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EDITOR'S EYE

The World of Software Development.

by [Jon Erickson](#)

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Cars and Cell Phones: Maybe They're Not So Bad After All

Wait a minute! Make up your mind! For years now, we've been hearing that cell [phones](#) and automobiles don't mix (or, as Microsoft might say, they don't [Sync](#) up). Now all of a sudden, its okay to have [cell phones](#) in your car, at least according to researchers at Nokia and the University of California at Berkeley.

To prove their point, transportation researchers turned the freeway into a testbed, gauging the feasibility of using GPS-enabled cell phones to monitor real-time traffic flow while preserving the privacy of the phones' users. The drivers, all Berkeley students, carried GPS-enabled cell phones that transmitted speed and position information to researchers at a command center, creating a nearly real-time picture of traffic flow.

All in all, 100 vehicles were turned loose onto a 10-mile stretch of I-880 for seven hours, with each car equipped with a Nokia N95 mobile phone running software to periodically send anonymous speed readings from the integrated GPS to servers that then computed traffic conditions. Information was displayed on the Internet, letting viewers visualize traffic in real time. Using the GPS data to estimate prevailing speeds and travel times gave researchers a picture of real-time traffic conditions.

The project was made up of research teams from [UC Berkeley's Institute of Transportation Studies](#) and the [Nokia Research Center](#). Together they developed the algorithms, software, and architecture of this GPS-based traffic monitoring system. Heading the teams were Berkeley's [Alexandre Bayen](#) and Nokia's and [Quinn Jacobson](#). The goal of the test was not only to measure the efficiency of the traffic data collection and aggregation system, but to evaluate the trade-offs between traffic estimation accuracy, personal privacy, and data collection costs.

While there is currently no projected date for commercial launch of a system like that being tested, the benefit are obvious -- and huge. In the U.S. alone, traffic congestion leads to 4.2 billion hours in extra travel time and an extra 2.9 billion gallons of fuel burned, for a cost of \$78 billion, according to a 2007 report from the Texas Transportation Institute.

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