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Secretary of Transportation

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Project Risk Management and Risk Based Estimating

I. Introduction

The Washington State Department of Transportation (WSDOT) is working towards improved project risk management and risk based estimating. This Secretary's Executive Order formalizes efforts underway to identify, share, and manage risks across organizations and functions. This further refines the direction in [Enterprise Risk Management Secretary's Executive Order E 1038.00](#), and [Project Management Secretary's Executive Order E 1032.01](#).

A. Purpose

The purpose of this Secretary's Executive Order is to ensure that there is statewide consistency in risk-based estimating in support of project risk management. The project risk management plan and estimate are developed during the project definition phase of a project and will continue to be actively updated and managed through the design and construction phases.

B. Background

For several years there has been growing public concern and skepticism about WSDOT's ability to accurately estimate and manage the costs of large public projects. In response WSDOT has developed ways to identify risks and uncertainties associated with projects and to express cost and schedule estimates as a range, rather than a single estimate.

To determine an accurate estimate range for both cost and schedule, risk must be measured. Risk estimates are comprised of two components: 1) the base cost component as described in [Project Delivery Memo 07-01](#) approved by the Director of Environmental and Engineering Programs, and 2) the risk or uncertainty component.

II. Secretary's Executive Order

WSDOT project managers are directed to conduct risk based estimating workshops for all projects over \$10 million (total of preliminary engineering, right of way, and construction). These workshops provide information to project managers that can help them control scope, cost, schedule, and manage risks for all projects.

The following table provides the minimum risk management process required based on project size. Project managers may use a higher level process than required.

| Project Size (M = Millions) | Minimum Risk Management Process Required |
|--------------------------------|---|
| \$10 M or less | Qualitative Spreadsheet in the Project Management Online Guide ¹ |
| \$10 M to \$25 M | Informal workshop using the Self-Modeling Spreadsheet ^{1,3} |
| \$25 M to \$100 M | Cost Risk Assessment (CRA) Workshop ^{1,2} |
| \$100 M or more | Cost Estimate Validation Process (CEVP®) Workshop ² |

¹ In some cases it is acceptable to combine the Value Engineering Study and Risk Based Estimating Workshop.

² Projects \$25 million and over should use the self-modeling spreadsheet in the scoping phase, followed up by the more formal CRA or CEVP® process during the design phase.

³ An informal workshop is comprised of the project team (or key project team members), other participants may be included as the project manager/project team deem necessary.

III. Requirements

A. Executives and Senior Managers

Executives and senior managers are required to promote and express support for active project risk management. This includes:

1. Encouraging and supporting project managers to develop project risk management knowledge, skills, and abilities required to deliver capital transportation projects.
2. Asking project managers to keep project management plans, including the risk management plan and risk based estimates,

current and consistent with this policy. Project Managers should be prepared to discuss and/or present the project risk management plan and estimate at Quarterly Project Report and Executive Oversight Committee meetings, if requested.

B. Project Managers

Project managers are required to:

1. Manage projects in order to reduce risks and control project costs and schedules.
2. Keep projects within the intended scope to address the identified project need or deficiency.
3. Be proactive in their risk management efforts for projects.
4. Identify the appropriate level of risk analysis for projects based on the table provided in this document.
5. Risk management activities should be planned for and included in the project schedule.
6. Pursue response actions to avoid, transfer, or mitigate major risks identified for their projects. This includes:
 - a. Planning for and providing appropriate resources to perform project risk based estimating in support of project risk management.
 - b. Ensuring the project management process is consistent with the principles and practices defined in the project management online guide.
 - c. Reviewing and following requirements provided in, [Project Delivery Memo 07-01](#).
 - d. Implementing proactive risk response actions and monitor, measure, and report on progress of risk response actions.
 - e. Regularly reviewing and updating the project risk management plan and the project schedule and estimate.
 - f. Documenting significant new risks and communicating them to senior management and executives.

C. Project Team Members

Project team members are required to:

1. Document and communicate new risks as they are identified to the project manager.
2. Follow the project management process consistent with the principles and practices defined on the Web site (<http://www.wsdot.wa.gov/Projects/ProjectMgmt/RiskAssessment/>) and on-line project management guide (http://www.wsdot.wa.gov/Projects/ProjectMgmt/OnLine_Guide/Phase_Guides/Pre-Construction/Pre-Construction_files/slide0001.htm).
3. Include development and implementation of the project risk management plan into the project schedule.
4. Review and follow requirements provided in [Project Delivery Memo 07-01](#).

D. Specialty Groups

Specialty group members are required to:

1. Participate in risk identification and provide the project manager with a schedule and estimate for the planned actions in response to identified risks for assigned projects.
2. Document and communicate new risks as they are identified to the project.

E. Headquarters Design and Construction Offices

Review the project management plan as part of the annual process reviews for preconstruction and construction documents.

IV. Information to Carry out this Secretary's Executive Order

A. Strategic Analysis Estimating Office

The Strategic Analysis Estimating Office staff members will:

1. Provide support and training on developing and maintaining risk based estimates and project risk management plans.

2. Assist with questions on how to implement this policy.

B. References

1. Strategic Analysis Estimating Web site:
<http://www.wsdot.wa.gov/Design/SAEO/>
2. [*Enterprise Risk Management*](#) Secretary's Executive Order E 1038.00
3. [*Project Management*](#) Secretary's Executive Order E 1032.01
4. [*Inflation and Market Conditions Applied to Base Estimates*](#)
Instructional Letter IL 4071.00
5. [*Project Delivery Memo 07-01*](#)
6. WSDOT Glossary for Cost Risk Estimate Management

V. Assistant Secretary for Engineering and Regional Operations

The Assistant Secretary for Engineering and Regional Operations is responsible for periodic review and updates to this document. All executives are responsible for informing the Assistant Secretary for Engineering and Regional Operations of changes needed for the maintenance of this document.



Americans with Disabilities Act (ADA) Information

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