



I-95 Corridor Coalition - Vehicle Probe Project

General Benefits White Paper

Benefits of the Vehicle Probe Project

During the two years that the Vehicle Probe Project has been providing data, member agencies have recognized the benefits to their respective departments of transportation, traffic management centers, and the public they serve. Their reports exemplify the value to their particular agency as well as to the region.

Currently, there are 19 agencies which have access to vehicle probe data. Several agencies are using the Vehicle Probe Project (VPP) data to support their 511 web and phone service. Some agencies use the vehicle probe data to calculate travel times and post them on message signs. Performance measures and travel time reliability, particularly in congestion prone areas, are being calculated using real-time and archived VPP data. I-95 Corridor Coalition member agencies use the project monitoring site to observe traffic patterns within its boundaries, but especially across state lines to anticipate incidents and congestion. VPP data is being used to power the Coalition's long-distance trip planner website at www.i95travelinfo.net, as well as variable message signs and information kiosks at airports, welcome centers and regional malls to enhance traveler information.

Vehicle Probe Data Saves Money

New Jersey - During a surprise snowstorm in October 2008, the NJDOT Traffic Operations Center was reviewing an accident on I-80 via a CCTV camera. The Vehicle Probe Data monitoring site identified a second incident involving multiple jack-knifed tractor-trailers along I-80 where CCTV coverage was not available. Without the vehicle probe project monitoring site, response to this second incident would have been delayed by as much as an hour as operators were busy responding to the first incident. Mr. James Hogan, NJDOT's Executive Director of Statewide Traffic Operations, stated at the 2008 ITS World Congress/ITSA Annual Meeting that the expedited response to the second incident translated into an estimated \$100,000 savings in user delay costs.

Savings in user delay costs through use of vehicle probe data: \$100,000 per incident

- *Estimated by NJDOT's Executive Director of Statewide Traffic Operations*

Vehicle Probe Data Provides Cost Effective Traffic Monitoring

North Carolina – JoAnn Oerter of the North Carolina Department of Transportation has noted that they have been able to more effectively apply the DOT's traffic monitoring budget by using vehicle probe project data to increase needed coverage. With typical RTMS equipment, installation and maintenance



I-95 Corridor Coalition - Vehicle Probe Project *General Benefits White Paper*

costs were approximately \$48,600 per mile. The vehicle probe data saves money by replacing RTMS at about a quarter of the cost.

South Carolina – Mike Bowman of the South Carolina Department of Transportation cited the agency's reduction in its use of side fire radar detectors in favor of vehicle probe data. Maintaining its radar coverage over 300 miles is equal to the total cost of the vehicle probe data covering 1,200 miles with the added benefit of transmitting travel time data in addition to speed data.

Travel Times Made Possible by Vehicle Probe Data

Three member agencies (Maryland, North Carolina and South Carolina) have used the vehicle probe project as their primary data source to calculate and present travel times on message signs and their respective web sites. **Maryland** had programmed the implementation of travel times for the year 2012. They were able to advance implementation by two full years as a direct result of data availability. Similarly, **South Carolina** and **North Carolina** each were able to deploy travel times on message signs as a result of having statewide coverage through the Vehicle Probe Project. Both the cost and convenience of ubiquitous coverage without roadside intrusion were factors in the success of these agencies' respective deployments.

Vehicle Probe Data Serves Many Internal Organizations

New York -Significant delays have been observed along I-87 approaching Woodbury Commons Shopping Complex on Thanksgiving evening and the following day (Black Friday) as shoppers caused back-ups along Interstate 87 between the Shopping Complex access and I- 287. In 2009, Sergeant Ira Promisel of the New York State Police seized the opportunity to use the data provided by the I-95 Corridor Travel Time website along with data from the New York 511 website to assist in managing traffic congestion in the area.

Sergeant Ira Promisel, Station Commander of the New York State Police, noted that the I-95 Corridor Travel Time website was easy to use in their field command post as it only required a wireless connection to obtain information.

Sgt. Promisel was aware of the Vehicle Probe Project data through his involvement with the I-95 Corridor Coalition's Incident Management Program Track. With NYSDOT TMC operators and New York State Thruway Authority staff, police were able to look at the trouble areas and determine if/when to implement changes such as closure of full parking lots, ramp closures to prevent backups onto the freeway, and activation of advance VMS messages to alert motorists of the changes ahead.



I-95 Corridor Coalition - Vehicle Probe Project *General Benefits White Paper*

Using this data, Sgt. Promisel and the team were able to reduce by half the traffic queues experienced in other years. In addition, the I-95 Corridor Travel Time and New York 511 websites helped to conserve State Police resources by identifying issues on the website before sending a State Trooper to the scene.

Vehicle Probe Data Provides Regional Benefits

2009 Presidential Inauguration – New Jersey through North Carolina - More than a million attendees converged on Washington, D.C. and then soon departed from the District at the conclusion of the historic inauguration events. Regional traffic monitoring, provided by the Coalition’s Vehicle Probe Project, was crucial to ensure that the traffic kept moving across jurisdictional boundaries. Member states were provided access to the Vehicle Probe congestion-monitoring website as part of the Coalition’s Vehicle Probe Project. The vendor, INRIX, offered and the Coalition accepted the opportunity to use an enhanced version of the site, which provided an increased number of features and metrics to monitor traffic in real time. Access to the site was provided for a two to three day bracket around the event.

Coalition Executive Board Chair, Neil Pedersen, who was monitoring traffic on the INRIX site during an extremely busy time period, stated, *“During the Martin Luther King Jr. Birthday/Inauguration weekend, the Maryland State Highway Administration was able to monitor speeds in real time on the freeway and major arterial network in the greater Baltimore/Washington corridor for the entire weekend. Using the INRIX maps that showed real-time speed data, we were able to determine where there were congestion issues that we needed to be aware of and to make real-time decisions regarding information to provide to travelers and where to deploy resources to proactively manage traffic on the freeway and arterial network in the metropolitan area.”*

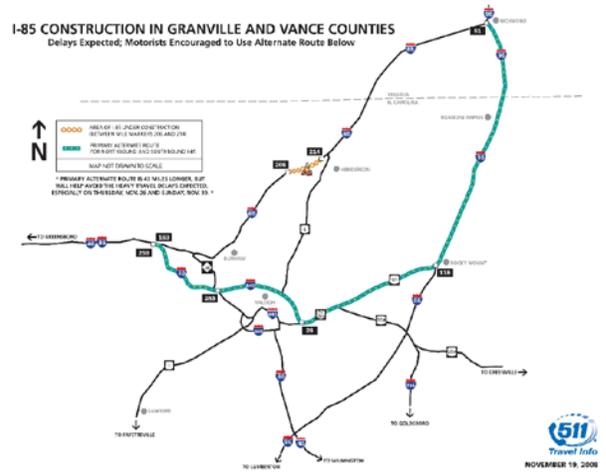
South Carolina – Mike Bowman noted that in January 2010, the North Carolina Division of Parks and Recreation conducted a prescribed burn to reduce the threat of wildfire in the Kings Pinnacle area of Crowders Mountain State Park near the South Carolina border. When winds carried the smoke westward, visibility was inhibited on I-85 causing northbound traffic from South Carolina to slow down dramatically along a ten-mile stretch of the roadway in the vicinity of Crowders Mountain State Park. The South Carolina DOT responded by activating their VMS signs with the message “Low Visibility Mile Marker 5-15”. Coordination between North and South Carolina helped to improve the safety and decrease traffic congestion by getting information out to the motorists along I-85.

Jo Ann Oerter, of North Carolina’s ITS operations says, *“The NCDOT is better able to manage traffic conditions when our neighboring states traffic is also seen on the monitoring site”.*



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North Carolina – JoAnn Oerter, NCDOT, also noted that they scan monitoring site for traffic flows in Virginia, South Carolina and Tennessee. North Carolina TMC staff was able to see traffic congestion building into Virginia on I-85 southbound due to a construction project. North Carolina checked that sufficient capacity existed on the parallel route of I-95 and then coordinated with Virginia to redirect traffic from I-85 to I-95. The detour back from I-95 included U.S. Route 64 and I-40 to ultimately reconnect with I-85.



Coalition Members who use the VPP have reported benefits by saving money, improving travel time, reducing delay and reducing driver frustration.