RESEARCH SPOTLIGHT

Project Information

REPORT NAME: Innovative Contracting Risk Management Best Practices

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PROJECT COST: $350,400

COST SHARING: 20% MDOT, 80% FHWA through the SPR, Part II, Program

MDOT Project Manager

Ryan M. Mitchell, DBIA, PMP

Manager
MDOT Innovative Contracting Unit

MitchellR13@Michigan.gov
517-614-7025

RESEARCH ADVISORY PANEL MEMBERS:

Erin Chelloti, Mike DeBoer, Greg Losch, Ryan McDonnell, James Ranger, Jon Stratz, Michael Townley, Jeff Triezenberg, Dharmesh Valsadia, Adam Wayne, and Chris Youngs.

Risk management tools help MDOT deliver projects on time and on budget

The innovative contracting program within the Michigan Department of Transportation (MDOT) can complete certain projects more quickly and cost-effectively than through traditional contracting. To determine whether a project is suitable, a team of professionals relies on specialized techniques and tools to evaluate potential projects to analyze risks and other factors that could affect the project's intended goals. Documenting and incorporating best practices from transportation agencies across the country, researchers developed a new set of customized tools, documents and other resources to streamline MDOT's innovative contracting program and help it identify and manage risks more effectively.
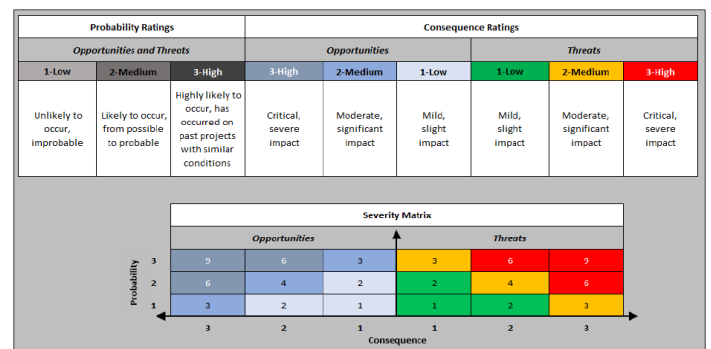
PROBLEM

Through its innovative contracting program, MDOT develops and delivers transportation projects using alternative contracting methods in less time and at lower cost than traditional methods. As unforeseen issues can increase a project's budget or extend its timeline, ensuring every aspect of the project is considered and accounted for is crucial. This process, known as risk management, requires the project team to work together throughout the duration of the project to develop and execute an action plan for any uncertainties that could impact the intended results.

MDOT's updated severity index helps stakeholders identify the likelihood that a risk will affect a transportation project's goals.

While every project has risks, such as local laws that must be navigated or utilities that require coordination, identifying these at the outset and continually monitoring mitigation efforts helps to avoid delays and unnecessary expenses later on.

MDOT's risk management procedures have been refined over the years; however,

time and resource constraints have hindered efforts to catalog the lessons that have been learned from each project. Formally documenting these insights and all of the program's processes would increase effectiveness and provide more standardized training for the various stakeholders who participate in each project.

To make its entire risk management process more streamlined and productive for everyone involved, MDOT sought to evaluate the best risk management practices nationwide and use the information to develop new tools, templates, training documents, and customized guidance.

RESEARCH

Investigators began by reviewing recently published studies and reports documenting successful risk management practices and the tools and resources other state DOTs use to identify and mitigate project risks. Next, a series of interviews with MDOT staff, state and federal transportation agencies and industry representatives revealed valuable local and national perspectives, suggestions and feedback from those familiar with state-of-the-art risk management.

Finally, MDOT hosted a virtual peer exchange with representatives from eight state DOTs and the Federal Highway Administration. The forum offered an opportunity for leaders from transportation agencies across the country to discuss their own agency's approaches to managing risk

and to share details about the resources and methods they rely on to achieve their risk-management objectives.

The researchers compiled the results and insights from the literature review, interviews and virtual event into an extensive list of available tips, resources and best practices. MDOT then identified the items that would help meet the agency's objectives and add the most value to its program.

RESULTS

The researchers developed a new risk management toolbox, consisting of a variety of new and easy-to-use applications, templates and procedural guidance to supplement and build upon MDOT's existing practices and materials. Among the new resources are:

- Clear and concise procedural guidance that MDOT engineers can use on statewide projects.
- A user-friendly, spreadsheet-based risk management workbook that contains step-by-step instructions to guide new and experienced users as they enter project-specific information. Once entered, the workbook can integrate the data into a variety of reports and automatically prioritizes risks to make tracking, monitoring and updating the risks easier throughout the project's lifespan.
- Standardized practices to improve the risk workshop process. As key stakeholders meet regularly throughout the project, the new practices will make these collaborations more effective.
- A training presentation that MDOT will offer to project teams and new users can consult to better understand MDOT's risk management program and the roles and expectations of each participant.

To test the products' effectiveness under real-world conditions, MDOT selected the US-131 design-build project in Kent County and facilitated a risk workshop to pilot the new resources. With minor modifications, the resources are now available

for use on any of Michigan's innovative contracting projects.

IMPLEMENTATION

With new, customized tools and formal documentation to enhance its risk management processes, MDOT will be better able to identify and manage project risks. By promoting clarity, consistency and user-friendliness at every opportunity, MDOT can be sure that each project's team of stakeholders has the resources needed to work collaboratively and efficiently to keep the project on track and make its goals a reality.