# Procurement Procedures Selection Matrix

## Overview

This document provides a project procurement procedure selection approach for highway projects. The information below lists the procurement procedures followed by an outline of the process, instructions, and general forms for use by transportation agency (Agency) staff and project team members. By using these forms, a brief Procurement Selection Report can be generated for each individual project. The primary objectives of this tool are:

Present a structured approach to assist Agencies in making procurement procedure decisions;

Assist Agencies in determining if there is a dominant or optimal choice of a procurement procedure; and

Provide documentation of the selection decision.

## Background

The procurement procedure is the process of selecting firms to purchase goods and services necessary to complete the various stages of design and construction of a project. The difference in the procurement procedures depends on whether quantitative factors, qualitative factors or a combination of the two are used to select a firm. Currently, there are many types and variations of procurement procedures available for publicly funded transportation projects. The most common systems are Low bid, Best Value, and Qualifications-based. No single procurement procedure method is appropriate for every project. Each project must be examined individually to determine how it aligns with the attributes of each available procurement procedure. The definitions below contain the three primary procurement procedures and a list of supplementary procurement procedures that are used in conjunction with one of the three primary procedures.

### Primary Procurement Procedures

**Low Bid** is the most traditional selection methodology for construction services where contractors submit bids on a project and the lowest “responsible and responsive” bidder is then awarded the contract.

**Best Value** is a selection strategy used to choose contractors where price and other factors are used to determine which proposal or bid would bring the highest or best value to the Owner. Relative weights for the different factors vary from project to project as does the relationship between price and the other factors.

**Qualifications-Based** selection is a process whereby an Agency selects a design professional based on experience, expertise and overall credentials to procure the most qualified firm or individuals for a given project.

## Procurement Selection Process

The process is shown as an outline below. It consists of individual steps to complete the entire process. The steps should be followed in sequential order.

I. Procurement Procedure Selection Approach

A. Procurement procedures to consider

1. Low Bid

2. Best Value

3. Qualifications-Based

B. Project Description/Goals/Constraints

1. Describe the project

2. State the project delivery method selected

3. Set the project goals

4. Determine and review project dependent constraints

C. Determine which of the eight factors need to be evaluated

Delivery Schedule

Complexity & Innovation

Level of Design

Cost

Assessment of Risk

Staff Experience and Availability

Level of Oversight and Control

Competition and Contractor Experience

D. Assess each potential procurement procedure in regards to the factors determined to need evaluation

E. Review checklists for each factor being evaluated

F. If the above steps do not reveal an optimal procedure, proceed with evaluating remaining factors against all three potential procurement procedures

NOTE: Typically, the entire selection process can be completed by the project team in a 2 hour workshop session, as long as each team member has individually reviewed and performed the assessment prior to the workshop.

## Procurement Selection Worksheets & Forms

The following forms and appendices descriptions are included to help facilitate this process.

### Project Description

Provide information on the project that is using this tool. This includes size, type, funding, risks, complexities, etc. All information should be developed for the specific project.

### Project Goals Worksheet

A careful determination of the project goals is an instrumental first step of the process that will guide the selection of the appropriate procurement method for the project.

Project Constraints Worksheet

Carefully review all possible constraints to the project. These constraints can potentially eliminate a procurement procedure before the evaluation process begins.

### Procurement Procedures Selection Summary

The Procurement Procedures Selection Summary summarizes the assessment of each possible procurement method in regards to the evaluation factors. The form is qualitatively scored using the rating provided in Table 1 below.

Table 1 - Factor Evaluation Rating Key

|  |  |
| --- | --- |
| **++** | Most appropriate procurement procedure |
| **+** | Appropriate procurement procedure |
| **–** | Least appropriate procurement procedure |
| **X** | Fatal Flaw (discontinue evaluation of this procedure) |
| **NA** | Factor not applicable or not relevant to the selection |

The form also includes a section for comments and conclusions.Thecompleted Procurement Procedures Selection Summary should provide an executive summary of the key reasons for the selection of the method of procurement**.**

### Workshop Blank Form

This form can be used by the project team for additional documentation of the process. In particular, it can be used to elaborate the evaluation of the *Assessment of Risk* factor

### Procurement Procedures Opportunities/Obstacles Worksheets

These forms are used to summarize the assessments by the project team of the opportunities and obstacles associated with each procurement procedure relative to the specific evaluation factor. The bottom of each form allows for a qualitative conclusion using the same notation as described above. Those conclusions then are transferred to the **Procurement Procedures Selection Summary.**

### Procurement Procedures Opportunities/Obstacles Checklists

These forms, located in Appendix B, provide the project team with direction concerning typical procurement opportunities and obstacles for each of the evaluation factors. However, these checklists include general information and are not an all-inclusive checklist. Use the checklists as a supplement to developing project specific procurement opportunities and obstacles and associated risks.

## Project Description

The following items should be considered in describing the specific project. Other items can be added if they influence the selection decision. Relevant documents can be added as appendices to the final summary report.

|  |
| --- |
| Project Attributes |
| Project Name: |
| I-25 Managed Lanes – 120th to SH 7 or SH66 |
| Location: |
| Along I-25 from 120th Ave (SH 128) to SH 7 and possibly to SH66 |
| Estimated Budget: |
| $126,000,000 from 120th to SH 66. If RAMP funding is available for the 120th to SH 7 section, then budget is $54,500,000 |
| Delivery Method: |
| Design – Build: Low Bid and Best Value will be evaluated for procuring this project. Qualifications-based will not be included in the evaluation |
| Estimated Project Delivery Period: |
| CDOT 30% design 10/2013 to 11/2014. Procurement 11/2014 to 5/2014. Construction 5/2015 to 6/2016 |
| Required Delivery Date (if applicable): |
|  |
| Source(s) of Project Funding: |
| RAMP |
| Project Corridor: |
| I-25 north Denver Metro Area |
| Major Features of Work – pavement, bridge, sound barriers, etc.: |
| Bridge widening structure E-17-FH and E-17-FG, roadway widening, noise walls, asphalt paving, managed lanes implementation, and ITS. The project will follow existing grade and alignment |
| Major Schedule Milestones: |
| Opening of managed lanes from SH128 to SH66 – Summer 2016  Risk assessment – Started  Design consultant selection – Started  30% plans  Project Delivery Selection  Construction RFP including shortlist and selection with GMP  FOR  Begin construction  Complete construction |
| Major Project Stakeholders: |
| CDOT, RTD, CDOT transit division, Broomfield County, Adams County |
| Major Obstacles With Right of Way, Utilities, and/or Environmental Approvals: |
| Utilities, environmental approval, ROD2 |
| Major Obstacles During Construction Phase: |
| Traffic management, implementation of the managed lanes, ITS |
| Main Identified Sources of Risk: |
| ROD2 and funding |
| Safety Issues: |
| Standard traffic issues |
| Sustainable Design and Construction Requirements: |
| Provide for a more uniform traffic flow thereby saving on pollution and energy. Using existing roadway template with an overlay |

## Project Goals

An understanding of project goals is essential to selecting an appropriate procurement procedure. Typically, the project goals can be defined in three to five items. Examples are provided in appendix A, but the report should include project-specific goals. These goals should remain consistent over the life of the project.

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| --- |
| Project-Specific Goals |
| Goal #1: Primary Goal |
| Schedule – Very aggressive with total completion by end of 2016. Need to minimize project delivery time, complete project on schedule, accelerate start of project revenue |
| Goal #2: Primary Goal |
| Cost – Funding through RAMP should be available. Need to make sure RAMP funded section is on or below budget as additional funds will not be available. Need to maximize project budget, complete the project on or below budget, and maximize the project scope and improvements within the project budget |
| Goal #3: Secondary Goal |
| Quality – Meet or exceed project requirements, select the best team, provide high quality design and construction constraints, provide aesthetically pleasing project, project is providing interim improvements with final improvements many years away |
| Goal #4: Secondary Goal |
| Functional – Maximize the life-cycle performance of the project, maximize the capacity and mobility improvements, minimize inconvenience to the traveling public during construction, maximize safety of workers and traveling public during construction, provide revenues for a future P3 project to the north along I-25 |
| Goal #5: |
|  |

## Project Constraints

There are potential aspects or constraints of the project that can eliminate the need to evaluate one or more of the possible procurement procedures. A list of general constraints can be found in appendix A and should be referred to after completing this worksheet. The first section below is for general constraints and the second section is for constraints specifically tied to procurement selection.

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| --- |
| General Constraints |
| Source of Funding: |
| RAMP funds – Potential that these funds are not made available. State makes decision on funding at end of August 2013 (Assume for this selection tool that RAMP funds will be made available) |
| Schedule constraints: |
| Complete project by 12/31/2016 based on current corridor schedule |
| Federal, state, and local laws: |
| NA |
| Third party agreements with railroads, ROW, etc: |
| Utility clearance for the project itself (scheduling), timely ROW plans by end of 2014 could be aggressive |
| Procurement Specific Constraints |
| Procurement constraint #1: |
| ROD 2 – Record of decision to be complete by May 2014. Can be a risk if public involvement takes longer than planned. ROW plans depend on the ROD. Reduced risk for completing ROD 2 for 120th to SH7 section only |
| Procurement constraint #2: |
| MS 4 (water quality) for the width that is added (the additional pavement). Impact should be minimal |
| Procurement constraint #3: |
| Topography survey has not been completed and design cannot begin in earnest until this is complete |
| Procurement constraint #4: |
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| Procurement constraint #5: |
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## Procurement Procedure Selection Summary

Determine the factors that need to be evaluated in the procurement procedure selection, taking into account the chosen project delivery method. Then, discuss the opportunities and obstacles related to each evaluation factor, and document the discussion on the following pages. At the conclusion of the evaluation, complete the summary table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| PROCUREMENT PROCEDURES OPPORTUNITY/OBSTACLE SUMMARY | | | | |
|  | **Evaluate this Factor?**  **(Circle One)** | Low Bid | Best Value | Qualifications-Based |
| **Evaluation Factors** |  |  |  |  |
| Delivery Schedule | Yes No | **NA** | **NA** | **NA** |
| Project Complexity and Innovation | Yes No | **+** | **++** | **NA** |
| Level of Design | Yes No | **-** | **++** | **NA** |
| Cost | Yes No | **+** | **++** | **NA** |
| Assessment of Risk | Yes No | **-** | **++** | **NA** |
| Staff Experience and Availability | Yes No | **NA** | **NA** | **NA** |
| Level of Oversight and Control | Yes No | **NA** | **NA** | **NA** |
| Competition and Contractor Experience | Yes No | **-** | **++** | **NA** |

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| --- | --- | --- | --- |
| **+ +** | Most appropriate delivery method | **+** | Appropriate delivery method |
| **–** | Least appropriate delivery method | **X** | Fatal Flaw (discontinue evaluation of this method) |
| **NA** | Factor not applicable or not relevant to the selection | | |

### Procurement Procedures Summary Conclusions and Comments:

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| --- |
| The procurement procedures selection workshop resulted in selecting Best Value for the Design-Build I-25 managed lanes project, from 120th Ave to SH7 |
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| In the workshop, the factors of project complexity, level of design, cost, risk and competition and contractor experience were evaluated for low bid and best value procurement. |
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| It was determined before evaluating the factors to eliminate delivery schedule as the time needed to perform the procurement is not a constraint and there is time available to perform any procurement method |
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| It was also determined to eliminate staff experience and availability and level of oversight and control factors as CDOT is in the process of hiring a consultant that will be available to assist CDOT with both of these situations, regardless of the procurement method selected |
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| In evaluating complexity and innovation, it was determined that although this project is not very complex, it would be beneficial with the selected design-build delivery method to receive the best value available for this project and to allow for bidders to propose possible innovations to save cost and time |
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| In evaluating level of design, it was determined that besides the ITS needing to be completely designed by CDOT, the rest of the project only needs to be developed to the 30% design complete range. This works well with best value. In low bid for design-build, the design would need to be advanced further than 30% to get more accurate bids |
|  |
| In evaluating cost, it was determined that the size of this project in terms of budget would make it one of the largest low bid design-build projects that CDOT has ever done. Also, the workshop participants were all in agreement that a technical portion in the RFP would provide a better value to CDOT, meaning best value is optimal for this factor. |
|  |
| In evaluating risk, the largest concern was the ITS design, which has to be completed by CDOT. Then, the discussion focused on the fact that in either procurement method, CDOT will pay for risks that are allocated to the bidding firm. Since that will occur, it makes more sense to use best value, which can then provide justification for how a risk will be handled by the awarded firm. This is not possible with low bid. |
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| In evaluating competition and contractor experience, the location of the project will allow for high competition from responsive bidders who are familiar with design-build and preparing a best value proposal. Qualifications of the bidding firm can be a part of the technical portion of the RFP for best value, while low bid would still then need to conduct pre-qualifications before letting the project for bid. |
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#### Delivery Schedule

Delivery schedule is the overall project schedule from scoping through design, construction and opening to the public. For procurement, consider the length of time needed to develop the RFP, proposal development, and evaluation. Assess time considerations for starting the project or receiving dedicated funding and assess project completion importance.

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| **Low Bid** – The shortest duration of competitive procurement methods. One factor to consider, cost, and this is the most traditional method that many understand. | | |
| Opportunities | Obstacles / Risks | Rating |
| Current corridor schedule provides enough time to use this procedure |  | **NA** |
| Schedule was not evaluated for Low Bid |  |
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| **Best Value –** Procurement period is the longest for this method. Additional time needed for bids to be prepared as well as evaluating and Rating proposals. | | |
| Opportunities | Obstacles / Risks | Rating |
| Current corridor schedule provides enough time to use this procedure |  | **NA** |
| Schedule was not evaluated for Best Value |  |
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| **Qualifications-Based –** Requires time to evaluate qualitative factors. Clarifications for some of the bids may be needed, which can extend the letting period. | | |
| Opportunities | Obstacles / Risks | Rating |
| Not included in the evaluation |  | **NA** |
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#### Project Complexity and Innovation

Complexity and innovation is the potential applicability of new designs or processes to resolve complex technical issues.

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| **Low Bid** – The traditional letting approach. Does not allow for additional factors to be considered such as innovative designs and alternative technical concepts. Useful for low complexity projects that do not need additional innovations to complete. | | |
| Opportunities | Obstacles / Risks | Rating |
| Project is not very complex and may not need innovative ideas and techniques |  | **+** |
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| **Best Value –** A quantitative and qualitative procurement method that allows for additional factors such as innovative designs and techniques to be provided in the proposals. | | |
| Opportunities | Obstacles / Risks | Rating |
| Allows CDOT to introduce innovation requests and requirements in technical portion of the RFP | Innovations could add cost or time | **++** |
| No constraint on procurement schedule and the added technical portion of RFP will allow for more innovative ideas |  |
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| **Qualifications-Based –** Useful for projects that do not have a complete bid package or where a complete bid package cannot be feasibly developed due to complexities and necessary innovations. | | |
| Opportunities | Obstacles / Risks | Rating |
|  |  | **NA** |
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#### Level of Design

Level of design is the percentage of design completion at the time of the project delivery procurement. The remaining portion of design is left to be complete after procurement.

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| **Low Bid** – Design needs to be complete, or near complete, and accurate so that firms can responsibly prepare cost bids. | | |
| Opportunities | Obstacles / Risks | Rating |
| More design is done by CDOT | Design will need to be developed by CDOT further than typical for design-build before releasing the RFP | **-** |
| ITS is completed by CDOT | With more complete design, difficult to make changes |
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| **Best Value –** Very little design needs to be complete before advertising the RFP. Plans do not need to be fully detailed as the RFP requirements can include design alternatives. | | |
| Opportunities | Obstacles / Risks | Rating |
| Design does not need to be advanced beyond 30% before advertising the RFP | ITS needs to be complete by CDOT | **++** |
| Design does not have to be detailed as the RFP can request further design and technical alternatives |  |
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| **Qualifications-Based –** Very little or no design needs to be complete as firms are selected based on other factors besides cost and schedule. | | |
| Opportunities | Obstacles / Risks | Rating |
|  |  | **NA** |
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#### Cost

Project cost is the financial process related to meeting budget restrictions, early and precise cost estimation, and control of project costs.

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| **Low Bid** – Competitive bidding on costs can provide for low construction costs based on a fully defined design and scope. | | |
| Opportunities | Obstacles / Risks | Rating |
| Low bid amount received is used as contract amount | This would be one of the largest budget wise that has used Low Bid Design Build in CDOT | **+** |
|  | Cost of making changes to design are more with design advanced further than a typical design build project |
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| **Best Value –** Development of the RFP needs to be complete and accurate so that cost changes are minimized. | | |
| Opportunities | Obstacles / Risks | Rating |
| The budget of the project fits better with best value |  | **++** |
| Allows for innovative ideas that may reduce costs |  |
| Cost is not the only primary factor to consider in evaluating received proposals |  |
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| **Qualifications-Based –** Procurement only evaluates factors such as past experience, reputation, financial stability, and does not include cost. | | |
| Opportunities | Obstacles / Risks | Rating |
|  |  | **NA** |
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#### Assessment of Risk

Risk is an uncertain event or condition that, if it occurs, has an effect on a project’s objectives. Risk allocation is the assignment of unknown events or conditions to the party that can best manage them. An assessment of project risks is important to ensure the selection of a procurement procedure that can properly address them. A method that focuses on a fair allocation of risk will be most successful.

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| **Low Bid** – | | |
| Opportunities | Obstacles / Risks | Rating |
| More design complete and low bid price is the contract amount | CDOT pays for risks in ay procurement, but difficult to understand how bidder addresses a risk with no technical portion in RFP | **-** |
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| **Best Value –** | | |
| Opportunities | Obstacles / Risks | Rating |
| Allows for more uncertainties to be addressed in technical | ITS needs to be completed by CDOT | **++** |
| CDOT pays for risk in any procurement, best value allows CDOT to see how a bidder will address a risk with the technical portion of the RFP |  |
| Technical portion eliminates the risks associated with choosing the lowest bidder |  |
| Allows for traffic management plan to be a part of RFP |  |
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| **Qualifications-Based –** | | |
| Opportunities | Obstacles / Risks | Rating |
|  |  | **NA** |
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#### Staff Experience and Availability

Owner staff experience and availability as it relates to the project delivery methods in question.

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| **Low Bid** – This is the traditional method that most Agencies have a plethora of experience and knowledge. | | |
| Opportunities | Obstacles / Risks | Rating |
| Not evaluated as third party consultant will assist CDOT |  | **NA** |
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| **Best Value –** This is a more extensive process that Agencies may not have the experience or knowledge to use. Additional resources will be needed to develop the RFP and evaluate received proposals. | | |
| Opportunities | Obstacles / Risks | Rating |
| Not evaluated as third party consultant will assist CDOT |  | **NA** |
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| **Qualifications-Based –** This can be an unknown procedure in how to evaluate subjective factors. Experience by Agencies in this procedure is low. | | |
| Opportunities | Obstacles / Risks | Rating |
|  |  | **NA** |
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#### Level of Oversight and Control

Level of oversight involves the amount of agency staff required to develop the procurement documents, and amount of agency staff required to evaluate the received proposals.

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| **Low Bid** – | | |
| Opportunities | Obstacles / Risks | Rating |
| Not evaluated as third party consultant will assist CDOT |  | **NA** |
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| **Best Value –** | | |
| Opportunities | Obstacles / Risks | Rating |
| Not evaluated as third party consultant will assist CDOT |  | **NA** |
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| **Qualifications-Based –** | | |
| Opportunities | Obstacles / Risks | Rating |
|  |  | **NA** |
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#### Competition and Contractor Experience

Competition and availability refers to the level of competition, experience and availability in the market place and its capacity for the project and associated procurement procedure.

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| --- | --- | --- |
| **Low Bid** – Firms are most familiar with this procedure and it promotes a high level of competition | | |
| Opportunities | Obstacles / Risks | Rating |
| Location and size of project allows for many received proposals from responsive bidders | Need to pre-qualify bidders to avoid selecting the lowest bidder that is not qualified | **-** |
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| **Best Value –** Provides a balance of qualifications and costs. Promotes fair competition among firms. However, many firms may not be familiar with this procedure and are unable to responsibly provide a proposal. | | |
| Opportunities | Obstacles / Risks | Rating |
| Location and size of project allows for many received proposals from responsive bidders |  | **++** |
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| **Qualifications-Based –** Provides for qualifying firms in selection. This can lead to limited competition and unfamiliarity by firms. | | |
| Opportunities | Obstacles / Risks | Rating |
|  |  | **NA** |
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# APPENDIX A: General Project Goals and Constraints

## General Project Goals

Schedule

* Minimize project delivery time
* Complete the project on schedule
* Accelerate start of project revenue

Cost

* Minimize project cost
* Maximize project budget
* Complete the project on budget
* Maximize the project scope and improvements within the project budget

Quality

* Meet or exceed project requirements
* Select the best team
* Provide a high quality design and construction constraints
* Provide an aesthetically pleasing project

Functional

* Maximize the life cycle performance of the project
* Maximize capacity and mobility improvements
* Minimize inconvenience to the traveling public during construction
* Maximize safety of workers and traveling public during construction

## General Project Constraints

Schedule

* Utilize federal funding by a certain date
* Complete the project on schedule
* Weather and/or environmental impact

Cost

* Project must not exceed a specific amount
* Minimal changes will be accepted
* Some funding may be utilized for specific type of work (bridges, drainage, etc)

Quality

* Must adhere to standards proposed by the Agency
* High quality design and construction constraints
* Adhere to local and federal codes

Functional

* Traveling public must not be disrupted during construction
* Hazardous site where safety is a concern
* Return area surrounding project to existing conditions

# APPENDIX B: Procurement Procedures Opportunity and Obstacle Checklists

## Delivery Schedule Procurement Checklist

|  |  |
| --- | --- |
| Low Bid | |
| Opportunities | Obstacles/Risks |
| Traditional method that requires the shorted procurement time  Allows for projects to be more easily “shelved”  Reduced time required to deliver project to advertisement | May lead to potential delays and other adverse outcomes  Unreported design errors or omissions may lead to change orders and schedule delays  Rebidding a project increases the procurement time and overall schedule may be delayed |
| Best Value | |
| Opportunities | Obstacles/Risks |
| Well developed and planned schedules are available if schedule is one of the parameters requested in the RFP  Overall project schedule can be compressed  Positive impact on cost, quality, schedule, and flexibility  Shifts risks to awarded firm  Helps to promote innovation, especially in project schedule | Request for proposal development and procurement can be intensive  Undefined events or conditions found after procurement can impact schedule and cost  Requires agency and stakeholder commitments to an extensive review of proposals in a timely manner  Time required to define technical requirements and expectations through RFP development can be intensive  Bidding firms may utilize more resources to develop a complete project schedule, which could increase bid costs |
| Qualifications-Based | |
| Opportunities | Obstacles/Risks |
| Overall project schedule can be compressed | Award process can be lengthy if negotiating with multiple firms  Iterative process until an agreement is reached |

## Project Complexity and Innovation Procurement Checklist

|  |  |
| --- | --- |
| Low Bid | |
| Opportunities | Obstacles/Risks |
| Useful for projects that require little or no innovation  Complex design can be resolved and competitively bid on cost | Diminishes innovation in design and construction  Innovations can add cost or time |
| Best Value | |
| Opportunities | Obstacles/Risks |
| Greater opportunity for innovation and improvements in quality  Can request solutions to project complexities in RFP  Innovative opportunities to allocate risks to different parties in RFP requirements (e.g., schedule, means and methods, phasing) | Qualitative factors can be difficult to define and evaluate  Some potential design solutions might be too innovative or difficult to evaluate properly  Requires desired solutions to complex designs to be well defined through technical requirements (difficult to do)  Innovations can add cost or time  Over utilizing performance specifications to enhance innovation can risk quality through reduced technical requirements  Complexity and subjectivity may increase opposition from unsuccessful bidders |
| Qualifications-Based | |
| Opportunities | Obstacles/Risks |
| Works well will projects where complexity, technical risks and/or evolving scope make it difficult to prepare a clear and accurate bid package to procure using competitive pricing  Risk of innovation can be better defined, minimized, and allocated during negotiations |  |

## Level of Design Procurement Checklist

|  |  |
| --- | --- |
| Low Bid | |
| Opportunities | Obstacles/Risks |
| Traditional method requiring design to be complete or near complete for accurate bidding  Scope of the project is well defined with complete plans and specifications | Design must be complete and accurate as design errors or omissions may lead to change orders and schedule delays |
| Best Value | |
| Opportunities | Obstacles/Risks |
| Less design needs to be complete  Plans do not have to be as detailed because the RFP can request further design alternatives | Must have very clear definitions and requirements in the RFP because it is the basis for the contract  Potential for lacking or missing scope definition if RFP not carefully developed  Can create less standardized project designs across agency as a whole due to different design requirements  More design requirements of contractor |
| Qualifications-Based | |
| Opportunities | Obstacles/Risks |
| Can utilize a lower level of design prior to selecting a firm then collaboratively advance design with the owner and project team | Trust that the contractor will provide useful input during design |

## Cost Procurement Checklist

|  |  |
| --- | --- |
| Low Bid | |
| Opportunities | Obstacles/Risks |
| Competitive bidding provides low cost construction to a fully defined scope of work  Low bid amount received is used as contract amount  Can reduce overall engineering costs | Unreported design errors or omissions may lead to change orders and schedule delays  Accuracy of bids is limited unless design is complete and accurate  Increased risk to Agency that all received bids will exceed budget |
| Best Value | |
| Opportunities | Obstacles/Risks |
| Complete and accurate requirements in the RFP can help to reduce change orders in number and magnitude during construction  Agency runs the risk of higher initial costs, but risk of poor quality is reduced  Cost is not the only primary factor to consider in evaluating received proposals  Can reduce engineering costs | Undefined events or conditions found after procurement can impact schedule and cost  Increased cost to prepare proposal can limit responsive firms  Cost to prepare proposal can be substantial, resulting in increased bid amounts |
| Qualifications-Based | |
| Opportunities | Obstacles/Risks |
| Agency does not have to award to lowest, responsive bidder  Only evaluating qualitative factors, no cost to consider | Procurement does not include cost portion in proposals  Subjective selection based on qualitative factors only |

## General Project Risk Checklist

|  |  |
| --- | --- |
| Environmental Risks | External Risks |
| Delay in review of environmental documentation  Challenge in appropriate environmental documentation  Defined and non-defined hazardous waste  Environmental regulation changes  Environmental impact statement (EIS) required  NEPA/ 404 Merger Process required  Environmental analysis on new alignments required | Stakeholders request late changes  Influential stakeholders request additional needs to serve their own commercial purposes  Local communities pose objections  Community relations  Conformance with regulations/guidelines/ design criteria  Intergovernmental agreements and jurisdiction |
| Third-Party Risks | Geotechnical and Hazmat Risks |
| Unforeseen delays due to utility owner and third-party  Encounter unexpected utilities during construction  Cost sharing with utilities not as planned  Utility integration with project not as planned  Third-party delays during construction  Coordination with other projects  Coordination with other government agencies | Unexpected geotechnical issues  Surveys late and/or in error  Hazardous waste site analysis incomplete or in error  Inadequate geotechnical investigations  Adverse groundwater conditions  Other general geotechnical risks |
| Right-of-Way/ Real Estate Risks | Design Risks |
| Railroad involvement  Objections to ROW appraisal take more time and/or money  Excessive relocation or demolition  Acquisition ROW problems  Difficult or additional condemnation  Accelerating pace of development in project corridor  Additional ROW purchase due to alignment change | Design is incomplete/ Design exceptions  Scope definition is poor or incomplete  Project purpose and need are poorly defined  Communication breakdown with project team  Pressure to delivery project on an accelerated schedule  Constructability of design issues  Project complexity - scope, schedule, objectives, cost, and deliverables - are not clearly understood |
| Organizational Risks | Construction Risks |
| Inexperienced staff assigned  Losing critical staff at crucial point of the project  Functional units not available or overloaded  No control over staff priorities  Lack of coordination/ communication  Local agency issues  Internal red tape causes delay getting approvals, decisions  Too many projects/ new priority project inserted into program | Pressure to delivery project on an accelerated schedule  Inaccurate contract time estimates  Construction QC/QA issues  Unclear contract documents  Problem with construction sequencing/ staging/ phasing  Maintenance of Traffic/ Work Zone Traffic Control |

## Assessment of Risk Checklist

|  |  |
| --- | --- |
| Low Bid | |
| Opportunities | Obstacles/Risks |
| Risk allocation is most widely used and understood  When design is complete, opportunity to avoid or mitigate risks | Low bid related risks  Agency needs to resolve risks related to environmental, railroads and third party involvement before procurement begins  Agency responsible for addressing ROW and utilities risks before beginning procurement  Contractor has the ability to avoid risks |
| Best Value | |
| Opportunities | Obstacles/Risks |
| Innovative opportunities to allocate risks to bidding firms  Eliminates low bid risks  Can define risk/reward structure in RFQ/RFP  Contractor can identify risks related to environmental, railroads, ROW, and utilities  Contractors can propose innovative solutions to eliminate or mitigate risks | Need a detailed project scope, description and any other necessary information for the RFP so that accurate, complete, and comprehensive responses are received  Introduces risks associated with the agreement when design is not complete or alternate solutions are to be used |
| Qualifications-Based | |
| Opportunities | Obstacles/Risks |
| Eliminates low bid risks  Bidders can help to identify project risks | High cost risks, as no quantitative factors to base a selection on  If an agreement cannot be negotiated, then low bid risks appear |

## Staff Experience and Availability Procurement Checklist

|  |  |
| --- | --- |
| Low Bid | |
| Opportunities | Obstacles/Risks |
| Traditional method that Agency staff knows and understands  Less Agency resources needed for developing request for proposal and evaluating received bids  Reduces Agency construction administrative staffing | Additional Agency administrative efforts needed to ensure compliance with documentation requirements |
| Best Value | |
| Opportunities | Obstacles/Risks |
| Provides Agency staff with experience in developing Best Value proposals and evaluating received proposals  Opportunity to grow agency staff by learning a new process  Ability to tailor the evaluation plan to the specific needs of a project | Agency staff may need training on how to evaluate proposals  High amount of agency management and technical resources needed for RFP development  Inexperienced agency staff can increase the organizational risk  Legislation may need to be enacted to use best value legally |
| Qualifications-Based | |
| Opportunities | Obstacles/Risks |
| Similar procurement procedure in selecting design professionals  Works well for projects where Agency cannot develop full bid packages  Provides for more interaction with bidding firms | Agency staff may be unfamiliar with this procedure for selecting contractors  Additional Agency management is needed for negotiations and qualification factor development  Additional Agency management is required |

## Level of Oversight and Control Procurement Checklist

|  |  |
| --- | --- |
| Low Bid | |
| Opportunities | Obstacles/Risks |
| Oversight roles well understood  Few resources needed to evaluate and award project | Agency must select the lowest, responsive bid, regardless of other factors |
| Best Value | |
| Opportunities | Obstacles/Risks |
| Bidders provide input to enhance constructability and innovation  Cost, schedule, and other factors determined by bidding firms  Agency has full control over awarding project | Requires more Agency resources to develop RFP  Requires more Agency resources to evaluate proposals  Less Agency control over final design  Control of design relies on the proper development of RFQ and RFP |
| Qualifications-Based | |
| Opportunities | Obstacles/Risks |
| Agency controls procurement process by evaluating qualitative factors  Agency has full control over awarding project | Agency must have experienced staff to oversee the procurement process  Agency cannot control negotiations with potential firms |

## Competition and Contractor Experience Procurement Checklist

|  |  |
| --- | --- |
| Low Bid | |
| Opportunities | Obstacles/Risks |
| Promotes high level of competition in the marketplace  Opens construction to all reasonably qualified bidders  Contractors are familiar with Low Bid process  Definable and defensible (objective) award | Risks associated with selecting the low bid (the best contractor is not necessary selected)  Limited ability to select a contractor on qualifications  Increased likelihood of disputes and claims by contractors |
| Best Value | |
| Opportunities | Obstacles/Risks |
| Allows a balance of qualifications and cost  Fair competition and performance-based accountability  Helps to assure the Agency is selecting a capable and qualified firm | Less contractors are familiar with the qualitative aspects of proposals  Increased cost to prepare proposal can limit responsive firms  Complexity and subjectivity may increase opposition from unsuccessful bidders  Difficult to use on public projects as objective competition is required to select contractor without additional legislation  Smaller firms can be limited in participation  Highly subjective evaluation of qualitative factors  Qualitative factors leave room for human error or biases  Lowest cost bidder may not receive award, resulting in opposition |
| Qualifications-Based | |
| Opportunities | Obstacles/Risks |
| Allows for qualifications-based procurement of contractors  Focuses on contractor abilities  Bid transparency  Only have to negotiate with one firm on contract | Limited ability to select a contractor based on cost  Qualifying firms can limit competition  Difficult to use on public projects as objective competition is required to select contractor without additional legislation  Potential for upset, non-awarded firms due to subjectivity evaluation of qualitative factors  Smaller firms can be limited in participation |