Project Delivery Method Selection Guidance
September 2019

Purpose:

In alignment with Reform VII, this guidance aids WSDOT staff in evaluating projects for the most appropriate Project Delivery Method (PDM). Each project's attributes, opportunities and risks will be considered in identifying the most cost effective and best value delivery method.

Goals:

1. Establish a systematic consistent approach to be applied throughout WSDOT,
2. Establish how and when a project should be assessed,
3. A scalable selection process,
4. Provide the documentation for PDM approval,
5. Identify approval levels and endorsements in the process.

Historically, Design-Bid-Build (DBB) has been the default for WSDOT projects unless an Alternative PDM, such as Design-Build (DB) or General Contractor/Construction Manager (GCCM) was pursued. In those cases, internal approval was required from the WSDOT Chief Engineer.

WSDOT is legislatively pre-approved and strongly encouraged to use DB as a PDM for projects with a cost of $2 Million and greater. The use of GCCM by WSDOT currently requires approval from the Capital Projects Advisory Review Board, a separate entity outside of WSDOT.

Consistent with the goals identified above, WSDOT, working in collaboration with the Association of General Contractors (AGC) of Washington and the Association of Engineering Companies (ACEC), has developed the Project Delivery Method Selection Guidance (PDMSG) as outlined in this document. This guidance will be applied to all WSDOT projects from this point forward to determine the optimal PDM. Originally, the PDMSG evaluated three methods: DBB, DB, and GCCM. At this point, GCCM is set aside. Regional authorities will typically provide the approval of the Final PDM.

The guidance in this document is tailored to incorporate WSDOT's policies and values while retaining the data and evaluation criteria applicable to all transportation projects. After assessing the PDM evaluation methods used by the transportation industry and other entities, a fundamental basis for using a PDM selection process emerged. No one PDM is optimal for all projects.

-   The PDMSG is integrated with the existing WSDOT Project Development process.
-   All projects are evaluated in two steps:

- o The Probable PDM is established during the Scoping Phase prior to the approval of the Project Profile by Region Program Management Offices while collaborating with region subject experts and documented in CPMS.
- o The Final PDM is determined once the Project Profile is approved, a work order is set up for the project, and the project is assigned to a Region Project Engineer's Office. This Final PDM is determined at 10% to 30% design, and should include a risk assessment prior to making the final PDM determination.

- The process to determine the Probable PDM and the Final PDM is scalable to the size and complexity of the project.

- A Selection Checklist is used during the Final PDM and is used to quickly identify projects that have an obvious optimal PDM.

- A Selection Matrix (if needed as a second step) is used for more complex projects to determine the Final PDM.

A Workshop is required for projects with costs of $100 Million and greater to determine the Final PDM. The Workshop should include the Project Engineer (PE), Project Development Engineer (PDE)/Engineering Manager (EM), Assistant State Design Engineer (ASDE), Assistant State Construction Engineer (ASCE), Region and Headquarters support groups, Subject Matter Experts (SME), etc.

Introduction

This guidance document provides a systematic approach for selecting the optimal PDM for WSDOT projects. It provides the definitions, background, tools and processes to accomplish the following tasks and deliverables:

- Assist WSDOT staff to determine the best PDM for each project.

- Document the PDM decision and approval process.

- Provide the ability to track trends of the project delivery method from year to year.

This document provides evaluation tools to determine the optimal PDM for projects, scalable to the appropriate level of effort based on the type and size of the project. WSDOT's policy is that projects less than $2 million and preservation projects less than $10 million are programmatically excepted from PDMSG.

PDMSG is integrated into the existing project development processes as outlined in the WSDOT Design Manual (M22-01), including the Project Deliverables Expectation Matrix (Section 305.04(1)(b)). It also coordinates with the CRA-CEVP workshop processes as described in the Project Risk Management Guide. The PDM determination is integrated into the Design Document Package contained in the Project File.

Project Delivery Method Selection Overview

Definitions

In addition to terms defined in the WSDOT Design Manual, the following terms are defined for use with this guidance.

Alternative Project Delivery Method

An Alternative Project Delivery Method refers to any PDM other than traditional DBB. In this guidance, it refers to DB and GCCM.

Selection Checklist

The Selection Checklist is an initial tool developed to quickly evaluate projects using a series of questions.

Selection Matrix

The Selection Matrix is a form of decision matrix developed to evaluate the probability of each of the possible Project Delivery Methods to meet the Project Goals.

Project Goals

Project Goals are observable and can measure progress toward project objectives. Typically, Project Goals are the highest priority end results necessary for a successfully delivered project. Project Goals differ, but may overlap with goals established as criteria in a Design-Build procurement process. Project Goals and their related Project Delivery Goals are evaluated with numerical scores.

Project Delivery Goals

Project Delivery Goals are goals related to the characteristics of the PDMs. A Project Goal may be identical to a Project Delivery Goal or it may have a related goal determined by the Project Goal specifics, causes or risks. Project Delivery Goals are a refinement of the Project Goals and are used to evaluate the ability of the PDMs to meet the Project Goals based on the characteristics of the PDMs.

Weights

Weights are a way to apply relative importance to Project Goals as part of the evaluation process in the Selection Matrix.

Ratings

Ratings are provided in the Selection Matrix and show the relative value of each PDM in achieving the associated Project Goal. Modifications to the Project Goals or new Project Goals may require that the associated ratings be adjusted or created. Appendix A.6, PDM Attribute Comparison Spreadsheet, provides data on the pros and cons of each potential PDM as it relates to project attributes and Project Goals.

The Benefits and Timing of Project Delivery Method Selection

No single PDM is optimal for every project; therefore, each project should be evaluated to determine the best PDM.

Some of the benefits associated with selecting the optimal PDM for WSDOT projects include:

- Achieving the best price or 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,

- Aligning the Design and Construction Office staff resources with the PDM to increase contract administration efficiency,

- Aligning the attributes of the project with the PDM to best meet the Project Goals,

- Utilize the characteristics of the PDM to effectively mitigate or respond to project risks.

Early identification of the PDM enhances the benefits of using this PDM for the project. The benefits associated with any PDM are reduced or negated if the PDM is not selected early in the design process. There are exceptions, some projects may need to be reevaluated if there are significant changes to the scope, or there is new information that influences or changes the attributes and risks.

The benefits of early identification of PDM include:

- The Project Management Plan (PMP) —needs will vary based on the PDM selected. Early selection maximizes the benefits of having a solid PMP.

- Early selection allows effective early design decisions that affect final costs.

- Early selection facilitates selecting the project office staff and early determination of design effort/resource loading, scheduling and budgeting.

- Early selection facilitates incorporation of PDM risk allocation into the cost estimate.

- Scoping estimates will be more accurate by allowing the team to estimate using factors appropriate to the PDM.

The Project Delivery Methods Available to WSDOT

The Project Delivery Method is the process by which a transportation project is comprehensively designed and constructed from project definition to closeout. The different Project Delivery Methods are distinguished by the manner in which contracts between WSDOT, designers and contractors are formed and the technical relationships that evolve between each party inside those contracts.

WSDOT primarily uses two types of Project Delivery Methods Design-Bid-Build (DBB) and Design-

Build (DB). In the future a third delivery method - General Contractor/ Construction Manager (GCCM) may be pursued. The Project Delivery Method determines when the parties become engaged and influences ownership and impact of changes on project cost. No single Project Delivery Method is ideal for all projects. Each project must be examined individually to determine how it aligns with the attributes of each available Project Delivery Method.

Design-Bid-Build (DBB):

Design-Bid-Build is the traditional PDM used by WSDOT. When using DBB, WSDOT designs, or retains a designer to furnish complete design services, and then advertises and awards a separate construction contract based on the WSDOT or designer's completed construction documents. In DBB, WSDOT has control over the entire process, is responsible for the details of design during construction, and as a result, is responsible for the cost of any errors or omissions encountered in construction. In DBB, selection of the contractor is based solely on price, with award of the contract based on the lowest bid.

Design-Build (DB):

Design-Build is a PDM in which WSDOT procures both design and construction services in the same contract from a single, legal entity referred to as the Design-Builder. WSDOT typically uses a two- phase selection process, where Design-Builders are shortlisted based on qualifications in the first phase and then selected based on price and approach in the second phase. The DB project delivery method allows the phases of design and construction to overlap. The Design-Builder becomes involved early in project development, at approximately the 15% to 30% design level, offering opportunities for innovation and improved constructability, and confirming project costs early. The Design-Builder controls the details of design and is typically responsible for the cost of any design errors or omissions encountered during construction.

Per RCW 47.20.785, WSDOT is authorized and is strongly encouraged to use the Design-Build project delivery method for projects that cost $2 Million or more.

> **RCW 47.20.785**
>
> **Design-build—Qualified projects.**
> 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 design-build approach is critical in 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.
>
> [**2015 3rd sp.s. c 18 § 2; 2006 c 37 § 1; 2001 c 226 § 3.**]

The Probable Project Delivery Method (Probable PDM):

The Probable PDM is a preliminary determination that is used for project planning until the Final PDM is determined early in the Preliminary Engineering (PE) phase. The Probable PDM is determined in the scoping stage of a project before the approval of the Project Profile / Project Summary. The Probable PDM process is to provide the **PDM intent** for the project as **initial direction to the project office**. The Probable PDM will be a field that will be included with the project summary/profile. The Probable PDM is much more elementary than the Final PDM and does not require the use of the PDM Checklist or PDM Matrix. The Probable PDM will be entered into the Capital Program Management System (CPMS) by the Region Program Management Offices, and is reported by the HQ Capital Project and Development Management Office (CPDM) for the current delivery plan.

Final Project Delivery Method (Final PDM):

Final PDM is the PDM determination submitted for approval in PE phase. Final PDM selection occurs after the project is assigned to a Project Engineer's Office (approximately 10% -30% design). The Project Engineer will determine the Final PDM using either the PDM Selection Checklist, the PDM Selection Matrix or both.

For the PDM Checklist and PDM Matrix, see Appendix 1 and 2

Project Delivery Method Selection Process		
Project Cost	Selection Document/Tools	Authorizations
Less Than $2 Million	Projects will be Design Bid Build	Programmatically Except
$2 Million or Greater but Less than $25 Million	Selection Checklist	• Signature by Project Engineer • PDE / EM Manager Approval
$25 Million or Greater but Less than $100 Million	Selection Checklist and Consider *Selection Matrix	• Signature by Project Engineer • PDE / EM Manager Endorsement • • Regional Administrator Approval
$100 Million or Greater – Design Build Recommended	*Selection Matrix	• Signature by Project Engineer • PDE / EM Manager • Regional Administrator Approval
Exception or Change of Final PDM (regardless of Project Cost)	NA	• PDE / EM Manager Endorsement • Regional Administrator Endorsement • Chief Engineer Approval for Projects greater than $100 million.

Notes:

The Project Cost is the total of the Preliminary Engineering and Construction Costs.

Projects under $2 million are programmatically exempt from PDMSG, do not require a Selection Checklist, and will be Design Bid Build.

Preservation Paving projects under $10 million are programmatically exempt from PDMSG, do not require a Selection Checklist, and will be Design Bid Build.

Design Build's most likely application would be for improvement projects in the mobility, economic initiatives or environmental subprograms where there are opportunities for innovation, greater efficiencies or significant savings in project delivery time.

*The Selection Matrix is developed using a work shop approach. The work shop should include the Project Engineer, PDE/EM, ASCE, ASDE, region and HQ support groups, Subject Matter Experts, etc.

Project Delivery Method Selection Checklist   (Appendix 1)

Project Title:		Date:	
		WIN:	
Route:		PIN:	
MP(s):		List any additional PINs at bottom or attached to this form.	
Cost:			

Part I — Cost   RCW 47.20.785 does not encourage Design-Build for a project contract cost (PE & Construction) less than $2 Million

Is the Project Estimate less than $2 Million?

☐ Yes — A selection process and authorization are not required — the delivery method is Design-Bid-Build.

☐ No — Continue to Part II

Part II — RCW 47.20.785 Project Qualifications for Design-Build Method

	Yes	No
1. Are construction activities highly specialized?	☐ Yes	☐ No
2. Are there complex staging, maintenance of traffic, constraints, risks, etc. that will affect the construction methodology?	☐ Yes	☐ No
3. Does the project provide opportunity for greater innovation & efficiencies between the designer & builder?	☐ Yes	☐ No
4. Would use of DB result in significant reduction to the overall project schedule or critical milestones?	☐ Yes	☐ No

If **Yes** was selected for <u>any</u> of questions 1 through 4 above, Design-Build is a viable PDM option. (Go to Part III)

If **No** was selected for <u>all</u> of the questions 1 through 4 above, it indicates Design-Bid-Build as the PDM — get authorization (end).

Part III — Project Questions

SCHEDULE	A. Are there 3rd party agreements with local government or agencies that require a full design before execution? (Is a significant portion of the project impacted?) Justification:	☐ Yes	☐ No
	B. Are there long lead, lengthy environmental permits or ROW issues that would delay start of Construction? (Is a significant portion of the project impacted?) Justification:	☐ Yes	☐ No
	C. Is early obligation of funds necessary? (Such as a deadline to obligate grant funding) Justification:	☐ No	☐ Yes
	D. Is there time to prepare 100% design? Justification:	☐ Yes	☐ No
	E. Is there a need to compress the schedule? Justification:	☐ No	☐ Yes
	F. Do funding limits restrict when the schedule can start? (Such as the Biennium) Justification:	☐ Yes	☐ No
INNOVATION	G. Are there significant risks that could be better managed by others than WSDOT? Justification:	☐ No	☐ Yes
	H. Does the project involve specialty engineering or high-tech designs or have other opportunities for innovation? Justification:	☐ No	☐ Yes
	I. Does the project require complex phasing and staging with the possibility of high impacts to the public? Justification:	☐ No	☐ Yes

Project Delivery Method Selection Checklist

	Part III — Project Questions		
COMPLEXITY &	J. Does an existing road or facility need to remain in service? (no options for detour, or no alternate facility available, and a significant portion of the project is impacted) Justification:	☐ No	☐ Yes
	K. Is WSDOT willing to give up control of design and/or construction on this project? Justification:	☐ No	☐ Yes
	L. Are critical 3rd party involvement and changes likely during design & construction? Justification:	☐ Yes	☐ No
COST	M. Is early certainty of the total project cost important? (Increased certainty of total cost early in the project needed due to funding or project constraints) Justification:	☐ No	☐ Yes

Sum each column to the right—a checked answer is worth one (1) point. The column with the most points indicates the recommended delivery method.

<u>DBB</u>   <u>DB</u>

Project Delivery Method indicated from the responses to the questions in Part III (above)   Score:

☐ DBB   ☐ DB   ☐ Inconclusive

The project cost is:

☐ **less than $25 million** — get Authorization Level 1 (below)

☐ **$25 million or greater, but less than $100 million** — get Authorization Levels 1 & 2 (below)

☐ **$100 million or greater** — apply Project Delivery Selection Matrix / Workshop – get Authorization Levels 1 & 2 (below)

Final Project Delivery Method Selected
☐ **Design-Bid-Build**   ☐ **Design-Build**
Authorization Level 1
Project Engineer
Name: Signature: _____
PDE/EM Manager
Name: Signature: _____
Authorization Level 2
Regional Administrator
Name: Signature: _____

Attach project information, assumptions and additional justification to Form

Project Delivery Method Selection Matrix

Project Title:		Date:	
		WIN:	
Route:		PIN:	
MP(s):		List any additional PINs at bottom or attached to this form.	
Cost:			

- Begin with the list of generic considerations offered below; modify or add entries as required. Indicate if the entry is a Project Delivery Goal by checking/selecting the Goal box; if not, leave blank.
- Weights: Enter numbers indicating the relative priority of each Project Delivery Goal (checked/selected)—higher numbers are higher priority—1 is the lowest.
- Ratings: Numbers from 1 to 10, with 1 lowest and 10 highest; a two point range is provided for the generic entries as given. Select the Rating that best fits the specifics of your Project Delivery Goal. If a Goal is modified or rewritten, confirm that the ratings are appropriate and revise them accordingly. Any new Goals added to the Matrix will need to have ratings provided based on the probability of each PDM to meet the Goal.
- Score: Multiply the selected Rating of each method by the priority Weight for each Goal. Total the scores for each method (column) and compare.

	Consideration	Weight	DBB Rating	DBB Score	DB Rating	DB Score
SCHEDULE	☐ Goal Minimize project delivery time		☐ ☐ 4 5		☐ ☐ 9 10	
	☐ Goal Meet a specific critical Milestone or Completion date		☐ ☐ 4 5		☐ ☐ 9 10	
	☐ Goal Utilize (federal) funding by a certain date		☐ ☐ 6 7		☐ ☐ 9 10	
	☐ Goal Effectively manage weather, environmental and/or other construction windows		☐ ☐ 6 7		☐ ☐ 9 10	
	☐ Goal Funding limitations impacts ability to compress the schedule and/or contract all the work early in the process (such as the biennium, grants, etc.)		☐ ☐ 9 10		☐ ☐ 6 7	
	☐ Goal		☐ ☐		☐ ☐	
	☐ Goal		☐ ☐		☐ ☐	
COST/FUNDING	☐ Goal Minimize project cost		☐ ☐ 6 7		☐ ☐ 6 7	
	☐ Goal Complete the project on budget		☐ ☐ 6 7		☐ ☐ 6 7	
	☐ Goal Maximize the project scope and improvements within the budget		☐ ☐ 4 5		☐ ☐ 8 9	
	☐ Goal Project cost must not exceed a specific amount		☐ ☐ 6 7		☐ ☐ 8 9	
	☐ Goal Determine the total project cost as early as possible in the schedule		☐ ☐ 4 5		☐ ☐ 9 10	
	☐ Goal Meet 3rd Party requirements with possible impacts in design and construction		☐ ☐ 6 7		☐ ☐ 4 5	
	☐ Goal		☐ ☐		☐ ☐	
	☐ Goal		☐ ☐		☐ ☐	
S	☐ Goal Meet or exceed project quality/scope requirements—utilizing opportunities for innovation		☐ ☐ 6 7		☐ ☐ 9 10	

Project Delivery Method Selection Matrix

		Consideration	Weight	DBB Rating	DBB Score	DB Rating	DB Score
STANDARD	☐ Goal	Owner requires control of design to meet specific design and construction constraints and/or standards (such as aesthetics)		☐ 8 ☐ 9		☐ 5 ☐ 6	
	☐ Goal	WSDOT maintains control of specific project elements (such as significant ROW or environmental impacts)		☐ 8 ☐ 9		☐ 5 ☐ 6	
	☐ Goal			☐ ☐		☐ ☐	
	☐ Goal			☐ ☐		☐ ☐	
FUNCTION/INNOVATION	☐ Goal	Minimize maintenance and operations costs (assume maintenance and operations is not part of DB contract)		☐ 9 ☐ 10		☐ 5 ☐ 6	
	☐ Goal	Maximize capacity and mobility of improvements		☐ 6 ☐ 7		☐ 9 ☐ 10	
	☐ Goal	Minimize impacts to the public and/or local businesses during construction		☐ 6 ☐ 7		☐ 9 ☐ 10	
	☐ Goal	Incorporate opportunities for innovation and efficiencies to meet specific requirements		☐ 4 ☐ 5		☐ 9 ☐ 10	
	☐ Goal	Avoid or minimize impacts to the project through risk transfer and innovation (such as environmental risks)		☐ 4 ☐ 5		☐ 9 ☐ 10	
	☐ Goal	Minimize project permanent area impact (footprint) (This would be project neutral unless the project is larger and more complex—then use the ratings ranges provided)		☐ 6 ☐ 7		☐ 8 ☐ 9	
	☐ Goal			☐ ☐		☐ ☐	
	☐ Goal			☐ ☐		☐ ☐	

Delivery method indicated by this matrix → → → _____ **Totals—**

Final Project Delivery Method Selected
☐ **Design-Bid-Build**   ☐ **Design-Build**
Authorization
Project Engineer
Name: _____   Signature: _____
PDE/EM Manager
Name: _____   Signature: _____
Regional Administrator
Name: _____   Signature: _____

Attach project information, assumptions and additional justification to Form