



WHAT ARE TRAFFIC MANAGEMENT SYSTEMS (TMSS) AND CENTERS (TMCS)?

TMSs and their TMCs are critical resources that offer agencies the potential to improve the safety and mobility of travel on the surface transportation system. TMSs have also been deployed or are being enhanced to assist agencies in fulfilling the ever-increasing transportation needs of travelers (e.g., travel times), service providers (e.g., transit, emergency services), other agencies, and the public (e.g., incidents). A TMS is comprised of a complex, integrated blend of hardware, software, operational strategies, processes, and people performing a range of functions and actions.

WHY IS IT IMPORTANT TO PURSUE IMPROVEMENTS?

TMSs typically consist of multiple subsystems, which may include functionality such as ramp metering, traffic signal control, dynamic message signs, data, software, and communication. The deployment, integration, operation, management, and maintenance required to ensure the operation of TMSs, TMCs, and subsystems is very complex as the supporting technologies and components continue to evolve.

WHAT IS THE TMC POOLED-FUND STUDY (PFS)?

The TMC PFS is a group of public agencies and organizations who voluntarily pool funds each year to address the key challenges and issues they are facing in support of improving performance, capabilities, and how they manage and operate their TMSs. TMC PFS members collaborate by using funds they contribute for the pursuit of projects to develop technical resources and advance activities to address the key challenges and issues they are collectively facing. Currently, over 20 members (e.g., state departments of transportation, public agencies) and organizations (e.g., regional operating, toll authorities) contribute funding and work in partnership with the Federal Highway Administration (FHWA) to identify, select, initiate, and develop technical resources and facilitate the sharing of information and practices.

WHO CAN JOIN THE TMC PFS?

Any non-commercial agency or organization responsible for using a TMS to manage travel on any portion of the surface transportation system is eligible to join and participate in the PFS. These agencies or organizations may include cities, counties, toll authorities, turnpike authorities, port authorities, and corridor coalitions. The TMC PFS is co-lead by two representatives from member agencies. FHWA provides the staff and resources (e.g., administrative, technical, project management) to facilitate all the TMC PFS activities and develop the technical resources for each project. 100% of the funds provided to the TMC PFS go directly to the projects selected by members.

John Bassett, New York State DOT (NYSDOT);
TMC PFS Chair

"As a result of NYSDOT's participation in the TMC PFS, we have gained invaluable insights through the sharing of information, practices, and collaboration among members. This collaboration and cooperation has allowed members and FHWA to develop technical resources which address the key challenges and issues agencies are facing with operating, maintaining, evaluating, supporting, and managing the future evolution of their TMCs."

Alex Wassman, Missouri DOT (MoDOT);
TMC PFS Co-Chair

"Being able to collectively identify issues, provide insights into projects, and help shape resources the TMC PFS is developing, along with having regular interaction with other TMC managers experiencing similar technical issues, has proven to be invaluable to the Missouri DOT."

RECENT PROJECTS

TMC PFS projects have addressed issues such as technologies, policies, processes, methods, and options agencies may consider for improving the capabilities, capacity, coverage, management, operation, and performance of TMSs. Over 35 projects have been completed developing technical resources on topics ranging from the day-to-day management and operation of TMCs (e.g., staffing), maintenance, asset management, planning, design, implementation, configuration, or enhancements to TMSs. The TMC PFS remains successful through its commitment to share experiences and information, and to influence improving practices through the development of technical resources and advancing activities to meet the needs and challenges agreed to by its members.



Recent projects include:

- TMS Asset Management and Life Cycle Cost Analysis
- Applying Predictive Analytics to the Real-time Operation of TMSs
- Inventorying, Documenting, and Configuring TMC Assets and Resources
- TMC Staffing and Contracts

The full list of completed TMS Projects can be found on the TMC PFS website (<https://tmcops.fhwa.dot.gov/>).

NEW ACTIVITIES AND PROJECTS

The following are the projects selected to advance using the 2021 TMC PFS member funding:

1. Sharing Information and Practices on TMS Emerging Topics
2. Integrating and Using New Data Sources in TMSs
3. Options for TMSs to Receive and Share Data with Multiple Sources
4. Developing Multi-Year Plans to Guide TMSs Strategic Direction and Future Investments
5. Using Data from Social Media to Improve the Management and Operation of TMSs

Brad Freeze, Tennessee DOT (TDOT)

"Our participation in the TMC PFS has helped raise our awareness and expand our use of technical resources being used to enhance the capabilities and use of TMCs to improve safety and mobility on the surface transportation system in Tennessee, while allowing TDOT to strengthen our trust and partnerships with our customers."

Joey Sagal, Maryland DOT (MDOT) State Highway Administration (SHA)

"The TMC PFS has been a vital forum of TMC operators and managers for the MDOT SHA. By participating in the PFS, we have not only led the way in shaping projects that address key issues common among TMCs but have also benefited from the collaboration and network of resources that have been produced that support innovative solutions."

HIGH PRIORITY ISSUES TO ADDRESS IN 2022 AND BEYOND

TMC PFS members have identified the need to develop resources to assist in evaluating and benchmarking the capabilities, and desired levels of performance for the existing and the next generation of their TMS. The need for technical resources were identified to assist in the planning, designing, procuring, developing, implementing, testing, operating, and evaluating possible improvements to these systems. Additionally, the lack of technical resources to assist in the planning for and identification of the resources needed to pursue the next generation of their TMS was identified as a challenge for many agencies given the lack of current plans, limited funding, and complexity of these systems which involve advanced technologies where staff may have limited experience.

FHWA will facilitate the process in 2021 to identify and prioritize new projects for the TMC PFS to advance in 2022. Sixteen ideas for possible projects addressing the issues and challenges members have already identified for consideration, including:

- Assessing and Reporting on TMS Capabilities and Performance
 - » Assessing the Capabilities of TMSs
- Planning, Designing, and Procuring TMSs
 - » Assessing and Incorporating the Needs, Capabilities, and Requirements for Virtual or Remote Operation into the Planning and Design of TMSs
 - » Preparing for and Actively Managing and Operating Satellite or Temporary Operations Centers or Systems
 - » Preparing for and Enabling Remote Operation of TMSs During Planned or Unplanned Special Events
- TMS Staffing, Support Resources, and Capacity Building
 - » Developing or Updating Staffing Plans to Support TMS Operations
 - » Develop Concepts and Requirements for a Community College Curriculum for Technicians to Support the Operation of TMSs and TMCs

FOR MORE INFORMATION on the TMC PFS or How to Join:

National Operations Center of Excellence (NOCoE) Portal – <https://transportationops.org/traffic-management-systems-and-centers>

TMC PFS Website – <https://tmcops.fhwa.dot.gov/>

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