

Getting Started in Agency Risk Management



MANAGING TRANSPORTATION NETWORKS—including agency management, program development, and project delivery—is complex and fraught with uncertainty. Administrators, planners, and engineers coordinate a multitude of organizational and technical resources to manage transportation network performance. While most transportation agency personnel would say they inherently identify and manage risk in their day-to-day activities, a recent study found that only 13 State transportation agencies have formal enterprise risk management programs and even fewer have a comprehensive approach to risk management at the agency, program, and project levels.

What is Risk Management?

International standard ISO 31000 defines risk as “the effects of uncertainty on objectives.” In its broadest terms, risk is anything that could be an obstacle to achieving goals and objectives. Risk management is a process of analytical and management activities that focus on identifying and responding to the inherent uncertainties of managing a complex organization and its assets.

Risk can be managed at multiple levels. Enterprise risk management involves three levels—agency, program, and project. Agency risk management is the responsibility of highway agency executives. Executives benefit from the process, but they are also responsible for defining and championing the process. Agency risks are the uncertainties that can affect the achievement of the agency’s strategic objectives, such as agency reputation, data integrity, funding, safety, and leadership.



RESPONSIBILITY: Executives

TYPE: Risks that impact achievement of agency goals and objectives and involve multiple functions

STRATEGIES: Manage risks in a way that optimizes the success of the organization rather than the success of a single business unit or project.

RESPONSIBILITY: Program managers

TYPE: Risks that are common to clusters of projects, programs, or entire business units

STRATEGIES: Set program contingency funds; allocate resources to projects consistently to optimize the outcomes of the program as opposed to solely projects.

RESPONSIBILITY: Project managers

TYPE: Risks that are specific to individual projects

STRATEGIES: Use advanced analysis techniques, contingency planning, and consistent risk mitigation strategies with the perspective that risks are managed in projects.



Program risk management involves managing risk across a network or multiple projects, such as risks inherent in city or regional transportation planning, material price escalation, design standard changes, environment, and structures. Finally, risks may be

unique to a specific project. Staff familiar with the specifics of a project and other technical experts and stakeholders manage project risks, which can include utility relocation coordination, right-of-way purchase delays, geotechnical issues, and community issues.

The Business Case for Risk Management

As the growth in demand for transportation system improvements continues to outpace revenue, the need for agency leaders to identify and manage the resulting risks has become urgent. By 2015, all State transportation agencies must respond to requirements in the Moving Ahead for Progress in the 21st Century Act for risk-based asset management plans. Effective risk management cannot be accomplished with a silo approach.

It needs to be applied systematically across the agency.

Getting started in enterprise risk management requires an investment. Developing an organizational structure, methods, and tools is not a trivial task. Understanding the benefits and challenges is helpful in building an enterprise risk management program.

Agency Risk Management BENEFITS

- ✓ Makes the business case for transportation
- ✓ Builds public trust
- ✓ Avoids managing-by-crisis
- ✓ Recognizes risks in multiple investment options
- ✓ Provides a broader set of viable solution options
- ✓ Communicates uncertainty on key strategic issues
- ✓ Improves organizational alignment
- ✓ Promotes an understanding of the repercussions of failure
- ✓ Helps apportion risks to the party best able to manage them
- ✓ Facilitates good decisionmaking and accountability at all levels

Agency Risk Management CHALLENGES

- ✓ Developing risk management leadership
- ✓ Gaining organizational support for risk management
- ✓ Evolving an organizational culture that may be averse to risk
- ✓ Developing and funding organizational expertise for risk management
- ✓ Implementing and embedding a new process for risk management
- ✓ Difficulty in applying risk allocation alternatives within organizational constraints
- ✓ Lack of willingness to accept and address issues that risk management will identify

Risk Management Recommendations

The Federal Highway Administration and the American Association of State Highway and Transportation Officials conducted a scan of international transportation agencies with the greatest maturity in risk management. The study provided a fresh perspective on how the U.S. transportation industry can use risk management practices to better meet its strategic objectives, improve performance, and manage assets. The following research recommendations offer a path forward for the transportation community as it develops a culture of risk awareness and management in the United States.

► *Develop Executive Support for Risk Management*

A mature risk management organization employs risk management at the agency, program, and project levels. A risk management culture must include strong leadership. Lack of management support is perhaps the most frequently cited barrier by transportation agencies embarking on risk management implementation. Efforts of project and program risk managers can be lost without strong executive-level support of and participation in the risk management process.

► *Define Risk Management Leadership and Organization*

Although everyone in a transportation agency should have a role in risk management, agencies should define clear risk management structures and give leadership the authority to make risk management decisions. No two agencies studied on this scan had identical risk management organizational structures, but the mature organizations had clear structures and committed leadership.

► *Formalize Risk Management Approaches*

Transportation agencies should strive to formalize risk management approaches, using a holistic approach to support decisionmaking and improve success in achieving strategic goals and objectives. The most mature international organizations had clear policies that describe their risk management approach and risk tolerance. These agencies also had concise guidance on their risk management process with templates for risk identification, analysis, treatment, monitoring, and updating.

► *Use Risk Management to Examine Policies, Processes, and Standards*

The use of risk analysis techniques can help agencies reexamine policies, processes, and standards. A transparent understanding of risk likelihood and consequence can reveal policies, processes, and standards that have become too conservative or outdated. An examination of risk treatment options can provide for alternative methods to mitigate and manage risks.

Implementing Agency Risk Management

- ✓ Develop executive support for risk management.
- ✓ Define risk management leadership and organization.
- ✓ Formalize risk management approaches.
- ✓ Use risk management to examine policies, processes, and standards.
- ✓ Embed risk management in business practices.
- ✓ Identify risk owners and levels.
- ✓ Allocate risks appropriately.
- ✓ Use risk management to make the business case for transportation.
- ✓ Employ sophisticated risk tools, but communicate results simply.

► *Embed Risk Management in Business Practices*

The risk management process should enhance, not supplant, existing business practices. Combining risk management with asset management and performance management will provide for successful decisionmaking to achieve agency goals and objectives. An awareness of what can go wrong and the likelihood of it happening causes business managers to treat risks rather than ignore them. The scan provided sound examples of how business practices were made more efficient through a lens of risk management.

► **Identify Risk Owners and Levels**

Risk identification and treatment planning will not make a difference if treatment options are not implemented. Agency personnel or agency partners must become owners of risks. Most risk registers viewed on the scan documented risk ownership directly on the register. The owners are responsible for implementing risk treatments and assisting with monitoring and updating. If risk treatment is not achievable with the assigned owner, risks should be escalated to the level in the agency at which they can be managed. As England's Highways Agency states in its risk management policy document, "No one need fear the consequences for failure if the risks that caused the failure were anticipated, appropriately managed and, where required, escalated to senior management."

► **Allocate Risks Appropriately**

The fundamental tenet of risk management is to allocate risks to the party that can best manage them. The international agencies on this scan had a variety of tools to allocate risk, from insurance to concessions, design-build project delivery, and lump-sum contracting. Clarity on who is responsible for managing which risks is essential. Open-book and joint risk register arrangements can also ensure transparency in judging financial risks.

► **Use Risk Management to Make the Business Case for Transportation**

Communication with stakeholders about risks to transportation assets and performance can help make the business case for transportation investment. International transportation organizations have found the public to be good consumers of risk information. Using risk analysis to convey possible disruption to network performance can highlight the need for investments that mitigate risk and improve performance.

► **Employ Sophisticated Risk Tools but Communicate Results Simply**

Quantitative risk management is based on statistical methods, and the models of cost and time impacts can be quite complex. However, these analyses are meaningless if decisionmakers and stakeholders cannot understand the results. Agencies should use sophisticated risk analysis tools to provide the most accurate predictions, but they must communicate results simply to obtain the most value from the process.

Highway Risk Management RESOURCES

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