Black Hawk County Engineer's Office

Projects like this bridge replacement in Black Hawk County require coordination across many groups. Iowa's TPMS 2020 is a one-stop resource where project stakeholders can collaborate.

RESEARCH SOLUTIONS

Iowa's modernized project management system improves coordination and collaboration

At any given time, cities and counties across Iowa are actively working on thousands of transportation projects. Collectively, these projects involve tens of thousands of people, from planning and design to letting and construction. To track project progress and streamline coordination across local, state, and federal agencies, stakeholders have relied on Iowa's web-based Transportation Program Management System (TPMS) since 2001. While this system has worked well for decades, strides in technology and evolving work practices have highlighted the need to modernize the TPMS. After years of development and feedback from users across the state, the new TPMS 2020 is a cutting-edge management tool that will serve Iowa's cities and counties well for years to come.

THE NEED

Transportation projects are complex initiatives. Depending on the size and scope, a single construction project can require the coordinated efforts of hundreds of people—and multiple government agencies, contractors, and consultants—to move from initial concept to completion. To help track and advance transportation projects across Iowa's 99 counties, the Iowa County Engineers Association Service Bureau (ICEASB) developed the customized TPMS in 2001. The web-based system has worked well over the years, facilitating communication, improving collaboration, and streamlining efforts among users and stakeholders. However, since the system's debut two decades ago, there have been significant advancements in technology and changes in the ways people work. By rebuilding the system from the ground up, ICEASB

(continued)

"By streamlining processes, we minimize the costs, delays, and time required for Iowa's 99 counties to do business. As a result, we'll have more money to put into construction rather than administration and development."

— **DANNY WAID,**
Executive Director, Iowa County Engineers Association Service Bureau (ICEASB)

sought to create a modern tool that will more efficiently meet the needs of its current users and have the potential to grow and adapt to future demands.

PROJECT APPROACH

One of the challenges and benefits of the TPMS is the quantity and variety of professionals who use it. In addition to diverse roles and backgrounds, the system's users have a range of technological experience and familiarity with the TPMS. To build an intuitive system that works well for everyone, ICEASB staff began by developing a program to analyze and catalog the code files of the original TPMS. By noting the purpose of the files and who typically accessed them, the tool gave ICEASB developers a better idea of where investments should be made in the new system as well as what features could be removed.

Next, ICEASB staff set out to learn more about the system's users, how they work, and what capabilities and features they would want in the new system. The project team traveled around the state, holding dozens of listening and brainstorming sessions with different types of users. These meetings gave users a voice in the look and feel of the new TPMS and gave the development team an opportunity to create a streamlined system by integrating desired accessories at the outset as opposed to adding them later.

Through these meetings, the project team determined that the new system should incorporate real-time data updates, security enhancements to combat modern threats, and increased automation to improve efficiency and reduce the amount of time spent on manual tasks.

WHAT IOWA LEARNED

TPMS 2020 is a modern management system that provides an efficient workflow throughout the project development process. By seamlessly connecting all project stakeholders, the system allows projects to move from start to finish more quickly, saving time and money for everyone involved.

The new system also provides an improved user experience, allowing users to customize their display preferences so that frequently used data and tools are easily accessible. The system's modular framework means that routine maintenance will be less disruptive, and the real-time data exchange allows users to upload files and add data and see those changes reflected in the system almost instantly. Future enhancements may include mobile and localized versions of the system for users in the field and individual project links so that agencies can easily share status updates with the public.

PUTTING IT TO WORK

TPMS 2020 went live in July 2021. As the system was designed to be easy to use, traditional training is not necessary; however, representatives from ICEASB are offering ongoing demonstration sessions targeted to various stakeholder groups and their unique business needs. These sessions will focus on the system's capabilities and how each group can effectively leverage the available data in its work.

ABOUT THIS PROJECT

REPORT NAME: Modernization of Iowa Transportation Program Management System
Final Report

PROJECT NUMBER: TR-726

REPORT DATE: July 2021

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