GC

- ⦿ Early contractor involvement
- ⦿ Early cost information
- ⦿ Reduces budget overruns
- ⦿ Provides for schedule mitigation
- ⦿ Allows for design & construction overlap
- ⦿ Conceptual estimating
- ⦿ Cost savings
- ⦿ Collaborative process



Disadvantages – CM/GC

- ◉ Management of two separate contracts
- ◉ Owner manages disputes & disagreements
- ◉ Possible conflicts between parties
- ◉ Owner retains liability for design
- ◉ Owner needs to be strong leader



Risk Assessment – Design Build

- ◉ Owner transfers risk to contractor
 - Design
 - Performance Requirements
 - Schedule
- ◉ Requires contractor to include risk in contract price
- ◉ Contractor benefits from mitigated risk



Risk Assessment – CM/GC

- ⦿ Owner retains risk
 - Design
 - Performance Requirements
 - Schedule
- ⦿ Requires contractor to identify, assess and estimate risk
- ⦿ Owner benefits from mitigated risk



Successful Examples

- ⦿ Design-Build
 - I-15 Beck Street
 - \$120M Freeway Widening & Reconstruct
 - Pioneer Crossing
 - \$190M Greenfield Roadway
 - Geneva Road
 - \$38M Roadway Widening & Reconstruct



I-15 Beck Street



Pioneer Crossing





Geneva Road



Successful Examples

- ◉ CMGC
 - Mountain View Corridor
 - \$230M New Corridor Construction
 - SR-14 Emergency Repair
 - \$12M Emergency Landslide Repair





Mountain View Corridor



SR-14 Landslide Repair



Successful Examples

- Common Traits of Successful Projects
 - Excellent Safety Results
 - Enhanced Quality Construction
 - Collaborative Team
 - Innovative Solutions
 - Delivered within or under Budget
 - Early Completions



Successful Examples

- WHY?
 - Involvement is not optional
 - Schedule & upfront planning
 - Field involvement
 - Common goal apparent
 - Expectations are clear, communicated & consistent
 - Relationships are important
 - Transparent & respectful
 - More than quarterly partnering



Successful Examples

- Schedule
 - Baseline schedule approval
 - Monthly updates
 - 5 week look-ahead
- Planning
 - Pre-activity meetings
 - Daily schedule meeting
 - Quality hold points
- Documentation



Successful Examples

- Common Goal
 - Under promise - over deliver mentality
 - Team communication
 - Public involvement focus



Successful Examples

- Relationships
 - Weekly issues meeting
 - Field involvement
 - Robust partnering
 - Project teambuilding
 - Offsite management meetings



Lessons Learned

- Differences in interpretation
- Requires involvement of decisions makers
- Takes the right team
- Must embrace innovation
- Requires collaboration



Questions?

