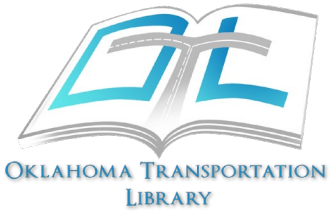
TPF-5(442)

Transportation Research and Connectivity:
Where We've Been and Where We're Going



History of TPF-5(442)

Developed out of previous pooled fund efforts:

- TPF-5(105): Led by Wisconsin DOT from 2005-2010
  - Goals included advancing the systemic sharing of transportation library resources and best practices and share needs of the future. Objectives included:
    - Creation of a prototype national infrastructure for transportation libraries
    - Publication of the Transportation Librarian's Toolkit
    - Increased awareness of the value of library and information services
    - Professional development opportunities for member librarians; resolution of individual problems and challenges through technical assistance
    - Payment of library network subscription fees.
      TPF-5(237): Led by Missouri DOT from 2010-2015
- TPF-5(237): Led by Missouri DOT from 2010-2015
  - Goals included exploring the effectiveness of using the pooled fund program as a funding mechanism to establish and operate a functional library consortium that would benefit the members. Objectives included:
    - Provide technical guidance to members, focused on smaller libraries that are served by only one librarian, while emphasizing an increased reliance on self-sustaining networks
    - Promote the value of transportation library and information services
    - Conduct an annual meeting and workshop, in conjunction with related events where possible, to help members demonstrate the value of library and information services to their customers
    - Manage the interactive content management system (CMS) based project website, including tracking and reporting information, as well as provide limited access to server space
    - Collaborate with the National Transportation Library, the AASHTO RAC TKN Task Force on and other stakeholder groups to enhance communication between transportation librarians, specifically to support their projects as they help grow the TKNs
    - Pay OCLC and other subscription costs for eligible Pooled Fund members
    - Implement focused research and technology projects, as proposed by members, including potential projects that have already been identified (by the TAC and the project team)

History of TPF-5(442) Continued

- Initial survey sent out in August 2018 to gauge interest in reviving the pooled fund.
  - Leveraged NTKN network to reach transportation librarian community.
  - Results showed strong interest, especially in areas of digitization and Section 508 compliance.

Proposed four-tiered member model:
Volunteer Members (at $0 per year)
Can contribute to projects of pooled fund study

Supporting Members ($10,000 per year)
All benefits of Volunteer Members
Participation in quarterly pooled fund teleconferences
Travel and accommodations for the annual PFS meeting held at the AASHTO-RAC conference
Authority to propose and cast a vote on the annual work plan

Associate Members ($15,000 per year)
All benefits of a Supporting Member
Eligible for 508 compliance support for reports OR digitization support

Full Members ($25,000 per year)
All benefits of an Associate Member.
Eligible for both 508 compliance AND digitization support.
Travel and accommodations for one additional member to attend the AASHTO-RAC conference.
Advanced access to all documents and research conducted by the pooled fund as the study is being carried out.

Membership and Original Objectives

- Lead state/organization: Oklahoma Department of Transportation – Oklahoma Transportation Library

- Eighteen members from the following states:
  - Arizona
  - California
  - Idaho
  - Illinois
  - Missouri
  - Montana
  - Nevada
  - New Jersey
  - New Mexico
  - New York
  - North Carolina
  - Oklahoma
  - Oregon
  - South Dakota
  - Texas
  - Utah
  - Wisconsin
  - Wyoming

Total Commitments Received: $1,260,000

Start Date: March 2020

Original Completion Date: March 2023 (Renewed until September 2027)

- Objectives
  1. Develop a synthesis report analyzing the current condition of transportation information infrastructure, including review of pertinent knowledge management resources.
  2. Develop a toolkit of recommendations and best practices for transportation research organizations that do not have a transportation librarian.
  3. Partner with the NTKN to analyze effectiveness of LibGuides, identify gaps in coverage, and survey the needs of DOTs.
  4. Develop a cooperative digitization project among members, in partnership with the NTL, to convert copies of older materials to digital formats, as well as providing Section 508/ADA compliance support for digital documents.
  5. Enhance communication between group members (hold annual pooled fund meeting in conjunction with the AASHTO RAC conference).

Transportation Research and Connectivity Pooled Fund Study — December 2022

Transportation Libraries and Information Centers: Current Practices and Future Directions

Over the past decades, the transportation, technology and information landscapes have changed with the availability of resources and user preferences and expectations. Driven by these shifts, transportation libraries and information centers are evolving to meet the challenges and take advantage of the opportunities presented by these trends.

The Need for this Project

Among the challenges that transportation libraries and librarians face are the mistaken notion that staff can find everything they need on their own through the internet, the failure to understand the depth and breadth of services that librarians can offer, and the lack of value placed on good information to improve and maximize the operation of transportation agency programs.

The Transportation Research and Connectivity pooled fund sought to better understand the current environment and examine these challenges. Surveys of library stakeholders—librarians, research program managers, library users and agency leadership—provided perspective on how transportation libraries and information centers are currently serving their users and how those who manage transportation information can navigate the future.

TRANSPORTATION
research and connectivity

The Transportation Research and Connectivity pooled fund study, TPF-5(442), is a consortium of state departments of transportation (DOTs) and other partners that supports the coordinated development of transportation libraries as well as research organizations without dedicated libraries.

63 PROJECT PARTICIPANTS

Three distinct groups were surveyed for this project. Respondents included:

- 29 library and information services users
- 27 state transportation agencies
- 7 state DOT leaders

14 PHYSICAL COLLECTIONS

Of the responding state transportation agencies, almost half maintain in-house print collections in a dedicated library space.

10 COLLABORATIVE SYSTEMS

Ten agencies reported partnering with state libraries or universities to manage and provide access to transportation information.

Current and Emerging Trends

The synthesis report revealed three primary challenges:

- **Evolving technology.** Information technology is transforming all libraries, with print collections ceding ground to digital, or virtual, collections. A robust, virtual statewide transportation information resource may be just what's needed for transportation libraries and information centers to meet users where they tend to be—online.
- **Changing workforce.** As experienced staff retire, their knowledge needs to be identified, preserved and managed. Transportation libraries and information services programs are well suited to spearhead or participate in an agencywide knowledge management program.
- **Downsizing and transitioning to virtual collections.** Whether libraries are losing space, going virtual or partnering with another organization, strategic planning can help ensure that the services offered are responsive to agency needs and aligned with agency priorities and culture.

Preparing for the Future

A sampling of the findings from this synthesis can inform next steps:

- **Develop an overarching strategy.** A clearly articulated vision of why the library exists and the information, services, products and other value the library provides is vitally important to staying relevant and retaining or increasing resources.
- **Increase collaboration.** Digitization can be costly and difficult

READ THE SYNTHESIS REPORT:

- Transportation Libraries and Information Centers: Current Practices and Future Directions, December 2022.

ADDITIONAL RESOURCES:

- Digitization (National Transportation Library LibGuide).

Synthesis Report on the Future of Transportation Libraries

Updated Transportation Library Toolkit

Contents

Transportation Library Quick Guide: Introduction: Home

Search this Guide | Search

Home | Background | Definitions/Abbreviations

What's in This Quick Guide

► Home

Purpose of the Transportation Library Quick Guides.

► Background

Details about the previous and current editions of the toolkit and Quick Guides.

► Definitions/Abbreviations

Definitions of terms, abbreviations and acronyms used throughout the Quick Guides.

Quick Guide Collection

The Quick Guides in this collection examine the following issues of interest to transportation information professionals:

► Accessibility and Section 508

► Changes in Library Status

► Collection Development and Management

► Copyright and Open Access

► Demonstrating Value

► Digitization

► Information Management

► Information Professional Competencies

► Knowledge Management

Purpose of These Quick Guides

Managing and making available the extraordinary amount of information and research produced by transportation agencies, academic researchers and others have been challenges for decades. State department of transportation (DOT) libraries have been evolving to respond to resource constraints, workforce and institutional knowledge challenges, and changing information technology and user needs.

In recent years, several transportation agency libraries have closed or been reduced in capacity, and in some cases, librarian positions have been eliminated. Transportation libraries and librarians are increasingly at a disadvantage due to:

- Beliefs that staff can find information on their own on the internet
- Misconceptions of the extent of the services librarians can offer
- Lack of value placed on good information to improve and maximize the operation of DOT programs

The complexity of transportation issues and researcher needs, however, continues to expand. The **Transportation Research and Connectivity pooled fund study** (TPF-5(442)) produced this series of Quick Guides on topics of interest to assist both nonlibrarians and librarians in navigating these changes and challenges.

Further Guidance and Examples

Many of the Quick Guides have some connection to another Quick Guide topic. References to these related guides are listed separately to call attention to the guides that can inform related topics. Below is an example of one of these references:

> Refer to the Information Management Quick Guide for more information about document delivery and interlibrary loan.

Also, it can be helpful to see a concept, policy or practice that is implemented by another transportation library or information center, or examples of resources a library might add to its collection. The examples that appear throughout the Quick Guides provide more information about policies, practices and content that is appropriate for a transportation library. In addition to these real-world examples, most Quick Guides close with a sampling of additional resources or tools that can provide further guidance. Appendix A brings together all resources highlighted in the toolkit in an A to Z listing organized by chapter.

Additional Format

These Quick Guides are also available as a comprehensive manual (**Transportation Library Toolkit**) that brings together all Quick Guides in one document.

Authors and Contributors

This Quick Guide was prepared by CTC & Associates LLC for the Transportation Research and Connectivity pooled fund study, TPF-5(442), under the guidance of the following members of the study's technical advisory committee:

- Ned Parrish, Idaho Transportation Department
- Laura Wilt, Oregon DOT
- Michael Molina, Oklahoma Transportation Library (lead state technical contact)

This guide is a living document that is intended to be revised and updated to incorporate new resources. To suggest a resource for inclusion, please contact one of the committee members listed above.

Publication date: December 2022.

Resource Guides

United States Department of Transportation

Bureau of Transportation Statistics

National Transportation Library

National Transportation Library / LibGuides / NTKN / Hydrogen Fuel Cell Technology and Applications / Getting Started

Hydrogen Fuel Cell Technology and Applications: Getting Started

Search this Guide | Search

Getting Started | Background | Transportation | Other Applications | Fueling Infrastructure | Safety | Additional Resources

What's in This Guide

► Getting Started

Key resources that provide an overview of hydrogen fuel cell technology.

► Background

Notable agencies and resources of interest.

► Transportation

Research related to passenger vehicles, transit, freight and other modes of transportation.

► Other Applications

Research and resources for nontransportation applications.

► Fueling Infrastructure

Resources and tools about hydrogen fueling infrastructure development.

► Safety

Safety concerns and requirements of hydrogen technologies.

► Additional Resources

Perspectives from industry, market innovators and investors.

Hydrogen fuel cells offer an efficient and reliable source of power that plays a significant role in the clean energy economy of the future. While commonly associated with the transportation sector, this technology has many other applications, including backup power generation and warehouse logistics and distribution. This guide includes information from current hydrogen fuel cell research and guidance. Key players in technology development are highlighted along with strategies to support the growth of hydrogen fueling infrastructure across the United States.

Selected Resources

Alternative Fuels Data Center, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy.

This fact sheet provides a collection of online interactive tools, maps and data sharing products to assist transportation stakeholders in implementing alternative and renewable fuels and technologies. Access to federal and state laws and incentives is also provided.

► **Tools**, Alternative Fuels Data Center, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy.

Calculators, interactive maps and data searches are available to assist transportation decision-makers.

► **Hydrogen**, Alternative Fuels Data Center, Office of Energy Efficiency and Renewable Energy, U.S. Department of Energy.

Key elements of hydrogen fuel cell technology are presented in this overview, including benefits and considerations, fueling station locations, and laws and incentives.

Maps and Tools

- Alternative Fueling Station Counts by State
- Hydrogen Fueling Station Locator
- Hydrogen Fuel Corridors
- Station Data for Alternative Fuel Corridors

Source: Alternative Fuels Data Center

Related Resource Guides

- Transportation Sustainability Guide: Energy/Fuels, North Carolina DOT Library and Eastern Transportation Knowledge Network.
- Automobiles, Highways and Drivers: Electric and Alternative

United States Department of Transportation

Bureau of Transportation Statistics

National Transportation Library

National Transportation Library / LibGuides / NTKN / Internet of Things in Transportation / Getting Started

Internet of Things in Transportation: Getting Started

Search this Guide | Search

Getting Started | Definitions | Overview | Vehicles | Transit, Freight and Airports | Other Applications

What's in This Guide

► Getting Started

Introduction to the internet of things technologies.

► Definitions

Key terms in the industry.

► Overview

Impacts and capabilities of current technologies.

► Vehicles

Current research and future plans for vehicle technologies.

► Transit, Freight and Airports

Best practices and recommendations for ongoing research.

► Other Applications

Asset management, construction, traffic management and other transportation applications.

About the Pooled Fund

The **internet of things** (IoT) is a network of physical objects (devices, vehicles, machines and other objects) embedded with electronics, software, sensors and network connectivity that enables these objects to collect and exchange data (Intelligent Transportation Systems Joint Program Office, U.S. Department of Transportation). It is described as extending connectivity beyond conventional computing platforms such as mobile devices and computers into any range of noninternet-enabled physical devices and everyday objects (Federal Highway Administration).

Applications in transportation are wide and varied—including smart cars, rail and mass transit, commercial transportation, roadway safety, asset management, and transportation systems management and logistics. This guide provides an overview of this broad topic, with research and resources from the public and private sectors. Impacts of the internet of things are discussed along with related issues such as safety and security.

Selected Resources

Enhancing Active Transportation and Demand Management (ATDM) With Advanced and Emerging Technologies and Data Sources, Federal Highway Administration, March 2020.

Emerging technologies and data sources are discussed along with Active Transportation and Demand Management applications, design and deployment elements and methods, implementation challenges and case studies that demonstrate solutions.

Integrating Emerging Data Sources Into Operational Practice: State of the Practice Review, Intelligent Transportation Systems Joint Program Office, U.S. Department of Transportation, December 2016.

Quick Reads

Role and Applications of IoT in Transportation, TechVidVan, undated.

Applications addressed include roads, transport management system, transportation monitoring system, asset management and remote area surveillance, operational performance and inventory management system, safety, smart cars, rail and mass transit, and commercial transportation.

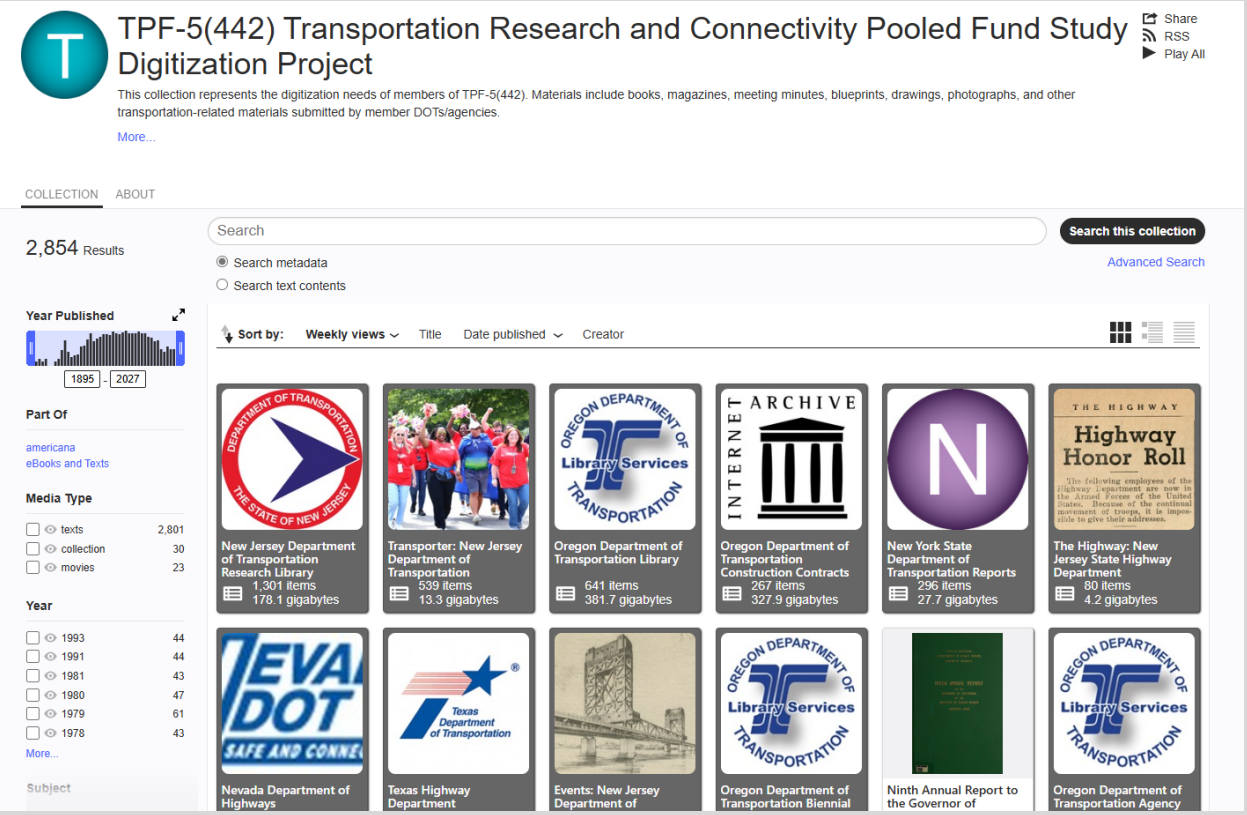
7 IoT Use Cases in Transportation and Logistics, BoostHigh, 2019.

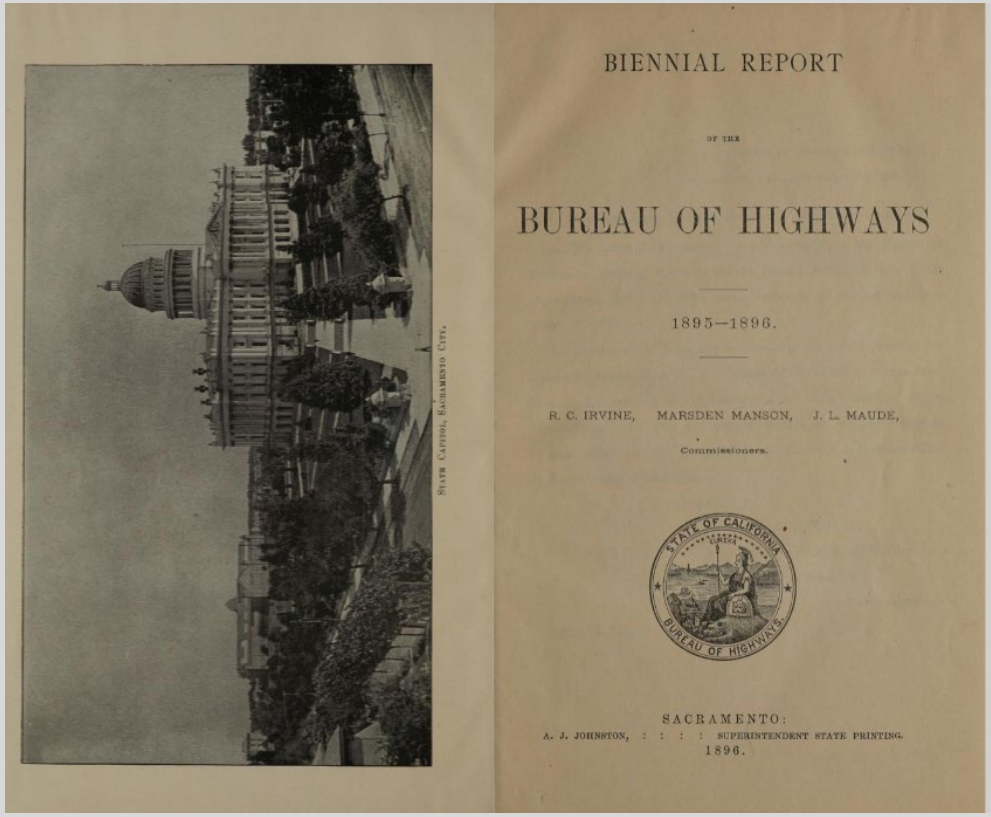
Potential applications in fleet management, inventory and warehouse management, supply chain management, predictive maintenance and alternative distribution methods are presented.

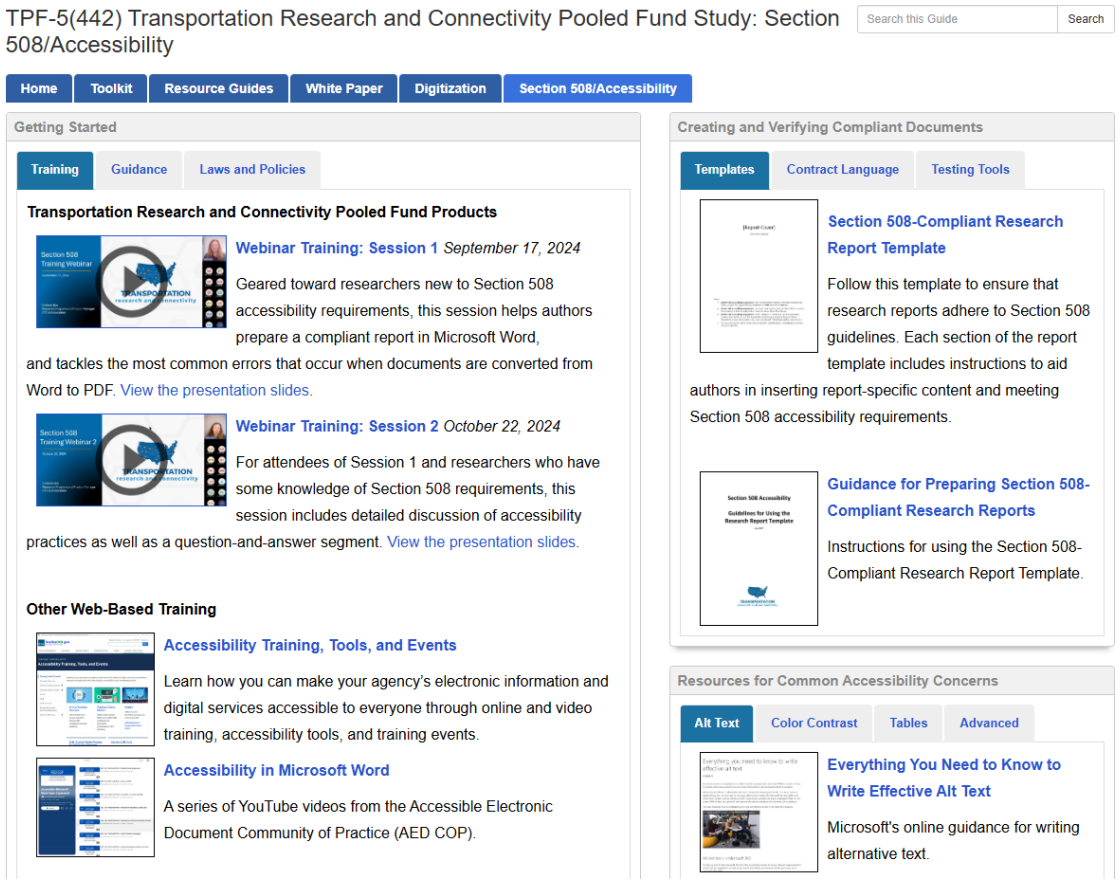
Related Resource Guides

- Internet of Things, Jet Propulsion Laboratory.
- Connected Vehicle Technology,

Cooperative Digitization Project







Section 508 Remediation and Training

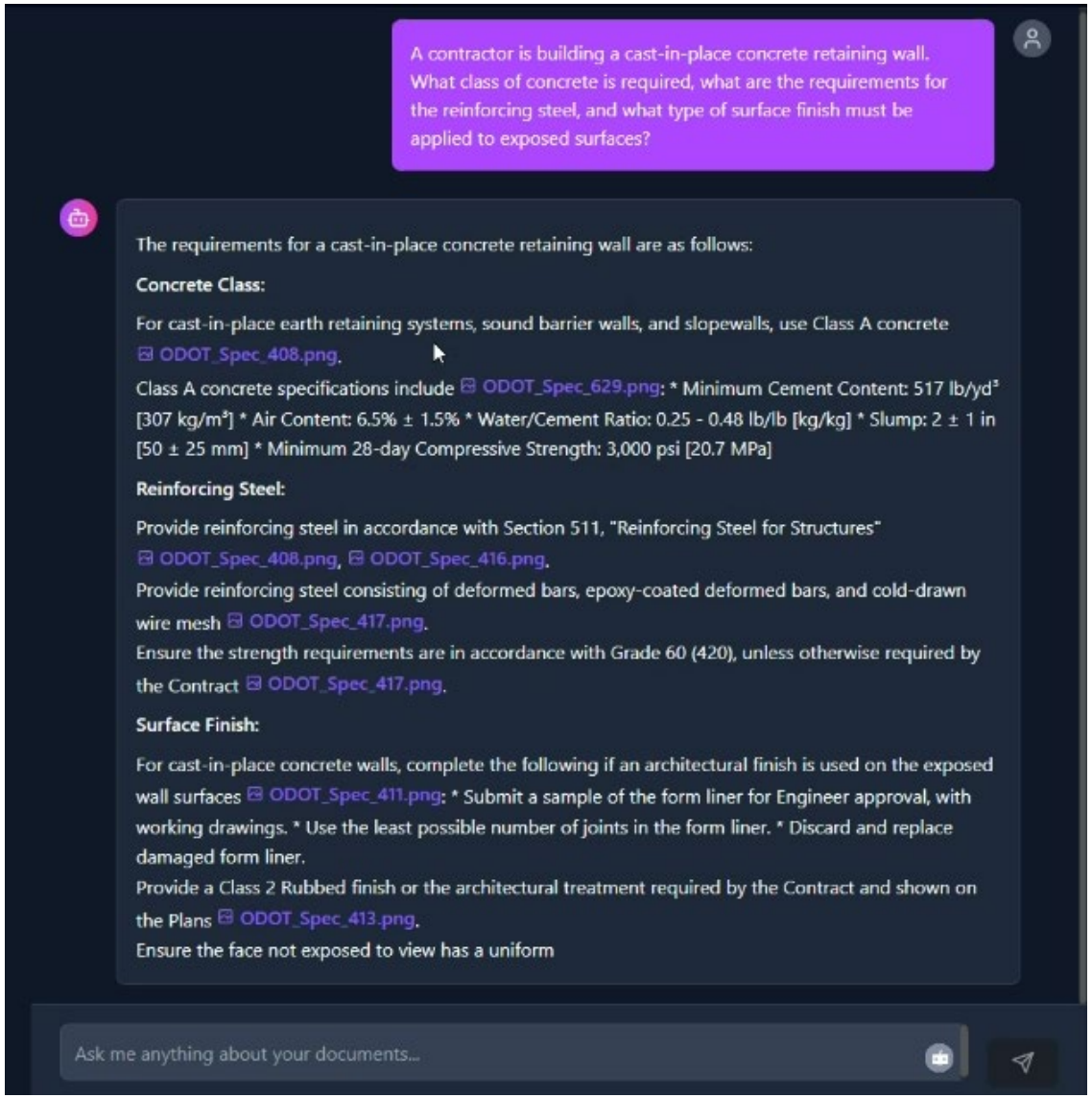
TECHNICAL REPORT STANDARD TITLE PAGE

1. Report No.	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle South Dakota DOT Peer Exchange		5. Report Date 02/17/2025 6. Performing Organization Code	
7. Author(s) Katie Johnson, Kirsten Seeber		8. Performing Organization Report No.	
9. Performing Organization Name and Address CTC & Associates LLC 2323 Woodscrest Ave. Lincoln, NE 68502		10. Work Unit No. 11. Contract or Grant No.	
12. Sponsoring Agency Name and Address South Dakota Department of Transportation Office of Research 700 East Broadway Avenue Pierre, SD 57501-2586		13. Type of Report and Period Covered Final Report Dec 2024 – Feb 2025 14. Sponsoring Agency Code	
15. Supplementary Notes			
16. Abstract The South Dakota Department of Transportation (SDDOT) hosted a virtual peer exchange from December 9-11, 2024 to address challenges and best practices for transportation research program management with other state departments of transportation (DOTs). The event focused on three primary topics: project idea solicitation, project management, and post-project tracking and evaluation. Participants of the multi-day event included staff from SDDOT, six other state transportation agencies (Florida, Idaho, Minnesota, Missouri, North Dakota, and New Mexico), and the Federal Highway Administration. Participants shared their strategies and insights from their own programs, and identified strengths and opportunities for SDDOT.			
17. Keywords Budgeting, evaluation, implementation, management, research, research programs, management, project solicitation, research partners, State Planning and Research, subject matter experts, technology transfer, tracking		18. Distribution Statement No restrictions. This document is available to the public from the sponsoring agency.	
19. Security Classification (of this report) Unclassified	20. Security Classification (of this page) Unclassified	21. No. of Pages 208	22. Price

Supported Virtual Peer Exchange

Future of the Pooled Fund

- Membership now open for next cycle of the pooled fund (2025-2027)
- Fixed rate of $25k/year per member
- Can join at $0/year to become a volunteer member
- Current objectives are:
  - Create and expand library resource guides on topics pertinent to current trends in transportation including but not limited to a guide on what transportation research/materials each state DOT/transportation organization has to offer, and on institutional knowledge management best practices relating to workforce development and capturing knowledge from retiring employees
  - Continue support for Section 508 for members including updating the Pooled Fund 508 Resource Guide, providing trainings, and remediating documents for members
  - Conduct a peer exchange among transportation libraries to learn best practices from each other
  - Create a white paper document on the feasibility of cataloging materials for agencies without a library and support recommendations from the document
  - Continue cooperative digitization project among members wishing to convert copies of their materials to digital formats
  - Enhance communication between members via supporting travel to an annual conference
  - Develop and host an AI chatbot that will interface with state DOT research reports in a closed environment to answer questions or solve problems for pooled fund members relating to transportation research.



Example of AI Chatbot

Questions or comments

- mmolina@ou.edu