

Kansas Makes Road Condition Data Accessible Online



GEOMEDIA® TECHNOLOGY HELPS KANSAS DEPARTMENT OF TRANSPORTATION IMPROVE THE EFFICIENCY OF ROAD CONDITION REPORTING

THE PROJECT OBJECTIVE:

Implement a Web-based geospatial solution that simplifies the information reporting process and makes information available for users.

THE CHALLENGE:

Reporting weather-related road conditions is a vital responsibility of transportation organizations. Over the years, the Kansas Department of Transportation (KDOT) has developed a mapless system in which field crews tracked weather conditions using paper forms that were faxed to headquarters for data entry and analysis. Since the crews did not always fill out the form in the same way each time, the system yielded incomplete and inconsistent information. Faxing the forms often led to delays in data availability. "It was a cumbersome process," said Brian Logan, Cartography/GIS Manager, KDOT. "Information just wasn't getting into the databases in a timely manner." Without using maps, the data was often difficult to interpret, increasing the chance of user error. KDOT searched for a solution that would make consistent, easily understood road information available immediately to both internal users and the general public.

THE SOLUTION:

KDOT chose Intergraph's technology to develop the Road Condition Reporting System (RCRS) solution. This enterprisewide, Web-based and real-time solution simplifies the reporting process and makes the information available for both internal users, and eventually, the public. Field personnel update a static database with a road condition code on the server at KDOT headquarters that maintains records for each segment of a route. They can then see the results displayed geographically on a map – in real time. The ability to use an ordinary Web browser to update road conditions from any location means decision makers have accurate information regarding improving road maintenance, operations, and traffic safety.

PROFILE

Name – Kansas Department of Transportation (KDOT)

Web site – 511.ksdot.org

KDOT's primary activities include road and bridge construction and maintenance; transportation planning, data collection, and evaluation; project scoping, designing, and letting; contract compliance inspection of material and labor; and federal program funding administration and administrative support. KDOT's headquarters are in Topeka with six district offices, 26 area offices, and 112 sub-area offices across the state.

Size – more than 3,200 employees

KEY BENEFITS:

- Enhanced decision making based on intuitive presentation of accurate and up-to-date information
- Lowered cost of ownership as a result of three-tier, thin client architecture
- Decreased chance of user error with easy-to-interpret maps
- Increased customer service levels for all those affected by the project
- Improved highway traffic safety thanks to high quality information

PRODUCTS USED/SERVICES PROVIDED:

- GeoMedia®
- GeoMedia Professional
- GeoMedia WebMap Professional
- GeoMedia Transportation Manager

Users can browse and query the weather conditions on any road, and authorized users can input information directly to the relational database using a series of pick lists and required data fields. After the database is updated, Intergraph's GeoMedia WebMap instantly updates the map, allowing users to view the data in color-coded map and tabular views.

As the project successfully progressed, KDOT expanded its scope to include Snow and Ice Performance Measuring (SNICE). SNICE collects information about the beginning of the storm and tracks progression of road conditions until the road returns to a clear status. KDOT compiles and analyzes the information to determine how effectively and efficiently maintenance crews are in maintaining and clearing the roads. KDOT worked with Intergraph to add a SNICE component directly to the RCRS, which allows the same required information to be entered only once rather than requiring double work hours to enter identical information. This application has been available to the public via the Internet since September 2000. "This is something that everybody will be interested in. They all want to drive home safely and be aware of the travel conditions," concludes Logan.

KDOT then built the Construction Detour Reporting System, (CDRS), which incorporated with the RCRS, into one Web page. The new system, now called KanRoad, displays road conditions, incidents, and construction detour information. Both CDRS and RCRS data is displayed on the same map with options to view both or just one. The KanRoad application notifies media, headquarters staff, and others of road conditions, road closures, construction zones, and detours. The data is shared with the KDOT 511 system, Truck Routing Permits (TRIS), KDOT Public Information Portal, and SNICE analysis to name a few. KanRoad has been available to the public since September 1, 2003.

Recently, KDOT began producing alert maps from the KanRoad system and distributing this information to KDOT staff across the state. The alert maps are snapshots of the latest alert information on major roads in Kansas.

FUTURE PLANS:

KDOT is working to increase the number of message boards on major roads throughout the state. KDOT staff will be able to provide real-time traffic and weather condition information to drivers as conditions change to keep traffic moving efficiently. In addition the number of cameras monitoring traffic will increase at strategic locations to ensure that KDOT staff has the latest traffic condition information. The KanRoad Web site will also provide information to drivers via cell phones in early 2007, informing them of construction or weather-related delays on major roads in their vicinity.

ABOUT INTERGRAPH

Intergraph Corporation is the leading global provider of spatial information management (SIM) software. Security organizations, businesses and governments in more than 60 countries rely on the company's spatial technology and services to make better and faster operational decisions. Intergraph's customers organize vast amounts of complex data into understandable visual representations, creating intelligent maps, managing assets, building and operating better

plants and ships, and protecting critical infrastructure and millions of people around the world.

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