

Tennessee Updates Roadway Information Management System With Intergraph® Solutions



WEB-BASED APPLICATION ENSURES USERS HAVE EASY ACCESS TO UP-TO-DATE INFORMATION ACROSS THE ENTERPRISE

THE CHALLENGE:

Transportation plays a vitally important role in our daily lives, moving people and goods safely and efficiently. The Tennessee Department of Transportation (TDOT) takes great pride in its transportation network, which is recognized as one of the top highway systems in the United States. The Tennessee Roadway Information Management System (TRIMS) has served TDOT for more than 13 years. In 1996, Intergraph® converted the mainframe application to a client/server application, and TDOT has since implemented numerous updates and enhancements to TRIMS. One recent enhancement was a route modification module that allows users to automate complicated tasks, such as re-inventory and route realignment processes across all database tables. Another enhancement was the automated inventory system that allows the import of field inventory for local roads. This reduced a planned 20-year manual process for inventory and updates of local roads to a five-year schedule.

Already a technology leader among transportation agencies, TDOT wanted to further update its roadway information management system to help it continue to meet operational challenges and provide Tennessee residents with the best highway network possible. TDOT has approximately 4,200 employees across four statewide regional facilities. The department's Long Range Planning Division – Geographic Information System (GIS) Mapping and Facilities Data Office collects roadway inventory data on interstates, state highways, and local roads. More than 1,500 employees use TRIMS on a daily basis. TDOT decided to ensure each employee was working with the latest software updates and had access to up-to-date roadway information. To better serve this broadly distributed group of users, TDOT wanted to implement a Web-based application to replace its client/server system. A browser-based system would simplify deployment and future TRIMS enhancements across the enterprise. In addition, a Web-based application would significantly reduce the cost of maintenance of client/server software on individual computers.

PROFILE:

Name – Tennessee Department of Transportation (TDOT)

Web site – www.tdot.state.tn.us/longrange/gis.htm

The Tennessee Department of Transportation provides state residents and travelers with one of the best transportation systems in the country. TDOT consistently wins awards for its projects, highway design, and innovative approach to transportation. TDOT's Long-Range Planning Division – GIS Mapping and Facilities Data Office has multiple sections. Together, these sections are responsible for the collection of roadway inventory data on interstates, state highways, and local roads, which is then loaded and maintained in the Tennessee Roadway Information Management System (TRIMS) database tables. Both the GIS Special Mapping Section and the GIS City and County Mapping Section prepare GIS maps, city, county, traffic, and functional classification maps, National Highway System maps, roadway deficiency maps, and many more.

KEY BENEFITS:

- Eliminates duplicate data entry
- Provides automatic updates to users
- Reduces time and costs associated with maintenance

PRODUCTS USED:

- GeoMedia® software suite

THE PROJECT OBJECTIVES:

- Enable query, view, and map functions using a Web-based application
- Reduce costs associated with maintaining a client/server application
- Ensure all users have access to up-to-date, accurate information and software

THE SOLUTION:

TDOT has a long and successful working relationship with Intergraph, with projects reviewed and agreed upon by both Intergraph and TDOT managers. From the early days of GIS, TDOT has partnered with Intergraph to manage and publish a wide range of map data. TDOT uses Intergraph's GeoMedia® software to display information from queries and other data. It has also used Intergraph solutions to solve other transportation network challenges, such as crash analysis, pavement management reporting, photolog, railroad grade crossing inventory and reporting, structure inventory and reporting, and traffic analysis. TDOT extended the partnership with the implementation of Intergraph's browser-based Roadway Information Management Solution and developed E-TRIMS.

With the Web-based application, potentially 4,000 TDOT employees; federal, state, and local government agencies; and TDOT contractors have easy access to E-TRIMS. The new application enables users to quickly form queries, with results displayed in both report and map formats. E-TRIMS includes query, view, and map functions from the client/server application. As more users switch to E-TRIMS for data access, TDOT will continue to realize cost benefits. When modifications are made to E-TRIMS, automatic updates will ensure users across the enterprise have access to the latest version of the software. The updates will not require a system administrator to visit each site.

The new system allows users to query, report, and map information on more than 92,000 miles of roads in Tennessee. This includes inventory and cultural data, roadway cross-section data, photolog images, and traffic statistics. Multiple sources contribute information to the E-TRIMS database. The database captures traffic updates, which eliminates duplicate entry of data. Other data are captured automatically and loaded in batch processes.

THE FUTURE:

TDOT expects E-TRIMS to continue to evolve with changes in technology and with users' requirements. Priorities and requirements can change as management changes. Meanwhile, state and federal regulations drive modifications to data elements needed for reports. TDOT also plans to continue to enhance E-TRIMS to add additional client/server functionality to the intranet.

While the present Web-based system is available only within TDOT, other state agencies will have access to it in the future, along with metropolitan planning organizations, consultants, and the public.

Sherry J. Hankins, GIS Technician Manager of the GIS Mapping and Facilities Data Office, says that TDOT knows what to expect when working with Intergraph. "Intergraph's project methodology has proven to provide quality results without surprises or problems," she says. "Intergraph understands transportation data and how it is used and reported by transportation professionals."

ABOUT INTERGRAPH

Intergraph is the leading global provider of engineering and geospatial software that enables customers to visualize complex data. Businesses and governments in more than 60 countries rely on Intergraph's industry-specific software to organize vast amounts of data into understandable visual representations and actionable intelligence. Intergraph's software and services empower customers to build and operate more efficient plants and ships, create intelligent maps, and protect critical infrastructure and millions of people around the world.

Intergraph operates through two divisions: Process, Power & Marine (PP&M) and Security, Government & Infrastructure (SG&I). Intergraph

PP&M provides enterprise engineering software for the design, construction, and operation of plants, ships, and offshore facilities. Intergraph SG&I provides geospatially powered solutions to the defense and intelligence, public safety and security, government, transportation, photogrammetry, utilities, and communications industries.

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