

PROJECT DELIVERY METHOD EVALUATION MATRIX

Factor 1: Complexity and Innovation

Project complexity and opportunity for innovation reflect the likelihood that the project scope will allow for new designs or processes to achieve the project's purpose and need.

DESIGN-BID-BUILD	
Opportunities	Risks
<ul style="list-style-type: none"> Agency can have more control of complex issues Project development and design opportunities can be researched and implemented as project develops Value Engineering opportunities during design 	<ul style="list-style-type: none"> Limited opportunity for constructability input Limited flexibility for design/construction solutions Opportunities limited to agency/designer input Contractor may implement different methods Change orders inherent in process

CONSTRUCTION MANAGER / GENERAL CONTRACTOR	
Opportunities	Risks
<ul style="list-style-type: none"> Better review and inclusion of project solutions Early team integration and increased opportunity for innovation due to the diversity of the project team Constructability reviews and Value Engineering inherent in collaborative design process Take advantage of materials constraints and availability Risk is more transparent and better communicated 	<ul style="list-style-type: none"> Pre-construction services fees for contractor input Clearly defined cost bidding and negotiating process Customization can add cost or time Additional administration can be necessary for project development phase If Guaranteed Maximum Price (GMP) negotiations break down with initial contractor, DBB is fallback plan

DESIGN-BUILD	
Opportunities	Risks
<ul style="list-style-type: none"> Innovation inherent in process Single point of responsibility Design can be customized/optimized to contractor means and methods and technical strengths Opportunity for innovation with Alternate Technical Concepts (ATC) prior to contract award 	<ul style="list-style-type: none"> Final design details unknown at time of award Project constraints can be difficult to define Goals and expectations need to be well-defined in order to ensure an acceptable outcome Project unknowns have more impact (e.g. differing site conditions)

Complexity & Innovation Summary

	DBB	CMGC	DB
	Opportunity/Risk	Opportunity/Risk	Opportunity/Risk
1. Complexity-Innovation			

Key: M. Most appropriate delivery method
 A. Appropriate delivery method
 L. Least appropriate delivery method
 X. Not Applicable

Notes and Comments:

PROJECT DELIVERY METHOD EVALUATION MATRIX

Factor 2: Delivery Schedule

Delivery schedule is the overall project schedule from scoping through design, construction and opening to the public.

DESIGN-BID-BUILD	
Opportunities	Risks
<ul style="list-style-type: none"> Schedule is more predictable/manageable Elements of design can be advanced prior to permitting, construction, etc. Time to communicate/discuss design with stakeholders 	<ul style="list-style-type: none"> Longer and more linear process Lack of industry input during design Often give too many contract days because contractor's means and methods are unknown

CONSTRUCTION MANAGER / GENERAL CONTRACTOR	
Opportunities	Risks
<ul style="list-style-type: none"> Early identification and resolution of design and construction issues Can accelerate procurement of long-lead items Continuous constructability review and Value Engineering 	<ul style="list-style-type: none"> Potential of not negotiating Guaranteed Maximum Price (GMP) and delaying schedule Designer-contractor-agency coordination Strong agency management is required to control schedule

DESIGN-BUILD	
Opportunities	Risks
<ul style="list-style-type: none"> Accelerated project delivery schedule Industry input into schedule Ability to start or phase construction before entire design is complete More efficient procurement of long-lead items Encumbers construction funds more quickly 	<ul style="list-style-type: none"> Time required to define project requirements and expectations Procurement process can be lengthy Project progress on critical items such as right-of-way, permitting, etc.

Delivery Schedule Summary

	DBB	CMGC	DB
	Opportunity/Risk	Opportunity/Risk	Opportunity/Risk
2. Delivery Schedule			

Key:
 M. Most appropriate delivery method
 A. Appropriate delivery method
 L. Least appropriate delivery method
 X. Not Applicable

Notes and Comments:

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Factor 3: Level of Design

Level of design is the percentage of design completion at the time of the project delivery selection analysis.

DESIGN-BID-BUILD	
Opportunities	Risk
<ul style="list-style-type: none"> Agency has complete control over the design (can be beneficial when there is one specific solution) The scope of the project is well defined when the contractor is bidding the project QA and QC processes for design are well understood Contractor has complete set of drawings to bid on before becoming contractually bound to a price 	<ul style="list-style-type: none"> Contract is tied directly to the completed design, which can result in a higher number of change orders and claims May not utilize innovation or customization opportunities from contractor involvement in design Reduced level of constructability when contractor is engaged in the project after the design is complete

CONTRACTOR MANAGER / GENERAL CONTRACTOR	
Opportunities	Risks
<ul style="list-style-type: none"> Contractor involvement in design, which improves and/or resolves constructability issues Risk is more transparent and better communicated Design is customized to contractor means and methods and the contractor can have a better understanding of the conditions as design progresses 	<ul style="list-style-type: none"> Strong agency management is required to control design progress and decisions Design must be sufficiently far along to allow for negotiation of Guaranteed Maximum Price (GMP)

DESIGN-BUILD	
Opportunities	Risks
<ul style="list-style-type: none"> Minimal design required prior to awarding project Contractor involvement in design, which improves constructability Contractor has direct input into design and customizes it to their particular means and methods 	<ul style="list-style-type: none"> Level of design to determine project scope prior to procurement to get accurate/comprehensive responses Must have very clear definitions and requirements in the RFP - it is the basis for the contract Less direct agency control over the design QA/QC requirements must be clearly defined

Level of Design Summary

	DBB	CMGC	DB
	Opportunity/Risk	Opportunity/Risk	Opportunity/Risk
3. Level of Design			

Key:
 M. Most appropriate delivery method
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 L. Least appropriate delivery method
 X. Not Applicable

Notes and Comments:

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Factor 4: Risk

Risk is the probability of being exposed to unknown events or conditions and how best to manage them.

DESIGN-BID-BUILD	
Opportunities	Risks
<ul style="list-style-type: none"> Risk allocation is most widely understood/used More complete information for risk assessment Opportunity to identify and avoid or mitigate risk through design 	<ul style="list-style-type: none"> Change order risk can be greater Agency-contractor relationship may be adversarial Low-bid risks (quality issues?) Agency assumes most risks before contract is awarded

CONSTRUCTION MANAGER / GENERAL CONTRACTOR	
Opportunities	Risks
<ul style="list-style-type: none"> Opportunities to mitigate and/or allocate risks to appropriate party (i.e., collaborative discussions of risk) Opportunities to manage risks through designer and contractor involvement Unknowns identified and addressed throughout design process 	<ul style="list-style-type: none"> Limited to risk capabilities of a specific contractor Strong agency management is required to address risks Disagreement among designer-contractor-agency

DESIGN-BUILD	
Opportunities	Risk
<ul style="list-style-type: none"> Opportunities to mitigate and/or allocate risks to appropriate party (e.g. schedule, means and methods, phasing) Designers and contractors responsible for innovative solutions to, or avoidance of, unknowns Less management required by agency to solve unknown conditions Opportunity for industry review of risk allocation (draft RFP, ATC processes) 	<ul style="list-style-type: none"> Limited time to resolve risks Additional risks generally allocated to contractor Risk allocations due to unknowns may result in increased bid price

Risk Summary

	DBB	CMGC	DB
	Opportunity/Risk	Opportunity/Risk	Opportunity/Risk
4. Risk			

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 X. Not Applicable

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Factor 5: Agency Factors

Agency experience and level of oversight required for project delivery.

DESIGN-BID-BUILD	
Opportunities	Risks
<ul style="list-style-type: none"> Agency, consultants and contractors have high level of experience with the DBB system Oversight roles are well understood 	<ul style="list-style-type: none"> Often requires a high level of agency staffing Requires a high level of oversight

CONSTRUCTION MANAGER / GENERAL CONTRACTOR	
Opportunities	Risks
<ul style="list-style-type: none"> Smaller number of staff required for oversight Similar design administration as DBB Input from contractor to enhance constructability and innovation Agency selects and has control over the project team (designer and construction manager) 	<ul style="list-style-type: none"> Staff may need additional training to support their changing roles Experience, or lack thereof, negotiating Guaranteed Maximum Price (GMP) projects

DESIGN-BUILD	
Opportunities	Risks
<ul style="list-style-type: none"> Less agency staff required due to the consolidation and risk allocation process Input from contractor enhances constructability and innovation Overall project planning and scheduling is established by one entity 	<ul style="list-style-type: none"> Limitation of availability of staff with specific skills and knowledge Requires high level of quality assurance oversight Staff may need additional training to support their changing roles Resource draw/demand at critical points in process (i.e., RFP development, design, reviews, etc.)

Agency Factors Summary

	DBB	CMGC	DB
	Opportunity/Risk	Opportunity/Risk	Opportunity/Risk
5. Agency Factors			

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 X. Not Applicable

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Factor 6: Market Factors

Market factors refer to the amount of competition in the market place and their capacity and experience to deliver the project, as well as availability of materials and equipment resources.

DESIGN-BID-BUILD	
Opportunities	Risks
<ul style="list-style-type: none"> Promotes high level of bidding competition Opens construction to all reasonably qualified bidders Agency, consultants and contractors have high level of experience with DBB system 	<ul style="list-style-type: none"> Low bid procurement does not always select the most qualified contractor No contractor input into the design process Does not necessarily include innovative concepts and opportunities

CONSTRUCTION MANAGER / GENERAL CONTRACTOR	
Opportunities	Risks
<ul style="list-style-type: none"> Allows for qualifications in contractor procurement Contractor is part of the project early on, creating a project "team" Early identification of resource issues (i.e. materials, equipment, contracting, etc) Contractor has a complete understanding of the project when finalizing the construction price 	<ul style="list-style-type: none"> Teamwork and communication among the project team

DESIGN-BUILD	
Opportunities	Risks
<ul style="list-style-type: none"> Selection is typically based on both qualifications and price Can promote teaming, design innovation, and price competition Design customized to the contractor's unique resources and capabilities Cohesiveness of the design and the construction team throughout the project 	<ul style="list-style-type: none"> Reliant on the design-build team that was awarded the project Limitation of availability of experienced contractors and consultants

Market Factors Summary

	DBB	CMGC	DB
	Opportunity/Risk	Opportunity/Risk	Opportunity/Risk
6. Market Factors			

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Factor 7: Third Party Coordination

Third party coordination is the involvement or activities to comply with regulations and clearances involved with items such as stakeholders, right-of-way, environmental compliance, permitting, etc.

DESIGN-BID-BUILD	
Opportunities	Risks
<ul style="list-style-type: none"> Agency has more time to get required approvals before awarding a construction contract Third party expertise can be brought in during design 	<ul style="list-style-type: none"> Potential for delivery delays due to stakeholder input Possibility of changes by third party as design progresses

CONSTRUCTION MANAGER / GENERAL CONTRACTOR	
Opportunities	Risks
<ul style="list-style-type: none"> Agency has lead with third parties Contractor's involvement during design can mitigate need to renegotiate or otherwise alter third party agreements, such as utilities, irrigation districts, or local entities, when construction begins 	<ul style="list-style-type: none"> Possibility of changes by third party as design progresses

DESIGN-BUILD	
Opportunities	Risks
<ul style="list-style-type: none"> Third party involvement can be managed by design- builder Agency has considerable involvement with third parties 	<ul style="list-style-type: none"> Gaining approvals when design is not complete Challenging to proceed without commitments for right-of-way, utilities, environmental, etc Difficult to define and achieve commitments on all third party requirements prior to issuing the RFP Possibility of changes by third party as design progresses Agency involvement with third parties may impact the Design-Build Firm's schedule and expectations

Third Party Coordination Summary

	DBB	CMGC	DB
	Opportunity/Risk	Opportunity/Risk	Opportunity/Risk
7. Third Party Coordination			

Key:

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- X. Not Applicable

Notes and Comments:
