

Appendix B

Project Delivery Selection Guidance

**Pre-work for the Selection Checklist,
Selection Matrix and Selection Matrix
Workshop**

I. Background

Appendix B gives a summary of the pre-work generally required for determining the Probable and Final PDM utilizing the Selection Checklist, Matrix and Matrix Workshop. Additional preparation specific to each process will be provided in the appropriate sections of Appendix C - How to Complete the Selection Checklist, Appendix D – How to Complete the Selection Matrix and Appendix E – How to Complete the Selection Matrix Workshop.

If your project cost is less than \$2 Million then you do not need to do pre-work for the Selection Checklist.

Before the Project Engineer and/or team proceeds with determining Probable or Final PDM utilizing the Selection Checklist, Matrix or Matrix Workshop, they must have a Project Summary Package developed far enough to have a firm grasp of the project attributes including the scope, schedule and budget. If they are determining the Final PDM, additional project information developed that may modify or enhance the Project Summary Package should be included in the evaluation. The Project Engineer and/or team will also need to identify the Project Goals and determine Project Constraints. Finally, preliminary project risks will need to be identified.

A. Project Commitments and Decisions

Even during the planning phase of a Project, some commitments and decisions may have already been established. Identify and document these and keep them “visible” during the project development to help in the identification of the Project Goals and Constraints.

B. Project Goals

The Engineer must first establish the overall Project Goals to provide the evaluation criteria for the decision making processes associated with the Probable and Final PDM selection.

II. Identify the Project Goals and related project delivery goals

Step 1 - Identification Process

A quick way to establish Project Goals is to picture your project as complete with a celebration in process. What will the project need to accomplish to be considered as success?

After you have identified your Project Goals, you need to evaluate them to see how they relate to goals that are pertinent to the Project Delivery Methods.

Some typical project delivery goals may include:

- Schedule Goals

- Minimize Project Schedule
- Complete on Schedule
- Achieve Specific Milestones
- Incorporate other project schedules
- Utilize funding by a certain date
- Seasonal issues
- Project closeout issues
- Cost Goals
 - Minimize Project Cost
 - Complete Project within budget
 - Maximize the Scope and improvements within the budget
 - Project must not exceed a specific amount
 - Minimal changes will be accepted (limited Contingency)
 - Minimize Operations and Maintenance Costs
 - Utilize Staff effectively
 - Sufficient competition to insure a competitive price
- Goals related to Standards
 - Meet or exceed quality/scope requirements utilizing innovation and/or transfer of risk
 - Meet or exceed quality/scope requirements utilizing owner control
 - High quality scope of work utilizing design constraints and standards
 - Aesthetics
 - Proscriptive Standards required to be used
 - Meet all regulatory requirements
 - Meet the standards required by other agencies and 3rd party agreements
 - WSDOT control of significant ROW impacts
 - WSDOT control of significant environmental impacts
- Functional Goals
 - Maximize the Life Cycle Performance
 - Maximize capacity and/or mobility of improvements
 - Incorporate future planned improvements
 - Avoid or Minimize impacts to the traveling public

- Seek opportunities for innovation
- Avoid or minimize impacts to the environment
- Maintain operations of a facility during construction
- Maintain Safety during construction

Project Goals tend to be high level and the project challenge that requires the goal may determine the associated project delivery goal or goals. You must identify your Project Goals prior to starting the process. However, if you have some difficulty relating the Project Goals to project delivery goals, these may become clearer as you work through the Selection Checklist and Selection Matrix. The table below shows several examples of how a Project Goal may relate to a project delivery goal.

- Example 1 shows how two similar project delivery goals may relate to a Project Goal.
- Example 2 shows how the Project Goal and the project delivery goal may be identical.
- Example 3 shows how an identical Project Goal may relate to two very different project delivery goals based on the specifics of the project and specifically if owner control or risk transfer is the best approach to insure meeting the goal.
- There may be cases where a Project Goal is not related to a delivery method and therefore will not have a related project delivery goal.

If utilizing the Project Description Worksheet in Appendix A.4, there is an area to list your Project Goals and related project delivery goals.

Table B-1: Examples of Project Goals and their relationship to Project Delivery Goals

Project Challenge	Project Goal	Project Delivery Goal
Insufficient time to deliver the project	Example 1: Deliver the project by April 1, 2016	1)Minimize Project Schedule, or 2)Achieve Specific Milestones
3 rd party involvement	Example 2: Meet standards provided by 3 rd parties	Meet standards provided by 3 rd parties
Use owner control of design to insure two sections of bridge meet (Owner has high level of technical expertise in house and specialties not needed)	Example 3A: Physical completion of project phase matches up with previous phases work	Meet or exceed quality/scope requirements utilizing owner control (the choice to use owner control is a less likely choice in this example but is possible based on the project specifics)
Use transfer of risk of design and innovation to insure two sections of bridge meet (Transfer of risk and specialty work needed)	Example 3B: Physical completion of project phase matches up with previous phases work	Meet or exceed quality/scope requirements utilizing innovation and/or transfer of risk

Project Challenge – The issue or condition that needs to be addressed or corrected.

Project Goal – The successful result or outcome of meeting the challenge.

Project Delivery Goal – The desired end result that will ensure a successful outcome as it relates to the project delivery method.

Step 2 - Remove Neutral Goals

A Neutral Goal is a Project Goal that does not have an impact on the contracting method selection decision. Once you have identified Project Goals, and the related project delivery goals, remove any goals that are neutral. These would be goals that have the same relative ability to be met regardless of the PDM, so the rating is identical for each PDM.

Step 3 - Prioritize Project Goals

The Project Engineer or team may use scores from 1 to 5; 1 to 10; High, Medium and Low; or whatever method is preferred to prioritize the Project Goals and related project delivery goals. Utilizing 1 to 10 will allow the Project Engineer to use the priority scores as a starting point for Goal Weights if they use the Selection Matrix.

Start by picking out the Goal considered the highest priority and assign it the highest rating (depending on the preferred scale). Now evaluate each Goal by comparing it with the highest Goal. Does it have the same level of importance? Is a little more important than the first Goal? Assign and adjust the priority and continue referencing each one back to the highest priority Goal, until all Project Goals are ranked. The Engineer may end up with 4 or 5 higher priority Project Goals, although more complex projects may have more. Break the Project Goals into two groups, *Primary* (higher ranking group) and *Secondary* (lower ranking group). The Engineer will typically focus on *Primary* Project Goals in this process, unless the result is indeterminate, and then the *Secondary* Project Goals may assist in making a decision on the PDM.

Step 4 – Identify Project Constraints

Next evaluate the highest priority Project Goals (“10” or “H” Goals) to determine if any are constraints.

Constraints differ from Project Goals in that they **MUST** be accomplished for project success. If there are any Project Constraints, they are typically initially identified as a high level goal. Evaluate the “5’s”, “10’s” or any “H” level Project Goals to see if they are a Project Constraint. Project commitments and decisions that have

already been made or mandated, and limitations identified in the project information can assist with establishing Project Constraints versus Project Goals.

Identifying Project Constraints can be difficult. If the Engineer is unsure, they should leave it as a high priority Goal. If it is really a Project Constraint, they will be able to double check this later in the process. Avoid the temptation to make every high priority Goal into a Constraint.

Step 5 – Identify Preliminary Project Risks

The Project Engineer and/or each team member should identify the preliminary projects risks for the project being evaluated. These may already be listed in the Project Summary Package, but additional risks may have become apparent during Preliminary Design.

If preparing for determination of the Final PDM utilizing a Selection Matrix Workshop, the team can coordinate their identification of the project risks before or during the workshop. An analysis of the project risks with the PDM selection is a final step for the Selection Matrix and Selection Matrix Workshop to insure that the PDM determination does not have an inherent inability to overcome the project risks identified.

The Project Engineer and/or the team may realize that a Project Goal is actually a Project Constraint if a selected PDM scores poorly on a particular high level Goal and the Project Engineer/Team conclude that this is unacceptable for project success.

The risk analysis is also a “self-correcting” mechanism in the process. The analysis of how a PDM’s characteristics affect project risks will show a “fatal flaw” in the selection of that PDM if it fails, usually due to an unidentified Project Constraint.

The Project Engineer/Team may utilize Appendix A.6 Risk Assessment Guidance for PDMS Selection for assistance in identifying risks for this process including a link to the WSDOT Risk Assessment webpage, and/or the use of The Typical Transportation Project Risks List, General Project Risks Checklist and the Simplified Qualitative Risk Analysis.

End of Appendix B