

RFID Provides ETAs to N.Y. Drivers

The state's transportation department is piloting a system that uses EZPass active tags to calculate travel times displayed on overhead signs along Long Island's Northern Parkway.

By Claire Swedberg

Oct. 12, 2007—The New York State Department of Transportation (NYSDOT) is piloting a system that uses RFID to gather traffic data so that it can alert Long Island motorists of the travel time ahead of them. The travel time signs (TTS) are operating along the Northern Parkway in Nassau and Suffolk counties. The system uses existing EZPass active RFID tags attached to vehicle windshields to clock motorists' time as the travel both east and west on the parkway. About 150,000 vehicles travel the parkway daily.

EZPass tags transmit an RF signal at 900 MHz. They are commonly used by commuters to pay bridge, tunnel and parkway tolls in the New York metropolitan area, as well as most of the other northeastern states. With the new system, the unique ID numbers of EZPass tags are captured and the time clocked by one of 16 RFID interrogators attached to overhanging signage, each installed about 3 miles apart. When the interrogators capture an EZPass ID number, it is sent, along with the time, via a cabled connection to, Transcom, a New Jersey-based consortium of public and private entities that oversee traffic management. There, the software system (custom-built by the NYSDOT) encrypts the tag data ensuring the privacy of the vehicle owner. When the vehicle passes the next reader, the tag ID number and the time of day are again sent to Transcom, and the software compares the second reading with the previous one to calculate the vehicle's speed. The system then combines the vehicle's speed with that of all the other nearby tagged vehicles and computes the average. That information is then used to calculate the number of minutes it would take a driver to reach certain exits and the result is displayed on 12 electronic sign boards located at various points along the parkway, says NYSDOT spokesperson Eileen Peters.

The system is part of NYSDOT's INFORMATION for Motorists (INFORM) system. INFORM includes timed traffic lights for on-ramps, traffic cameras and help trucks patrolling the parkway, all in the effort to maintain traffic flow.

The pilot, which was launched Tuesday, Oct. 9, met with an early snafu on Wednesday when a truck accident caused a halt to traffic and shut down the system. That, Peters says, was due to the fact that they system could only clock vehicles driving at least 10 miles per hour. When the interrogators do not capture a second read on a vehicle's EZ pass tag within a given amount of time, they shut down, she says. NYSDOT reset the system on Wednesday so that the system stay on as long as traffic is moving at least 5 miles per hour, but the system will still not operate if traffic stops entirely. "This is just one component of the INFORM system," Peters says. She points out that signage still posts warnings about traffic congestion again and advises alternative routes. "So if the system goes down, you still have the signs," she says.

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The cost for this project is \$450,000. Most of that cost is related to the tag interrogators, which were designed and built by NYSDOT engineers. Following the pilot, the TTS system will be continue with future expansion to other Long Island and New York State roadways where the heaviest congestion occurs..

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