



# Traffic Management Center (TMC) Pooled Fund Study (PFS)

## 2024 In-Person Meeting Summary

**May 8–10, 2024**

**Kansas City, MO**





# Meeting Attendance

## In-person

1. Federal Highway Administration (FHWA)
2. Alabama Department of Transportation (DOT)
3. California DOT (Caltrans)
4. Delaware DOT\*
5. Florida DOT
6. Indiana DOT\*
7. Iowa DOT
8. Kansas DOT (co-host agency)
9. Kansas City Scout\* (host agency)
10. Maryland DOT
11. Michigan DOT
12. Minnesota
13. Missouri DOT (co-host agency)
14. Nevada DOT
15. New Jersey DOT
16. New York State DOT
17. Ohio DOT
18. Pennsylvania DOT
19. Tennessee DOT
20. Texas DOT
21. Utah DOT
22. Washington State DOT
23. Wisconsin DOT

\*Not formally a member of the TMC PFS (Delaware and Indiana DOT interested in joining)

## Not in Attendance

1. Arizona DOT
2. Georgia DOT
3. Louisiana DOT (*joined May 2024*)
4. Virginia DOT





# Agenda

## Day 1

- 8:00 a.m.** Introductions, Welcome, Review Agenda, and Opening Remarks
- 8:20 a.m.** Member Presentations and Roundtable Discussions (Part I)
- 9:45 a.m.** Break
- 10:00 a.m.** Member Presentations and Roundtable Discussions (Part II)
- 12:00 p.m.** Break for Lunch
- 12:30 p.m.** Kansas DOT Traffic Management Systems (TMSs) and Transportation Operations Program
- 1:10 p.m.** Missouri DOT TMSs and Transportation Operations Program
- 1:30 p.m.** Kansas City Scout TMS Technical Presentations
- 2:00 p.m.** Break
- 2:15 p.m.** Kansas City Scout TMS Tour
- 3:45 p.m.** Review Summary of TMC Challenges and Opportunities Identified by TMC PFS Members and Discuss Possible Future Projects or Activities
- 4:25 p.m.** Review Day 2 Agenda and Logistics
- 4:30 p.m.** Adjourn

## Day 2

- 8:00 a.m.** Review Status of Current TMC PFS Projects
- 8:45 a.m.** Review of FHWA Projects and Other National TMC Related Research
- 9:15 a.m.** Break
- 9:30 a.m.** Review List of Proposed Topics for Possible New Projects
- 10:15 a.m.** Discuss and Prioritize Proposed New Projects
- 12:00 p.m.** Break for Lunch
- 12:30 p.m.** Prioritize and Select New Projects
- 1:45 p.m.** Discuss Concepts, Products, Schedules, and Review Teams for Selected New Projects
- 2:15 p.m.** Break
- 2:30 p.m.** Select New Topics and Discuss Plans for Upcoming Webinars for the Emerging Topics TMS PFS Projects
- 3:00 p.m.** Select Topics and Points of Contact for TMC PFS Virtual Technical Exchanges in 2024 and 2025
- 3:30 p.m.** Discuss Options and Hosts for 2025 TMC PFS In-Person Meeting
- 4:00 p.m.** Discuss Opportunities to Improve TMC PFS Activities
- 4:15 p.m.** Review Day 3 Agenda and Logistics
- 4:30 p.m.** Adjourn

## Day 3

- 8:00 a.m.** Review Instructions for Getting Reimbursed for Meeting Expenses
- 8:15 a.m.** Review and Provide Feedback on the “Assessing TMSs” Report
- 9:30 a.m.** Review and Provide Feedback on the “Preparing for, Conducting, and Summarizing TMS Assessment Results” Report
- 10:30 a.m.** Break
- 10:45 a.m.** Feedback on Opportunities and Issues to Consider With “Scheduling, Preparing, Facilitating, and Summarizing” the Results of Agencies Assessing TMSs
- 11:15 a.m.** Summary of the Feedback Received, Needs, and Opportunities
- 11:30 a.m.** Review Logistics for Travel to Airport
- 11:45 a.m.** Adjourn

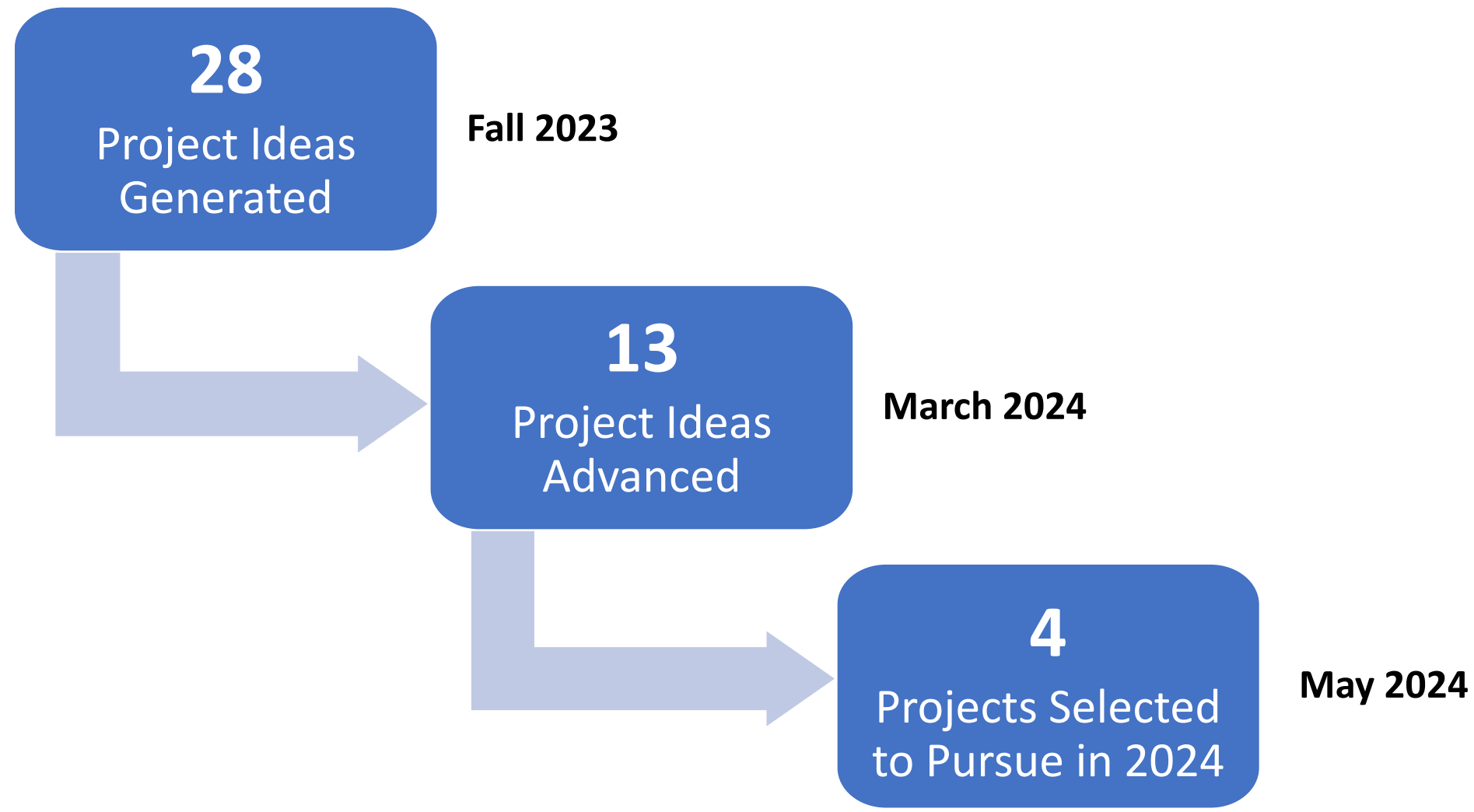


# Project Selection





# 2024 Project Selection Process





## TMC PFS Funding

**Tier-1 project(s):** To be initiated in 2024 and 2025 when funding is made available to the TMC PFS:

1. Sharing information and practices on TMS emerging topics (follow-on project), \$225,000.
2. Developing plans, methods, and resources to maintain and sustain TMS assets, \$350,000.
3. Initiating TMS program organization, management, performance, and staffing, \$250,000.

**Tier-2 project(s):** To be initiated in 2024 and 2025 when funding is available to TMC PFS or obtain funding from other sources (e.g., National Cooperative Highway Research Program (NCHRP), FHWA):

Creating TMSs sharing video, \$250,000.



# Updated TMC PFS Project Portfolio

## A. Assessing and reporting on TMS capabilities and performance:

- A1. Sharing information and practices on TMS emerging topics (follow-on work). <sup>(1)</sup>
- A2. Developing standard performance indicators for TMC performance measurement.
- A3. Partnering with universities on assessing transportation performance measures.

## B. Planning, designing, procuring, and developing TMSs:

- B1. Real-time information exchange between TMSs and satellite or temporal operation centers.
- B2. Assessing potential for co-location of TMCs with public safety agencies.

## C. Managing and operating TMSs:

- C1. Planning, assessing, and preparing for adapting daily TMS management and operations for varying schedules.
- C2. TMSs sharing video. <sup>(2)</sup>
- C3. Plans, methods, and resources to maintain and sustain TMS assets. <sup>(1)</sup>

## D. TMS staffing, resources, and capacity building:

- D1. Analysis and planning to examine and potentially alter TMC operational hours.
- D2. Develop and sustain workforce training programs, initiatives, or activities to support TMC operations.
- D3. Technical curriculum development for TMC operators, phase 1—concept and requirements.
- D4. Update to TMC operator position description tool, instructions, and outreach material.
- D5. TMS program organization, management, performance, and staffing. <sup>(1)</sup>

(1)	To be initiated in 2024/2025 with available funding
(2)	To be initiated if funding can be obtained from other sources (NCHRP, FHWA)





## Sharing Information and Practices on TMS Emerging Topics

**Purpose:** To expedite developing and sharing knowledge and information on key issues and challenges agencies face with TMS operations without the need for a lengthy research project.

**Objectives:**

- Identify specific issues and challenges that would benefit from immediate solutions.
- Synthesize the state of practice and lessons agencies have learned, addressing specific issues and solutions.
- Expedite products and resources within a 3–4 mo period.
- Produce resources, activities, information, and actions agencies may want to use.

**Deliverable(s):** White paper, fact sheet, technical presentation, and webinar for each selected topic.

**Schedule:** 18 mo.



# Plans, Methods and Resources to Maintain and Sustain TMS Assets

**Purpose:** To document agency practices in achieving and sustaining a desired performance (e.g., state of good repair) for managed TMS assets.

## Objectives:

- Identify processes and methods to minimize downtime and prolong asset lifespan.
- Assess necessary plan and resources to maintain TMS assets.
- Identify the range of issues to consider with procuring services (e.g., specifications, qualifications, performance measures, and criteria for assessing performance and use for payment; incorporation of activities into assets' maintenance management system; and inventory of TMS asset) to maintain or repair TMS assets.
- Explore maintenance management systems to schedule and manage maintenance and repairs, compile information on work completed, update inventory of TMS assets, manage inventories (e.g., maintenance supplies, spare parts), and manage support services.

## Deliverable(s):

- White paper summarizing current practices.
- Technical report documenting current practices, issues, processes, systems, methods, techniques, and tools.

**Schedule:** 30 mo.



# TMS Program Organization, Management, Performance, and Staffing

**Purpose:** To document agency TMS programs, organizational structure, staffing, and how it supports the agency Transportation Systems Management and Operations (TSMO) program or agency goals and objectives.

**Objectives:**

- Capture the TMS programs and relationship to agency TSMO programs.
- Summarize the organizational structures being used for TMS programs.
- Identify how TMS performance information is being compiled and used.
- Assess ways in which organizational models and structural mechanisms can be used to advance traffic management and operational strategies within agencies.

**Deliverable(s):**

- Examples of available agency resources on TMS programs (e.g., organizational structures, information on staff (e.g., numbers, contract), reporting on performance, and connection to agency TSMO programs to be made available to agencies via the National Operations Center of Excellence (NOCoE) website.
- White paper summarizing current practices.
- Technical report synthesizing current practices with TMS programs, organizational structures, staffing, methods, and resources.

**Schedule:** 24 mo.



## TMSs Sharing Video

**Purpose:** To document agency practices and issues to consider in support of managing TMSs sharing video and other types of information electronically with the public.

### Objectives:

- Explore the range of issues for agencies to consider (e.g., personally identifiable information, security) with sharing specific types of information external to the TMS (e.g., video).
- Identify methods, tools (e.g., software), or techniques agencies may consider with sharing different types of information.
- Identify issues agencies consider with sharing information (e.g., costs, internet connectivity).
- Assess what issues agencies may be consider specific to sharing different types of information external to the TMS (e.g., third parties recording and reselling video).

### Deliverable(s):

- White paper summarizing current practices.
- Technical report synthesizing industry and current practices, challenges, processes, and methods.

**Schedule:** 24 mo.



# Planned 2024–2025 Activities





# Virtual Technical Exchanges

- Exchanges are forums for members to discuss preselected technical topics **without the presence of vendors/consultants.**
- The champion agency begins the exchange by framing the topic and sharing their own experiences, followed by round robin discussion among other members.
- The exchanges are held four times per year—first Wednesday of the month in February, April, August, and November from 1:00–2:30 p.m. ET.

Date	Topic
August 7, 2024	Specifications and Approved Products for TMS Assets Champion: James Landini (Florida DOT)
November 6, 2024	Implications of Resale of Video Feeds/Other Data Champion: John McClellan (Minnesota DOT)
February 5, 2025	Opportunities to Use Connected and Automated Vehicle Data from Original Equipment Manufacturers for TMC Operations Champion: Ryan McNary (Pennsylvania DOT)





## TMS Emerging Topics Project – Selected Topics

The contractor for this project develops resources to share innovative practices and key topics identified by TMC PFS members (including a white paper, fact sheet, briefing deck, and webinar).

Selected topics:

1. Using Text Messaging to Locate and Verify Incidents Outside of Traffic Management System Coverage Areas.
2. Using Geofencing to Actively Monitor, Collect, and Share Information.
3. Opportunities for Traffic Management Systems to Share Information on Incidents.
4. Using Variable Speed Limits During Adverse Weather Conditions.
5. Traffic Management Centers Actively Managing and Operating Part-time Shoulder Use.
6. Methods and Tools to Estimate Staffing Needs.
7. Traffic Management Centers Actively Managing the Use of Queue Warning Messages on Freeways.
8. Traffic Management Center Operator Performance.
9. Monitoring and Reporting on Performance of TMSs.
10. Opportunities for AI/ML for Performing TMS Functions.
11. Partnering with Universities for TMC Support.
12. TMS Cybersecurity.



# TMS Emerging Topics Project—Webinar Series

NOCoE and FHWA are co-sponsoring webinars on each of the TMC PFS’ selected emerging TMS topics. Webinars will be posted to the [NOCoE event calendar](#).<sup>(1)</sup>

Date	Webinar Topic
February 21, 2024	Using Text Messaging to Locate and Verify Incidents Outside of TMS Coverage Areas
April 17, 2024	Using Geofencing to Actively Monitor, Collect, and Share Information
June 26, 2024	Opportunities for TMSs to Share Information on Incidents
August 21, 2024	Using Variable Speed Limits (VSL) During Adverse Weather Events
October 16, 2024	TMCs Actively Managing and Operating Part-Time Shoulder Use
December 11, 2024	Methods and Tools to Estimate Staffing Needs
February 19, 2025	TMCs Actively Managing the Use of Queue Warning Messages on Freeways
April 16, 2025	TMC Operator Performance
June 2025	Monitoring and Reporting on Performance of TMSs
August 2025	Opportunities for AI/ML for Performing TMS Functions
October 2025	Partnering with Universities for TMC Support
December 2025	TMS Cybersecurity

1. NOCoE. n.d. “Calendar” (web page). <https://transportationops.org/calendar>, last accessed August 1, 2024.



# 2025 In-Person Meeting

## **Tentative Host Agency:**

Texas DOT

Either Houston or San Antonio's TMC

## **Tentative Date:**

May 7–9, 2025





# Next Steps





# Proposed Project Initiation Schedule

Quarter 3, calendar year (CY) 2024:

- Flesh out objectives, deliverables, and schedule for newly selected projects.
- Request 2024 funding from TMC PFS members.
- Recruit new agencies or organizations to join TMC PFS.

Quarter 4, CY 2024:

- Prepare scopes of work for selected projects.
- Develop proposal for secondary projects to submit for consideration for the 2026 NCHRP.
- Identify new topics and develop one-page proposals for new projects to consider for 2025.

Quarter 1, CY 2025:

- Prepare procurement documents for selected projects.
- Advance projects into procurement process.
- Select contractor and initiate work for selected projects.
- Develop two-page proposals for proposals for new projects to consider for possible selection in 2025.

Quarter 2, CY 2025:

Conduct kickoff meetings for selected projects.



## Additional Information on TMS PFS and Practices

- NOCoE. n.d. “Traffic Management Systems and Centers portal” (web page). <https://transportationops.org/traffic-management-systems-and-centers>, last accessed June 2, 2023.
- FHWA. 2023. “TMC Pooled-Fund Study” (web page). <https://tmcpfs.ops.fhwa.dot.gov/>, last accessed April 1, 2024.



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