

CM/GC Panel Discussion – Utah's Experience

Efficiency through technology and collaboration



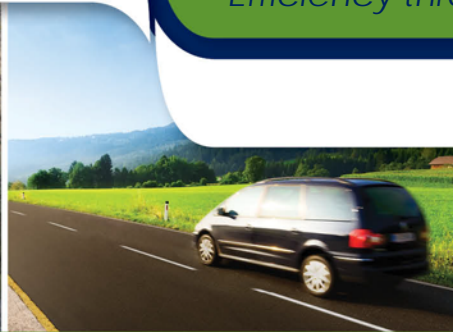
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Federal Highway Administration

CM/GC Panel Discussion – Utah's Experience

John Haynes
Federal Highway Administration

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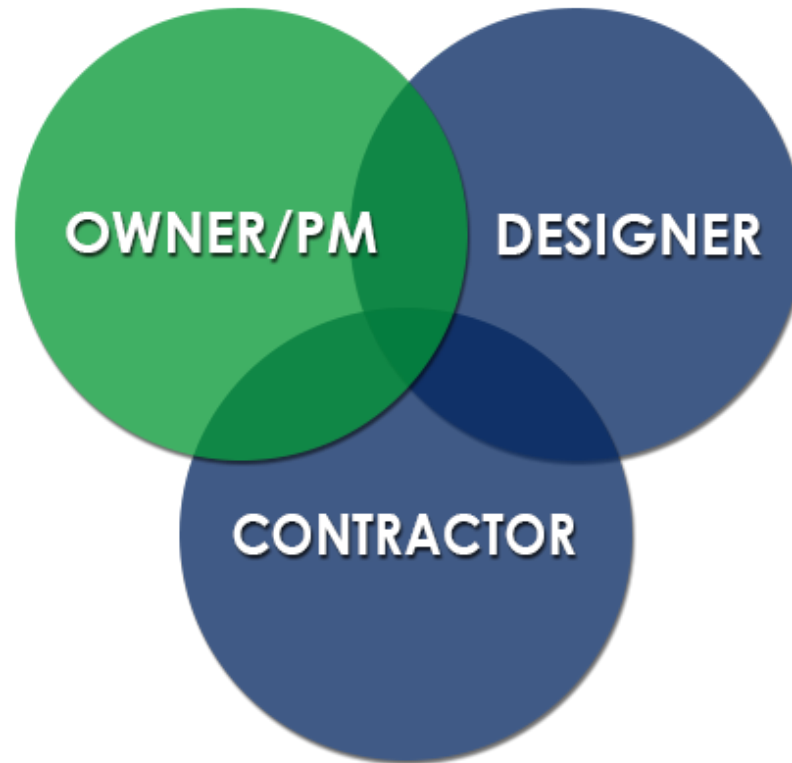
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CM/GC Project Delivery Integrated Team Approach





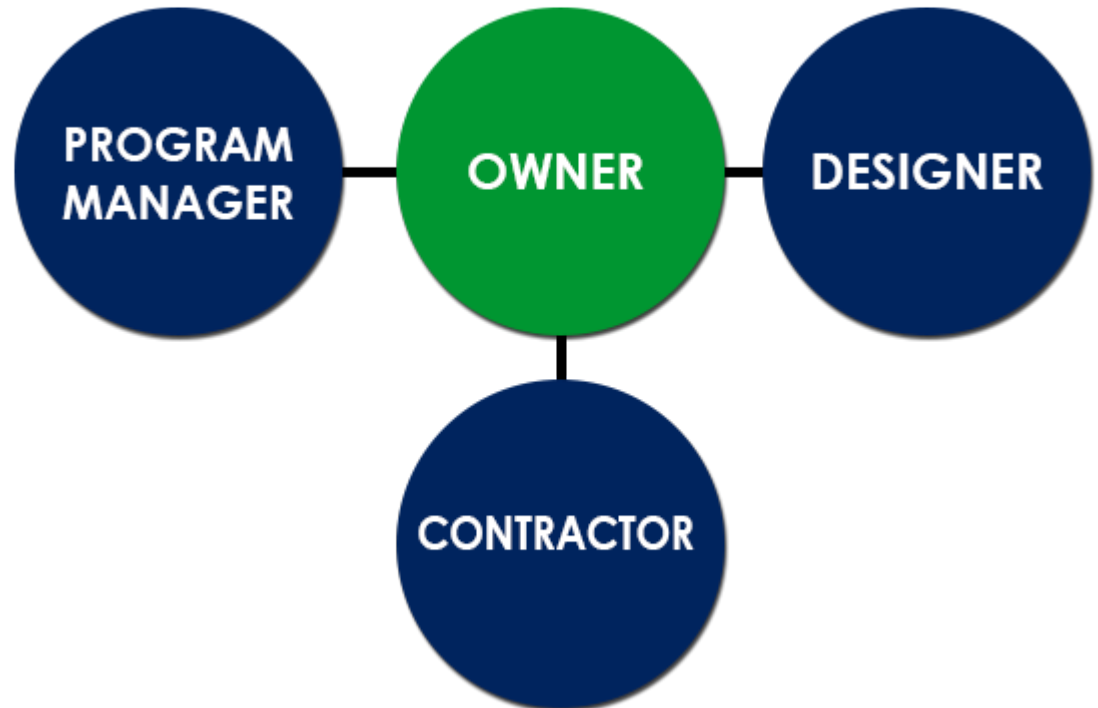
Why do Public Owners use CM/GC Contracting?

- Inherent project risk
- Opportunities for innovation
- Need for specialized qualifications
- Benefits from early procurement
- Need to optimize schedule & phases
- Limited or fixed budget

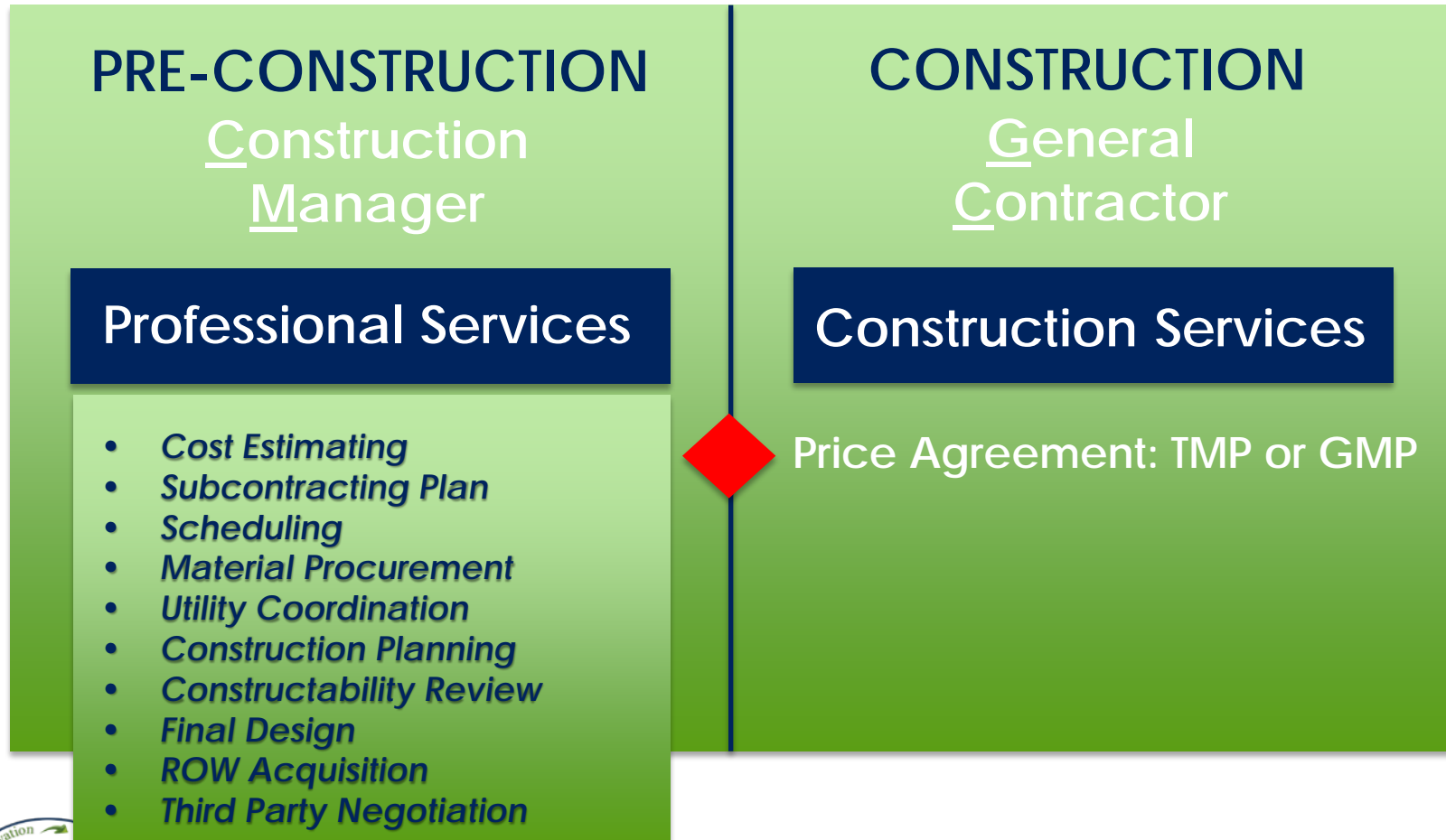


What is CM/GC?

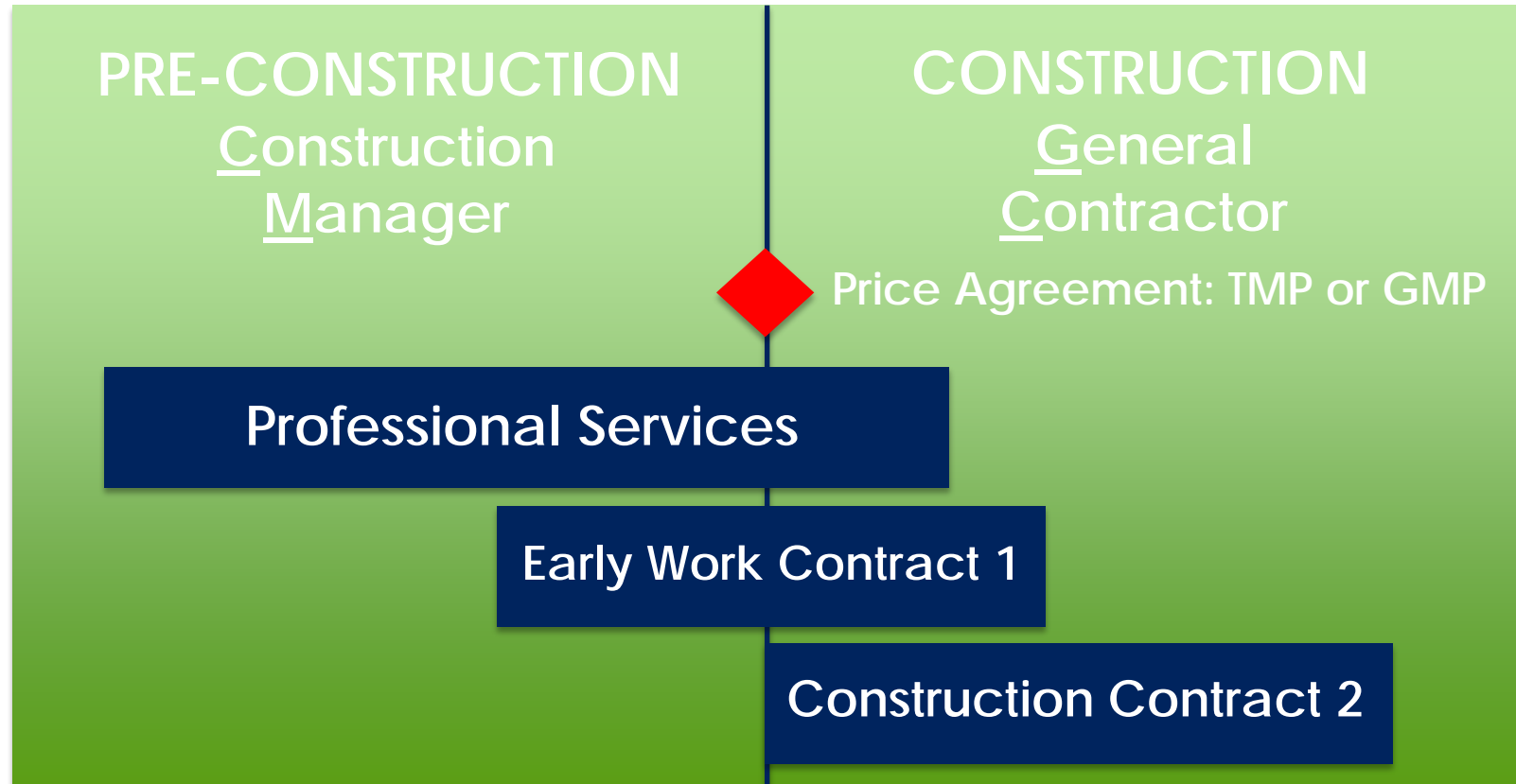
- Phase I:
Preconstruction
Services Phase
- Phase II:
Construction
Services Phase



What is CM/GC? – Two-Phase Contracting



What is CM/GC? – Two-Phase Contracting





Comparison of Project Delivery Methods

Project Traits	D-B-B	CM/GC	D-B
Risk Management	Very limited	Very effective	Best for risk shifting
Collaboration w/Designer & Contractor	Very limited	Very collaborative	Moderate collaboration, contractual limitations
Price Certainty	None, subject to over-runs and change orders	Very effective, early price certainty during project development	Very effective, early price certainty during project development
Schedule Acceleration/Compression	No ability to overlap design & construction, can accelerate construction with A+B	Ability to overlap design & construction, ability to optimize schedule not just accelerate	Ability to overlap design & construction, very effective for accelerating project delivery
Construction Quality	Low bid can compromise quality	Very beneficial to building a quality project	Very beneficial to building a quality project





Comparison of Project Delivery Methods

Project Traits	D-B-B	CM/GC	D-B
Innovation	Design Innovation only, very limited opportunities for contractor innovation	Very effective for capturing design and construction innovation	Very effective for capturing design and construction innovation
Constructability	Very difficult to obtain construction input during design	Optimal delivery method for obtaining construction input before design is complete	Effective delivery method for obtaining construction input before design is complete
Owner Control	High level control	Optimal level of owner control	Somewhat limited owner control, more performance based outcome
Competitive Pricing	High level	Somewhat limited, competitive markup not final project cost	Good Competition, but usually limited to short-listed teams





Independent Cost Estimating (ICE)

Role of ICE

- Participate during the design
- Provide project costs
- Assist the DOT in negotiations
- Validate fair price

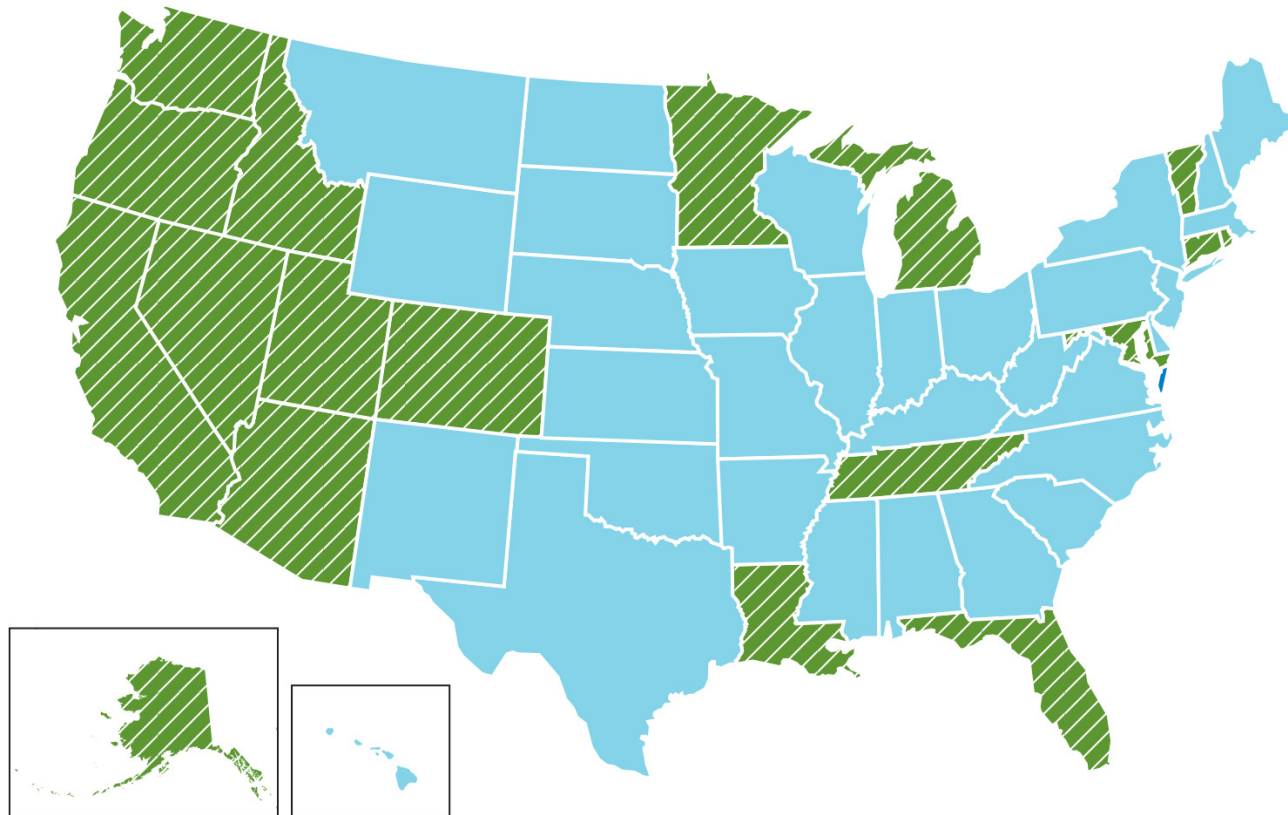
Qualification of ICE

- Experienced Contractor
- No conflict of interest
- Qualifications based selection





State DOTs with Legislative Authority to use CM/GC

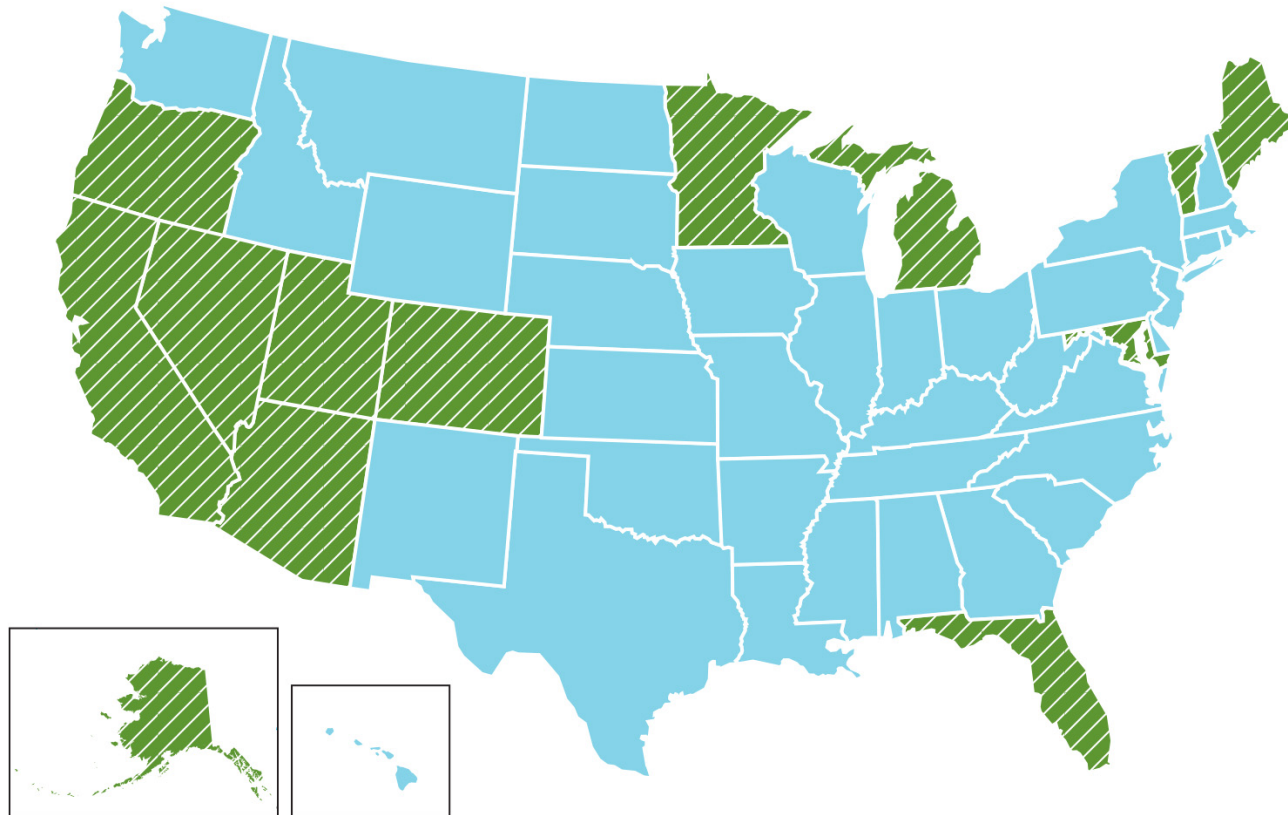


● States with Enabling Legislation for CM/GC





State DOTs with CM/GC Experience



● States with CM/GC Experience





MAP-21 - Key Provisions

Section 1303

- Allows for the use of CM/GC contracting
- SEP-14 approval no longer required.



Notice of Proposed Rulemaking



FEDERAL REGISTER

The Daily Journal of the United States Government

Construction Manager/General Contractor Contracting

A Proposed Rule by the Federal Highway Administration on 06/29/2015

23 CFR Parts 630 and 635

- Published June 29, 2015
- Comments due August 28, 2015.
- <https://www.federalregister.gov>





Keys to Success:

1. DOTs need **a solid business case** for implementing a CM/GC program.
2. Contractor selection process must be **transparent to local industry**.
3. DOTs and contractor industry must have a **mature partnering environment**.
4. **Dedicated** staff and **a champion** dedicated to CM/GC deployment.
5. Pilot CM/GC **deployment on smaller less complex** projects.
6. Provide **education** to local industry partners on implementation process.



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Rob Wight
Utah DOT

Efficiency through technology and collaboration



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Utah's History with CM/GC

- Why UDOT Chooses CM/GC.
- Utah's Selection Process
- Lessons Learned and Best Practices
- What types of projects are best for CM/GC?





Why Utah Uses CM/GC.

Owners Perspective

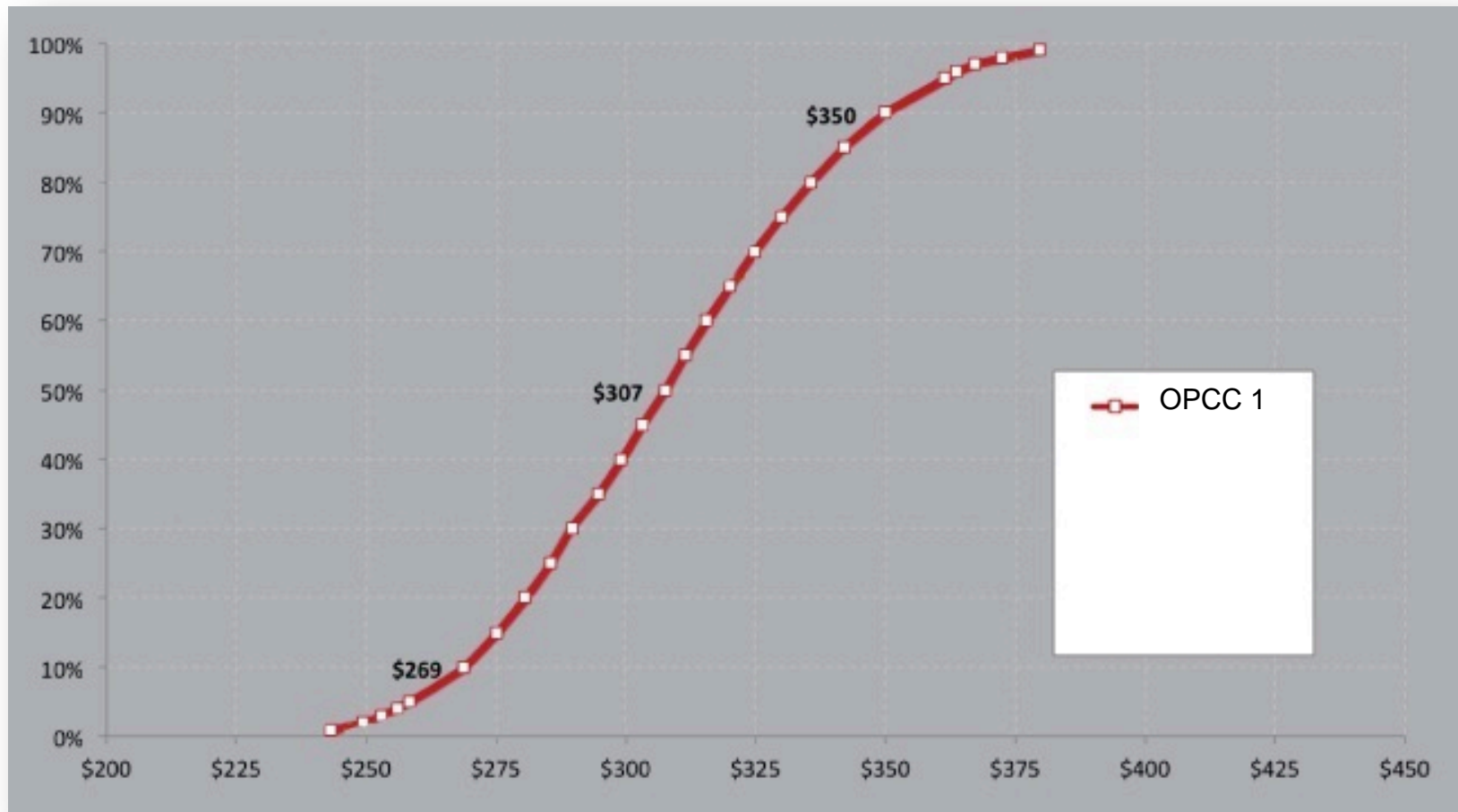
- Better understanding of True Costs early in the project
- Risks Managed Throughout Project Delivery
 - Uncertainty on “How this will be built” minimized
 - Uncertainty with Cost minimized
- Establishes an Working Environment to Optimize Innovations
- Exceed Public Expectations, Political Capital
- Partnering Maximized





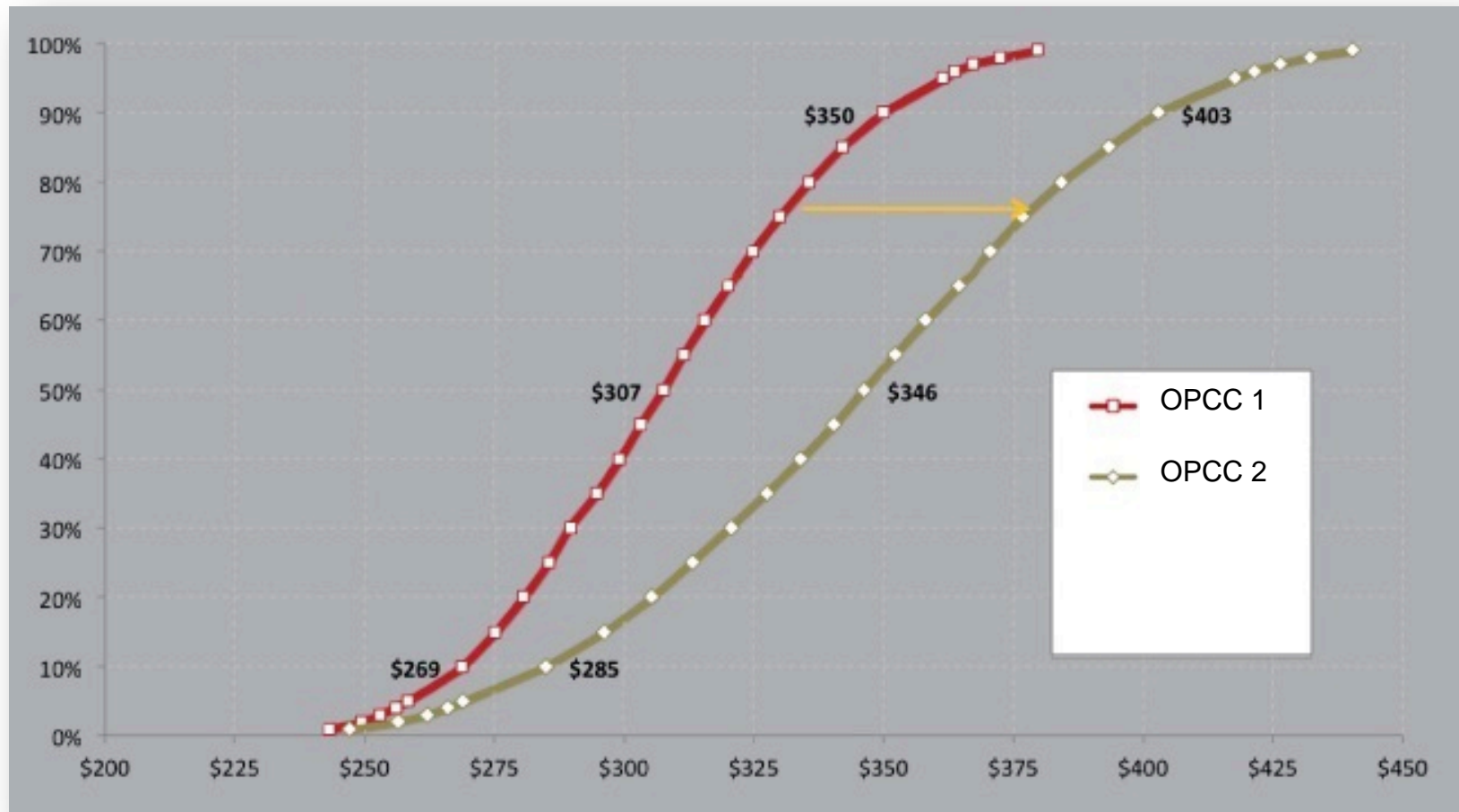
Results – Reduced Construction Costs

Pre-Construction: OPCC 1



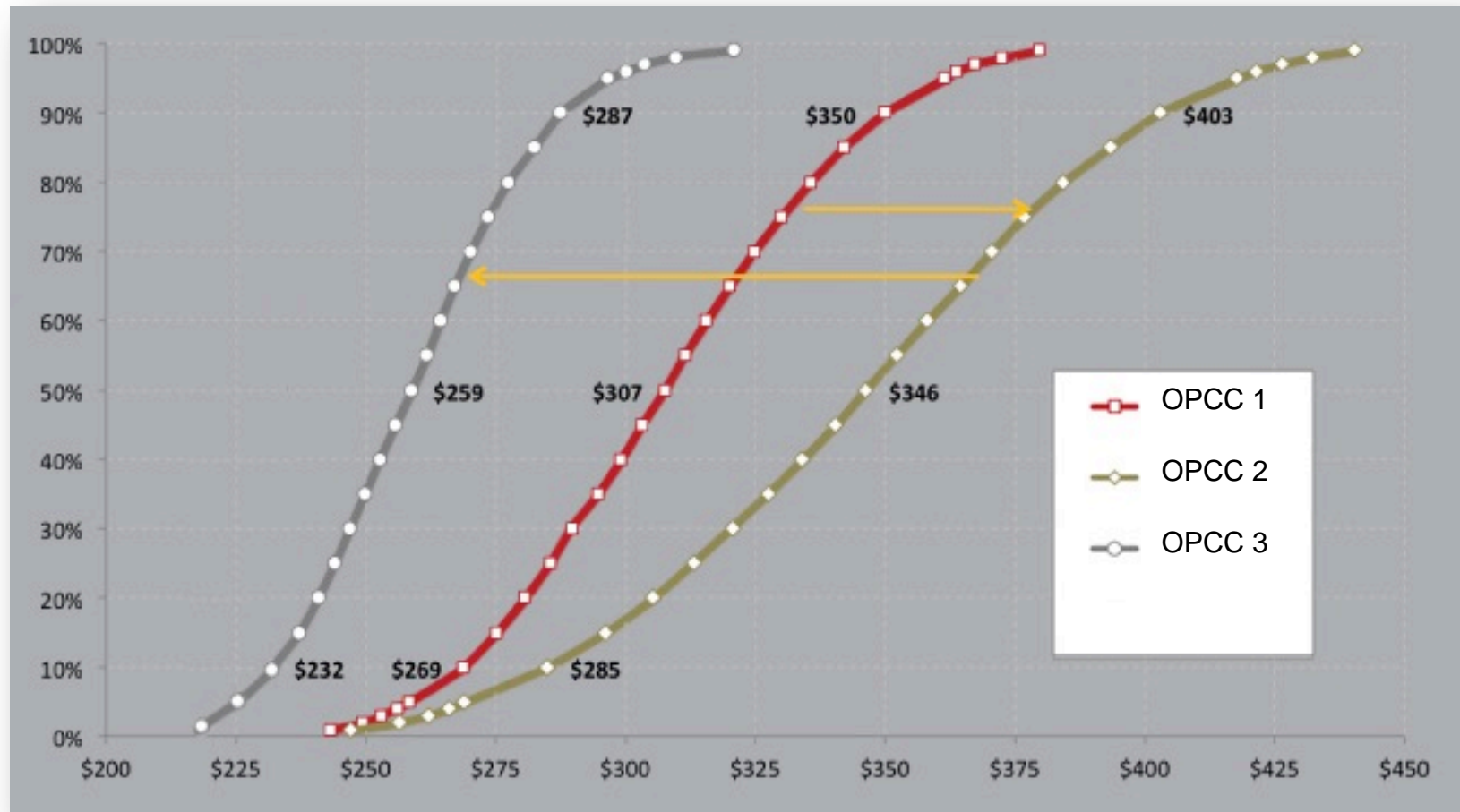
Results – Reduced Construction Costs

Pre-Construction: OPCC 2



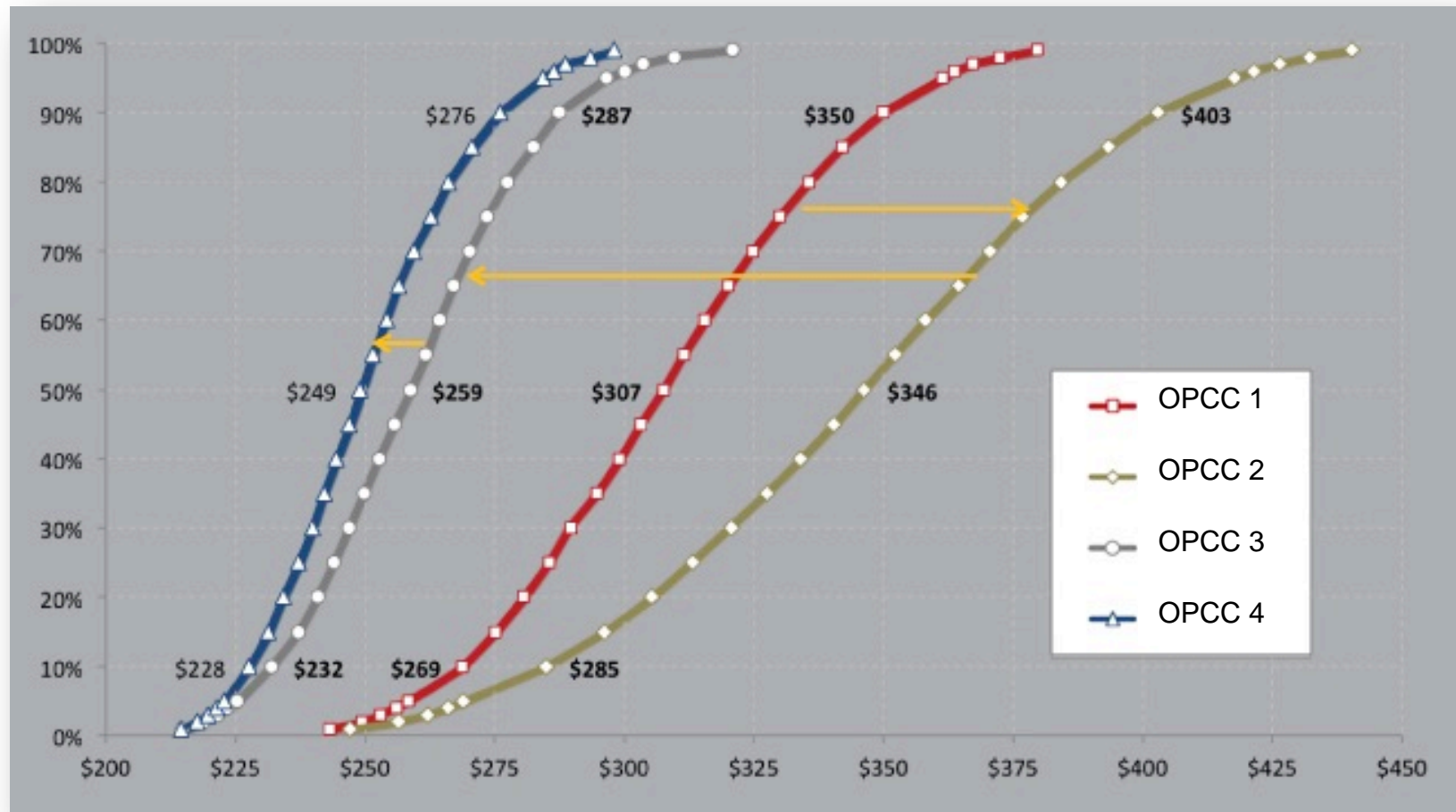
Results – Reduced Construction Costs

Pre-Construction: OPCC 3



Results – Reduced Construction Costs

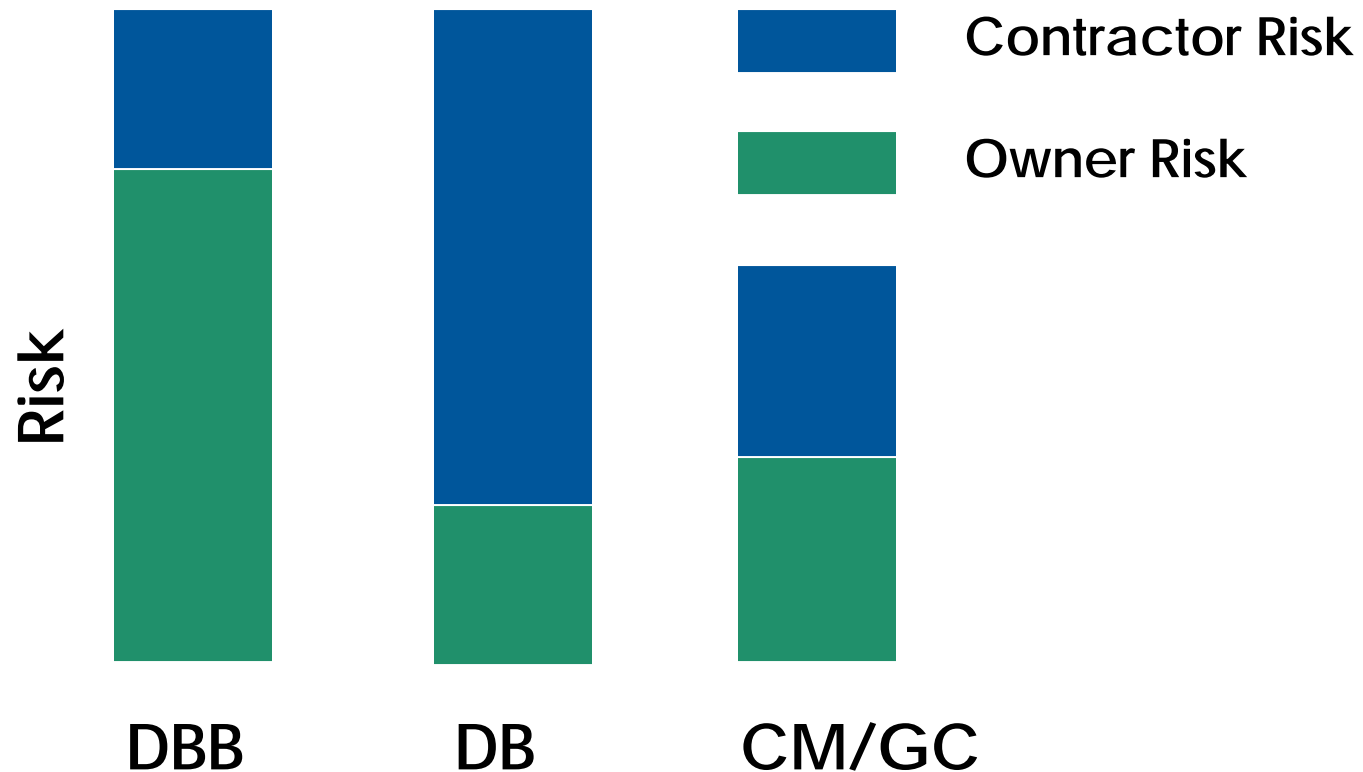
Pre-Construction: OPCC 4





Why use CM/GC?

Collaborative Effort to Reduce Risk & Apply Innovations





Fair Price Strategy

FAIR PRICE vs. LOW BID

- **Engineer's Estimate**
 - Typically based on State Averages – Change Thinking
- **Contractor's Estimate**
 - Prepared for specific project bid items
 - Typically based on production rates and unit price
- **Independent Cost Estimate (ICE)**
 - Cost Validation
 - Reflects Current Market Conditions



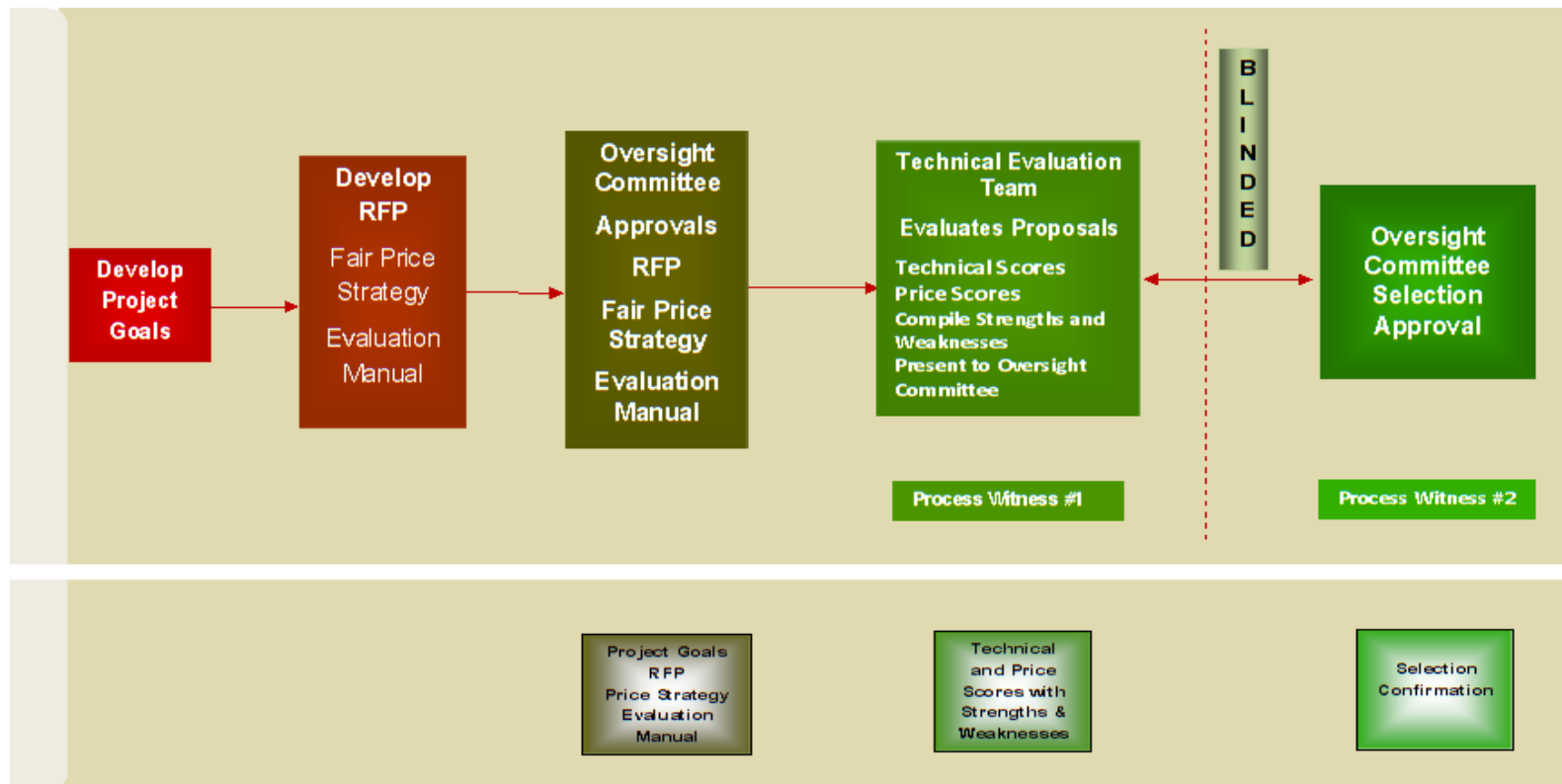
Engineering Solutions Due to Innovative Contracting in Utah

- Innovations – Department directs the **WHAT** – Team Identifies the **HOW!**
 - Divergent Diamond Interchanges (DDI)
 - Continuous Flow Intersections (CFI)
 - Self Propelled Modular Transporters (SPMT's)
 - Slide in Bridges
 - Flexible & Reversible Lanes
 - Movable Barriers



Contractor Selection Process

CMGC Selection Process - *Owner Integrity*



Blinded - Conceal the identity of the Contractors submitting the Proposals; Ensures Proposals are reviewed objectively and that the possibility of bias, whether real or perceived is avoided.

UDOT Lessons Learned – Procurement

- **Project Goals**
- Project Scope
- RFP “Boiler Plate”
- Well Defined Selection Criteria & Scoring Method
 - Focus on the differentiators
 - What are the minimum qualifications?
 - Project Specific





UDOT Lessons Learned – Procurement

- **Blinding of the Oversight Selection Committee**
 - Technical Evaluation Team presents as Proposer A, B, C, etc.
 - Oversight Selection Committee provides an unbiased perspective
- Always leave an option for interviews
- **Include a Consultant & Contractor as a member of the evaluation team**
- Documented Selection Process



Summary of Best Practices

- Project Manager is Key – OWNER CHAMPION
- Open Communication Required
- Getting to Why Designer & Contractor's Approaches & Prices are Different
 - Really understanding what is included and what is reasonable
- Risk Assessment, Mitigation, & Management Strategies
- Trusting Team Relationships
- If Preparing Multiple RFC Phases of Project, Ensure Severability
- Involve Industry in CMGC Process
 - RFP Review Period
 - AGC & ACEC Voting Members
- Production Estimating versus Historical Averages



When to Use CM/GC

Projects with

- High Complexity
 - **Contractor Input Valuable to Project Design**
- Owner Maintaining Control of the Design
- Introduction of New Innovations
- Early Start Possible During Design
 - **Early Procurement of Long Lead Items**
- Third Party Risk
- Variable Scope

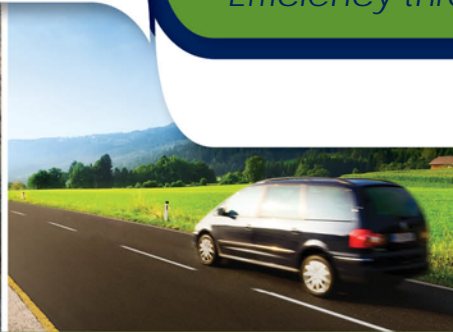




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Brandon Squire
Ralph L. Wadsworth (RLW)

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Ralph L. Wadsworth Experience with CM/GC

- 12 CM/GC projects (8 for UDOT)
- Sample Projects:
 - I-215; 4500 South, \$6 M - SLC UT
 - I-80; State to 1300 East, \$126 M - SLC UT
 - I-80; Summit Park Bridges, \$7 M - Park City UT
 - SR-252, \$20M - Logan UT
- 30-50% of our work is Alternative Delivery
- Regional Contractor – (Western US)



I-215; 4500 South Bridge Replacement



Why CM/GC

I-215; 4500 South

- First bridge move using SPMTs for UDOT
 - Needed to be a success for the future of UDOT's ABC program
 - Challenging travel path
 - Short Closure Window
 - Many design challenges (Girders, Grades, Deflections, etc)
 - Need for open book estimating



I-80; State to 1300 East - Reconstruction



Why CM/GC

I-80; State to 1300 East - Reconstruction

- Needed to Minimize Traffic Impacts
 - Innovative Moveable Barrier System (Reversible Lane)
 - Wanted to use SPMTs and create a standard manual
- Tight Budget – Needed to minimize throw away temporary widening
- Tight Right of Way constraints
- Many 3rd Party Utilities
- Need for open book estimating



I-80; Summit Park Bridge Replacement



Why CM/GC

I-80; Summit Park Bridge Replacement

- Create Standardized Details for Bridge Slides
- Minimize Traffic Impacts on Interstate
- Spread Footings were not feasible
- Severable Girder Package



SR-252; Logan Reconstruct



Why CM/GC

SR-252; Logan Reconstruct

- Large Diameter Sanitary Sewer
- Construction Phasing
 - ROW
 - Utilities
 - Wetlands – 404 Permit
- Multiple Severable Packages



Ralph L. Wadsworth Construction Co.

CM/GC Perspective

- Great Process for
 - Complex and/or high risk projects
 - New Technology/ Innovation
 - Where the owner wants to maintain control of the design & scope but wants contractor involvement
- Reduces Risk (both the owner and contractor)
- Increases Partnering & reduces change orders



Ralph L. Wadsworth Construction Co.

Perspective – Keys to Success

- Involve the ICE early so they understand the project
- Address discrepancies between the ICE and Contractor at each milestone OPCC
- Owner must understand that this is not Design Build and the Owner must “run the show”



Question & Answer Period

