

# Triennial Strategic Plan

## TRB Task Force on Knowledge Management (AB010T)

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### 1. Task Force Future Outlook Statement

#### Task Force Vision

Knowledge is recognized as a valued asset and knowledge management is a core function within the transportation community to help ensure that:

- collection, organization, dissemination and sharing of transportation knowledge is a fundamental practice in the transportation community
- transportation knowledge is widely accessible
- transportation knowledge can be located easily
- transportation knowledge loss is minimized during organizational and individual transitions

#### Task Force Mission

The mission of the TRB Task Force on Knowledge Management is to advance and disseminate practices that improve knowledge creation, sharing and knowledge retention within member transportation organizations.

#### Task Force Interests

These interests guide the activities of the Task Force.

Specific *concerns* of interest include: defining knowledge management; managing workforce transition (due to retirements, downsizing, staff turnover, and staff movement within the organization); overcoming organizational silos; improving knowledge sharing within traditionally non-sharing cultures; managing individual and organizational risks of knowledge sharing; making the business case for knowledge management; and effectively applying new information technologies to improve knowledge sharing, collaboration, and communications.

Specific *practices* of interest include: enterprise architecture; workforce planning; collaboration techniques; recognition and reward systems/programs; organizational learning support;

knowledge books/bases; knowledge audits; knowledge mapping; social network analysis; mentorship programs; knowledge capture interviews; after action reviews; cultivation of norms for learning and unlearning; communities of practice; and knowledge elicitation/codification as business rules, workflows, and process maps.

Specific *technologies* of interest include: enterprise content management systems; collaboration and communication platforms (including social media and chat-based platforms); social network mapping; automation (including machine learning and natural language processing); and knowledge discovery and delivery platforms.

## **Factors and influences that will shape Task Force activities**

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

- *Changes in the workforce*, including accumulations of workers bringing greater experience with and expectation to leverage social media, search, and self-service information.
- *Evolving skill requirements*, including those required to capture, process, and analyze big data sets and those required to design, train, test, and deploy machine learning algorithms to solve complex problems.
- *Emergence of new information technology service delivery approaches*, including cloud-based software-as-a-service and platform-as-a-service models.
- *Continued shifts to enterprise-wide, business-centric approaches for information management* which requires new skill sets and new working relationships between information technology and business units, and execution of deliberate strategies for integrating information across existing application silos.
- *Emergence of multi-platform applications* for project management, collaboration, and/or communications.
- *Increasingly constrained transportation agency resources*, which motivates organizations to seek opportunities for efficiency gains through knowledge management both within agencies and with partners and contractors

## **Critical Issues in Transportation**

The Task Force's focus on making more effective use of knowledge throughout the enterprise helps transportation agencies achieve their missions in a more efficient manner; thus the work of this Task Force supports each of the following [TRB critical issues](#) in a cross-cutting fashion:

- The performance of the transportation system is neither reliable nor resilient
- Significant, avoidable deaths and injuries every year
- Large scale, unsustainable impacts on energy, the environment, and climate
- Inadequate funding sources for public infrastructure
- Innovation in passenger mobility services and in public-sector infrastructure lags far behind that in the private sector
- The research and development (R&D) investment necessary for finding and adopting new solutions is low and declining

## ***2. Task Force 3-Year Goals and Strategies***

### **Goal #1: Identify Research Needs**

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**

- Develop priority research needs for advancing the state of knowledge management practice
- Input research needs statements into the TRB Research Needs Statements Database
- Issue calls for papers

### **Goal #2: Provide Knowledge Management Thought Leadership**

Monitor trends and promising practices both internal and external to the transportation industry and develop opportunities to share that knowledge within the transportation industry.

#### **Strategies**

- Monitor and collect trends and practices via surveys and regular Task Force meetings, including quarterly conference calls and the annual in-person meeting at TRB
- Organize and host webinars, conference sessions, or other events (e.g. peer exchanges)
- Curate knowledge management publications and research in progress to share within the transportation industry and share at events or via various communications channels

### **Goal #3: Raise Awareness of Task Force Activities**

Regularly employ a variety of distribution channels to share key activities and messages both among Task Force Members and Friends, as well as among stakeholders and the transportation industry at-large.

#### **Strategies**

- Designate a TRB Communications Coordinator, responsible for the Task Force website and information sharing with other committee communications coordinators
- Use email to the full Task Force members and friends lists to provide advance announcements.
- Maintain the Task Force website including information about the Task Force scope, research agendas, research watch lists, upcoming activities, meeting minutes, presentations, and thought leadership collateral.
- Conduct periodic outreach (e.g. member surveys) to identify concerns of interest and items to share.

### **Goal #4: Leverage Expertise of Agency and Industry Liaisons**

Maintain strong liaisons with both transportation agency and industry leaders to ensure that the Task Force stays current on key issues of concern and to maximize opportunities for technology transfer across agencies, and from research into practice.

## Strategies

- Engage with members of the AASHTO Knowledge Management Committee and attend the AASHTO Knowledge Management Committee meetings.
- Explore opportunities to liaise or interact with transportation agency executives.
- 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		FY18 Liaison
ABC20	Management and Productivity	Dana Glover
ABG10	Conduct of Research	Sue Sillick
ABG20	Education and Training	Diana Long
ABG40	Library and Information Science	Kendra Levine
ABC10	Strategic Management	Alex Linthicum
ABJ50	Information Systems and Technology	Frances Harrison
ABE30	Transportation Issues in Major Cities	TBD
ABG50	Transportation History	TBD
ABJ20	Statewide Transportation Data and Information Systems	TBD
ABJ70	Artificial Intelligence and Advanced Computing Applications	TBD

## Goal #5: Manage the Task Force Effectively

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

## Strategies

- Maximize engagement of Task Force Members and Friends by assigning specific roles and responsibilities.
- Use knowledge management tools and best practices whenever possible.
- Maintain this strategic plan as needs and conditions evolve.

### 3. Action Plan for 2018-2019

Goal	Action
Identify Research Needs	<ul style="list-style-type: none"> <li>● Solicit Task Force members and friends to collaborate on research needs (Leni)</li> <li>● Work with volunteers to draft 1-2 research needs statements and advance them for funding (Leni)</li> </ul>
Provide Knowledge Management Thought Leadership	<ul style="list-style-type: none"> <li>● Plan quarterly TF meetings/calls to discuss current notable practice examples, research of interest, and issues of concern (Frances and Alex)</li> <li>● Develop a research page on the website (Glenn)</li> <li>● Solicit feedback on trends, practices, and concerns via a form on the website (Glenn)</li> <li>● Plan and conduct two webinars drawing on annual meeting speakers (Glenn)</li> <li>● Plan and organize sessions and workshops for the annual meeting (Frances and Alex)</li> </ul>
Raise Awareness of Task Force Activities	<ul style="list-style-type: none"> <li>● Develop a communications strategy, including a social media strategy (Jessica/Adam)</li> <li>● Employ social media platforms for communications (Adam)</li> <li>● Identify and prioritize web site changes (Glenn)</li> <li>● Track the effectiveness of communications and make data-driven outreach decisions (Jessica)</li> </ul>
Leverage Expertise of Agency and Industry Liaisons	<ul style="list-style-type: none"> <li>● Maintain a list of liaisons with contact information (Alex)</li> <li>● Identify additional liaisons (Frances/Alex)</li> <li>● Use network of liaisons to partner with other groups and efforts and to communicate AB010T webinars, sessions, and workshops (Frances/Alex)</li> </ul>
Manage the Task Force Effectively	<ul style="list-style-type: none"> <li>● Identify Communications and Research Coordinators (Frances/Alex)</li> <li>● Maintain an up to date Task Force friends list (facilitate corrections via myTRB) (Frances/Alex)</li> <li>● Manage communications and or collaborative efforts with state of the practice platforms (e.g. Google Docs) (Frances/Alex/Leni/Jessica)</li> <li>● Annual member/friend survey to identify interests and concerns (Frances/Alex)</li> </ul>

#### 4. Task Force Accomplishments (2017 – 2020)

##### Paper Review

- 2018: 0 papers reviewed, 0 recommended for presentation, 0 recommended for publication
- 2017: 1 paper reviewed; 1 recommended for presentation, 0 recommended for publication

##### Meetings, Sessions, and Workshops

Event & Date	Workshop/Session
TRB Annual Meeting – January, 2018 (Washington, DC)	<ul style="list-style-type: none"> <li>• KM Task Force Meeting</li> <li>• Workshop: Identifying Knowledge Assets: A Case Approach (103)</li> <li>• Session: The Future of Transportation and Reliance on Knowledge Sharing Among Transportation Organizations (461)</li> <li>• Session: Tools for the Zombie Apocalypse: Avoiding the Brain Drain in Transportation (661)</li> <li>• Co-Sponsored Session: Modes of the Future and Workforce Development Implications (838)</li> <li>• Co-Sponsored Session: Workforce Development and Training: Cross-Cutting Issues and Solutions (865)</li> </ul>
2-Part Webinar: The Brass Tacks of Knowledge Management for Transportation Organizations May 17 and May 31, 2017	<ul style="list-style-type: none"> <li>• This two-part series, designed for organizations interested in starting knowledge management programs, highlighted specific KM approaches and techniques with specific applications in transportation organizations. Versions of these presentations were made at TRB in January 2017 (271)</li> </ul>
TRB Annual Meeting – January, 2017 (Washington, DC)	<ul style="list-style-type: none"> <li>• KM Task Force Meeting</li> <li>• Session: Methods and Tools for Collaboration in a New Era (200)</li> <li>• Session: The Brass Tacks of Knowledge Management: The Five Things to Know and Do (271)</li> <li>• Co-Sponsored Session: How Career Pathway Demonstration Programs Can Unite Industry and Academic Leaders to Prepare the Next Generation of Transportation Professionals (554) (ABG20)</li> <li>• Co-Sponsored Session: Smart Accessibility for Smart Cities (609) (A0030T)</li> <li>• Co-Sponsored Session: Risk Taking and Innovation in Workforce Development and Training Activities (821) (ABG20)</li> <li>• Co-Sponsored Session: Leveraging Technology for Transportation Agency Workforce Development and Training (862) (ABG20)</li> </ul>

**Attachment A – DRAFT Research Topics of Interest from 2017 Annual Meeting**

Potential Research Area	Potential Research Topics
Defining Knowledge	<ul style="list-style-type: none"> <li>● Info vs knowledge vs data</li> <li>● Turn information into knowledge</li> <li>● Work performance into knowledge</li> <li>● Working with data management, technology</li> <li>● Enterprise architecture</li> <li>● Knowledge capture</li> </ul>
Business Case	<ul style="list-style-type: none"> <li>● How KM supports system performance</li> <li>● How KM supports performance management</li> <li>● Business case for KM</li> <li>● Financial impacts of poor KM</li> <li>● KM being done but not branded</li> <li>● Getting buy-in for KM enterprise-wide</li> <li>● Context of KM, story behind data</li> <li>● Data telling the story</li> <li>● Stakeholder management and KM – engagement practices – customer relationship management</li> </ul>
KM in Practice	<ul style="list-style-type: none"> <li>● Workshop on how to get started including actionable items</li> <li>● Lessons learned throughout project – not just at end of project</li> <li>● Technologies for KM, KM sharing, Collaboration</li> <li>● KM failures – from not doing KM (lessons learned)</li> <li>● KM in support of safety programs and safety culture</li> <li>● Duality of leveraging past experiences and new ideas or innovation</li> <li>● Systems approach to KM</li> <li>● KM governance</li> <li>● KM between agencies/interlocking tasks (smart cities)</li> </ul>
Sharing	<ul style="list-style-type: none"> <li>● Silos vs across agencies- who’s doing it well, working out loud and creating KM sharing culture</li> <li>● Tension between transparency and knowledge sharing</li> <li>● KM steps – risk of sharing knowledge liability</li> <li>● Vulnerability of sharing, personality and dynamics of sharing</li> </ul>
Organizational Culture	<ul style="list-style-type: none"> <li>● Hit the ground running – strategies for effective onboarding</li> <li>● Workforce development – turnover, communities of practice</li> <li>● Mentoring programs, KM transfers, strategic planning for KM and analysis of KM gaps</li> <li>● Cross-generational</li> <li>● Structural knowledge flows (Google example), open environment, mapping buildings – physical structure affects KM</li> </ul>