

## UT-Austin professor helping develop next generation of 'smart highways'

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So-called **smart highways**, such as the TransGuide system in San Antonio, will become **smarter** in the future with more information available to motorists, a traffic management expert said Monday.

The computerized TransGuide system uses cameras and sensors on freeways and electronic signs to warn motorists of hazards and congestion. It's called a **smart highway** because it helps motorists by directing them to proper lanes.

Besides lane-use signs, TransGuide posts real-time traffic conditions on the Internet, uses satellites to locate and provide directions to emergency vehicles, and enables changes to be made to traffic signals to assist traffic diverted off freeways.

The goal is to increase **highway** capacity by a third. Initial studies show it reduced traffic accidents by 15 percent and cut emergency-response times by 20 percent.

TransGuide might not seem so **smart** to motorists when they're simply told about congestion. But such systems will get much more sophisticated, said Hani Mahmassani, a professor at the University of Texas at Austin.

Mahmassani, in San Antonio for a convention of the Institute for Operations Research and the Management Sciences, is on a team working on the next evolution of traffic management.

They're taking data collected by TransGuide - a system Mahmassani said is probably the best in the world -and other systems in Houston and Fort Worth and are creating ways to integrate the vast number of variables.

Instead of basically measuring and showing conditions that managers then react to, the computer program developed by Mahmassani and his team forecasts how traffic will respond to a variety of actions.

Also, rather than focus on linear segments of roadway, whole sets of traffic lights can be synchronized or more diverse routing options can be laid out.

"We're looking at introducing more powerful tools for predicting and looking ahead," Mahmassani said.

The program is being tested in California, he said. It possibly could be in widespread use within five years.

By that time, Mahmassani said, traffic information will be flooding motorists through cell phones, hand-held computers and more cars equipped so satellites can pinpoint vehicles.

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