Alternative Project Delivery in Washington State

April 20, 2011

Rodger Benson
Director of Project Development
Mortenson Construction
Mortenson Construction and Alternative Delivery

- Seattle office in existence since 1982
- 200+ local employees
- Largest Design / Build Building Contractor in the Pacific Northwest
- One of largest GC/CM Contractors in Washington – 32 projects
- First chairman of the CPARB Project Review Committee
- Co-developed the DBIA Northwest Chapter – Current President & Secretary
32 GC/CM projects in Washington State totaling over $925 million!

- Bellevue College - Instructional Building Building K
- Bellevue College - Instructional Building Building R
- Bellevue College - Science & Technology Building
- Denney Juvenile Justice Center
- Everett Community College - Gray Wolf Hall
- Everett Community College - Whitehorse Hall
- Everett Community College Glacier Pilchuck Renovation
- Greater Tacoma Convention and Trade Center
- Highline Comm. College / Central WA Univ - Higher Education Center
- LOTT Wastewater Treatment Plant
- Lynnwood Recreation Center Renovation & Expansion
- Post Point Wastewater Treatment Plant
- Sea-Tac International Airport - Parking Terminal Expansion
- ShoWare Center
- Snohomish County Redevelopment Initiative - Administration Building
- Snohomish County Redevelopment Initiative - Administration Building Renovation
- Snohomish CRI - Carnegie Bldg Interior Remodel
- Snohomish CRI - Courthouse Remodel
- Snohomish CRI - Parking Garage and Jail
- South Puget Sound Community College - Science Complex
- Tacoma Pre-Release Facility Preconstruction
- University of Washington - Architecture Hall Renovation
- University of Washington - Bothell/Cascadia Comm. College Campus Phase I
- University of Washington - Bothell/Cascadia Comm. College Campus Phase II
- University of Washington - Tower Data Center
- University of Washington-Paul G. Allen Center for Computer Science & Engineering
- Washington Corrections Center for Women - Phase I
- Washington Corrections Center for Women - Phase II
- Washington Corrections Center for Women - Special Needs Unit
- Washington State Legislative Building - Emergency Response (Disaster Relief)
- Washington State Legislative Building - Seismic Upgrade & Historic Rehab
- Washington Veterans Home Skilled Nursing Facility
- West Police Precinct Station
Northwest Design-Build Projects

45 design-build projects in Washington State totaling over $700 million!

- Goshen North Wind Farm
- Cotterel Mountain Wind Energy Project
- MCI / WorldCom POP Remodel and Expansion
- Rim Rock Wind Project
- Glacier Wind I & II
- U.S. Federal Courthouse in Billings
- Touch America Switch Facility
- TyCom Cable Landing Station
- Allegiance Telecom Switch/Transport Facility
- ICG Communications Switch Facility
- Linden Wind Farm
- Goodnoe Wind Project - Phase I
- Miller's Ranch Wind Project
- Fort Lewis - SOF Support Battalion Complex
- Fort Lewis - UEPH Barracks BCT Complex
- Fort Lewis - FY08 Army Growth Complex
- Fort Lewis - WT Barracks and Site
- Fort Lewis - SOF Compound Expansion
- Fort Lewis - Brigade Complex
- Fort Lewis - BCT COF Complex 3 and 4
- University of Puget Sound - Boiler Decentralization
- UW Benjamin D. Hall - Strand Lab
- UW Benjamin D. Hall - Applied Physics & Neptune Labs
- Cheney Stadium Renovation - Phase 3
- UW Ben Hall LSDF Lab
- UW Ben Hall P1 Hochberg Lab
- UW Ben Hall P1 Hochberg Lab
- AKALAT Center - Quileute Tribal School Gymnasium
- Wa He Lut Indian School
- Boeing - 9-04 Chemical Management Building Ph. I & II
- Food & Drug Administration Office and Laboratory
- Department of the Navy - Bachelor Enlisted Quarters
- UW - Benjamin D. Hall Interdisciplinary Research Bldg.
- UW Benjamin D. Hall - i-AMT Lab
- Department of the Navy - Bremerton Parking Garage
- Department of Ecology - Headquarters
- Cedar River Water Treatment Facility - Structures Package
- Cedar River Water Treatment Facility - Preconstruction & Construction
- UW Benjamin D. Hall - Ecogenomics Lab
- Greater Tacoma Convention and Trade Center
- Amgen - Bothell A & A Building
- Boeing - 40-56 Structural Upgrade
- Amgen - AW5
- SPU - South Recycling and Disposal Station
- ICG Communications Switch Facility
- TyCom Cable Landing Station
- AmSudUSA POP Facility
- McLeodUSA Switch Facility

Building what's next.

Mortenson construction
Agenda

- Public Works Contracting Options in Washington State
  - History
  - Structure
  - Pros & Cons
  - Procurement Criteria
- Authority for Use
- Relative Delivery Costs
- JLARC Study
- Best Practices
Public Procurement in Washington

Design  Bid  Build

The “default” form of procurement for all public projects in our state.
### Traditional Design-Bid-Build Contractual Relationship

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Owner</th>
<th>Designer</th>
<th>Constructor</th>
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<tbody>
<tr>
<td>Three linear phases: Design, bid and build</td>
<td>Program, finance, management</td>
<td>Prepares plans &amp; specs, normal services</td>
<td>Prime &amp; sub construction</td>
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<td>– Owner to constructor</td>
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### Responsibilities

- **Owner**
  - Program, finance, management

- **Designer**
  - Prepares plans & specs, normal services

- **Constructor**
  - Prime & sub construction
Design-Bid-Build Timeline

- A/E Selection
- Program
- Design
- Construction Documents
- Bid Award
- Arrive at Fixed Price
- Construction
- Close Out

Select Architect
Guarantee Price & Schedule
Select Contractor
Design-Bid-Build – The Process

Design-bid-build was a reaction to the favoritism, corruption, and waste associated with major infrastructure projects in the 19th century. Ever since contracting reforms formally separated the design and construction phases at the turn of the century, design-bid-build became the traditional procurement method for public agencies. The design-bid-build used and well-established project delivery method in our country.
Why Owner’s might choose Design-Bid-Build

- Least subjective selection process
- Best understood delivery model
- Longest legal history
- Can produce highly competitive initial pricing
- Auditors, politicians, public and code officials are most comfortable with this contracting method
- Default method for Government; don’t need special permission to use it
- Well suited to uncomplicated projects with straightforward objectives and adequate time
- Least personality driven or subjective of all the choices
D-B-B Perceived Cons

- Inherently adversarial
- No contractor input during design
- Encourages cost cutting and lowest quality for lowest price
- Low bids can encourage high number of change orders
- No owner advocacy from contractor
- Minimal contractor control over subcontractor qualifications
- Owner liable for design
- Guaranteed price late in process and “not truly guaranteed”
Public Procurement in Washington

Alternative Public Works - RCW 39.10

_Sunsets June 30, 2013_

- General Contractor / Construction Manager (GC/CM)
- Design - Build
- Design - Build - Operate - Maintain
- Job Order Contracting
Alternative Delivery – Who can use it?

Can be used by any general or special purpose government body, i.e.

- State Agencies
- Institutions of Higher Education
- Counties
- Cities, Towns
- Hospital Districts
- Port Districts
- School Districts
- Utility Districts, etc.
RCW 39.10 – Alternative Delivery

- Alternative Public Works History
  - GA / DOC authorized to use GC/CM in 1991 as a pilot
  - RCW 39.10 enacted in 1994 for GC/CM and Design-Build
  - Changes to RCW 39.10 law since inception
    - Added authorized users
    - Increased GC/CM self performance
    - Added prequalification for subcontractors
    - Established limitation on of MACC
    - Allowed early procurement for Mechanical & Electrical trades using the GC/CM selection method
CM-at-Risk Contractual Relationship

| Characteristics | • Three linear phases: Design, bid, build or may be fast tracked  
|                 | • Three prime players: Owner, designer, CM-constructor  
|                 | • Two separate contracts:  
|                 |   – Owner to CM-constructor  
|                 |   – Owner to designer  

| Responsibilities | Owner | Program, finance  
| CM-Constructor | Provides pre-construction & project management services, coordinates design prior to construction, is prime with the subcontractors  
| Designer | All normal services  

Two Part Contract
Pre-Construction Services (Design Assist) & Construction
Building what’s next.

GC/CM At Risk Timeline

A/E Selection
Program
Design
Construction
Documents
Bid Award
Construction
Close Out

Select Architect
Select GC/CM
Preconstruction Services

Guarantee Price and Schedule
GC/CM – The Process

The Owner selects a contractor (GC/CM) early in the design process based primarily on qualifications and certain cost elements. As the design is developed, the GC/CM works with the designer to help control costs and ensure constructability. The University then negotiates a final contract amount with the GC/CM, who publicly bids 100% of the trade work to be performed on the project. Most of the work under the GC/CM form of contracting is performed by subcontractors, although the GC/CM can self-perform up to 30% of the work, if it is the successful bidder.
GC/CM Scope of Services

- Bid Package Management
- Bid Program Management
- Budget Control
- Communications Coordination
- Community Relations
- Coordination with other Projects
- Early Procurement
- Disruption Avoidance Planning
- Life Cycle Costing
- M/WBE Vendor Management
- MACC Management
- Market Analysis
- Scope Change Management
- Building Information Management (BIM)
- Cost Benefit Analysis
- Cost Control
- Construction Supervision
- Contract Administration

- Creative Value Analysis
- Document Control
- Insurance Administration
- Logistics Planning
- M&E Estimating
- M&E Value Analysis
- 3D Modeling
- Management Reporting
- Owner Move Planning
- Partnering Workshops
- Permitting
- Project Close Out
- Quality Control
- Reliable Cost Estimating
- Safety Management
- Scheduling & 4D Modeling
- Self Performing Work
- Site Utilization Analysis
GC/CM RCW Highlights

- MACC timing set at 90% CDs
- Major trade packages may be bid prior to setting MACC
- Bidders can be pre-qualified for specialized trades
- Responsible subcontractor criteria must be published prior to bid
- GC/CM purchased equipment cannot be assigned to subcontractors
- Incentives cannot come from contingency intended for coordination of subcontractor work
- Contingencies must be at least 5% of contract value
- Bids over $300,000 require bid and P&P bonds
- GC/CM can conditionally negotiate with low bidder
- Project effectiveness data submittals required
Why Owners Might Choose GC/CM

- Works well for projects where early construction contractor participation is desirable
- Complex scheduling / phasing needs controlling
- Helps resolve challenging constructability issues early in the process
- Provides more cost and schedule certainty to the owner than design-bid-build
- Time for contractor to plan work
- Most control where facility must continue to operate during construction
- Pricing & cost model are developed along with design = less redesign
- Owner gets to select designer and GC/CM personnel
- Lower incidence of claims
- More control over trade contractor involvement
- Non-adversarial – Team orientation
GC/CM Perceived Cons

- Needs to have the right mesh of personalities from Owner, Designer, and Contractor
- Contractors with the deepest resources and expertise get the work
- There tends to be more team meetings and administrative expense during design
- Owner needs to have sufficient expertise to manage both contractor and designer in GC/CM environment
- Designer & builder still have separate contractual relationships with the owner - Potential philosophical disconnect
- Requires significant trust between the parties – tough for some
GC/CM

- No longer a project size threshold
- Requires CPARB’s Project Review Committee (PRC) approval to use alternative delivery for public works projects.
GC/CM RFPs

Inclusions

- Description of the project, program, performance & technical requirements
- Reason for using GC/CM
- Required qualifications
- Evaluation process and relative weighted factors for criteria
- Form of contract
- Estimated maximum allowable construction cost (MACC)
- Bid instruction to be used by finalists
Step 1 – Qualifications

- Ability of the firm’s professional personnel
- Firm’s past performance in negotiated and complex projects
- Ability to meet time and budget requirements
- Ability to self-perform work and scope intended to bid
- Firm’s proximity to the project location
- Recent, current, and projected workload of the firm
- Approach to executing the project
# GC/CM Selection Process

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*Week (Before the 1st day of the month of the review)*

*Week (PRC Meets 3rd Thursday, every other month)*

*Issue*
# Design-Build Contractual Relationship

## Characteristics
- Integrated process-overlapped design & construction
- Often fast tracked
- Two prime players: Owner & design-build entity
- Entity can take on many forms
- One contract:
  - Owner to Design-Builder

## Responsibilities

<table>
<thead>
<tr>
<th>Role</th>
<th>Responsibilities</th>
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<tbody>
<tr>
<td>Owner</td>
<td>Program, performance, requirements and finance*</td>
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<tr>
<td>Design-Build</td>
<td>Design and construction. Can include programming and post-construction services.</td>
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<td>* D-B can expand services to include programming, finance, operate, etc</td>
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![Diagram showing Owner, Design-Build Entity, A/E-Sub Consultants, Sub-Contractors connections](image-url)
Design-Build Timeline

- Select D-B Consultant
- Prepare RFP
- Short List D-B Teams
- D-B Competition
- Preconstruction Services
- Construction Documents
- Arrive at Price
- Guarantee Price & Schedule
- Select Contractor
- Select Architect
- Construction
- Close Out
Design-Build – The Process

- In Design-Build contracting the owner hires a firm with the single point of responsibility for the design and construction of the facility.

- QBS (Qualifications-Based)
  - Project price and design are not selection factors

- BVS (Best Value)
  - With Criteria Documents
    - Owner’s criteria provided to shortlisted proposers
    - Selection based on qualifications, technical solution & price
  - With Bridging Documents
    - Plans & specs are developed beyond +/- 20%
    - Usually leads to low price selection

- Low Bid
Why Owners Might Choose Design-Build

- Single point of responsibility for Owner
- Professional relationship with Contractor & Designer
- A/E & Constructor on the same team providing unified recommendations to Owner
- Errors are addressed - not used as excuses or claims
- Early Constructor involvement enhances constructability
- The Owner needs an early cost commitment
- Project will benefit from value engineering & innovation
- Project requires a construction cost guarantee during design
- Complex Project - requiring close coordination of design & construction expertise
- Desire competitive creativity
Why Owners Might Choose Design-Build (cont.)

- Fewer changes, fewer claims & less litigation
- The Owner considers controlling project risks under one entity a high priority
- Allocate risks to those who can best manage
- Owner “out of middle”
- Earlier knowledge of firm costs
- Design submission & pricing project at proposal stage possible
- Faster, more cost-effective delivery system
- The Owner wishes to fast track the project
- Project requires complex phasing
- Owner is able to specify performance requirements & specifications
- Want team members who chose each other to work with
Design-Build Perceived Cons

- Requires right mesh of personalities – Need the right driver of the bus!
- Owner must accept some uncertainty
- Need competent RFP documents
- Code officials need to be flexible and responsive
- Fewer legal precedents when problems arise
- Requires extensive pre-project planning
- Owner could lose control of process
- Honorariums cover small percent of cost
- Free design can be abused
- Won’t work without team trust
Design-Build Project Criteria

Experienced Owner and Appropriate Project Criteria Established

- Project thresholds remain at $10 million
- New project effectiveness data submittals required
- Pre-engineered buildings don’t need approval
- No cost limit on parking structures
- 10 pilot projects per year allowed under $10 million
- O&M limited to 3 years, except for utility projects
  - 2 demonstration projects > 3 years
Appropriate Design-Build Projects

• Design and construction activities, technologies, or schedule used are highly specialized and a design-build approach is critical in developing the construction methodology or implementing proposed technology; or

• Design is repetitive in nature and is an incidental part of the installation or construction; or

• Regular interaction with and feedback from facilities users and operators during design is not critical to an effective facility design.
Inclusions

- Description of the project and program
- Target budget
- Selection criteria
- “Best and final” submittal process
- Honorarium for unsuccessful finalists
Design-Build Evaluation Factors

Step 1 – Qualifications

- Specialized experience and technical experience
- Capability to perform
- Past team performance
- Accident prevention program
- No price factors permitted for qualifications phase
- Maximum of 5 team short-list
Design-Build Evaluation Factors

Step 2- Finalists Proposal

- Technical approach design concept
- Proposal price
- Ability of professional personnel
- Past performance on similar projects
- Ability to meet time and budget requirements
- Ability to provide payment and performance bond
- Recent, current, and projected work load for team
- Location of team
### Design-Build (BV) Selection Process

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<td>(PRC meets 3rd Thursday, every other month)</td>
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<td>Request for Quals - D/B Teams</td>
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<td>Quals Review and Shortlist</td>
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</tbody>
</table>
Project Review Committee (PRC)

- PRC can **certify experienced public bodies** second 3-years) for use of alternative delivery on projects valued (total project cost) over $10 million. (GC/CM projects under $10 million need separate approval)

- PRC can **approve individual projects**
Project Review Committee

- 30 members of the PRC are appointed by a majority vote of the Capital Projects Advisory Review Board (CPARB)

- Appointments to the PRC must represent a balance among the industries and public

- Members are appointed to 3-year terms
## Project Review Committee

<table>
<thead>
<tr>
<th>Owners</th>
<th>Industry</th>
</tr>
</thead>
<tbody>
<tr>
<td>Public Hospitals</td>
<td>Architect</td>
</tr>
<tr>
<td>Higher Education</td>
<td>Engineer</td>
</tr>
<tr>
<td>Counties</td>
<td>General Contractor</td>
</tr>
<tr>
<td>School Districts</td>
<td>Specialty Contractor</td>
</tr>
<tr>
<td>Washington State GA</td>
<td>Construction Manager</td>
</tr>
<tr>
<td>Ports</td>
<td>Construction Trades Labor</td>
</tr>
<tr>
<td>Cities</td>
<td>Minority / Women Business</td>
</tr>
</tbody>
</table>
PRC Approval

Public Body Must Have:

- Project delivery knowledge and experience
- Sufficient personnel with construction experience to administer the contract
- A written management plan that shows clear and logical lines of authority
- Appropriate funding and time to properly manage the job and complete the project
- Continuity of its project management team
- A necessary and appropriate construction budget
Appropriate GC/CM projects:

- Implementation of the project involves complex scheduling, phasing, or coordination
- The project involved construction in an occupied facility will be operational during construction
- The involvement of the GC/CM during the design stage is critical to the success of the project.
- Project encompasses a complex or technical work environment
- Requires specialized work on a building that has historic significance
Appropriate Design-Build Projects:

1) The design and construction activities, technologies, or schedule to be used are highly specialized and a design-build approach is critical in developing the construction methodology or implementing the proposed technology; or

   a) The project design is repetitive in nature and is an incidental part of the installation or construction; or

   b) Regular interaction with and feedback from facilities users and operators during design is not critical to an effective facility design.

2) Public bodies may use the design-build procedure for parking garages, regardless of cost.

3) Construction or erection of pre-engineered metal buildings or prefabricated modular buildings, regardless of cost. Is not subject to approval by the committee.
PRC Approval

Appropriate Design/Build projects:

4) Can’t be used to procure operations and maintenance services for a period longer than three years.

5) May be used for a public works projects where the total project cost is between $2 million and $10 million and it meets one of the primary criteria (No. 1 on previous slide).

6) A public body may seek committee approval for a design-build demonstration project a period longer than three years.
Public Body Qualifications:
The public body must have the necessary experience or qualified team to carry out the alternative contracting procedure including, but not limited to:

i. Project delivery knowledge and experience

ii. Sufficient personnel with construction experience to administer the contract

iii. A written management plan that shows clear and logical lines of authority

iv. The necessary and appropriate funding and time to properly manage the job and complete the project

v. Continuity of project management team, including personnel with experience managing projects of similar scope and size to the project being proposed

vi. Necessary and appropriate construction budget

For design-build projects, construction personnel independent of the design-build team are knowledgeable in the design-build process and are able to oversee and administer the contract.
PRC Approval

Audits

- Public Body must have resolved any audit findings on previous public works projects in a manner satisfactory to the PRC
Project Review Committee (PRC)

About the Project Review Committee

- GCCM General Contract/Construction Manager Workshop, January 28, 2010
- The 2007 Legislative Session created the Project Review Committee (PRC) through HB 1554 (Chapter 58, Laws of 2007) to work under GCCM. The PRC is responsible to review and approve Public Body Certification and project approval applications for the utilization of GCCM and Design-Build delivery methods of construction.

Project Review Committee - Public Body Certification Forms

- GCCM Certification Application
- DB Certification Application
- Example Internal Approval Process Chart
- Example Construction Personnel Experience Chart
- Example Typical Management Plan
- Example Construction History
- Certification Info Sheet

Project Review Committee - Project Approval Forms

- Project Approval Application
- Project Approval Info Sheet
- Attachment A
- Attachment B
- Attachment C
- Attachment E - Example Construction History
- Attachment E1-E5

Applications and Approvals/Disapprovals

- Submitted Public Body Certification Applications
- Submitted Project Approval Applications
- Public Body Certification Approvals/Disapprovals
- Project Approvals/Disapprovals

Appeal Process

Final determinations by the board may be appealed to the board within seven days by the public body or by an interested party. A written notice of an appeal must be provided to the committee, and, as applicable, to the public body. GCCM shall resolve an appeal within forty-five (45) days of receipt of the appeal and shall send a written determination of its decision to the board and to the public body, as applicable. The public body shall comply with the determination of the Board (GCCM 2010), Section 1009.

- Appeals to the Capital Projects Advisory Review Board (CPARB)

Operating By Laws

- GCCM Operating By-Laws

Member Bios

- Member Contact List

Meetings

- GCCM Advertisement (2010)
2011 PRC Members Needed!

- 1 Owner – Higher Education
- 2 Owners – Counties
- 1 Design – Engineer
- 2 Specialty/Subcontractors
- 1 Construction Manager
- 2 Minority/Women Businesses
- 1 General Owner
Is Alternative Delivery Effective?
Design and Construction Speed

Construction Management at Risk (GC/CM) vs. Design - Bid - Build

Median Design & Construction Speed (1000’s of Square Feet/Month)

Construction Industry Institute (C11)
Research Report (RR 133-11)
Quality

System Performance

Exceeded
Met
Did Not Meet

Construction Management at Risk: 5.4
Design - Bid - Build: 5

Construction Industry Institute (C11)
Research Report (RR 133-11)
GC/CM Process

- **Selection of GC/CM.**
  should be no later than the completion of schematic design

- **Selection based on qualifications and price**
  fixed percentage fee)
  
  - 1st phase: Request proposals, review, shortlist
  
  - 2nd phase: Select best-qualified firm based on proposal, interview and price.
## Comparative Project Delivery Costs

<table>
<thead>
<tr>
<th>Metric</th>
<th>Design-Build vs. Design-Bid-Build</th>
<th>CM@Risk vs. Design-Bid-Build</th>
<th>Design-Build vs. CM@Risk</th>
<th>Level of Certainty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit Cost</td>
<td>6.1% lower</td>
<td>1.6% lower</td>
<td>4.5% lower</td>
<td>99%</td>
</tr>
<tr>
<td>Construction Speed</td>
<td>12% faster</td>
<td>5.8% faster</td>
<td>7% faster</td>
<td>89%</td>
</tr>
<tr>
<td>Delivery Speed</td>
<td>33.5% faster</td>
<td>13.3% faster</td>
<td>23.5% faster</td>
<td>88%</td>
</tr>
</tbody>
</table>

Primary results – summary of average differences between delivery systems (378 projects).

U.S. Project Delivery System Study Construction Industry Institute
*Victor Sanvido & Mark Konchar Copyright 1999*
Assessment of General Contractor / Construction Manager Contracting Procedures

May 18, 2011

Washington State
Joint Legislative Audit and Review Committee
Jill Satran and Isabel Muoz-Colo
# Comparative Project Delivery Costs

## GC/CM vs. Design-Bid-Build

### Concensus:

<table>
<thead>
<tr>
<th>COST</th>
<th>GC/CM</th>
<th>Design-Bid-Build</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owner Administrative Costs *</td>
<td>Higher</td>
<td>Lower</td>
</tr>
<tr>
<td>A/E Design Costs *</td>
<td>Higher</td>
<td>Lower</td>
</tr>
<tr>
<td>Original Bid/MACC Cost</td>
<td>Higher</td>
<td>Lower</td>
</tr>
<tr>
<td>Change Order Costs</td>
<td>Lower</td>
<td>Higher</td>
</tr>
<tr>
<td>Trade Contractor Default Costs</td>
<td>Lower</td>
<td>Higher</td>
</tr>
<tr>
<td>RFI Administrative Costs</td>
<td>Lower</td>
<td>Higher</td>
</tr>
<tr>
<td>Claim / legal costs</td>
<td>Lower</td>
<td>Higher</td>
</tr>
<tr>
<td>Costs for missed VE/Constructibility input to design</td>
<td>Lower</td>
<td>Higher</td>
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<tr>
<td>Extended Schedule Costs</td>
<td>Lower</td>
<td>Higher</td>
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<tr>
<td>Early Revenue Potential</td>
<td>Higher</td>
<td>Lower</td>
</tr>
<tr>
<td>Total Project Cost</td>
<td>Lower</td>
<td>Higher</td>
</tr>
</tbody>
</table>

*May 2005 JLARC Study*
# How Does Industry Research Compare Design-Bid – Build to GC/CM?

<table>
<thead>
<tr>
<th></th>
<th>Traditional Design-Bid-Build</th>
<th>Alternative GC/CM</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Project Complexity</strong></td>
<td>Low-moderate</td>
<td>High</td>
</tr>
<tr>
<td><strong>Schedule</strong></td>
<td>Best suited if reasonable, not a critical factor</td>
<td>Best suited if aggressive, fast-tracking possible</td>
</tr>
<tr>
<td><strong>Compensation</strong></td>
<td>Fixed price, low bid contracting</td>
<td>Negotiated maximum guaranteed price</td>
</tr>
<tr>
<td><strong>Risk</strong></td>
<td>Primarily owner</td>
<td>Some shared risk</td>
</tr>
<tr>
<td><strong>Experience Required</strong></td>
<td>Moderate</td>
<td>High degree of experience required of all participants</td>
</tr>
<tr>
<td><strong>Team Relationship</strong></td>
<td>Adversarial</td>
<td>Collaborative</td>
</tr>
<tr>
<td><strong>Project Cost</strong></td>
<td>Lower design and management costs, potential for significant change orders</td>
<td>Higher design and management potential for reduced change orders</td>
</tr>
<tr>
<td><strong>Project Quality</strong></td>
<td>Standard quality expected</td>
<td>High quality expected</td>
</tr>
</tbody>
</table>

*May 2005 JLARC Study*
Who is Using GC/CM?

$2.7 Billion spent on GC/CM State-level projects

$3.8 Billion spent on GC/CM local-level projects

<table>
<thead>
<tr>
<th>Owner Type</th>
<th>Project Count</th>
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<tbody>
<tr>
<td>Higher Education</td>
<td>33</td>
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<tr>
<td>State Agencies</td>
<td>20</td>
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<tr>
<td>K-12</td>
<td>17</td>
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<tr>
<td>Cities</td>
<td>13</td>
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<tr>
<td>Counties</td>
<td>6</td>
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<tr>
<td>Ports</td>
<td>4</td>
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<tr>
<td>Hospital Districts</td>
<td>2</td>
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<tr>
<td>Public Facilities Districts</td>
<td>6</td>
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<tr>
<td>Other</td>
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</tbody>
</table>
...And On What Kind of Projects?

<table>
<thead>
<tr>
<th>Building Type</th>
<th>Project Count</th>
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<tbody>
<tr>
<td>Non-education related</td>
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<tr>
<td>Office</td>
<td>3</td>
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<tr>
<td>Performing Arts</td>
<td>4</td>
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<tr>
<td>Infrastructure</td>
<td>4</td>
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<tr>
<td>Operational Support</td>
<td>5</td>
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<tr>
<td>Hospital</td>
<td>6</td>
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<tr>
<td>Multipurpose</td>
<td>6</td>
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<tr>
<td>Residential</td>
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<tr>
<td>Prison</td>
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<tr>
<td>Student Services</td>
<td>2</td>
</tr>
<tr>
<td>Research</td>
<td>5</td>
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<tr>
<td>Athletic</td>
<td>5</td>
</tr>
<tr>
<td>Multipurpose</td>
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<tr>
<td>Teaching Lab</td>
<td>11</td>
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<tr>
<td>General Classroom</td>
<td>11</td>
</tr>
<tr>
<td>Unclassified</td>
<td>12</td>
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</tbody>
</table>

Non-education related projects

Education related projects

May 2005 JLARC Study
Where are the GC/CM Projects Located?

Legend
- 0 Projects
- 1-2 Projects
- 3-4 Projects
- 5-7 Projects
- 8-11 Projects
- 12-52 Projects

Building what's next.
## What is Washington’s Experience with GC/CM?

<table>
<thead>
<tr>
<th></th>
<th>Alternative GC/CM</th>
<th>Washington</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Complexity</td>
<td>High</td>
<td>Partially Present</td>
</tr>
<tr>
<td>Schedule</td>
<td>Best suited if aggressive, fast-tracking possible</td>
<td>Present</td>
</tr>
<tr>
<td>Compensation</td>
<td>Negotiated guaranteed maximum price</td>
<td>Present</td>
</tr>
<tr>
<td>Risk</td>
<td>Some shared risk</td>
<td>Inconclusive</td>
</tr>
<tr>
<td>Experience Required</td>
<td>High degree of experience required of all participants</td>
<td>Partially Present</td>
</tr>
<tr>
<td>Team Relationship</td>
<td>Collaborative</td>
<td>Present</td>
</tr>
<tr>
<td>Project Cost</td>
<td>Higher design and management, potential for reduced change orders</td>
<td>Inconclusive</td>
</tr>
<tr>
<td>Project Quality</td>
<td>Higher quality design and facility</td>
<td>Inconclusive</td>
</tr>
</tbody>
</table>
Characteristics Present in Washington

- **Schedule**
  - GC/CM projects appear to adhere closer to projected schedule than DBB projects.

- **Negotiated Compensation**
  - Agencies appear to be successfully negotiating their guaranteed contract cost and staying close to their original budget.

- **Collaborative Team Relationship**
  - GC/CM provides a more collaborative approach in most cases.
GC/CM Best Practices

- Bring GC/CM on board early!
- Be very clear in your definition of specified general conditions and reimbursables (matrix).
- Include “bidable” costs with temporary site services negotiated once the project is further defined. Consider dictating staffing requirements and FTE commitments based on consensus you get from qualifications submittals.
- Create scoring room at qualifications stage to maximize chance of getting the firm/team you want.
- Hold regular design meetings with designers & GC/CM.
- 3rd party cost consultant reconciliations will give you peace of mind.
- Select teams that can “check their egos at the door” in favor of the achievement of project goals.
GC/CM Best Practices

- Consider co-location of your project team at appropriate times during the design effort.
- Be clear about your expectations for the GC/CM’s use of BIM.
- Bring major trade contractors on board early (pending) to support the design effort.
- Consider competitive GC/CM selection for 1st phase of the work with ability to negotiate future phases later.
- Require separate GC/CM team for self-performed work.
- Carry a reasonable design and construction contingency.
- Establish a prescribed allowance for preconstruction services as part of the bid process.
- Staff the project with people that understand the cultural, legal, and administrative differences between DBB & GC/CM.
Design-Build Best Practices

- Set aside traditional processes/relationships
- Shortlist offerors (Required)
- Consider the need for an Owner’s Design-Build consultant
- Provide criteria in lieu of bridging documents in RFP
- Develop performance-based criteria in lieu of prescriptive specifications
- Limit design direction in RFP
- Provide a stipend (honorarium) for shortlisted teams not selected (Required)
- Ask for reasonable submission requirements
- Adequately disclose selection criteria & weighting
Design-Build Best Practices

- Consider financial requirements of proposals
- Best value vs. low price emphasis on scoring
- Balance responsibility/risk in contract language
- Disclose project budget & schedule
- Conduct a balanced evaluation
- Establish adequacy & certainty of funding
- Create unbiased, knowledgeable selection panels
Design-Build Best Practices

- Conduct separate evaluation of price and qualitative factors
- Promptly award the contract
- Debrief unsuccessful offerors
- Use lump sum contracts when selection is based predominantly on price
Alternative Delivery – A Partnership

Requires Change For Stakeholders

- Changing old habits – hard to break!
- Navigating delivery model with legislation
- Emphasis on targets and metrics
- Collaboration/team decision making
- Very different project culture from D/B/B
- Requires the “right people on the bus”
THANK YOU!

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