

# Streetwise:

## *Traffic analysis for the real world*

A growing suburb of a city known for traffic snarls doesn't want to mess around with its traffic analysis systems. It wants a system that takes existing data and applies analyses that will help improve the safety and function of its roads.

That's why Gwinnett County, Ga., part of the expanding Atlanta metropolitan area, contracted with Burns & McDonnell to develop a real-world solution for collision diagramming using the latest advances in geographic information systems (GIS) technology.

The county's Department of Transportation is now using TrueTraffic, an ESRI ArcMap extension that creates spatially oriented diagrams of accidents where they happened, whether at an intersection or midblock. Previously, the county used a simplified schematic that didn't accurately represent the real world of curves and angles in streets. Midblock accidents weren't diagrammed at all.

"On a generic diagram, you can't see contributing factors – pavement edges, signage, curves or blind spots," says Derrick Beasley, project manager in the BMcD Business & Technology Services Group. "We can take into account any data by incorporating it with the diagrams, including aerial photos."

That puts the county a step ahead. "It is a very powerful application, and it's better than anything we've ever had before," says

Martin Bretherton, traffic studies engineer for Gwinnett County. "It has been a big help for diagramming intersections and is a great time saver for diagramming midblocks. The application has provided a cleansing of our accident data. It makes our data better."

### IMPROVED DATA

The extension also helps improve the data in the county's system by flagging invalid accidents that are missing crucial details or have incorrect spatially oriented values. The extension performs complex spatial algorithms against actual road directions and angles to ensure accidents are correctly entered into the database, such as a report where a driver was going north on a street that actually runs east and west at the accident location.

The system flags such anomalies for correction and does not allow for any accident to be incorrectly represented. Once identified, the accidents can be quickly corrected and diagrammed again.

Correct interpretation of the data is key in analyzing traffic accidents.

The application will be included in the ESRI *GIS Partner Solutions for State and Local Government* catalog for 2006.

### SAFETY FACTOR

The solution developed allows Gwinnett County to address the safety concerns of



Burns & McDonnell developed an ESRI ArcMap extension to create real-world diagrams for traffic accident analysis. It accurately represents curves and angles for intersection and midblock accidents.

citizens by giving officials a clearer picture of where accidents happen and what contributing factors might be.

"This is a more precise analysis because it incorporates influences that generic diagrams simply can't show. Instead of only considering the raw accident data, it allows you to analyze the entire scene," Beasley says.

For more information, contact Derrick Beasley, (816) 822-4363.