Researchers try tracking traffic using cell phone GPS

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Bay Area residents are already spoiled by the ability to call 511.org and find out how many minutes it will take them to get from Hayward to Fremont - or to San Rafael or San Jose for that matter.

But what if you needed to know how well traffic was flowing to Fresno or Lake Tahoe?

Teaming up with Caltrans and wireless hardware maker Nokia, researchers from the University of California-Berkeley subjected dozens of students to the travails of Interstate 880 on Friday. Their mission: to develop a system that could generate real-time traffic data to almost any location.

The experiment is part of Nokia's effort to move beyond the realm of phones, said Bob Iannucci, Nokia's chief technology officer, who flew in from the company's headquarters in Finland for the event.

Students drove 100 cars borrowed from Enterprise Rent-a-Car along the interstate between Hayward and Fremont while their Nokia N95 smart phones transmitted data from built-in global positioning system (GPS) devices.

The data was sent wirelessly to a tent set up on the parking lot at the Lowe's in Union City, where research assistants peered into laptops and took phone calls from drivers who needed help or instructions.

In a few years, researchers expect just about all phones sold in the United States will have GPS technology, and motorists who carry them will be able to contribute data to a traffic information system much more extensive than anything now operating.

And the best part is it won't require expensive sensor arrays like those used for the 511 system.

The existing systems are expensive to deploy and maintain, and they only cover a limited area of roadway, said Alexandre Bayen, the assistant professor of civil and environmental engineering who ran the experiment.
But the new phone system, like the 511 system, which relies on drivers' FasTrak transponders, raises serious issues of privacy, said Lauren Weinstein, founder of the Woodland Hills-based Privacy Forum.

"I'm not saying you shouldn't do something like this. I'm saying people need to be informed about what's done with the data," Weinstein said. "You need to ask if it's being collected and how long it is going to be archived."

Some motorists have been suspicious of how they might be tracked with FasTrak tags. Their suspicions were confirmed last June when records requested by MediaNews showed the Metropolitan Transportation Commission released FasTrak bridge-crossing records in civil court proceedings.

This same technology, Weinstein warned, could be used in the same way as red light cameras. Bayen agreed that privacy is paramount, saying that the new system would scramble the actual identification numbers of cell phones. Once a vehicle's progress was recorded, the information would be discarded.

From a privacy standpoint, the less information given, the better, he said. Cell phone users will have the option to turn off the service if they don't want to use it or don't want their data sent.

Even so, Weinstein said users of the system need to be informed that a judge's order could well force the purveyors of the traffic information to alter those protections and start collecting more specific data on wireless users.

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