

About ENTERPRISE

Evaluating New Technologies for Road Program Initiatives in Safety and Efficiency

Established in 1991 when Intelligent Transportation Systems (ITS) technologies were early in their development, the ENTERPRISE pooled fund study has been a consistent leader in the development and application of ITS innovations. ENTERPRISE has facilitated collaboration among numerous state DOT and Canadian transportation organizations for a quarter century, producing more than 80 research products that advance the highway operations strategies of member agencies and the entire transportation community. The lead state for the current pooled fund study, [TPF-5\(359\)](#), is the Michigan Department of Transportation.

Benefits of Membership

ENTERPRISE addresses the challenges of transportation operations by sharing members' ITS solutions and by developing new approaches based on scientific research. Member agencies identify needs, choose research goals, evaluate progress and implement results, all from a practitioner's perspective.

Members accelerate research in tune with emerging needs and newly available technologies, always with an eye to integrating effective solutions into day-to-day operations.

Join a Future-Focused Program

ENTERPRISE membership is open to federal, state, local agencies and other industry organizations. Current ENTERPRISE members include:

- Illinois DOT
- Iowa DOT
- Kansas DOT
- Michigan DOT
- Minnesota DOT
- Ontario Ministry of Transportation
- Pennsylvania DOT
- Texas DOT
- Wisconsin DOT

For more information on planned research, activities and meetings, or to join the pooled fund, contact ENTERPRISE Chair Cory Johnson, Minnesota DOT, at coryj.johnson@state.mn.us.

Current ENTERPRISE Projects

Pedestrian Detection Systems for Improved Safety

Traffic-related pedestrian fatalities have increased significantly in the U.S. over the last decade. The goal of this project is to understand pedestrian safety issues and to investigate the feasibility of potential detection and alert systems to improve safety. Further study is expected, including testing and evaluation of possible options.

Patented and Proprietary Products Waiver Impact on ITS Procurements

An FHWA rule governing the use of patented and proprietary products in federal-aid projects was recently changed to encourage innovation and reduce roadblocks to developing new highway technology and methods. This project examines how agencies are putting the changes into practice.

Establishing a Framework for Communicating DOT Map Updates to Mapping Companies

By developing a consistent approach for providing map updates, ENTERPRISE aims to help mapping and navigation companies that rely on DOT-generated data—such as Waze, Google, Apple and TomTom—improve how timely and accurate information is communicated to travelers via mobile applications.

Potential Approaches for Wrong-Way Driving Applications

Wrong-way driving is a growing concern, as crashes are often severe and result in serious injuries and fatalities. Through outreach with automobile manufacturers and app developers, this project explores the potential for in-vehicle alerts to reach more drivers than on-road countermeasures alone.



Traffic Operations Responses to COVID-19 Pandemic

ENTERPRISE member states have had to change their operations during the COVID-19 pandemic. This project documents and shares how member states responded to traffic operations challenges in order to continue their daily operations and meet their responsibilities.

2020-2021 ENTERPRISE Completed Projects

Final Reports available at: <https://enterprise.prog.org/research-projects/>

Synthesis of the Use of Speed Data from Probes for Arterial Operations

Many agencies use traffic probe data from third-party providers for freeway operations. Some also use the data on arterials, assisting in operations. This project examined the uses and suitability of probe speed data on arterials to support operational decisions. Results assisted ENTERPRISE members in understanding the status and the principal uses of arterial probe speed data for real-time and post-analysis operations. The project focused on vehicle probe speed data gathered without equipment in the right-of-way and excludes data that requires additional roadside infrastructure, such as Bluetooth or other detectors.

Use Cases and Benefits of Active Traffic Management (ATM) Strategies

Active Transportation Management (ATM) includes strategies that allow agencies to manage recurrent and isolated congestion dynamically, based on current and predicted traffic conditions. ATM approaches include influencing drivers' travel behavior, such as lane and facility choices and operations. ENTERPRISE conducted this project to identify resources and to document lessons learned from development and deployment of ATM strategies. The project emphasized deployments in urban areas that included multiple strategies, such as variable speed limits, dynamic queue warning, and part-time shoulder running.

Volumes from Probe Data

Traffic data from third-party probes are increasingly available to transportation agencies. This study documented numerous potential use cases for agencies and businesses, focusing on benefits and implementation concerns. The data can be used in a host of scenarios, such as traffic operations, performance management, work zone monitoring and estimating traffic impacts, as well as in larger transportation planning. The research showed this data can greatly benefit agencies across many functions, by reducing the number of detection devices needed in the field, improving data insights, and allowing for more proactive congestion management.

Automated Classification of Winter Road Conditions—Phase 2

Gathering information about winter storm road conditions often falls to plow operators and other operations staff. Crews tasked with reporting conditions while they perform their other work can affect the consistency, accuracy, and timeliness of these reports. ENTERPRISE sponsored this project to determine how transportation agencies are using technology to automate or assist with winter road condition reporting. Phase 1 focused on learning how agencies use automated and assisted classification of road conditions. Phase 2 explored specific data attributes that can facilitate automation of road condition reporting and increase agencies' understanding and ability to evaluate data. Results included steps to effectively assess the variety of data collected. The project also gathered information about agencies' experiences with data to automate reporting of winter road conditions.

Emerging Practices for Communications Infrastructure

As the use of ITS grows and evolves, transportation agencies must continually adapt their communications infrastructure to meet emerging needs. This project took an agency-focused approach to document emerging practices for ITS communications infrastructure. The report explored needs and options, costs, benefits, performance and more. It also examined the physical security of ITS devices and cyber-security practices.

The Evolution of ITS in Transportation Asset Management

ITS provide cost-effective solutions for agencies to accomplish their transportation goals. The use of technology is increasing, as are agencies' investments in ITS assets and the need to plan, procure, manage, and operate these assets. This report summarized the current state of ITS asset management, both among ENTERPRISE member agencies and across North America, and described the attributes and criteria used to support ITS asset management effectively.

