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TRB Webinar: Formalizing Sustainable Risk Management in Your Organization

October 27, 2025

1:00 – 2:00 PM



PDH Certification Information

1.0 Professional Development Hours (PDH) – see follow-up email

You must attend the entire webinar.

Questions? Contact Andie Pitchford at TRBwebinar@nas.edu

The Transportation Research Board has met the standards and requirements of the Registered Continuing Education Program. Credit earned on completion of this program will be reported to RCEP at RCEP.net. A certificate of completion will be issued to each participant. As such, it does not include content that may be deemed or construed to be an approval or endorsement by the RCEP.



Purpose Statement

This webinar will focus on three levels of risk management: enterprise, program, and project. Presenters will share key needs, challenges, and knowledge gaps associated with integrating risk management, along with evidence-based strategies to sustain these practices within transportation agencies.

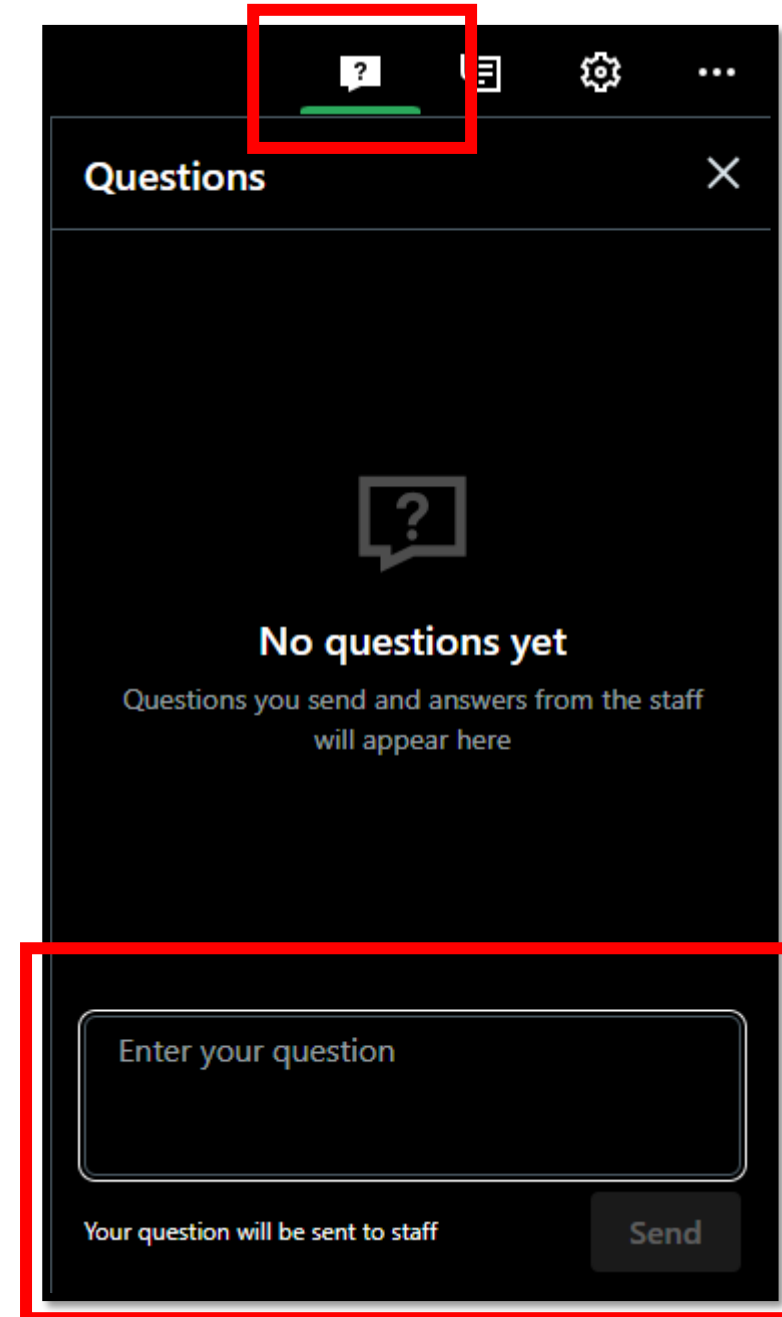
Learning Objectives

At the end of this webinar, you will be able to:

- (1) Formalize risk management within their organization
- (2) Sustain risk management within their organization
- (3) Identify key needs, challenges, and knowledge gaps with integrating risk management within agencies

Questions and Answers

- Please type your questions into your webinar control panel
- We will read your questions out loud, and answer as many as time allows



The screenshot shows a dark-themed mobile application interface for a webinar. At the top, a navigation bar contains several icons: a question mark icon (highlighted with a red box), a list icon, a settings gear icon, and a three-dot menu icon. Below the navigation bar is a header section titled "Questions" with a close button (X) on the right. The main content area displays a large question mark icon and the text "No questions yet" followed by "Questions you send and answers from the staff will appear here". At the bottom, there is a text input field with the placeholder "Enter your question" (highlighted with a red box). Below the input field, the text "Your question will be sent to staff" is displayed, and a "Send" button is located to the right.

Today's presenters



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RISK MANAGEMENT AT STATE DOTs

Formalizing Sustainable Risk Management in Your Organization

Presented by:

Mara Campbell, Melissa Savage and Candice De

Jacobs

Risk Management at State DOTs: Building Momentum & Sustaining the Practice

- NCHRP 08-151 to develop risk management content for any state DOTs to support them in:
 - Establishing and Communicating the value of risk management
 - Initiating organizational change at all levels within the agency to enable and strengthen risk management.
 - Championing risk management within the organization.
 - Building and sustaining a risk management mindset and culture to ease integration of risk management across programs and into key decision-making processes.





Why Does Risk Management Matter?

Climate change, emerging technologies, economic uncertainty, a changing workforce, and the ongoing requirement to develop and maintain risk-based Transportation Asset Management Plans (TAMPs) drive the relevance and requirement of adoption of formal risk management by state DOTs.



What is Risk Management?

- ❖ The process to identify, evaluate, and prioritize risk, through various strategies and tools which allows individual risk events and/or overall risk to be proactively understood and planned for.
- ❖ Risk Management can take place at different levels of the organization supporting different objectives.

Poll: What is your organization's
level of risk management
currently?

Different Levels of Risk Management

❖ Enterprise Risk Management

- ❖ Is the responsibility of **transportation agency executives**. The entire agency benefits from the process, but agency executives are 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, statewide initiatives, corridor functionality, and policy.



Different Levels of Risk Management

❖ Program Risk Management

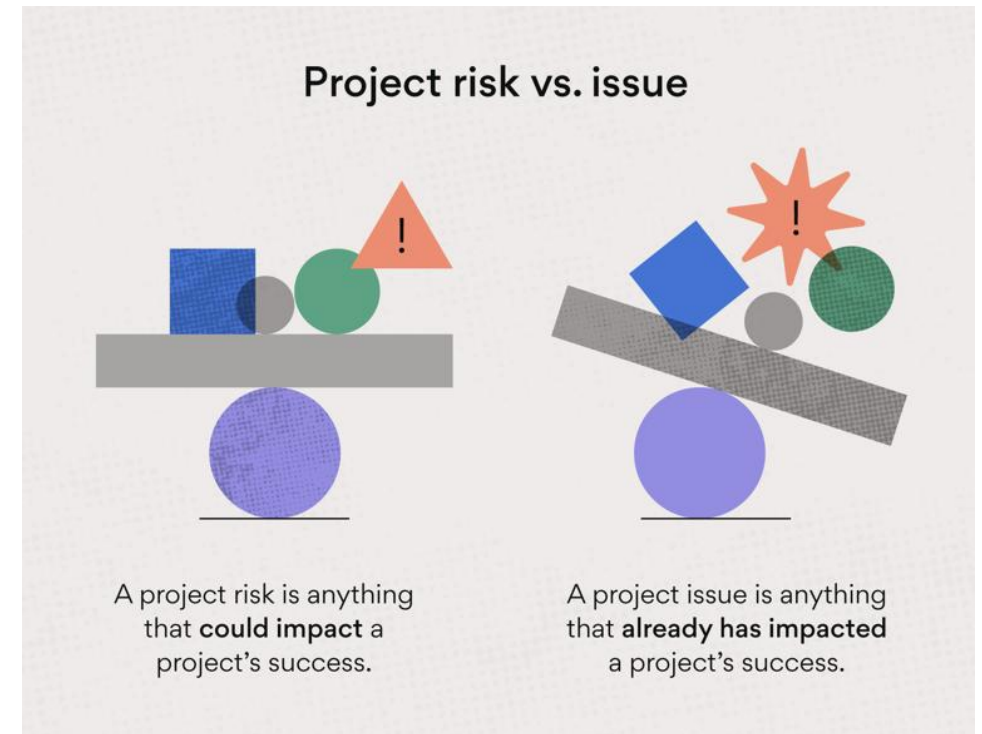
- ❖ Is the responsibility of **program managers** and involves managing risk across a division or multiple projects, such as risks inherent in transportation planning, material price escalation, safety, design standard changes, climate change and structures.



Different Levels of Risk Management

❖ Project Risk Management

- ❖ Involves risks that may be unique to a specific project. **Project managers and other 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. Project risks are evaluated most often, and project risk management is most common in practice today.



Poll: What best describes your
role at your agency?
(e.g., Executive, Program
Manager, Project Manager)

Within Transportation Agencies – What are the key NEEDS, CHALLENGES and KNOWLEDGE GAPS

Key NEEDS

- Champion/Executive Support
- Clear Policies
- Defined Roles or Responsibilities
- Communication
- Incentive

Key CHALLENGES

- Lack of Staff
- Unclear or Siloed Business Processes
- Risk Aversion
- Where Does Risk “Live”
- Communication

Key KNOWLEDGE GAPS

- Lack of Consistent Definitions
- Lack of Standards and Policies
- Lack of Training
- Lack of Online Databases, Dashboards, and Risk Procedure
- Lack of Analysis
- Lack of Risk Models

How to Successfully Build and Sustain Risk Management

Culture of Risk and Organizational Change



Creating a culture of risk within an agency enables and rewards individuals and groups for taking the right risks in an informed manner.

Agencies which have found the greatest success in building and sustaining risk management have highlighted the value of establishing a supportive internal culture.

Process Improvement



- To support the operational changes that are necessitated by the integration of management practices, it is often valuable to modify agency policy and organizational structure.
- This will look different for each agency depending on their unique context and needs, though it may occur in a few common ways.

Value Proposition and Communication/Promotion



- Buy-in from leadership and at an executive-level is essential to building and sustaining risk within an agency.
- Support from leadership serves as a common starting point among most successful agencies.
- Educating staff on the everyday risks their agency may face is important to aid in helping to mitigate them.

Data Tools and Quantification of Risk



- Providing guidance documents, examples, and tools are important to helping agencies build or sustain risk management.
- Helping users build risk management, where they will be provided recommendations of best practices and resources, and tools for users creating or sustaining risk management, examples, and other resources to continue their practice.

Risk Management Scale/Matrix

- ❖ **Scales** can be used to score the likelihood and consequence of risks.
- ❖ **Establishes** a common and consistent way to compare various types of risk.

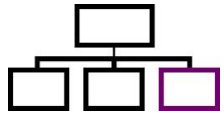
Likelihood of Occurrence	High		Unacceptable Risk	Unacceptable Risk
	Med			
	Low	Acceptable Risk		
		Low	Med	High
Consequences				

Examples of Formalizing Risk Management within Transportation Agencies

Case Study: Maine DOT and Utah DOT



Value Proposition. Create tools to engage contractors early in pre-bid meetings to discuss their understanding of potential risks including scheduling, costs, environmental, etc.



Organizational Change. Establish offices with responsibility for managing risk across the agency. Having a dedicated office in place gives staff throughout the agency an understanding of risk and shows buy-in at the organizational and leadership level.



Communication and Promotion. Develop multi-disciplinary project teams to mitigate silos and encourage open lines of communication and transparency. Understand the “why” before introducing the “how” will help communicate the importance risk management.



Quantification of Risk. Establish internal working groups to examine the agency holistically to document best practices related to addressing risk. Communicate the quantification of risk to staff by emphasizing how reducing risk in certain areas can increase resilience in others.

Case Study: Maine DOT and Utah DOT continued



Integrating with Existing Processes. Leverage internal dashboards to monitor projects and programs. This allows everyone to be on the same page. Encourage peer to peer exchanges. Be consistent with risk integration efforts this shows the value leadership sees in risk management and adds a layer of accountability.



Data and Tools. Create risk maps to support planning, design, maintenance, and project delivery decisions. Utilize spreadsheets and other databases to catalog potential risks to help staff understand if or how a risk may impact their program or project and maintain a list of mitigation strategies.

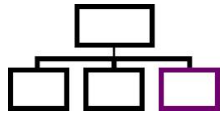


Culture of Risk. Establish businesses practices throughout the agency with an emphasis on risk at all levels from project and program to task related. Manage risk throughout the life of a project and create opportunities for staff to raise potential risks and mitigation strategies.

Case Study: Port Authority of New York and New Jersey



Value Proposition. A core objective of PANYNJ is to identify and assess major risks to the organization. As a bond-funded agency they must make regular disclosures of material risks to investors.



Organizational Change. Risk is ultimately the responsibility of executives. Business lines within PANYNJ (airports, bridges, tunnels, etc.) have risk management processes tailored to their unique requirements and responsibilities.



Communication and Promotion. Enterprise risk management is integrated key business planning exercises. Periodic workshops are held to refine and evolve the library of risks and to apply them in the business planning process.



Quantification of Risk. Risk is quantified across the agency. Qualitative data is used when quantitative data about a specific risk is not available. Quantification strategies may be similar for related risks, but no single strategy exists across the full library.

Case Study: PANYNJ continued



Integrating with Existing Processes. Enterprise risk management is embedded in business planning across lines and exists beyond single projects. The ERM group has regular discussions with line and staff departments to identify which risks are likely to be most relevant to the specific programs.



Data and Tools. Data and tools are risk specific. Several related risks may use similar data and tools, no single dataset or set of tools is used across the whole risk library.



Culture of Risk. An enterprise risk management approach ensures a holistic view agency wide of risk at all levels. Priority risks identified through the ERM process may be considered in relevant business processes, as appropriate.

CASE STUDY



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PROGRAM

Risk Management: Building Momentum and Sustaining the Practice at Vejdirektoratet

The Directorate is assigned individual infrastructure projects with their own budget and timeline as part of a 20-year initiative for road construction. They do not build the roads and bridges themselves; projects are offered and carried out by private suppliers and contractors. Thus, money cannot be moved between project and enterprise risk management does not occur. Since they are a centralized function with dedicated risk managers for facilitation, though, they do look at risks at the program level.



Figure 1: "Better Way for the Money. Easily and Safely Forward."

Key Risk Management Efforts:

- Assessing project risk using estimates informed by the professional judgment and experience of project managers, facilitated by a central risk management office.
- Learning from past mistakes to reframe and create a regime that incorporates risk management.
- Developing overarching risk management techniques for all of their projects.

CASE STUDY



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PROGRAM

Risk Management:

Building Momentum and Sustaining the Practice at Central Federal Lands Highway Division (CFLHD)

CFLHD is a division of FLH that covers the western and southern part of the US. They are a full service agency, delivering the design and construction of road and bridge projects on, through, or providing access to Federal Lands in conjunction with our Federal Land Management Agency partners. CFLHD is a robust agency incorporating risk management throughout their organization. They utilize risk management at the project, program, and enterprise levels, tangibly seeing success from these efforts.

Agency Overview

The Office of Federal Lands Highway (FLH), part of the Federal Highway Administration (FHWA) in the US Department of Transportation (USDOT), was established to promote effective, efficient, and reliable administration for a coordinated program of federal public roads and bridges; to protect and enhance our Nation's natural resources; and to provide needed transportation access to and through our federal lands. More information on FLH can be found here: <https://highways.dot.gov/federal-lands>



Figure 1: CFLHD Service Area

Key Risk Management Efforts:

- All projects require identification of the risks, development of risk response strategies, and monitoring of the risks throughout the life of the project.
- Program risks are evaluated based on project data by a quality assurance specialist and quality board as they review CFLHD's program of projects.
- Project Managers are empowered to evaluate and elevate risks on their projects with their teams.
- Enterprise risks such as workforce and fund levels are mitigated through work with other FLH divisions or programs.

Digital Resource

AASHTO TAM Portal:

<https://www.tam-portal.com/rms-about/>

AASHTO Enterprise Risk Management Portal:

<https://www.erm-portal.com/>

Risk Management at State DOTs

Building Momentum and Sustaining the Practice

What Do You Want To Do Today?

RISK MANAGEMENT AT STATE DOTs Home Your Role Building ✓ Sustaining ✓ Quick Links Search here...

What is Risk Management?

Risk management is the process to identify, evaluate, and prioritize risk, through various strategies and tools, which allows individual risk events and/or overall risk to be proactively understood and planned for.

Risk management can take place at different levels of the organization supporting different objectives. Below are definitions from FHWA.

```
graph TD; Identify --> Analyze; Analyze --> Respond; Respond --> Monitor; Monitor --> Report; Report --> Identify;
```

Enterprise 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 policy.

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, climate change and structures.

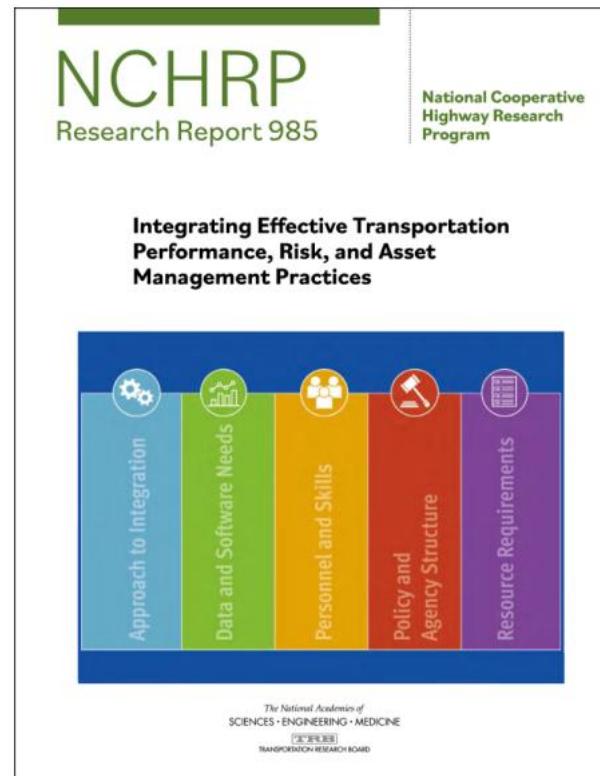
Project Risk Management

Involves risks that 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. Project risks are evaluated most often, and project risk management is most common in practice today.

Poll: What was the most helpful part of the website?

Linking to other Research

- ❖ The website and associated resources developed through this research are intended to support transportation agencies, complement existing research efforts, and provide a foundation for both ongoing and future studies.



NCHRP 23-35: A Guide for Program-Level Risk Management Performance Metrics **IN PROGRESS**

NCHRP 23-32: Transportation Asset Risk & Resilience Manual **IN PROGRESS**

COMING SOON! NCHRP Research Report 1159 Measuring Impacts and Performance of State DOT Resilience Efforts

Questions?



RISK MANAGEMENT AT STATE DOTs

Thank you!

For more information, email

Melissa.savage@jacobs.com or Candice.de@jacobs.com

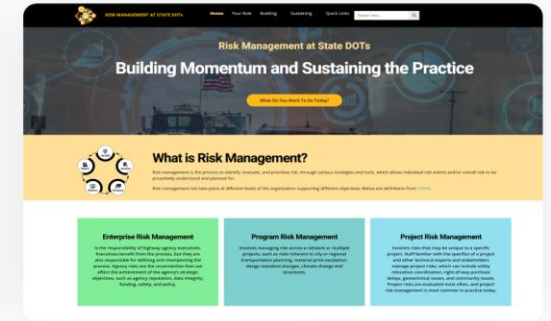
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Digital Resource



Why Does Risk Management Matter?

Video testimonial – Video is in progress



How to use the website?

Video Tutorial – Video is in progress

Where do I start if I want to build a risk management practice?

Outlined below are several core elements of risk management intended to guide the beginning stages of building a risk management practice.



Establish Common Understanding

- ✔ Outline benefits of risk management
- ✔ Align goals across organization
- ✔ Create a glossary of terms



Build Organizational Support

- ✔ Establish leadership buy-in
- ✔ Empower staff to make decisions



Develop Processes

- ✔ Provide Training
- ✔ Follow-up on outcomes
- ✔ Be nimble



Create Tools

- ✔ Develop Project Risk Registers
- ✔ Develop a meeting cadence or discuss

Examples of each of these steps can be found in the step by step tour below. To summarize, here is a link to a checklist for building a new risk management practice.



RISK MANAGEMENT AT STATE DOTs

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Building

Sustaining

Quick Links

Search here...



What do you want to do today?

This step-by-step tour through current thought and practice provides insights into how you can have a positive impact on Risk Management efforts in your agency, based upon your role and needs.

Enterprise Risk Management

I manage Agency-Level Risks that impact achievement of agency goals and objectives and involve multiple functions.

I need to manage risks in a way that optimizes the success of the whole organization rather than the success of a single business unit or project.

Program Risk Management

I manage Program-Level Risks that impact the ability of the DOT to deliver on performance objectives of capital programs.

I need to set program contingency funds and allocate resources to projects consistently to optimize outcomes of the whole program

Project Risk Management

I manage Project-Level Risks that manages risks that impact the DOT's ability to deliver a particular project within schedule and budget.

I need to use advanced analysis techniques, contingency planning, and consistent risk mitigation strategies to ensure the successful delivery of my project.

[I don't know?](#)

Digital Resource



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What Do You Want To Do Today?

This step-by-step tour through current thought and practice provides insights into how you can have a positive impact on Risk Management efforts in your agency, based upon your role and needs.

An Executive

Manages risks that impact achievement of agency goals and objectives and involve multiple functions

A Program Manager

Manages risks that impact the ability of the DOT to deliver on performance objectives of capital programs

A Project Manager

Manages risks that impact the DOT's ability to deliver a particular project within schedule and budget.

I want to

BUILD

Risk Management practice



Building

Enterprise Risk Management

Requires thoughtful organization, communication, and tools



Building

Program Risk Management

Requires defined goals, clear roles, and methods to measure risk



Building

Project Risk Management

Requires empowerment for decisions based on data and tools

Digital Resource



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I want to

SUSTAIN

Risk Management practice



Sustaining

Enterprise Risk Management

Requires systems and processes that can withstand organizational changes



Sustaining

Program Risk Management

Requires policies and processes to continue to accomplish a program's goals



Sustaining

Project Risk Management

Requires calculated outcomes and methods for mitigating risks

AASHTO ERM Portal

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Quick Links

This Quick Links page is intended to act as a library rolodex of all the digital content culled together to support state DOT's in building or sustaining risk management practices. It is comprised of 3 categories of content: Guidance, Examples, and Tools. Click each section below to expand the index.

Guidance

The following links provide national guidance on how to integrate Risk Management into a standard practice at State DOT's.

AASHTO TAM Guide Risk Management Section	FHWA Roadmap to Risk Management for Transportation Planning
AASHTO Guide for Enterprise Risk Management	ISO Risk Management Guideline Principles, Framework, and Process
Video Testimonials (In Progress)	

Examples

The following links provide examples of how other state DOT's have integrated Risk Management into practice. This section is broken into policy documents, process documents, project documents, and best practices.

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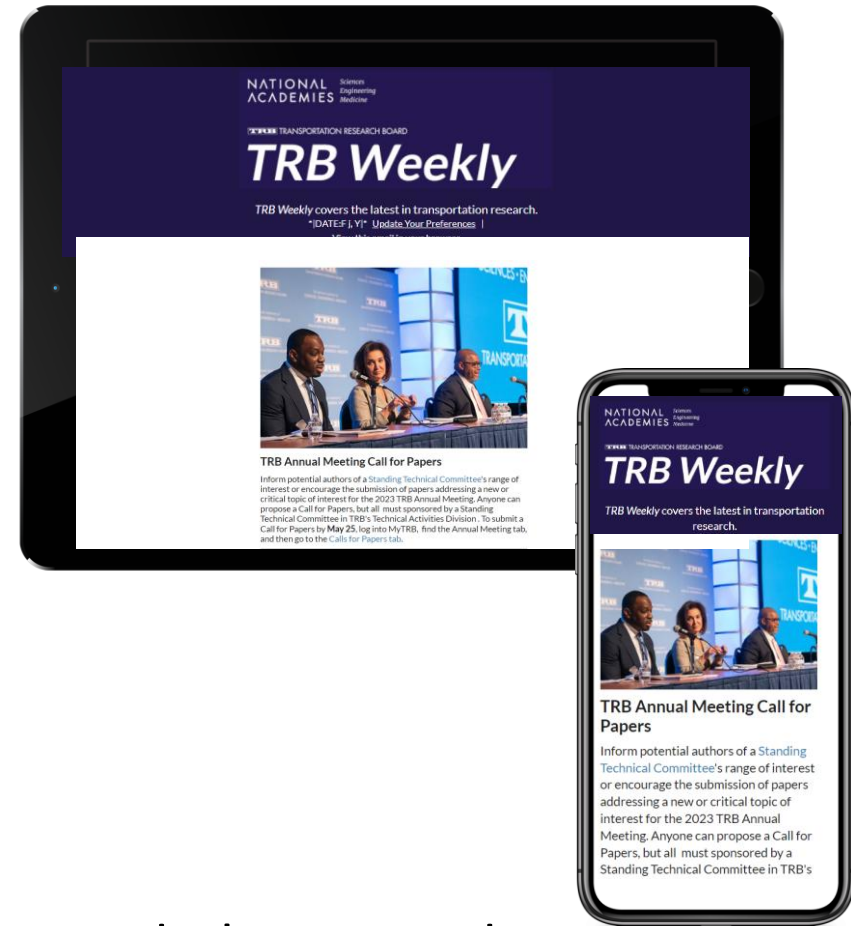


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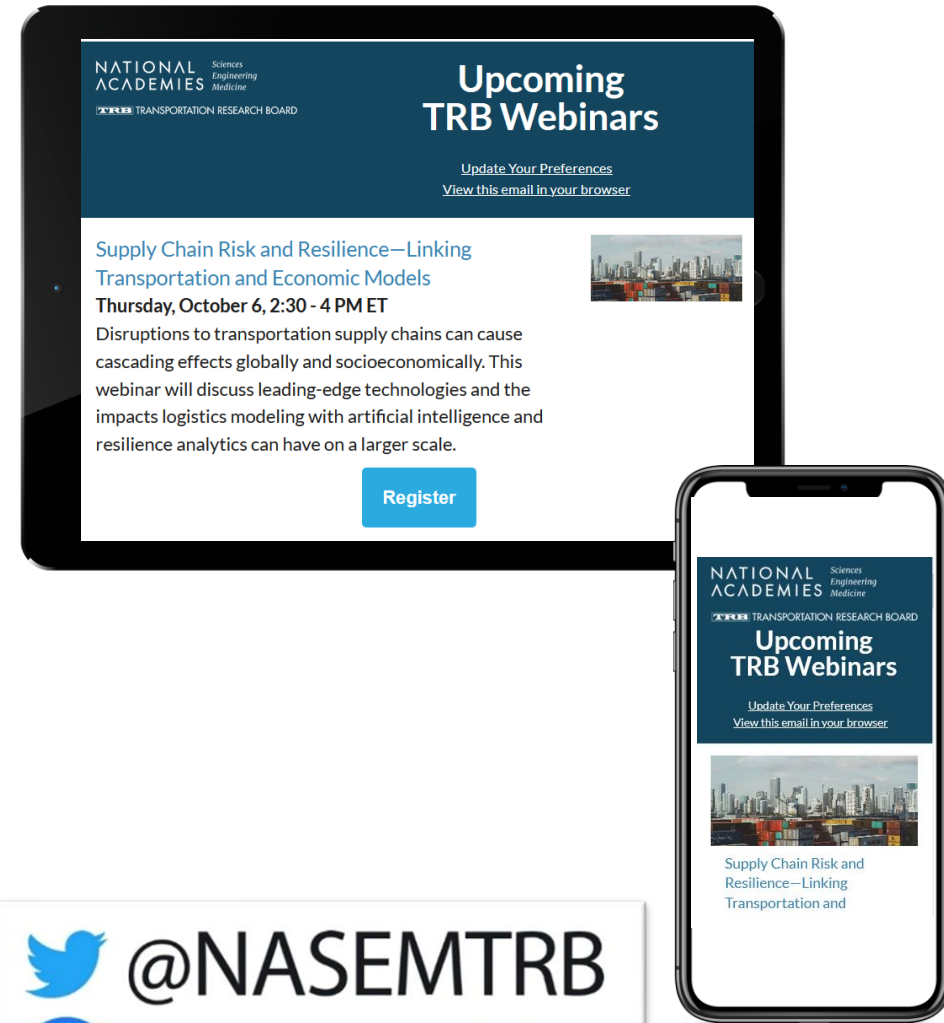
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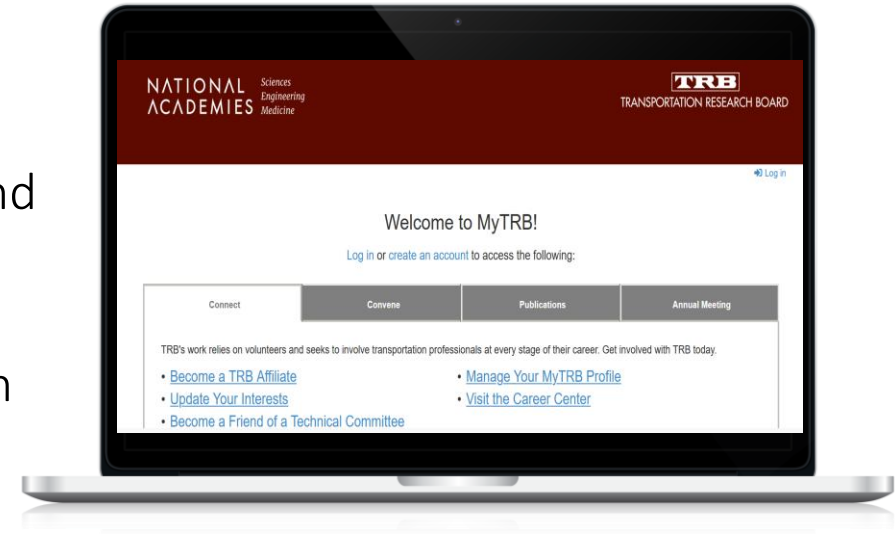


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