

DRAFT Triennial Strategic Plan

Transportation Research Board

Committee on Information and Knowledge Management (AJE45)

Committee Leadership:	Kendra Levine, Institute of Transportation Studies Library, UC Berkeley (Co-Chair) Frances D. Harrison, Spy Pond Partners, LLC (Co-Chair) Alex Linthicum, U.S. DOT Volpe Center (Vice-Chair) Leni Oman, Washington DOT (Research Co-Coordinator) Enid White, Wyoming DOT (Research Co-Coordinator) Bobbi deMontigny, Montana DOT (Communications Co-Coordinator) Jessica VanDenBogaert, Florida DOT (Communications Co-Coordinator)
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1. Committee Future Outlook Statement

Introduction

Information and knowledge management support all [TRB critical issues](#) including system performance management, safety, resilience, and sustainability. Knowledge and information management help enhance the performance and efficient delivery of an organization's mission, productivity of its workforce, and provide building blocks for modernization. Knowledge management is still relatively new in the transportation sector and information management practices have not yet been used to their full potential. Our aspirational goal is to elevate awareness and understanding of these practices, enable organizational capabilities, and institutionalize use of these practices in all aspects of transportation organization management and operations. This Triennial Strategic Plan identifies activities to achieve this aspirational goal by fostering broader use of current practices, promoting research and development to advance practices and capabilities, and increasing the engagement of our members and friends.

Committee Vision

Knowledge and information management are core functions within the transportation community, used to ensure that:

- transportation information and knowledge are widely accessible,
- transportation information and knowledge can be located easily,
- transportation information is maintained to meet business needs using industry standard practices, and
- transportation knowledge loss is minimized during organizational and individual transitions.

Committee Mission

The mission of the TRB Committee on Information and Knowledge Management (IKM) is to advance and disseminate practices that improve knowledge and information creation, access, sharing, preservation and retention within and across transportation organizations. The committee identifies critical research needs in these areas, promotes understanding of these topics throughout the transportation community, and fosters the use and advancement of library and information science and knowledge management practices through education, training, collaboration, outreach and research.

Committee Interests

The Committee is interested in building transportation **workforce capacity and productivity** with a focus on:

1. Successfully deploying current and emerging knowledge and information management technologies and strategies;
2. Fostering **research and innovation**; and
3. Strengthening agency **governance** to align and coordinate people, process, technology and content strategies.

Specific interests within each of these three areas are summarized below.

Successfully Deploying Current and Emerging Knowledge and Information Management Technologies and Strategies

- Findability - improving findability, access and integration of data, information and knowledge
- Semantics - creating and using glossaries, taxonomies, thesauri, and ontologies to enable common understanding of concepts and terms and their relationships and provide a foundation for improved data integration.
 - consider needs for multilingual vocabularies
 - address practices for keeping up with evolution of terminology
- Enterprise Architecture¹ - development of robust agency enterprise architecture disciplines that link business, data/information, application and system architecture layers to capture and transfer knowledge about people, processes and technology.
- Knowledge bases - capturing and improving access to decisions, commitments, and ideas for use throughout the organization
- Collaboration - enabling collaboration through expertise directories and secure tools for sharing knowledge, information and data
- Artificial Intelligence (AI), Machine Learning (ML) and Cognitive Computing techniques - advancing applications for semantic search, document classification, knowledge or feature extraction, and intelligent virtual assistants

Fostering Research and Innovation

¹ See for example, <https://www.scitepress.org/papers/2016/59160/59160.pdf>

- Culture - fostering learning and knowledge sharing cultures that are foundational to innovation. This includes building a willingness to share pre-publication research results to accelerate the research cycle.
- Networks - strengthening information and knowledge sharing networks and communities of practice within and across transportation organizations; and building expertise directories to help people tap into sources of knowledge.
- Information Organization and Access - enabling data/information reuse.
- Information literacy - building an understanding among transportation professionals about how to identify and qualify information sources, how to use information appropriately, when and how to share information, and how to create and maintain metadata.

Strengthening Agency Governance

- Organizational Alignment - promoting coordination across groups within transportation organizations responsible for workforce/human resources, business process improvement, information technology, records management, library(ies) and document/content/ website management.
- Coordination - Ensuring coordination and collaboration on development and use of data and information within and across organizations.
- Standards Adoption - development, adoption and implementation of data and metadata standards.
- Enterprise Architecture Practices - Fostering and promoting the understanding and use of enterprise architectures.
- Prioritization of IKM Investments - treating information and knowledge as agency assets that support agency strategy - and prioritizing IKM investments on this basis.

Factors and Influences that will Shape Committee Activities

Over the next several years, the Committee's activities and areas of focus will be influenced by the following key trends:

- Increased focus on multimodalism and system operations
- Increased focus on diversity, equity, and inclusion
- Churning of the transportation workforce through retirements, organizational restructuring, changing competencies
- Increased expectations for transparency and collaboration
- Rapidly evolving information science and technological capabilities
- Increased expectations for information access and integration across organizations
- Increased cybersecurity risk
- Increasingly limited transportation agency resources, necessitating a focus on what is most critical from a strategic perspective

2. Committee 3-Year Goals, Strategies and Actions

Highest priority strategies and actions are marked with an asterisk (*).

Goal #1: Advance Research

Engage a diverse mix of researchers and transportation agency staff to identify critical research questions, develop research agendas, issue calls for papers and pursue avenues for advancing research projects.

Strategies

- *Transition leadership of the joint AASHTO/TRB KM Research Subcommittee.
- *Increase bench strength and engagement within the Research Subcommittee.
- Develop priority research needs for advancing the state of information and knowledge management practice.
- Work to increase representation and diversity of IKM committee members and friends on research panels.
- Track and facilitate awareness and use of completed research.

Actions

- *Input research needs statements into the TRB Research Needs Statements (RNS) Database.
- *Identify a new Research Subcommittee leader.
- Conduct a survey to understand awareness and use of IKM-related research products.
- Participate in Committee Research Coordinator (CRC) meetings.

Goal #2: Curate and Share Practice-Ready Knowledge

Advance adoption of successful and impactful IKM practices through curating and sharing information and providing opportunities for peer to peer sharing of experience.

Strategies:

- *Monitor, curate, and share trends and successful practices for organizing, preserving, accessing, and finding information and knowledge in support of transportation research and business needs - both within the US and Internationally.
 - Identify information and knowledge management practices that support accessibility, diversity and inclusion.
- *Foster networks for sharing knowledge and expertise related to information and knowledge management.
- Identify agency challenges and training needs related to information and knowledge management.
- Advance agency adoption of successful practices.

Actions:

- *Identify a point person responsible for LibGuide and IKM website content curation including updates, monitoring and communicating about resources of interest.
- *Organize and host at least 2 webinars, in collaboration with the AASHTO CKM.

- Issue calls for papers.
- Survey agency needs related to improving information literacy.
- Conduct a listening session to understand current agency challenges and needs.
- Monitor and collect trends, practices, and case studies via surveys and regular Committee meetings, including quarterly conference calls and the annual in-person meeting at TRB.
- Collaborate with the AASHTO CKM on online “jams” (informal discussion of agency practices).
- Curate knowledge management publications and research in progress to share within the transportation industry and share at events or via various communications channels.
- Select a topical focus each year.
- Encourage use of resources from and participation in information and knowledge management professional organizations outside of the transportation community (e.g. APQC).

Goal #3: Raise Awareness of Committee Activities

Regularly employ a variety of distribution channels to share key activities and messages both among Committee members and friends, as well as among stakeholders and the transportation industry at-large.

Strategies

- *Maintain an up-to-date Committee website.
- *Maintain regular communication with Committee members and friends on committee activities.
- Conduct periodic outreach to identify concerns of interest and items to share.
- Ensure that committee communication targets international transportation organizations.

Actions

- *Complete a redesign of the Committee website to better reflect the full IKM committee scope:
 - Define requirements to ensure website is “right sized”
 - Actively recruit members/friends to support the website redesign
 - Select/design new logo
- *Update information about the Committee scope, research agendas, research watch lists, upcoming activities, meeting minutes, presentations, and thought leadership collateral
- *Use email to the full Committee members and friends lists to provide advance announcements.
- Evaluate the Committee’s social media presence and determine a strategy going forward.
- Attend meetings of the TRB Committee Communications Council (CCC).

Goal #4: Coordinate Activities with TRB and AASHTO

Maintain strong liaisons with other TRB committees, with the AASHTO Committee on Knowledge Management and other related AASHTO Committees.

Strategies

- *Regularly engage with members of the AASHTO Knowledge Management Committee.
- Explore opportunities to liaise or interact with subject-specific knowledge management organizations (e.g. Centers of Excellence).
- Maintain liaison with at least the following TRB Committees:

TRB Committee		FY21 Liaison Candidates
AJE15	Workforce Development and Organizational Excellence	Victoria Beal Chris Young Glenn McRae
AJE35	Research Innovation Implementation Management	Sue Sillick Cindy Smith Stephanie Dock
AJE70	Data for Decision Making	Frances Harrison
AJE10	Strategic Management	Alex Linthicum
AJE20	Performance Management	Jessica VanDenBogaert
AED30	Information Systems and Technology	Doug Couto
AED10	Statewide/National Transportation Data and Information Systems	Leni Oman
AED20	Urban Transportation Data and Information Systems	Kendra Levine
AED80	Visualization in Transportation	TBD
AED50	Artificial Intelligence and Advanced Computing Applications	TBD
???	History Subcommittee	Kendra Levine

- Maintain liaison with at least the following AASHTO Committees:

AASHTO Committee	FY21 Liaison Candidates
Committee on Knowledge Management	Leni Oman
Committee on Human Resources	Scott Thayer Pat Wise Christopher Young
Data Management and Analytics	Chad Baker John Selmer Mike Bousliman Denise Whitney-Dahlke Michelle Morgan
Special Committee on Research and Innovation	Cindy Smith

Actions:

- *Identify TRB and AASHTO committee liaisons.
- *Encourage members and friends to attend the AASHTO Knowledge Management Committee meetings and webinars.
- Engage committees related to the annual selected focus area in conversations about how improved IKM practice might further their objectives.

Goal #5: Manage the Committee Effectively

Manage the Committee in order to fulfill its mission and achieve Goals 1-4.

Strategies

- *Maximize engagement of Committee Members and Friends.
- *Use information and knowledge management tools and best practices whenever possible.
- *Manage the Annual Meeting planning cycle as an integral part of committee activities
- Recruit international and young members.
- Foster diversity and inclusion in the conduct of committee activities.

Actions

- *Conduct a survey of members to solicit feedback on Committee activities and encourage participation.
- *Identify a collaboration platform for the committee to use for document sharing
- *Add a new Membership Coordinator role, responsible for looking at committee turnover, identifying new members, helping with onboarding.
- Talk to each member to discuss what committee activities they would like to lead or support.
- Create and publish a calendar of TRB Annual Meeting milestones (topic selection, call for papers, liaison with other committees, session planning, paper review).
- Define and publish assigned roles and responsibilities for the committee.
- Identify specific practices that foster diversity and inclusion.