



Risk Factors in Design-Build: Recommendations for Consideration

**American Road & Transportation Builders Association
Construction Forum**

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Introduction

In many states, the use of design-build for transportation improvement projects has reached maturity. With that experience has come an ongoing dialogue regarding allocation and management of risk. This document intends to facilitate a conversation on this important topic, through a carefully-assembled set of discussion points.

In formulating it, ARTBA's Construction Forum has utilized insights and experiences from the association's diverse membership, working closely with leaders and practitioners from multiple divisions. Please note this is a compilation of "recommendations" in that ARTBA urges owners and design-build team members to review and consider the risk factors listed. It should be seen as a resource to help position the team—and project—for success. At the same time, every project, working environment and team are unique to some degree. Therefore, this document is not intended to be prescriptive, nor interpreted as a checklist of ways to allocate risk. Ultimately, the parties need to develop their own solutions to these risk factors.

Risk remains a wide-ranging and long-standing issue in transportation construction. This compilation looks at risk specifically through the lens of "traditional" design-build procurement. Some of the same risk factors may be found in public private partnerships (P3s), progressive design-build and other methods.

This compilation addresses six major risk areas:

1. Proposal/Procurement Approach
2. Unknown Conditions
3. Scope Expectations
4. Schedule
5. Standard of Care (SOC)
6. Liability

In some cases, the recommendations for each major risk item may overlap with others.

ARTBA's role is not to advocate for the use of design-build or any other particular procurement type. Rather, ARTBA seeks to educate members about experiences with this and other delivery methods, so they can better explore these issues with state and local policymakers. Accordingly, this compilation should not be viewed as an endorsement of design-build itself.

With the passage of the Infrastructure Investment & Jobs Act (IIJA) in Nov. 2021, public owners and the industry face new—and welcome—challenges to effectively utilize record levels of federal investment. We hope these recommendations help inform substantive discussions on design-build's appropriate role in this collaboration. Moreover, ARTBA will continue to host dialogues on these issues at the national level.

Finally, thank you to the many ARTBA members who helped develop this document.

Risk Item #1: Proposal/Procurement Approach

Goal:
**Select the most qualified & collaborative team focused
on business success for all parties**

Owner

- **Consider an appropriate alternative delivery method**
 - Qualifications/past performance rewarded
 - Best value procurement, not low-bid environment
 - In-house capabilities, experience and resources
- **Create a responsible bidding environment**
 - Consider holding an industry forum
 - Provide a draft request for proposal (RFP) with release of request for qualifications (RFQ)
 - Avoid ambiguity/delay in the approvals of alternative technical concepts (ATCs)
 - Score commitment of staff/firms
 - Score scope/schedule commitments
 - Score level of detail and approach for construction
 - Conduct in-person one-on-one owner/proposer meetings
 - Offer a reasonable stipend

BENEFIT – Value expectations are met

Design-Build Team

- **Integrate the entire team**
 - Assign resources familiar with Owner
 - Team members participate in Owner conversations
 - Team members participate in bid progress reviews
- **Understand Risk**
 - Develop Design and Construction Risk Matrix and mitigation strategies
 - Address risk transfer for major items with the owner
 - Reconcile Design and Means & Methods assumptions
 - Address quantity growth from the Bid plans to RFC Plans
 - Identify and discuss design exclusions
- **Verify understanding & expectations**
 - Understand Owner's design-build vs. design-bid-build expectations
 - Follow design criteria, provided in order of precedence by Owner
 - Provide special provisions for any design modifications

BENEFIT – Design-build team member buy-in and engineering level of development defined

Risk Item #2: Unknown Conditions

Goal:

Minimize unknown conditions realizing that unknown conditions are difficult to design for and quantify

Owner

- **Make available adequate information for reliance by bidders**
 - Communicate project history to industry
 - Provide adequate and reliable baseline information and design
 - Establish the right to rely on owner-provided information
 - Address third party coordination such as utilities, environmental, right of way, local jurisdiction, etc.
 - Conduct reasonable field investigations
 - Consider escalation clauses for highly volatile items (e.g. steel, fuel)
 - Engage (or allow design-build team to engage) with third party stakeholders earlier in the procurement process and in more detail
- **Avoid a speculative bid environment**
 - Plan for a scope validation period
 - Address payment methodology for highly variable work elements
 - Provide shared risk contingency pool for certain high-risk variable items
 - Address third party impacts/costs and other matters beyond the control of the contractor
 - Avoid risk transfer of unknown conditions

BENEFIT – A transparent bid environment with price confidence

Design-Build Team

- **Minimize the unknowns**
 - Seek an elevated level of base design information
 - Establish the right to rely on owner-provided information
 - Obtain third parties' information where practical
 - Conduct reasonable, supplemental field investigations
 - Verify means & methods logistics
 - Develop alternatives for unknown items and account for cost and schedule implications for any remaining unknowns
 - Avoid designing "to the edge"
- **Account for items that cannot be quantified**
 - Payment methodology for highly variable work elements
 - Be mindful of ATC conditions and contingencies
 - Address contingency release process

BENEFIT - A transparent bid environment with price confidence

Risk Item #3: Scope Expectations

Goal:

**Ensure scope expectations are aligned before bid
and are consistently managed post award**

Owner

- **Ensure a “right to rely” on information**
 - Bridging documents, field investigations, formal communications are part of RFP
- **Sustain strong project leadership**
 - Maintain a consistent procurement team
 - Consider formal partnering and/or executive-level check-ins
 - Align project size and schedule with industry capacity

BENEFIT – Project alignment with the most qualified industry resources

Design-Build Team

- **Expect and account for design growth**
 - Maintain consistent resources that provide design assist
 - Validate means & methods logistics
- **Discuss post-award expectations**
 - Consider formal partnering and/or executive-level check-ins
 - Utilize a virtual model when reasonable for constructability
- **Clear pre-bid expectations**
 - Don't assume design approvals
 - Perform thorough analysis of design deviations
 - Discuss flexibility of design with contractor

BENEFIT – Bid alignment with owner and design alignment with pricing/budget

Risk Item #4: Schedule

Goal:

Ensure schedule expectations are aligned before bid and are consistently managed post award

Owner

- **Reasonable enforcement of “no excuse” provisions**
 - Specify third party schedule allowances
 - Specify review/approval times
 - Incentivize early completion of contracts and project-specific milestones
 - Appoint a “champion” with the authority to make decisions
 - Engage (or allow design-build team to engage) with third party stakeholders earlier in the procurement process and in more detail
- **Maintain a “project-first” mentality instead of “process-first”**

BENEFIT – Realistic delivery expectations that can be consistently communicated

Design-Build Team

- **Consistently communicate priorities**
 - Perform critical path planning with all the team members including designers
 - Account for contingencies in the schedule
 - Proactively inform the owner of its critical path responsibilities
 - Include designer-expected durations for their design/work items
 - Include design schedule impacts with change order requests
- **Prioritize designs for contractor work items**
 - Include designers in schedule development, including early work items.
- **Communicate specific schedule requirements**
 - Include adequate time for iterative reviews & quality control
 - Alert team of cascading scheduling impacts with each change order
 - Allow time for communication of request for clarification (RFC) plan expectations upon approval

BENEFIT – Understanding by owner, designer & other stakeholders of schedule critical items & related cost impacts

Risk Item #5: Standard of Care (SOC)

Goal: Align project requirements and expectations with industry standards of care

Owner

- **Avoid elevating standard of care**
 - Differentiate contractor warranties from designer standard of care
 - Remove design warranties
 - Remove “intended purpose” language
- **Avoid elevating RFP expectations**
 - Ensure reviews align with RFP
 - Align review team’s comments with RFP
 - Establish a periodic executive-level check-in on Owner and design-build team expectations, and realign as necessary

BENEFIT – A consistent owner SOC that industry can rely on being repeatable

Design-Build Team

- **Avoid speculation that bid plans are at an elevated level of development (LOD)**
 - Clear understanding with designer as to the level of design provided at bid time and quantify growth expectations and who holds quantity risks
- **Understand design industry SOC**
 - Understand designer’s errors & omissions (E&O) policies and insurable vs. uninsurable coverages
 - Align project-specific insurance with designer policies
 - Define the difference between design & quantity growth versus E&O expectations
- **Discuss the LOD of bid plans**
 - Account for remaining designs to be performed
- **Designer standard of care**
 - Ensure SOC contract language is consistent with A/E industry
 - Discuss Remedies if SOC is elevated during procurement
 - Address uninsurable risks

BENEFIT – A strategic business partner with repeatable team success

Risk Item #6: Liability

Goal:

Ensure liability is appropriately aligned and undue/unreasonable risks are not placed on any one party

Owner

- **Limit risks that cannot be quantified or insured**
 - Recognize that significant unknowns lead to large contingencies
 - Allocate risk to the party that can best manage and control it
 - Ensure both parties are in alignment about major risk allocations
- **Goal of a balanced risk allocation among parties**
 - Consider project-specific professional liability policies on large projects
 - Consider reasonable risk caps
 - Effective and timely dispute resolution process, including an escalation mechanism, with the objective of avoiding litigation

BENEFIT – Confidence in a repeatable successfully performing DB team without legacy issues

Design-Build Team

- **Avoid use of professional liability (PL) policies as a contingency pool**
 - Understand level of design provided at bid time and quantity growth expectations and account for it
- **Establish the goal of a shared risk model**
 - Negotiate design teaming agreements before statement of qualifications (SOQ)
 - Negotiate subcontracts before proposal submittal
 - Create an environment for success
 - Align risk tolerance with project size and complexity
 - Address professional liability caps and liquidated damages caps for designers separately
- **Understand team's liability and implement avoidance/mitigation measures**
 - Use alternative designs that mitigate risks
- **Consider the impacts of accepting undue risks**
 - Work beginning before agreements
 - Means and Methods designs
 - Misallocation of risks within the team
 - Misalignment of risk tolerance related to project size and complexity
 - Uncapped and uninsurable liability
 - Designing before receipt of certain information/approvals
 - Work at-risk and continuing without payment

BENEFIT – An understanding of strategic partner's liabilities that can be mitigated and priced accordingly

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