Cell phone test to monitor I-880 traffic flow

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An experiment this week by UC Berkeley researchers and a cell phone manufacturer could help eliminate some of the frustrations of driving around the Bay Area - unpredictability of traffic.

On Friday, 150 Cal students sharing 100 cars will spend most of the day driving a 10-mile stretch of Interstate 880 between Hayward and Fremont. They'll be outfitted with GPS-equipped cell phones, which will record their speeds and locations every three seconds. That data will be delivered wirelessly to a computer that will use it to measure in real time the travel times of the vehicles.

Eventually, transportation officials hope the technique will be used to supply a more reliable - and possibly cheaper - source of up-to-the-second traffic information, including estimates of how long it takes to drive from one point to another.

Some congested metro areas estimate driving times with sensors in the pavement and cameras mounted alongside freeways. Four years ago, 511 started estimating driving times in the Bay Area using this method with FasTrak toll tags. The identification numbers assigned to specific FasTrak tags are scrambled and then discarded, so records aren't kept of individual cars' travels.

Using cell phones to measure traffic speeds and trip times would save the cost of installing sensors, cameras and toll tag readers, and allow the traffic monitoring to extend to more distant regions, and it could also make travel time reports far more accurate.

But using cell phones raises privacy concerns.

The system devised with Nokia uses only necessary data to measure travel times, said J.D. Margulici, associate director for the California Center for Innovative Transportation, the UC group coordinating the so-called Mobile Century field experiment on Friday. He said the system takes steps to make sure a specific phone can't be tracked.

"Never do we actually handle privacy-sensitive data," he said.

Bernie Wagenblast, editor of Transportation Communications Newsletter, which covers transportation technology, said tests using cell phones to monitor traffic are in effect in at least three other metropolitan areas: Seattle, St. Louis and Atlanta. Margulici said Friday's test will be the largest-scale test.

Beginning at 9:30 a.m. and ending at 6:30 p.m., drivers will travel in a loop along I-880 between Winton Avenue in Hayward and Stevenson Boulevard in Fremont. They'll get one-hour breaks. Cameras mounted on bridges at the end of each loop will record the
actual travel times for comparison. Observers from the university, Nokia and Caltrans will monitor the test from a tent in a parking lot on the side of the freeway.

The test results will then be analyzed to determine how such a system could best work, Margulici said.

"Maybe two years down the road, this is what will be possible," he said.

But Wagenblast warned drivers against getting too optimistic about traffic prediction.

"I don't think we'll ever get to the point that it's totally predictable," he said. "Like the weather - we haven't gotten that down yet."

**Online resource**

Learn more about the California Center for Innovative Transportation: [www.calcit.org](http://www.calcit.org).

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