

1-1 Introduction

Design-build is a highly utilized project delivery method by state departments of transportation (DOTs) across the country. Transportation is the fastest growing design-build sector in the United States, with transportation design-build projects substantially increasing since 2010, both in quantity and value of projects.

Design-build is only one method of project delivery used by Washington State Department of Transportation (WSDOT) for delivering transportation projects. Because design-build incorporates both design and construction services in the same contract, it can offer numerous benefits for the right projects. Those benefits include:

- Achieving the best value for the project
- Achieving critical schedule requirements for the project including key milestones
- Achieving the best quality and maximum scope within the limitations of cost, schedule and other project limits
- Early price certainty
- Opportunity for innovation
- Single point of responsibility
- Sustainable staffing levels
- Fair and equitable risk allocation

However, design-build may not be optimal for every project so the WSDOT Project Delivery Method Selection Guidance (PDMSG) should be reviewed when choosing a delivery method.

The Project Delivery Methods section in this Chapter provides background on the three project delivery methods used by WSDOT.

1-1.1 *Project Delivery Methods*

WSDOT primarily employs three types of project delivery methods: (1) traditional Design-Bid-Build (DBB), (2) Design-Build (DB), and (3) General Contractor/Construction Manager (GCCM). The delivery methods differ in the contractual relationship between WSDOT, the contractor, and the designer.

Design-Bid-Build

DBB has been the most utilized project delivery method and continues to be the method most used by WSDOT. The linear nature of the planning, preconstruction, and construction phases is well known and practiced. In this delivery method, WSDOT staff or consultant staff design a project, and when construction plans are complete, the project is let for bids to the construction industry. Typically, the lowest bidder is awarded the contract and construction occurs under WSDOT oversight. Using this delivery method, WSDOT allocates the majority of the responsibility for risk to itself.

Design-Build

DB is a common alternative project delivery method that began in 2001 at WSDOT and has since become a delivery method used by the WSDOT for projects with specialized construction techniques, where opportunities for innovation exist, or where savings in delivery time can be realized. In DB, the owner procures a DB team (a paired contractor and design consultant) with a best-value procurement process. The selected design-build team takes over the preliminary design from the owner and develops the final design for the project. When construction packages are ready, the contractor builds the packages until the project is complete. During this delivery method, the majority of the responsibility and risk for the design and construction is allocated to the selected design-build team. The Design-Builder is responsible for the budget, schedule, and Quality Control. However, for this method to be effective, the owner needs to recognize that there are certain responsibilities and associated risks that the owner is better able to manage. A key to successful design-build is to properly allocate the project risks to the parties that are best able to manage them. The WSDOT project team should spend significant efforts during the procurement phase to research project risks and develop the Technical Requirements to properly allocate risk and focus the design-build team toward achievement of the project goals.

General Contractor/Construction Manager

In GCCM, the owner is the primary Project Manager much like in DBB. However, with this method, the owner takes on new roles while managing separate contracts with a selected GCCM services contractor and its design consultant team. The owner must act as a facilitator, negotiator, decision maker, collaborator, and manager and must be an active participant in every step of the preconstruction and construction phases. GCCM Project Managers make the final decisions on completion; the contractor provides the owner with construction pricing that is negotiated to reach an agreed construction price.

Once a construction contract is executed, the contractor's role changes to that of a general contractor (GC) during construction. This is a very traditional role and is similar to the responsibilities of a GC on a DBB project. The contractor also manages its own risk that it assumed responsibility for or is sharing with the owner.

Comparison of Project Delivery Methods

The delivery methods differ in the timing of the design, procurement, and construction phases of a project. DB and GCCM are often used to advance the construction phase of a project or accelerate the total project delivery schedule. Although project schedules are still controlled by items such as Right of Way (ROW) acquisition, permitting, and funding availability, both design-build and GCCM offer opportunities to accelerate the project delivery time. This is accomplished by having overlapping design, procurement, and construction phases. The contractor also has greater control over project phasing and construction methods that can accelerate the project schedule. The designer and contractor collaborate to develop the design, construction methods, and phasing in support of an efficient construction schedule. Schedule and budget certainty is also obtained sooner in design-build, as the Design-Builder commits to a construction schedule earlier in the procurement process.

1-1.2 Overview of Design-Build Procurement Process

In a typical 2-step design-build procurement process, the first phase is the qualifications phase. WSDOT issues a Request for Qualifications (RFQ). Interested design-build firms respond to the RFQ by submitting Statements of Qualification (SOQs). WSDOT's evaluation team evaluates the SOQs and short lists three to five most qualified firms. The short listed firms are then invited to participate in the second phase – the Request for Proposals (RFP).

In the second phase of design-build procurement, WSDOT issues an RFP along with Instructions to Proposers (ITP). The RFP is comprised of both General Provisions and Technical Requirements and provides the basis for the eventual design-build contract. The ITP requires the short listed Proposers to submit two separate proposals – a Price Proposal and a Technical Proposal. WSDOT's evaluation team evaluates the Technical Proposals and scores them without regard to price. In fact, the Price Proposals are not seen by the evaluation team until bid opening day. At that time, the technical scores for each proposal are combined with the Price Proposals to identify the Apparent Best Value (ABV) Proposer. Refer to Chapters 5 and 6 for additional information regarding the procurement process.

1-2 Laws and Regulations Design-Build

Federal and state legislation continue to evolve in the support of design-build for publicly funded transportation projects. The following section summarizes the existing Federal laws and Washington state legislation that allow for design-build and the regulations that govern design-build.

1-2.1 Washington State Laws

Legislative changes in 2015 approved the use of design-build for projects with contract cost of \$2 Million or greater. Prior to this, projects were approved for a Small Design-Build Pilot Project with the report located at: www.wsdot.wa.gov/NR/rdonlyres/E69DBA9F-45DA-4791-AFC0-33128C1565A1/0/SmallDesignBuildPilotProjectsReport.pdf

According to current State law, [RCW 47.20.780](#), “The department of transportation shall develop a process for awarding competitively bid highway construction contracts for projects over two Million dollars that may be constructed using a design-build procedure.”

According to current State law, [RCW 47.20.785](#), “The department of transportation is authorized and strongly encouraged to use the design-build procedure for public works projects over two Million dollars when:

1. The construction activities are highly specialized and a DB approach is critical to developing the construction methodology; or
2. The projects selected provide opportunity for greater innovation and efficiencies between the designer and the builder; or
3. Significant savings in project delivery time would be realized.

1-2.2 Federal Transportation Act and Design-Build

The last three Federal surface transportation-funding acts included provisions in the support of design-build, which led to the creation and reforms of the FHWA statutory requirements for design-build.

On December 10, 2002, in response to Section 1307 of the Transportation Equity Act for the 21st Century (TEA-21), the FHWA published the final rule that established regulations for design-build contracting in the Code of Federal Regulations (CFR) as Title 23 CFR Part 636. Subsequent modifications required by Section 1503 of the *Safe, Accountable, Flexible, and Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU) resulted in revisions published in a final rulemaking on August 14, 2007. Among the revisions made by SAFETEA-LU were the elimination of the dollar thresholds for qualified projects and permission to release a Request for Proposal (RFP) or award a design-build contract prior to completion of the National Environmental Policy Act (NEPA) of 1969 process. Design-build procurement processes that deviate from the requirements of 23 CFR Part 636 may still require a Special Experimental Project No. 14 (SEP-14) work plan and approval.

The Federal surface transportation bill *Moving Ahead for Progress* in the 21st Century Act (MAP-21) was signed in to law on July 6, 2012 and it further defined regulations for using design-build to deliver Federal-aid projects. MAP-21 made provisions to streamline the environmental review process and broadened the ability for states to acquire or preserve Right of way (ROW) for a transportation facility prior to completion of the review process required under NEPA. MAP-21 also increased funding for the Transportation Infrastructure Finance and Innovation Act (TIFIA) and expanded the types of projects eligible for the program. This increased the states' abilities to engage in public-private partnerships (P3s).

1-2.3 Federal Design-Build Law

Statutory Requirements:

Title 23 of the United States Code (U.S.C.), Part 112(b) (3) provides the FHWA's statutory requirements for the design-build project delivery method. It includes the following:

- *A state transportation department or local transportation agency may award a Design-Build contract for qualified projects using any procurement process permitted by applicable state and local law.*
- *Design-build contract means an agreement that provides for design and construction of a project by a contractor, regardless of whether the agreement is in the form of a design-build contract, a franchise agreement, or any other form of contract approved by the Secretary.*

Regulatory Requirements:

Title 23 CFR Part 636 provides the FHWA's regulatory policy for the design-build project delivery method and is broken into five subparts:

- Subpart A—General
- Subpart B—Selection Procedures, Award Criteria
- Subpart C—Proposal Evaluation Factors
- Subpart D—Exchanges; and Subpart E—Discussions, Proposal Revisions and Source Selections

Qualified projects are defined as projects meeting requirements of Title 23 CFR Part 636.

For information regarding 23 CFR, Chapter 1 (Federal Highway Administration, Department of Transportation, see [Chapter 10](#) of this manual.

1-2.4 **Federal Regulations and the NEPA Process**

Within 23 CFR Part 636, FHWA has put into effect its design-build contracting regulations that establish the parameters by which state transportation departments (STDs) may deliver projects using design-build, and how it relates to the NEPA process. The section that pertains to how far an STD can take a procurement process prior to the conclusion of the NEPA process follows:

§ 636.109 - How does the NEPA process relate to the design-build procurement process?

The purpose of this section is to ensure that there is an objective NEPA process, that public officials and citizens have the necessary environmental impact information for Federally funded actions before actions are taken, and that design-build Proposers do not assume an unnecessary amount of risk in the event the NEPA process results in a significant change in the proposal, and that the amount payable by the contracting agency to the Design-Builder does not include significant contingency as the result of risk placed on the Design-Builder associated with significant changes in the project definition arising out of the NEPA process.

Therefore, with respect to the design-build procurement process:

(a) The contracting agency may:

- (1) Issue a Request for Qualifications (RFQ) prior to the conclusion of the NEPA process as long as the RFQ informs Proposers of the general status of NEPA review.*
- (2) Issue an RFP after the conclusion of the NEPA process.*
- (3) Issue an RFP prior to the conclusion of the NEPA process as long as the RFP informs Proposers of the general status of the NEPA process and that no commitment will be made as to any alternative under evaluation in the NEPA process, including the no-build alternative.*

- (4) *Proceed with the award of a design-build contract prior to the conclusion of the NEPA process.*
 - (5) *Issue NTP with preliminary design pursuant to a design-build contract that has been awarded prior to the completion of the NEPA process.*
 - (6) *Allow a design-builder to proceed with final design and construction for any projects, or portions thereof, for which the NEPA process has been completed.*
- (b) *If the contracting agency proceeds to award a design-build contract prior to the conclusion of the NEPA process, then:*
- (1) *The contracting agency may permit the Design-Builder to proceed with preliminary design.*
 - (2) *The contracting agency may permit any design and engineering activities to be undertaken for the purposes of defining the project alternatives and completing the NEPA alternatives analysis and review process; complying with other related environmental laws and regulations; supporting agency coordination, public involvement, permit applications, or development of mitigation plans; or developing the design of the preferred alternative to a higher level of detail when the lead agencies agree that it is warranted in accordance with 23 U.S.C. 139(f)(4)(D).*
 - (3) *The design-build contract must include appropriate provisions preventing the design-builder from proceeding with final design activities and physical construction prior to the completion of the NEPA process. (contract hold points or another method of issuing multi-step approvals must be used)*
 - (4) *The design-build contract must include appropriate provisions ensuring that no commitments are made to any alternative being evaluated in the NEPA process and that the comparative merits of all alternatives presented in the NEPA document, including the no-build alternative, will be evaluated and fairly considered*
 - (5) *The design-build contract must include appropriate provisions ensuring environmental and mitigation measures identified in the NEPA document will be implemented.*
 - (6) *The Design-Builder must not prepare the NEPA document or have any decision-making responsibility with respect to the NEPA process.*
 - (7) *Any consultants who prepare the NEPA document must be selected by and subject to the exclusive direction and control of the contracting agency.*
 - (8) *The Design-Builder maybe requested to provide information about the project and possible mitigation actions, and its work product may be considered in the NEPA analysis and included in the record.*
 - (9) *The design-build contract must include termination provisions in the event that the no-build alternative is selected.*

- (c) *The contracting agency must receive prior FHWA concurrence before issuing the RFP, awarding a design-build contract, and proceeding with preliminary design work under the design-build contract. Should the contracting agency proceed with any of the activities specified in this section before the completion of the NEPA process (with the exception of preliminary design, as provided in paragraph (d) of this section), the FHWA's concurrence merely constitutes the FHWA approval that any such activities complies with Federal requirements and does not constitute project authorization or obligate Federal funds.*
- (d) *The FHWA's authorization and obligation of Preliminary Engineering and other preconstruction funds prior to the completion of the NEPA process is limited to preliminary design and such additional activities as may be necessary to complete the NEPA process. After the completion of the NEPA process, the FHWA may issue an authorization to proceed with final design and construction and obligate Federal funds for such purposes.*

Further information about the NEPA process may be found in Chapter 400 of the WSDOT [Environmental Manual](#) M 31-11.

1-3 Resources

1-3.1 *Project Delivery Method*

In 2015, WSDOT developed the PDM to evaluate projects for the most appropriate PDM based on each projects attributes, opportunities, and risks that result in the most cost effective and best value project delivery. A State Construction Office led focus group developed the PDM guidance, with input from the WSDOT, AGC and ACEC Design-Build Committee. With this new guidance, all projects will be evaluated for the optimal PDM.

1-3.2 *Design-Build Work Group*

The WSDOT Design-Build Work Group (DBWG) which has representatives from each region had significant input into the development of this manual and will continue to be an advisory group for future manual updates. The DBWG is a resource for Regions and Project Engineer Offices in the project delivery and administration of a Design-Build project. Contact the Design-Build Program at WSDOT HQ Construction Office for a distribution list of DB Work Group members.

1-3.3 *Design-Build Training Modules*

The HQ Design-Build Program has established and implemented an approved DB Training Program. The [DB Training Program](#) consist of varies training module ranging from procurement guidance to contract close out. These trainings are offered annually at the DB Training Summit and on demand as necessary.

1-3.4 *Design-Build Institute of America (DBIA)*

The Design-Build Institute of America is an organization that defines, teaches and promotes best practices in design-build. www.dbia.org/Pages/default.aspx

1-4 Acronyms (common design-build acronyms)

Common design-build acronyms and abbreviations can be found in [Section 1-01.2\(1\)](#) of the RFP.

1-5 Definitions (common design-build definitions)

Common design-build definitions can be found in [Section 1-01.3\(1\)](#) of the RFP.