



February 6, 2017

TO: Todd Trepanier, P.E.
Regional Administrator

THRU: Troy Suing, P.E. 
Assistant Regional Administrator for Planning,
Programming and Design

FROM: Bob Hooker, P.E. /Robert Washabaugh, P.E.
Design Project Engineer /Asst. Design Project Engineer

SUBJECT: XL5065; US 12/Nine Mile Hill to Frenchtown Vic –
Build New Highway
Delivery Method Approval

The purpose of this memorandum is to obtain your approval and Headquarters endorsement to utilize the Design - Build delivery method for the above project. This memo includes documentation that summarizes the considerations and scoring for the Project Delivery Method (PDM) Selection Matrix. Please provide your signature for approval in Part II of the attached Matrix approval form and forward on for endorsement as appropriate.

Project Description

The existing two lane section of US 12 between Nine Mile Hill and Frenchtown experiences congestion and has a history of collisions. This project will reconstruct US 12 as a four lane divided highway to add capacity, reduce the risk of collisions, and improve economic vitality.

Delivery Method Selection Risks/Justifications

The project team completed a probable PDM selection matrix in April 2016 which resulted in an inconclusive delivery method. In January 2017, the project team met and reevaluated the project's goals. A formal PDM Selection Workshop was completed with Region and Headquarters staff to validate goals and establish ratings.

The following are specific risk/advantages in using Design - Build contracting for this project:

- Opportunities for innovation lie in structure design, construction staging, and earthwork.
- Right-of-way acquisition must be managed by WSDOT with the support of the Design - Builder.
- Design - Build delivery will take approximately the same amount of time to design and construct the project as a conventional design-bid-build project. However, opportunities for schedule advancement exist with a Design - Builder and will be further explored.
- Design - Build delivery minimizes peaks in workforce, allowing WSDOT to maintain a stable core workforce.
- Design - Build is a flexible contracting tool which allows risk to be allocated to the party best able to manage risk. For this project, it will be important for the Design - Builder to minimize impacts to private property, provide access for farming equipment, optimize the structural design, and ensure earthwork is balanced.

Conclusion

The PDM Selection Workshop held on January 12, 2017, determined that the Final PDM for the project was Design - Build. With Region approval and Headquarters endorsement on the attached selection matrix, the project will proceed with utilizing the Design - Build delivery method.

If you have any questions or comments, please contact me at 509-577-1760.

BH/RW:jt

Attachment

Project Delivery Selection Matrix
Project Delivery Selection Endorsement Form
Risk Matrix from October QPR
Project Delivery Checklist

cc: file

Project Delivery Method Selection Matrix

Version 02/01/17

Project Name: US 12 - Nine Mile Hill to Frenchtown Vic. - Build New Highway.

<input checked="" type="checkbox"/> Determining Probable PDM	Date: Apr-16
Project Status: <input type="checkbox"/> Project Summary <input type="checkbox"/> Initiation & Alignment <input type="checkbox"/> Planning & Endorsement (≈ 10% Design) <input type="checkbox"/> Geometric Review (≈ 30% Design) <input type="checkbox"/> Past Geometric Review (> 30% Design)	
<input checked="" type="checkbox"/> Determining Final PDM	Date: Jan-17
Project Status: <input type="checkbox"/> Project Summary <input type="checkbox"/> Initiation & Alignment <input type="checkbox"/> Planning & Endorsement (≈ 10% Design) <input type="checkbox"/> Geometric Review (≈ 30% Design) <input type="checkbox"/> Past Geometric Review (> 30% Design)	

See Appendix D for guidance on filling out this matrix.

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).

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 and compare.

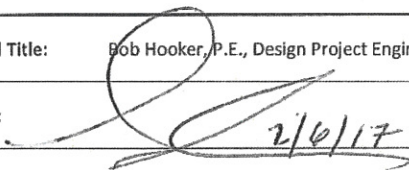
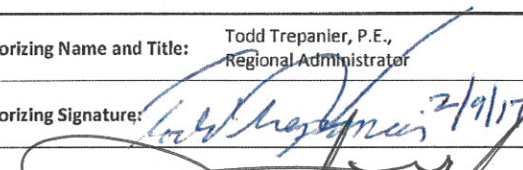

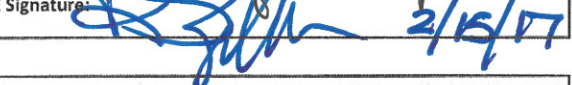
Consideration		Weight	DBB		DB	
			Rating	Score	Rating	Score
SCHEDULE	<input checked="" type="checkbox"/> Goal Minimize project delivery time	5	<input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5	25	<input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10	50
	<input type="checkbox"/> Goal Meet a specific critical Milestone or Completion date	Neutral	<input type="checkbox"/> 4 <input type="checkbox"/> 5		<input type="checkbox"/> 9 <input type="checkbox"/> 10	
	<input type="checkbox"/> Goal Utilize (federal) funding by a certain date	Neutral	<input type="checkbox"/> 6 <input type="checkbox"/> 7		<input type="checkbox"/> 9 <input type="checkbox"/> 10	
	<input checked="" type="checkbox"/> Goal Effectively manage weather, environmental and/or other construction windows	6	<input type="checkbox"/> 6 <input checked="" type="checkbox"/> 7	42	<input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10	60
	<input checked="" type="checkbox"/> 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.)	2	<input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10	20	<input type="checkbox"/> 6 <input checked="" type="checkbox"/> 7	14
COST/FUNDING	<input type="checkbox"/> Goal Minimize project cost (typically considered neutral)	Neutral	<input type="checkbox"/> 6 <input type="checkbox"/> 7		<input type="checkbox"/> 6 <input type="checkbox"/> 7	
	<input type="checkbox"/> Goal Complete the project on budget (typically considered neutral)	Neutral	<input type="checkbox"/> 6 <input type="checkbox"/> 7		<input type="checkbox"/> 6 <input type="checkbox"/> 7	
	<input type="checkbox"/> Goal Maximize the project scope and improvements within the budget	Neutral	<input type="checkbox"/> 4 <input type="checkbox"/> 5		<input type="checkbox"/> 8 <input type="checkbox"/> 9	
	<input checked="" type="checkbox"/> Goal Project cost must not exceed a specific amount	10	<input type="checkbox"/> 6 <input checked="" type="checkbox"/> 7	70	<input type="checkbox"/> 8 <input checked="" type="checkbox"/> 9	90
	<input checked="" type="checkbox"/> Goal Determine the total project cost as early as possible in the schedule	8	<input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5	40	<input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10	80
	<input type="checkbox"/> Goal Meet 3rd Party requirements with possible impacts in design and construction	Neutral	<input type="checkbox"/> 6 <input type="checkbox"/> 7		<input type="checkbox"/> 4 <input type="checkbox"/> 5	

Consideration			Weight	DBB		DB	
				Rating	Score	Rating	Score
STANDARDS	<input checked="" type="checkbox"/> Goal Constraint	Meet or exceed project quality/scope requirements —utilizing opportunities for innovation	4	<input type="checkbox"/> 6 <input checked="" type="checkbox"/> 7	28	<input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10	40
	<input checked="" type="checkbox"/> Goal	Owner requires control of design to meet specific design and construction constraints and/or standards (such as aesthetics)	2	<input type="checkbox"/> 8 <input checked="" type="checkbox"/> 9	18	<input type="checkbox"/> 5 <input checked="" type="checkbox"/> 6	12
	<input checked="" type="checkbox"/> Goal	WSDOT maintains control of specific project elements (such as significant ROW or environmental impacts)	2	<input type="checkbox"/> 8 <input checked="" type="checkbox"/> 9	18	<input type="checkbox"/> 5 <input checked="" type="checkbox"/> 6	12
	<input type="checkbox"/> Goal			<input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/>	
	<input type="checkbox"/> Goal			<input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/>	
FUNCTION/INNOVATION	<input checked="" type="checkbox"/> Goal	Minimize maintenance and operations costs (assume maintenance and operations is not part of DB contract)	2	<input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10	20	<input type="checkbox"/> 5 <input checked="" type="checkbox"/> 6	12
	<input checked="" type="checkbox"/> Goal	Maximize capacity and mobility of improvements	3	<input type="checkbox"/> 6 <input checked="" type="checkbox"/> 7	21	<input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10	30
	<input checked="" type="checkbox"/> Goal	Minimize impacts to the public and/or local businesses during construction	4	<input type="checkbox"/> 6 <input checked="" type="checkbox"/> 7	28	<input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10	40
	<input checked="" type="checkbox"/> Goal	Incorporate opportunities for innovation and efficiencies to meet specific requirements	2	<input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5	10	<input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10	20
	<input checked="" type="checkbox"/> Goal	Avoid or minimize impacts to the project through risk transfer and innovation (such as environmental risks)	2	<input type="checkbox"/> 4 <input checked="" type="checkbox"/> 5	10	<input type="checkbox"/> 9 <input checked="" type="checkbox"/> 10	20
	<input type="checkbox"/> 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)	Neutral	<input type="checkbox"/> 6 <input type="checkbox"/> 7		<input type="checkbox"/> 8 <input type="checkbox"/> 9	
	<input type="checkbox"/> Goal			<input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/>	
	<input type="checkbox"/> Goal			<input type="checkbox"/> <input type="checkbox"/>		<input type="checkbox"/> <input type="checkbox"/>	

Totals— 350 480

Delivery method indicated →→→ Design-Build

PART I — PROBABLE PROJECT DELIVERY METHOD	
<input type="checkbox"/> A Probable Delivery Method has been determined <input type="checkbox"/> DBB <input type="checkbox"/> DB	
Preparer Name and Title:	Authorizing Name and Title:
Preparer Signature:	Authorizing Signature:
State Construction Office Endorsement	ASCE Signature:
State Design Office Endorsement	ASDE Signature:

PART II — FINAL PROJECT DELIVERY METHOD	
<input checked="" type="checkbox"/> A Final Project Delivery Method has been determined through validation or revision of this Checklist <input type="checkbox"/> DBB <input checked="" type="checkbox"/> DB	
Preparer Name and Title: Bob Hooker, P.E., Design Project Engineer	Authorizing Name and Title: Todd Trepanier, P.E., Regional Administrator
Preparer Signature:  2/6/17	Authorizing Signature:  2/9/17
State Construction Office endorsement	ASCE Signature:  2-16-17
State Design Office endorsement	ASDE Signature:  2/15/17

PART III — CHANGE TO APPROVED FINAL PROJECT DELIVERY METHOD	
<input type="checkbox"/> A Changed Final Project Delivery Method has been determined through validation or revision of this Checklist <input type="checkbox"/> DBB <input type="checkbox"/> DB	
Preparer Name and Title:	Authorizing Name and Title:
Preparer Signature:	Authorizing Signature:
State Construction Office endorsement	ASCE Signature:
State Design Office endorsement	ASDE Signature:

Attach project information, assumptions and additional justification to Form

Appendix A Worksheets and Forms-A.2: Project Delivery Method Selection Checklist

Project Name	US 12/Nine Mile Hill to Frenchtown Vic. Build New Highway	<input checked="" type="checkbox"/> Probable PDM	Date <u>April 5, 2016</u>
		<input checked="" type="checkbox"/> Final PDM	Date <u>January 12, 2017</u>
		<input type="checkbox"/> Change Final PDM	Date _____
Project Status	<input type="checkbox"/> Project Summary <input type="checkbox"/> Initiation & Alignment <input type="checkbox"/> Planning & Endorsement (≈10% Design) <input type="checkbox"/> Geometric Review (≈30% Design) <input type="checkbox"/> Past Geometric Review (Past 30% Design)		

PART I — COST See Appendix C for guidance on filling out this checklist

Is the Project Estimate \$2 Million or less?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
<small>*RCW does not allow use of DB for a project contract cost (PE & Construction) less than \$2 Million</small>	DBB Only*	DBB or DB

A **Yes** answer above indicates Design-Bid-Build as the Project Delivery Method

Probable Project Delivery Method Recommendation
 DBB Only
 DBB or DB (Go to Part II)
 Proposed Exception
 If DBB Only is selected, skip Parts II and III and go to Part IV

Final Project Delivery Method Recommendation
 DBB Only
 DBB or DB (Go to Part II)
 Proposed Exception
 If DBB Only is selected, skip Part II and III and go to Part V

Change Final Project Delivery Method Recommendation
 DBB Only
 DBB or DB (Go to Part II)
 Proposed Exception
 If DBB Only is selected, skip Part II and III and go to Part VI

PART II — RCW 47.20.785 REQUIREMENTS TO USE DESIGN-BUILD

1. Are construction activities highly specialized?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
2. Is a DB approach critical in developing the construction methodology?	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
3. Does the project provide opportunity for greater innovation and efficiencies between the designer and builder?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
4. Would use of DB result in significant reduction to the overall project schedule or critical milestones?	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No

If **Yes** was selected for any of questions 1 through 4 above, Design-Build is a viable PDM option. (Go to Part III)
 If **No** was selected for all of the questions 1 through 4 above, it indicates Design-Bid-Build as the PDM.

PART III — PROJECT GOALS See Appendix C for guidance on filling out this checklist

Schedule	A. Are there 3 rd party agreements with local government or agencies that require a full design before execution? <small>(Is a significant portion of the project impacted?)</small>	DBB <input type="checkbox"/> Yes	DB <input checked="" type="checkbox"/> No	<input type="checkbox"/> Goal
	Justification:			
	B. Are there long lead, lengthy environmental permits or ROW issues that would delay start of Construction? <small>(Is a significant portion of the project impacted?)</small>	DBB <input checked="" type="checkbox"/> Yes	DB <input type="checkbox"/> No	<input type="checkbox"/> Goal
	Justification:			
	C. Is early obligation of funds necessary? <small>(Such as a deadline to obligate grant funding)</small>	DBB <input checked="" type="checkbox"/> No	DB <input type="checkbox"/> Yes	<input type="checkbox"/> Goal
	Justification:			
D. Is there time to prepare 100% design?	DBB <input checked="" type="checkbox"/> Yes	DB <input type="checkbox"/> No	<input type="checkbox"/> Goal	
Justification:				
E. Is there a need to compress the schedule?	DBB <input checked="" type="checkbox"/> No	DB <input type="checkbox"/> Yes	<input type="checkbox"/> Goal	
Justification:				
F. Do funding limits restrict when the schedule can start? <small>(Such as the Biennium)?</small>	DBB <input type="checkbox"/> Yes	DB <input checked="" type="checkbox"/> No	<input type="checkbox"/> Goal	
Justification:				

Appendix A Worksheets and Forms-A.2: Project Delivery Method Selection Checklist

Complexity & Innovation	G. Are there significant risks that could be better managed by others than WSDOT? Justification:	DBB <input type="checkbox"/> Yes	DB <input checked="" type="checkbox"/> No	<input type="checkbox"/> Goal
	H. Does the project involve specialty engineering or high-tech designs or have other opportunities for innovation? Justification:	DBB <input checked="" type="checkbox"/> No	DB <input type="checkbox"/> Yes	<input type="checkbox"/> Goal
	I. Does the project require complex phasing and staging with the possibility of high impacts to the public? Justification:	DBB <input checked="" type="checkbox"/> No	DB <input type="checkbox"/> Yes	<input type="checkbox"/> Goal
	J. Does an existing road or facility need to remain in service? (no options for detour or an alternate facility available and a significant portion of the project is impacted) Justification:	DBB <input type="checkbox"/> No	DB <input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Goal
	K. Is WSDOT willing to give up control of design and/or construction on this project? Justification:	DBB <input type="checkbox"/> No	DB <input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Goal
	L. Are critical 3 rd party involvement and changes likely during design & construction? Justification:	DBB <input type="checkbox"/> Yes	DB <input checked="" type="checkbox"/> No	<input type="checkbox"/> Goal
Cost/ Funding	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:	DBB <input type="checkbox"/> No	DB <input checked="" type="checkbox"/> Yes	<input type="checkbox"/> Goal
<p>The following PDM Options are indicated from the responses to the questions in Part III (Project Goals)</p> <p><input checked="" type="checkbox"/> DBB <input checked="" type="checkbox"/> DB</p>				