

What is the Vehicle Probe Project?



What is Available

- **Monitoring Site**
- **Data Feed**
(real-time access for integration into applications)
- **Data Archive**
(1-min archive)
- **VPP Suite (Performance Measures) and Archive**
(real-time & historical tools for operations and planning)



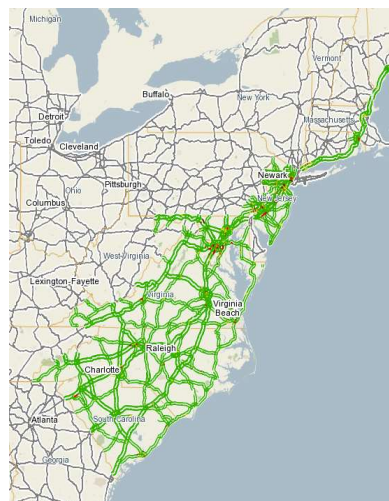
How it is Used

- **Operations Center**
(Real-Time Traffic Monitoring)
- **TMC Software Integration**
- **Cross-border Incident & Traffic Monitoring**
- **Travel Times on**
 - Signs
 - Websites
 - 511 IVR
 - Traffic Tile Overlay on 511 Site

*A Traffic Probe Data Marketplace for State Partners
Overseen by the I-95 Corridor Coalition and University of Maryland*

"The VPP works with a "traffic probe data marketplace" first created in 2008. Three highly qualified vendors (HERE, INRIX and TomTom) were selected by a team of agency members to provide data to agencies at a cost that was negotiated by the Corridor. The data is subjected to rigorous validation for reliability. In addition, all data, regardless of vendor, is available to each of the participating agencies providing a truly shared effort."

"The use of the marketplace results in a savings of 55 - 62% per lane mile from free market pricing" depending on vendor.



Agenda to Cover Today

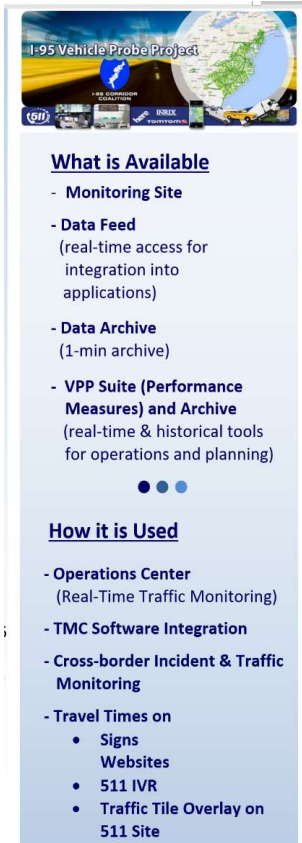
Probe Data - Task 1

- Status of Coverage for Participating States
- Status of Vendor Contracts
- Ancillary Products now available

Validation Program – Task 2

- Status of State Validations
- Quarterly Validations/Arterial Report Updating
- FY Calendar Development
- TrafficCast Contracting
- Quarterly Reporting
- Report Formatting

RITIS Management – Task 3



Task 1

Overview of Summary Coverage for Participating States

I-95 Corridor Coalition - Vehicle Probe Project II				
Coverage Summary Table				
State	Freeway	Arterial	Total Miles	Description
New Hampshire	215	0	215	Coverage on I-95.93, Spaulding, Everett TPKs
New Jersey	920	8,476	9,396	State is all-in
Pennsylvania	2,752	20,415	23,167	State is all-in
Maryland	785	6,284	7,069	All in. Redundant coverage on select corridors
Washington DC	28	361	389	State is all-in
Virginia	1,571	15,974	17,545	State is all-in
North Carolina	1,716	12,834	14,550	State is all-in
South Carolina	979	10,167	11,146	State is all-in
Georgia	1,411	14,331	15,742	State is all-in
Total	10,377	88,842	99,219	

Task 1

Status of Vendor Contracts

Modifications to current contract:

Inrix and HERE in place

TomTom – in process



**These Options are added as part of Task 1 in the Work Plan /MOU now. Some modules have additional pricing.

June 18, 2018

I-95 Corridor Coalition Data Tool Access & Update

New vendor products are now available through the I-95 Corridor Coalition's Vehicle Probe Project's Marketplace

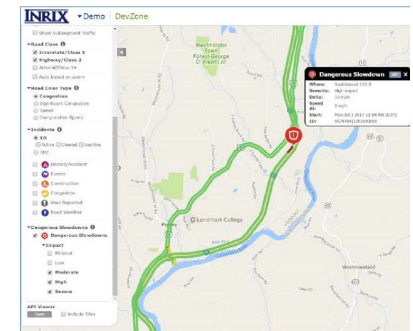
Since 2009, the I-95 Corridor Coalition in coordination with the University of Maryland has co-managed a probe data procurement project titled the Vehicle Probe Project that provides access for its members to procure accurate, reliable, and real-time traffic data. The Coalition has contracted with INRIX Inc., HERE, and TomTom to provide this data.

Why procure probe data through the marketplace? The Coalition's economies of scale has driven down the cost per mile of probe data, agencies do not have to negotiate through RFP's and their own contract management and data validation is routinely conducted to confirm the reliability of the data.

Five new Inrix products are now being offered through the Coalition marketplace



- **XD Segment Traffic Archive Data Downloader** provides a cost-effective option for access to XD archives at a fraction of real time data fees.
- **Dangerous Slowdowns API** delivers safety-focused alerts to augment current data or can be a cost-effective option for rural state.
- **Trip Reports** offers reduced price access to data to support freight and transportation planning.
- **National Performance Management Research Data Set (NPMRDS) Extensions** offers additional datasets to extend and expand the utility of the dataset available from USDOT required for federal performance measures reporting.
- **State/County TMC Location Referencing Network Shapefile** accelerates TMC segment



Dangerous Slowdowns API

Three new HERE products are now being offered through the Coalition marketplace

- **HERE Traffic Service /HERE Real Time Traffic** delivers up-to-the-minute information about traffic conditions and incidents. It helps drivers by improving the accuracy of arrival times.
- **Traffic Analytics: Speed Data and Trip Data** is a suite of data products that help enterprise and government customers make informed decisions such as road network performance.
- **HERE Location Platform (Application Programming Interfaces (APIs) and Software Development Kits (SDKs) for native mobile operating systems)** delivers global location-based services that can bring location-intelligent products and services to the market. HERE Platform features and functionalities are offered through seven key components: Maps, Geocoder, Direction, Places, Traffic, Transit and Visualization.

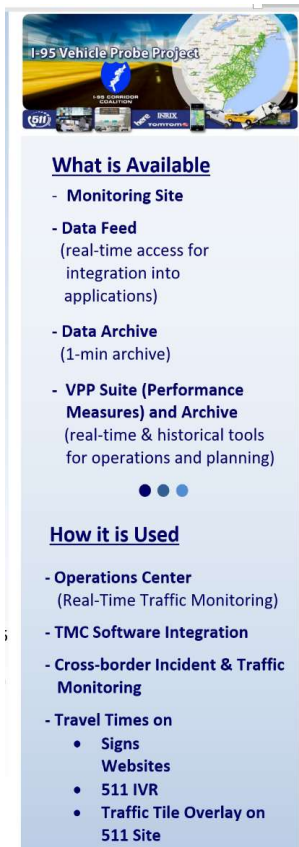


Traffic Stats API is a suite of web services (RESTful APIs) designed to enable the retrieving and analysis of TomTom's historical GPS database. The database contains speed measurements by road segment from January 2008 through the present



January 2018

Task 2



Updates to the Validation Program –Task 2

- Status of Validations
- Setting a FY Calendar
- Major Steps in the Validation Program
- Quarterly Validations/Arterial Report Updating
- Traffic Cast Contracting
- Quarterly Validation Status Reporting
- Report Formatting

Status of State Validations for FY2018

State Contracts for FY2019

State	S
New Jersey	Validation US1/US9 April 2018 Completed
Pennsylvania	Validation I-79 October 2017 Completed
Maryland	US-40 Validation In Process
Washington DC	Not Done
North Carolina	I-240, 40, 26, July/August 2017 Completed NC 55 New validation in process
South Carolina	Not Done
Georgia	Validation I-75 February 2018 Completed

New Hampshire and Maine in process to procure probe data through VPP

FY2019
Waiting on new contract
Multi-year contract /PA TPK??
New contract to be written for 9-1
???
Multi – year contract
RFP still in process
Awaiting signature on new contract

Arterials
Managed Lanes
Reversible Lanes
Tunnels
Bridges

Task 2



FY2019 Calendar – Why set it now?

- ☐ Helps with planning for equipment deployment
- ☐ Helps with staff management at UMD
- ☐ Look to spread out validations on a quarterly basis



Task 2

Data Validation Program Major Steps - 20% reduction in costs being seen

We need State locations defined in order to start.

TrafficCast sets out sensors & collects data

Data is sent to UMD for processing

Probe Vendors provide data to UMD

UMD publishes the final report

Deployment Planning



Bluetooth Data Collection



Bluetooth Data Processing



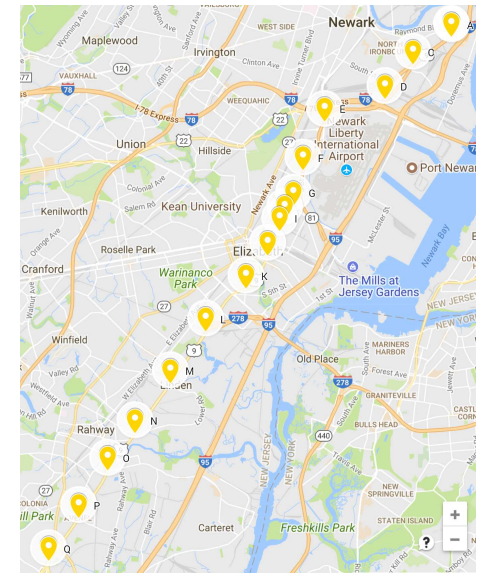
Probe Data Processing



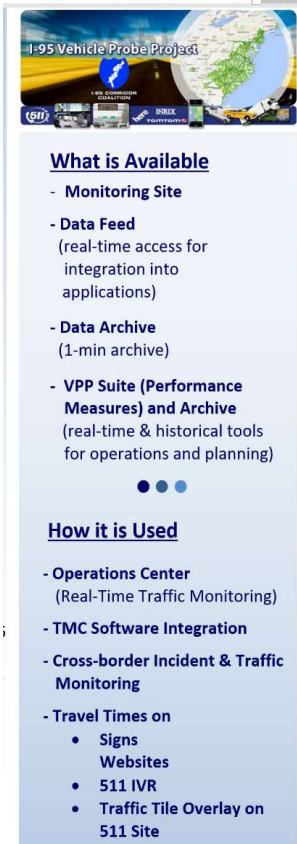
Report Production

Comments

- Many people / jurisdictions involved
- Iterative process
- Slight changes in sensor placement due to mounting considerations
- Define validation paths based on final sensor locations
- Filter, aggregate, and evaluate data
- Vendor TMC definitions differ slightly
- Path <---> vendor-specific TMC mapping
- Calculate equivalent path speeds
- Quantify probe data performance under a variety of conditions



Task 2



Updates to the Validation Program

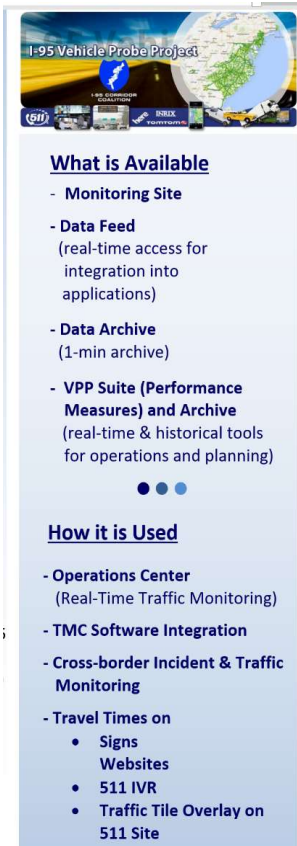
For FY2019 we are proposing:

**4 Quarterly Validations OR
3 Quarterly Validations + Arterial Report**

What does this mean?

The arterial report would provide an update to an original report published in 2015 (see www.i95coalition.org) under the VPP section which investigated the quality of INRIX probe data on arterials based on a number of separate validation efforts. The update on the report would focus on tracking trends in both traditional validation metrics and slowdown metrics since 2015, and additionally include results for two additional probe vendors (HERE and TomTom)

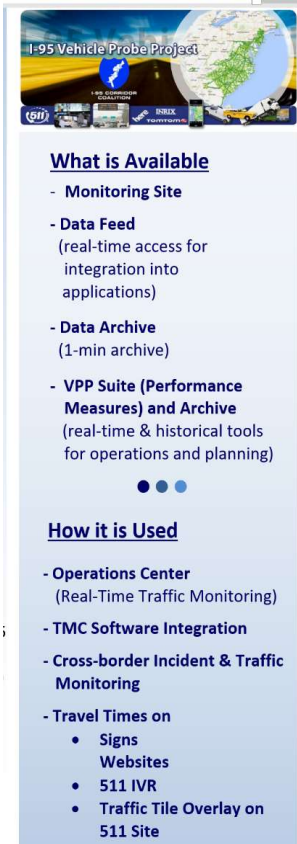
Task 2



Additional Updates to the Validation Program Traffic Cast Equipment Contracting

- ☐ A new contract is in process targeted for July 1.
- ☐ Kathy Frankle to finalize.
- ☐ 4 Quarterly Validations being used in the estimate for the new contract.
- ☐ Three Zones with differing costs based on travel.
- ☐ Important to plan out calendar year to reserve use of equipment

Task 2



Additional Updates to the Validation Program

Quarterly Reporting

- ☐ January, April, July, October
- ☐ Every state will be on the same page
- ☐ Using the PennDOT template for reporting
- ☐ Will come via email from Kathy

Let's talk about Report Formatting

- ☐ What sections of the report do you find most useful?
- ☐ Are there any part of the report that you find unnecessary?
- ☐ It has been suggested that color coding the executive summary results to indicate whether results are in/out of spec would be helpful. Is this something that you would like to see?
- ☐ Feedback has been that the summary tables are most important. Currently there are more detailed path-level results in the Appendix which take up quite a few pages. Would it make sense to provide a spreadsheet with the path-level results instead or do you find it valuable to keep it in the report document?
- ☐ Do we want to add a definition for latency and slowdown analysis in the report?

Additional General Info

- ☐ **RITIS is managed by CATT not I-95 even though the MOU's contain both. RITIS is typically labeled Task 3.**
- ☐ **Do you want any update on Validation to be incorporated into the PDA/User Group meetings? As a showcase presentation?**

QUESTIONS??
Thank You