RoadSoft RoundUp

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"RoadSoft not only empowers local road agencies to examine their own crash data, it also provides us a common set of tools so we can more easily partner with them."
Dale Lighthizer, Supervising Engineer
Michigan Department of Transportation

Powerful traffic safety analysis for cities and counties

Safety is a core goal area in the Long-Range Transportation Plan established by the Michigan Department of Transportation (MDOT). Dale Lighthizer, supervising engineer of MDOT's *Safety Programs, Standards and Technical Services* group, is keenly aware of this goal area. The purpose of his group is to provide tools and services to local road agencies that will improve the safety of their roads while helping MDOT achieve state-wide safety goals.

Partnering to improve safety

To help local agencies improve the safety of their road networks, Lighthizer's group established the Local Safety Initiative (LSI). The LSI sets forth a three-prong approach to address local safety issues. "We work with local agencies to conduct safety analyses of their road networks," Lighthizer explained. "We also contract with Michigan Tech University to enhance the safety engineering features of *RoadSoft*, which is the tool preferred by local agencies; and we provide training on how to use *RoadSoft* and how to apply principles of safety engineering to improve the safety of local road networks." Demand for the services of Lighthizer's group is great. "The fact that local agencies are seeking our assistance bodes well for the safety of Michigan roads, but we can only do so much. We always have a waiting list for our services."

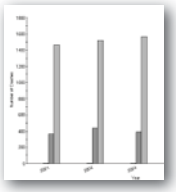
Reaching further, helping more

To increase the reach and impact of the LSI program, Lighthizer initiated development that expanded the *RoadSoft* safety analysis tools to better meet the emerging needs of local agencies. "Our local partners have been using *RoadSoft* to manage their crash data since 1993," Lighthizer explained. "And *RoadSoft* is our main tool for LSI analysis. The intent of this project was to add features that would enhance the capabilities of local agency engineers by providing easier access to the data handling and analysis features that we use at MDOT. These new tools make traffic safety analysis a sustainable activity at the local level."

To begin the project, Lighthizer and his team defined five user-specific scenarios for the *RoadSoft* development team. "We told them the data that we needed to get out of the system, and also suggested how

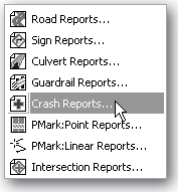
continued on back

RoadSoft is available at no cost in Michigan
RoadSoft is supported under contract with the Michigan Department of Transportation. All public agencies in Michigan qualify to receive the complete *RoadSoft* suite of roadway asset management tools at no charge.



Detailed Safety Analysis
Analyze intersections, segments and curves, generate graphs to provide visual representations of trends, identify roads eligible for federal safety funding, and more.

Integrated Crash Data
Compare crash data to roadway layers such as signs and signals. Overlay aerial photos, and navigate through all levels of detail including a public copy of the actual UD10.



Powerful Reporting
Standard crash reports provide several levels of detail. Advanced filtering features allow unlimited reporting capabilities.

Collision Diagrams
Collision diagrams provide a view of crash distribution at an intersection and a means for measuring improvements, such as signal timing changes or additional signage.

see much more at www.RoadSoft.org

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to use the data to best communicate safety implications," Lighthizer explained. The scenarios included the following:

- Survey a road network to determine if the safety of the network is improving or declining.
- Screen a road network to identify locations with correctable crash patterns.
- Identify segments or intersections that are eligible for funding through the Federal Highway Administration (FHWA) high risk rural road (HRRR) program.
- Perform detailed analyses of groups of intersections and segments within a road network.
- Research a complaint about a specific intersection or segment.

Powerful analysis, meaningful results

The latest release of *RoadSoft* includes the new suite of safety analysis tools. In addition to plotting crashes on a GIS map, generating summaries of crashes, and providing access to intersection collision diagrams, the new suite of tools provides several levels of data management and analysis capabilities to address the five scenarios defined by Lighthizer's team. "The new system provides local agency engineers the same tools that we use to perform a typical safety analysis," Lighthizer said. "Access to these types of tools is uncommon at the local level. *RoadSoft* not only empowers local road agencies to examine their own crash data to extract meaning and make important safety decisions, it also provides a common set of tools so we can more easily partner with them to accomplish results."

The final phase of the project involves training local agency engineers on how to use the new tools, and training elected officials on how to understand the results of a safety analysis. Several sessions are planned across the state for late spring and summer, 2008.

Making it happen

Mary Crane, a software engineer on the *RoadSoft* development team, was the lead developer on a team of seven that worked on the safety analysis project. "In the end, the project came down to refining the user experience," Crane said. "We already had a great set of safety tools, but the real breakthrough in usability came when we worked with Lighthizer's team at MDOT to understand how the data would be used. The scenarios helped us link the tools together to support the entire safety analysis process." The new suite of tools allows *RoadSoft* users to generate interactive crash rankings by specifying sort and filter criteria; sorting and filtering helps to identify patterns among groups of records. With these rankings, users can view interactive crash summaries, graphs, intersection collision diagrams, and even a scanned copy of the original UD-10 crash diagram that was filled out by a law enforcement officer at the scene of each crash.

"The new safety analysis suite provides easy access to all levels of crash data," Crane explained. "The GIS map and rankings provide views of the big picture, and the linking allows users to drill down to extract details about every aspect of any crash in the system. It's extremely powerful"

For more information, please visit www.RoadSoft.org.

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