

Risk Management




Risks exist on every project – they also evolve as the project evolves. While some risks may not materialize, they can significantly affect the quality of the projects deliverables, schedule, and cost if they do. Positive risks (opportunities) can improve the quality, advance the project schedule, or reduce project costs, whereas negative risks (threats) can decrease the quality of the project, delay the schedule, and increase project costs. Managing these risks requires Project Managers to collaborate with their teams to recognize and take advantage of these opportunities as well as minimize the effects of a negative outcome that could lead to project failure.


Why Important

- Helps project team anticipate what may not go as planned so strategies and actions can be put in place early enough to minimize impacts of negative risks (threats).
- Helps project team identify and take advantage of positive risks (opportunities) can improve quality, decrease costs, or advance in schedule.
- Improve decision making. Project Managers and team members can make more informed decisions when they understand the risks associated with impactful decisions.
- How risks are handled can affect NCDOT's reputation (positively or negatively).
- Unmanaged risks can result in scope creep, schedule delays, increased project cost, and sometimes significant construction claims.
- How well risks are managed is a strong indicator of how successful the project will be.


Key PM Responsibilities




Review Risks
Review risks in the Project Initiation Form and Screening Checklist.




Populate RAW
Populate the online Risk Assessment Worksheet (RAW) on project Preconstruction site.



Update RAW Regularly
Regularly review and update all sections of the RAW with appropriate team members.



Consider Risk Workshop
Coordinate with the Value Management Office when a Risk Mgmt. Workshop is needed.



Understand Impacts
Understand how risks could affect the cost and schedule or impacts on decisions made.

Key things to Consider

Team Coordination

- What expectations do you have for the project team to discuss/manage risks?
- Will you be using the online RAW or the excel RAW and where can team members find the latest information?
- How often do risk strategies and follow-up need to be reviewed and discussed?
- What mechanism will you be using to discuss and follow up on risks? Status meeting, separate meeting, individual check in via phone call, etc....
- What risks are high priority and is the project team focused on these (risks that could result in significant impacts)? Prioritize risks to effectively manage.

Identifying and Documenting Risks:

- Is it a risk or an issue?
 - Risk (typically preface with “if this happens...”).
 - Issue (there is a 100% probability that this is going to occur).
- What could affect the critical path or significantly increase/decrease the project cost?
 - Right of way, Utility relocations and permitting often land on the critical path. What could delay the completion of these?
- What could impact the project scope or add elements beyond what is needed to meet purpose and need (scope creep)?
- What elements are outside of the project team’s control?
- What could prevent the project team from meeting the project commitments?
- How could the quality of certain decisions or deliverables affect the constructability of the project? Are there construction materials with long lead times?
- What could cause construction claims?
- Are risks documented in one location?



Are you managing risks in a way that will result in fewer surprises?

Addressing Risks

- What strategies or actions need to take place to address risks? Do all team members know where to find these strategies and action items? (Strategies: Mitigate, Accept, Avoid, Enhance, Transfer, Share)
- What risks will have a significant impact on the project cost, schedule, or quality? Scoring risks (determining probability and impact) allows the PM to focus limited resources on risks that could have the biggest impact on the project.
- Is a risk workshop needed?
 - If you think a project would benefit from having a formal Risk Management Workshop (RMW), notify the NCDOT Value Management Office. They will coordinate with you to facilitate and organize a formal RMW.
 - Cost Schedule Risk Assessment (CSRA’s) are federally required on projects that exceed \$500M in total project costs. Coordinate with FHWA early on these projects.

Best Practices & Common Pitfalls

Best Practices	Common Pitfalls
<p><u>Team Coordination:</u></p> <ul style="list-style-type: none"> ✓ Start with a plan! Discuss how risks will be managed with the project team. <p><u>Identifying & Documenting Risks:</u></p> <ul style="list-style-type: none"> ✓ Review risks identified during feasibility. ✓ Use a diverse team to identify risks. All aspects of the project should be looked at. ✓ Identify risks early (beginning of Stage 2) and often (risks can change and come up at any time throughout the life of the project). ✓ Have detailed risk descriptions so can communicate risk to an outside stakeholder. ✓ Document risks – this can aid in team collaboration and documenting decisions. ✓ Add and retire risks as the project advances. <p><u>Addressing Risks:</u></p> <ul style="list-style-type: none"> ✓ Regularly review risks to capture changes in impact, probability, or available strategies to address. ✓ Inform management of high impact risks & provide updates when appropriate. 	<p><u>Team Coordination:</u></p> <ul style="list-style-type: none"> ✗ Not discussing high impact risks regularly. ✗ Ignoring risk <p><u>Identifying & Documenting Risks:</u></p> <ul style="list-style-type: none"> ✗ Not considering opportunities ✗ Vague risk description – others don't know what the risk is & cannot develop an adequate strategy to address. ✗ Using a 'We've filled out the worksheet, so we're done' approach to managing risk. ✗ Not involving appropriate stakeholders to assist in identifying project risks. ✗ Not identifying or documenting new risks as the project progresses. <p><u>Addressing Risks:</u></p> <ul style="list-style-type: none"> ✗ Not following a strategy to manage risks. ✗ Assigning a discipline or multiple people as the risk owner rather than 1 person.

Tools

NCDOT Risk Management Tools:

- [Risk Assessment Worksheet](#) (online tool available at project preconstruction site)
- [Risk Examples and Strategies](#)

NCDOT Training Videos:

- [Using Risk Management Tools on Projects](#)
- Managing Risk in Project Delivery Lunch and Learn Webinar [video](#) and [presentation](#)

NCDOT Guidance Documents

- [Risk Management Program](#)
- [Risk Management Guide](#)
- [Risk Management Flowchart](#)
- [How to Use the Online RAW](#)

Definitions

Risk	<i>Uncertainties that, if they occur, would be an obstacle or opportunity in meeting the project objectives.</i>
Threat	<i>A negative risk that could prevent project goals if realized</i>
Opportunity	<i>A positive risk that could enable project goals if realized</i>
Probability	<i>The likelihood a risk occurs or is realized; must be between 1%-99%</i>
Impact	<i>The effect or consequence a risk will have on project goals like schedule and budget</i>
Issue	<i>A challenge that has already occurred or is currently occurring. (There is a 100% probability that this is going to occur).</i>
Risk Owner	<i>An individual (typically a team member) who is responsible for implementing action items, monitoring progress, and updating the team. Should be a subject matter expert and be enabled to make actions happen to address the risk.</i>
Risk Register	<i>A document and/or tool to identify and record risks and strategies to address the risks. The NCDOT Value Management Office has provided a Risk Assessment Worksheet (RAW) as the internal risk register to help project managers.</i>

Risk Strategies

Avoid	<i>To eliminate the risk by removing its cause</i>
Mitigate	<i>To reduce the probability of a risk occurring or the impact if a risk occurs</i>
Transfer	<i>Putting the impact and responsibility of a risk on an external entity such as a contractor or local government organization. An example of transferring risk in a project would be the use of Design Build contracts.</i>
Accept	<i>Intentionally not developing a response to a risk but accepting the possible impact to the project. Frequently used when impacts are low.</i>
Enhance	<i>Align the project and project resources to take advantage of an opportunity.</i>
Share	<i>Impact and management of risk is shared between NCDOT and external organization through collaborative goals and communication</i>