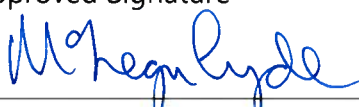


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Number DES 01-02	Supersedes N/A	Effective Date 01/01/2020	Validation Date 01/02/2021	Authoring Branch Statewide Project Delivery Branch	Page Number Page 1 of 11
Subject Managing Project Risks For ODOT STIP			References AASHTO Guide for Enterprise Risk Management First Edition PMI PMBOK® Guide Sixth Edition		
Approved Signature 					

Purpose

Provide guidance and expectations for Oregon Department of Transportation (ODOT) by:

- Providing support in the identification and management of scope, schedule, and budget risks for all Statewide Transportation Improvement Program (STIP) projects.
- Defining the roles, responsibilities, and activities of ODOT personnel in effective processes for managing Project Risks, integral to Project Management.
- Supporting strong decision-making regarding scope, schedule, and budget of ODOT projects through the proactive management of threat and opportunity risks within Project Management.
- Producing documentation that allows those overseeing and managing projects to focus efforts on the "right" (e.g., high likelihood and high impact) risks.
- Supporting the identification and documentation of discussions and responses to scope, schedule, and budget risks throughout the project life cycle.

Background

Transportation infrastructure project management is a complex environment of inherent uncertainty. Risk management recognizes that in a complex environment, achievement of organizational goals depends on managing many internal and external risks. If risks and uncertainty are inevitable, failing to consider them is irresponsible. A proactive project risk management approach effectively identifies, addresses, and mitigates threat risk events



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before they develop into negative outcomes, or identifies, addresses, and enhances opportunity risk events into positive outcomes.

Managing Project risk includes a process of planning the risk management process, identifying project risk, performing risk analysis, evaluating and prioritizing risk, determining risk response strategy, implementing risk response, and monitoring and reviewing risk. Transparent and effective management of risks is an integral component of project management, shifting the odds of discovery and uncertainty in favor of desired outcomes.

Managing project risks, and documenting the process, provides the following benefits to a project:

- Can significantly reduce avoidable change, as defined by the Project Change Management Request Process, to ODOT projects.
- Provides justification to support an elective (opportunity risk) or unanticipated (threat or opportunity risk) change, as defined by the Project Change Management Request Process, during project development in requesting a STIP amendment or procurement amendment.
- Can significantly reduce the probability of contract change orders or contractor claims, due to avoidable change, during the construction phase of the project.
- Provides justification to support an Increase in Construction Authorization due to unanticipated change during the construction phase of the project.
- Demonstrates a well-managed project and builds credibility
- Improves risk appetite and allows for strategic risk taking behavior.
- Recognizes uncertainty and provides objective forecasts of possible outcomes.
- Produces better business outcomes through more informed decision making.
- Has a positive influence on creative thinking and innovation.



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- Creates opportunities for improved project monitoring and control.
- Contributes to project success.
- Allows for ODOT to identify and manage Project related enterprise risks (risks which occur regularly on projects)

Implementing a formal process provides a consistent framework to enable the ability to capture lessons learned and share information, as well as developing a repository of information that will remain beyond the project's lifecycle.

Direction

- This directive applies to all STIP projects, including projects that are delivered by ODOT on behalf of a Non-Certified Local Public Agency, with the following exemptions:
 - STIP Projects that are delivered by a Certified Local Public Agency are exempt from these requirements.
 - STIP Projects that are delivered by a Non-Certified Local Public Agency using state funds are exempt from these requirements.
 - STIP projects delivered by ODOT on behalf of a Local Public Agency when the project is not on a state facility are exempt from these requirements.
 - STIP projects that are only a transfer of funds are exempt from these requirements.
- Area managers are responsible for ensuring that projects comply with this directive.
- All applicable STIP Projects are required to have a plan for managing scope, schedule, and budget risks.
- All applicable STIP projects with an estimated total project cost of \$25 million or more are required to have a quantitative risk analysis, here-in after referred to as a Cost Risk Assessment (CRA).



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- All Transportation Project Managers (TPM) and Resident Engineers-Consultant Projects (RE-CP) are the focal points for managing project scope, schedule, and budget risks through the Project Development phase. During construction, the Construction Resident Engineers or RE-CP's are the focal points. The Area Manager has the authority to appoint others to the focal point role at their discretion.
- All applicable STIP projects shall be screened based upon established criteria to determine the need to conduct a CRA.

Guidelines

At time of Scoping (pre-STIP) all applicable projects shall generate the following:

- A project risk register that identifies and describes risks.
- Qualitative risk assessment to allow for prioritization and risk scoring.
- Scoping assumptions regarding each risk event.

All applicable STIP projects shall create and update a Plan completed by the project team, and embedded in their overall project management planning and documentation, which includes the following:

- A project risk register that identifies and describes risks;
- Qualitative risk analysis of scope, schedule, and budget risks to allow for prioritization;
- Response strategy plan that includes a risk owner and a detailed description of actions to be taken; and
- Risk monitoring and review log.

All applicable STIP projects will be required to generate the Plan during the project initiation phase and update the Plan at the completion of the following milestones: DAP, Preliminary Plans, Advance Plans, Final Plans, and PS&E. Updating of the plan shall include:

- Versioning of the Plan for project documentation;
- Reevaluating each risk status;
- Rerating risks to track the reduction or gain in risk score;



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- Updating the risk monitoring and review section with a narrative describing risk response actions taken including risk retirement;
- Risk identification to determine if new risks have emerged through the course of project development;
- If new risks have emerged, qualitative risk analysis of new scope, schedule, and budget risks to allow for prioritization, and;
- Response strategy plan for new risks that includes a risk owner and a detailed description of actions to be taken

To gather valuable project risk data, including identifying Agency enterprise risk, the Plan shall be submitted, along with other required submittal documents, at the completion of the following phase gates: Project Initiation, DAP, and PS&E.

In addition to the requirements above, all applicable STIP projects with an estimated total project cost over \$25 million will be required to perform a CRA. ***Estimated total project cost includes the estimated total of all financial cost to deliver the project as programmed in the STIP including planning, development, preliminary engineering, right-of-way acquisition, design, utility relocation, construction, and other phases***, including but not limited to, the costs for environmental considerations, permitting, geo-environmental considerations, equipment purchases (e.g., buses for transit projects), internal ODOT resources, consultant contracts, and construction contracts. The region, at its discretion, may conduct a CRA on projects with a total cost under \$25 million. The CRA includes:

- Quantification of risks (probability of occurrence, schedule and cost impact).
- Using quantified risk values to produce risk based cost and schedule estimates.
- Risk response strategy plan that includes a risk owner and a detailed description of actions to be taken.
- Project cost estimate validation.

Process for Managing Project Risks

See Appendix A for more detailed information regarding the process for managing project risks.



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Plan Risk Management:

The systematic process of deciding how to approach, plan, and execute around the management of scope, schedule, and budget risk-related activities throughout the life of a project.

Identify Risk:

Identify risks that may affect project outcome and documenting them in the risk register.

Perform Risk Analysis:

After risks are identified, the risks are analyzed by subject matter experts to determine how they could affect the project.

Evaluate and Prioritize Risk:

The process of prioritizing risks so response resources can be efficiently allocated.

Plan Risk Response:

The project team identifies a risk response strategy that is best for each risk, and then select specific actions to implement that strategy.

Implement Risk Response:

The process of timely and effective responses to risk events.

Monitor and Review Risks:

The process of monitoring previously identified risks, and reevaluating existing risks to verify the planned risks response strategies for their effectiveness.



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Plan for Managing Project Risks

Specific objectives of the Plan include:

- Ensuring critical risks impacting scope, schedule, budget, project performance, and/or change management are proactively identified, communicated, responded to, and escalated in a timely manner.
- Focusing attention to key risks impacting the project and individual teams.
- Producing documentation that allows project management to focus efforts on the “right” (e.g., high likelihood and high impact) risks with an effective coordination of effort.
- Ensuring appropriate stakeholders are informed and, if applicable, participate in the risk response action.
- Documenting discussions and response action of project risks throughout the project life cycle.

The Plan consists of, but is not limited to, the process and timing for identifying and managing risks, response actions required and organizational responsibility for monitoring and managing the risks throughout the entire lifecycle.

Process Owner(s)

The TPM/RE-CP is the point person for managing project scope, schedule, and budget risks through Project Development and are responsible for creating and updating the Plan unless the focal point role is delegated to others by the Area Manager. The TPM/RE-CP has overall responsibility for facilitating the process. Focused and specific responsibilities for the TPM/RE-CP and project team members may include the following activities.

- Develop and implement the Risk Response Plan.
- Maintain the Plan throughout the project development process.
- Clarify, consolidate and document risks.



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- Maintain and monitor data in the risk register.
- Monitor the status of risk responses.
- Communicate status to risk owners.
- Escalate communication if expected response action deadlines are not met.

During the Construction Management transition phase (including “hand-off” meetings), project risks will be addressed as follows:

- Reviewing of the entire Plan with the Construction Resident Engineer, specifically highlighting active and high severity risks.
- Diligent reviewing of risks that have been accepted as a response strategy.
- Discussion of how the risks evolved during project development.
- Identifying, analyzing, and developing any new risks that have arisen since the PS&E phase.
- Documenting the dialogue/exchange.

Risk Owner

The risk owner is the individual that the project team assigns responsibility for executing the risk response action. This assignment is based on the type of risk and should be assigned to the team member who is empowered to assure this risk is responded to. This will typically be a team lead and/or their respective co-lead. The risk owner has the following responsibilities:

- Assess the risk and create a risk response plan that meets project team approval.
- Perform risk response actions per the risk response plan.
- Present risk status at meetings, as required.

Training

Recommended for all Agency personnel associated with the delivery of STIP projects, but not required to facilitate risk assessment workshops or to be a member of the CRA team.



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Roles and Responsibilities

- Area Manager
 - Responsible for project teams complying with this highway directive.
 - Ultimately responsible for assigning risk owners.
 - Approve the risk response action of very high severity level risks.
 - Support risk response action implementation.
 - Assist in cross-organization and controversial risk response action, including determining the involvement of senior management and other organizational resources.
 - Appointing others to the focal point role of managing risks for the project at their discretion.
- TPMs/ RE-CPs
 - On Point for managing project risks during project development.
 - Screen projects to determine which projects meet the applicable requirements of this highway directive.
 - Consult with the VE/project risk engineer and project manager in scheduling projects selected for a CRA workshop.
 - Help the VE/project risk engineer in obtaining information on selected projects.
 - Manage projects in order to reduce risks and control project budget and schedules.
 - Be proactive in their risk management efforts for projects.
 - Pursue risk response actions as identified in the Plan for their projects.
 - Validate the project base cost estimate, commensurate to the size and level of development of the project.
 - Lead/ participate in risk assessment workshops/meetings, as required.
- Project Team Members
 - Participate in risk assessment workshops/meetings.
 - Perform the duties of risk owner, as assigned.
 - Be proactive in their risk management efforts for projects.
 - Report newly identified risks to the assigned focal point for managing project risks.



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- Construction Resident Engineer
 - On Point for managing project risks during the construction phase.
 - Manage projects in order to reduce risks and control project budget and schedule.
 - Pursue risk response actions as identified in the Plan for their projects.
 - Participate in risk assessment workshops/risk management meetings, as requested.
 - Perform the duties of risk owner, if assigned.
 - Be proactive in their risk management efforts for projects.
 - Help the VE/project risk engineer in obtaining information on selected projects.
- Agency VE/ Project Risk Engineer
 - Provide project risk management services and assistance to the regions.
 - Screen projects to determine which projects meet the applicable requirements of this highway directive.
 - As agreed upon by the Region, coordinate/facilitate all aspects of a CRA, including assembling subject matter experts, coordinating project base estimate validation, facilitating the CRA, compiling the report, and tracking CRA workshop results.
 - Train ODOT staff in project risk management.
 - Measure and track the performance of the Project Risk Management Program.
 - Continuously strive to improve ODOT's use of project risk management.



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Appendix A

Guide to Managing Project Risks for ODOT STIP is available at the following website:
<https://www.oregon.gov/ODOT/Engineering/Pages/VE-RM.aspx>

