I-95 Corridor Coalition

Volume & Turning Movements from Probe Data

Phase I Project Objectives Accomplished!

A new frontier in probe data and analytics

A Pioneering Project

The I-95 Corridor Coalition sponsored research to achieve accurate volume and turning movement estimates through outsourced probe data for both operations and planning purposes. **These early tasks are now complete and preliminary findings are available.**

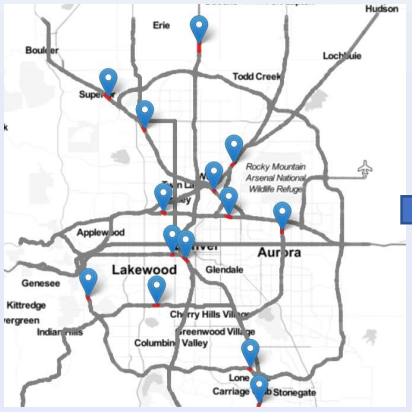
The I-95 Corridor Coalition was the first to put forth the proposition of providing traffic volumes through outsourced probe data as part of a 2013 **Multistate Corridor Operations and Management Program** (**MCOMP**) proposal.

UMD and NREL recognized that the success of this project is critical to broader national initiatives which require quality data to operate and model the transportation system with the goal to optimize for safety, mobility and energy efficiency.

Why Transportation Professionals need Ubiquitous Traffic Volume Data

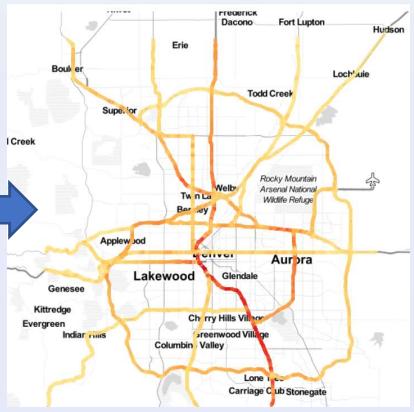
- *To measure volumes more comprehensively, quickly and efficiently*
- *To review Traffic Volume Trends*
- *For Highway Performance Measurement Systems & MAP-21*
- *To observe impacts of major events to traffic at all points in the network (storms, an eclipse, inauguration, major sporting events, etc.)*
- *Companies in the automotive, insurance, financial services and retail industries want it too.*

From Point Data



To

Ubiquitous Traffic Volume Data



Phase I Objectives Accomplished

- ✓ Created a practical and logical approach for the delivery of probe-based volume and turning movement estimate.
- ✓ Documented the properties and requirements to support a variety of DOT applications.
- ✓ Developed methods to ensure and measure the accuracy of the volume estimator.
- ✓ Developed the algorithms and methods using machine learning technology.
- ✓ Demonstrated the process in collaboration with industry, setting expectation for fidelity, form, granularity, and usability.
- ✓ Estimated the cost and resources needed to create, support, and maintain such a system at a statewide, or even national level.

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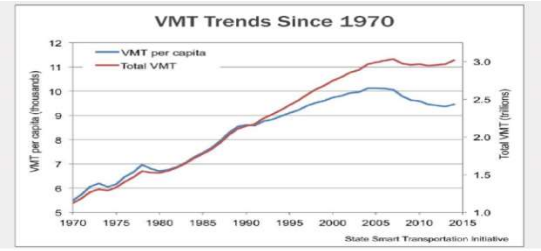
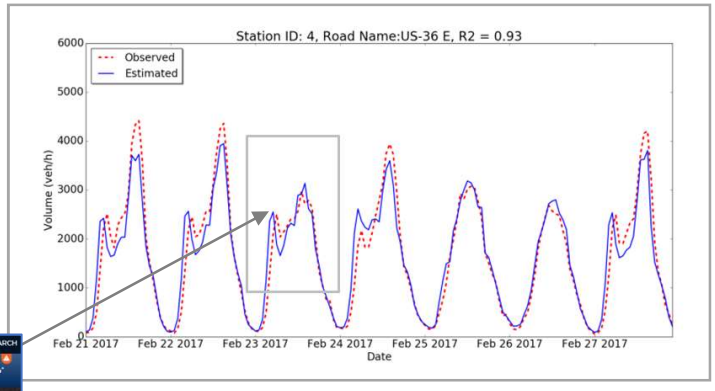
Project Value

Benefits of Ubiquitous Traffic Volume

- *Improves incident management monitoring and action*
- *Enhances work zone monitoring, impact analysis, and safety*
- *Adds additional insight to anticipate and verify "jam" conditions*
- *Provides more accurate user delay cost reporting for weather, sporting or other events*
- *Improves traffic signal system timing management, enabling more cost effective, timely, and accurate updates to signal timing plans*
- *Provides data for more complete after-action reviews*
- *Advances travel demand modeling accuracy*
- *Better addresses air quality and emissions requirements and energy analysis inquiries*



Measures VMT More Efficiently and Measuring VMT Increasingly Matters



Effectively captures volume changes due to February snow storm

What our members are saying

"Real-time volume data would be of great value to NCDOT, especially for incident and work zone management - including timelier detouring or route diversions – better control of evacuations in the event of a hurricane, and improved special event traffic management."

Kelly Wells, PE
Mobility Program Manager
North Carolina Department of Transportation

"Having robust estimated volume and turning movement data derived from probe data would be a tremendous asset for DVRPC, complementing the speed and travel time data we're already using from the VPP Project to facilitate analysis of our entire road network, including problem identification, project development, and comprehensive, accurate system performance evaluation."

Jesse Buerk
Senior Capital Program Coordinator
Delaware Valley Regional Planning Commission