

DRISI

CALTRANS DIVISION OF RESEARCH,
INNOVATION AND SYSTEM INFORMATION

TRANSFORMING IDEAS INTO SOLUTIONS

Research

Notes

Traffic
Operations

MAY 2023

Project Title:
Traffic Management Center (TMC)
Consortium – Pooled Fund

Task Number: 4188

Start Date: August 17, 2022

Completion Date: March 31, 2027

Task Manager:
Melissa L. Clark
Transportation Engineer (Electrical)
melissa.clark@dot.ca.gov

TPF-5(487)-Transportation Management Centers (TMC) Pooled Fund Study - Phase II

Traffic Management Center (TMC) Consortium - Pooled Fund
Study - TPF-5(487)

WHAT IS THE NEED?

Traffic Management Centers (TMCs) rely on advanced technologies, which require dedicated management, staff with specialized skills and training, and operating and capital funding. They face complex institutional issues in coordinating with service providers in response to incidents, and functions within a time critical environment which is a culture that is drastically different than most agencies are accustomed. These demands and constraints present challenges that agencies face daily without the benefit of having the necessary resources, experience, skills, and training. These are challenges that agencies continually face which impacts their ability to efficiently and effectively manage and operate TMCs.

Meeting these challenges and customers' expectations requires pursuing a wide variety of both proven and innovative strategies to realize the full potential of the investment that have and will continue to make in TMCs. Investments that will allow agencies to proactively manage and control traffic in a manner that optimizing the performance and investment that has, and will continue to be made, in the surface transportation system. To deal with limited resources and the increasing complexity involved in managing and operating TMCs, it is essential that practitioners have access to the technical guidance, best practice, training, innovative techniques and technologies, and fact-based tools to assist them in improving the performance and their services.

WHAT ARE WE DOING?

This pooled fund study (PFS) is intended to provide a forum for participants to identify and address operational and human-centered issues that are common among agencies that manage and operate TMCs. TMCs are a key tool that is needed by public agencies to



DRISI provides solutions and
knowledge that improves
California's transportation system

monitor and report on roadway and travel conditions, coordinate with local interests in response to changing conditions, and proactively manage and control traffic to mitigate the impacts of congestion and improve the reliability of travel.

WHAT IS OUR GOAL?

The goal of this study is to assemble regional, state, and local transportation management agencies and the Federal Highway Administration to:

1. Identify human-centered and operational issues;
2. Suggest approaches to addressing identified issues;
3. Initiate and monitor projects intended to address identified issues;
4. Provide guidance and recommendations and disseminate results;
5. Provide leadership and coordinate with others with TMC interests; and
6. Promote and facilitate technology transfer related to TMC issues nationally.

WHAT IS THE BENEFIT?

California Department of Transportation (Caltrans) can potentially benefit from the research findings by having TMCs monitor and report on roadway and travel conditions, coordinate with local interests in response to changing conditions, and proactively manage and control traffic to mitigate the impacts of congestion and improve the reliability of travel.

The goal is to build upon and leverage investments that the pooled fund study has made in previously completed and initiated projects and overcome the TMC challenges Caltrans is facing and to improve the current state-of-practice.

WHAT IS THE PROGRESS TO DATE?

Traffic Management Center (TMC) Pooled Fund Study (PFS) selected the following projects to initiate in 2022:

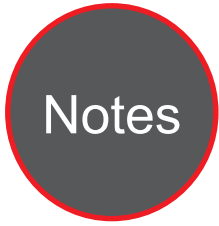
1. Developing or Updating Staffing Plans for Traffic Management Systems (TMS) and Methods to Identify Staffing Needs
2. Enabling the Sharing and Use of Open-Source or Agency Owned Software and Application Programming Interfaces (APIs)
3. Designing, Procuring, and Managing a Data Subsystem for TMSs and Data Management Plans and Practices for TMSs

2022 Member Updates:

[https://transops.s3.amazonaws.com/uploaded_files/2023-01/December 2022 TMC PFS Quarterly Meeting_12_07_22_member updates.pdf](https://transops.s3.amazonaws.com/uploaded_files/2023-01/December%202022%20TMC%20PFS%20Quarterly%20Meeting_12_07_22_member%20updates.pdf)

Continued work on active projects which include:

1. Analysis of TMC Staff and Staffing Contracts
<https://tmc pfs.ops.fhwa.dot.gov/projects/tmcstaffcontracts.htm>
2. Applying Predictive Analytics into the Real-time Management and Operation of TMSs
<https://tmc pfs.ops.fhwa.dot.gov/projects/predictiveanalytics.htm>
3. TMS Asset Management Planning
<https://tmc pfs.ops.fhwa.dot.gov/projects/assetmanagement.htm>
4. Inventorying, Documenting, and Configuring TMS Assets and Resources
<https://tmc pfs.ops.fhwa.dot.gov/projects/inventoryingtms.htm>
5. Sharing Information and Practices on TMS Emerging Topics
<https://tmc pfs.ops.fhwa.dot.gov/projects/sharingtmsinfo.htm>
6. Sharing and Using Different Types of Data in TMS
<https://tmc pfs.ops.fhwa.dot.gov/projects/usingnewdata.htm>
7. Planning to Frame TMS' Strategic Direction and Future Investments
<https://tmc pfs.ops.fhwa.dot.gov/projects/multiyearplans.htm>



8. Using Data from Social Media to Improve TMS Management and Operation.
<https://tmcpsf.ops.fhwa.dot.gov/projects/usingsocialmedia.htm>

Recently completed projects for this pooled fund study include:

- Considerations of Current and Emerging Transportation Management Center Data
<https://ops.fhwa.dot.gov/publications/fhwahop18084/index.htm>
- Human Factors Guidelines for Transportation Management Centers
<https://www.fhwa.dot.gov/publications/research/safety/16060/index.cfm>
- Effects of Intelligent Transportation Systems Planning and Deployment in a Connected Vehicle Environment
<https://ops.fhwa.dot.gov/publications/fhwahop18014/index.htm>

Website provides more detail to the Pooled Fund Study:
<http://tmcpsf.ops.fhwa.dot.gov/>

<https://transportationops.org/traffic-management-systems-and-centers/tmc-pooled-fund-study-and-projects>

Project Fact Sheet
<https://www.fhwa.dot.gov/publications/research/operations/21061/21061.pdf>

IMAGES



Image 1: Federal Highway Administration (FHWA) TMC Pooled Fund Study Website

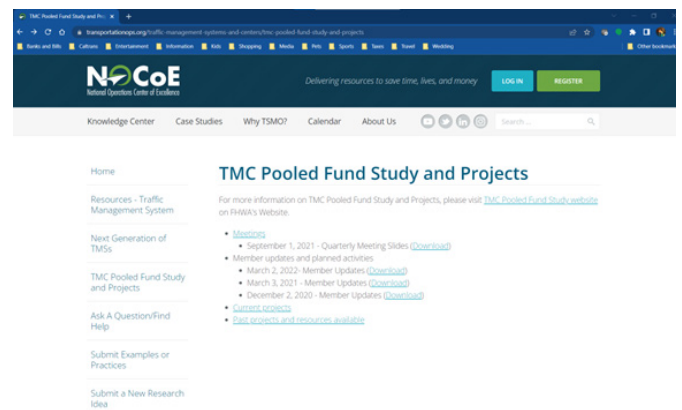


Image 2: National Operations Center of Excellence (NOCoE) TMC Pooled Fund Study Website

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