

## OVERALL COST ESTIMATE PROCESS DESCRIPTION

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| <b>Title</b>                | <b>Prepare Cost Estimate</b>  |
| <b>Description</b>          | <b>Prepare Cost Estimate</b> supports decision making required for the allocation of funds to program areas and/or specific projects for inclusion in the Highway System Plan, the Capital Improvement and Preservation Program, the State Transportation Improvement Program, the Biennial Program, and for obligating funds for project engineering, right-of-way, and/or construction. Project Design Teams lead the cost estimating effort for their projects.  |
| <b>Inputs</b>               | <p>Project Information</p> <ul style="list-style-type: none"> <li>• Specialty Groups</li> <li>• Completed Project Work Breakdown Structure</li> <li>• Defined Roles and Responsibilities</li> <li>• Project Schedule</li> </ul> <p>Project Scope Description</p> <ul style="list-style-type: none"> <li>• Completed Project Summary</li> <li>• Completed Plans for Approval</li> <li>• Completed Design Documentation Package</li> <li>• Completed Plans and Specifications</li> <li>• Project Location and Site Characteristics</li> </ul>   |
| <b>Techniques and Tools</b> | <p>Estimating Techniques</p> <ul style="list-style-type: none"> <li>• Historical Bid Based</li> <li>• Cost Based Estimating</li> <li>• Previous Project(s)</li> <li>• Parametric</li> <li>• Historical Percentages</li> </ul> <p>Estimating Tools</p> <ul style="list-style-type: none"> <li>• Spreadsheet Templates</li> <li>• Estimate and Bid Analysis System (EBASE)</li> <li>• Planning Level Project Cost Estimation</li> <li>• CEVP<sup>®</sup> and CRA Processes</li> <li>• Transportation Cost Estimator (TRACER) Software System</li> <li>• WSDOT Project Delivery Information System (PDIS)</li> <li>• Unit Bid Analysis</li> <li>• bidTabs Professional (Oman Systems)</li> <li>• Estimated or Actual Costs for a Similar Project</li> <li>• Cost Indices</li> <li>• Independent Investigation by Engineer Preparing the Estimate</li> <li>• Standard Item Table</li> <li>• Project Cost Estimate File</li> </ul> |
| <b>Activities</b>           | <p>1. Determine Estimate Basis</p> <p>In this activity, the estimator gathers scope related information and data concerning the project. Specialty groups that will provide scope</p>   |

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|                 | <p>and/or cost data are identified. Site visits to the project location aid in capturing unique project characteristics and conditions. Documents that describe the scope and other project attributes required to estimate project costs are organized.</p> <ol style="list-style-type: none"> <li>2. Prepare Base Estimate<br/>This activity determines the applicable estimating technique(s) such as conceptual or parametric, line items using historical bid pricing, and cost based. Estimate information (quantities, standard items, etc) is developed and documented. The estimate basis and assumptions are documented. Costs are estimated using the appropriate technique and project information. The base cost estimate is summarized to include all costs.</li> <li>3. Review Estimate<br/>The activity starts with determining the level of review necessary. The review process covers the estimate basis and assumptions, verifies completeness of the project scope and the appropriate use of estimate information and data. The current estimate is reconciled with the baseline estimate with differences explained. An estimate package is prepared.</li> <li>4. Determine Risks and Set Total Project Cost<br/>The activity begins by determining the required level of risk analysis. Risks are identified. A risk analysis is performed from which risks are identified and the total project cost range is determined.</li> <li>5. Determine Estimate Communication Approach<br/>This activity determines the needs of stakeholders for project cost information. Appropriate methods to communicate project scope, costs, and risks are developed. Cost estimate information is approved for released.</li> <li>6. Obtain Management Endorsement (Approval)<br/>This activity requires that an approval package summarizing the cost estimate be prepared. Management endorsement is obtained. The cost estimate is released for use by the project team.</li> </ol> |
| <b>Products</b> | <p>Total Project Cost Estimate<br/>Project Cost Estimate File</p>   |
| <b>Guidance</b> | <ul style="list-style-type: none"> <li>• The development of consistent and accurate cost estimates is dependent upon following each step for this activity. The use of different tools for project estimating is influenced by project phase (e.g., planning, scoping, design and PS&amp;E) and program area, (i.e., Preservation and/or Improvement), the level of scope definition, and project size and complexity.</li> <li>• The time and resources available to prepare an estimate may also</li> </ul>   |

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|  | <p>influence the tools used and their application.</p> <ul style="list-style-type: none"><li>• Specialty groups that provide a portion of the estimate will also perform certain steps (e.g., Real Estate Services for ROW estimates). These specialty groups should be identified early in estimate preparation and be given a reasonable time to prepare their parts of the estimate.</li><li>• Estimators can refer to other standards for information either directly related to the estimating process or indirectly related to the process – Bridge Design Manual (Chapter 12 Quantities, Costs, and Specifications), Plans Preparations Manual (Division 8, Contract Estimate), Standard Specifications, Design Manual (for material take off information), etc.</li></ul> |
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