

## Vehicle Probe Project II



### Agency Project Team Webcast September 22, 2015



## Housekeeping Items

- Please call Joanna at 610-662-5569 for difficulties with the web or audio application
- This is a virtual meeting experience
  - Please keep your phone muted until asking a question or speaking (press \*6 to mute/unmute individual phone lines)
  - Please do not place call "on hold" as your hold music will be heard by the group
- All materials & contact information will be available to participants after the webcast



### Agency Project Team Webcast Participants

Agency	Agency
Florida DOT	Jo Ann Oerter (Atkins)
New Hampshire DOT	Denise Markow
New Jersey DOT	Neha Galgali, Sudhir Joshi, Simon Nwachukwu, Branislav Dimitrijevic (NJIT)
New York City DOT	Yixin Wang
North Carolina DOT	Mike Bruff
Pennsylvania DOT	Scott Benedict
Virginia DOT	Scott Cowherd, Mena Lockwood, Greg Bilyeu, Sanhita Lahiri
FHWA	Rich Taylor
Baltimore Metro. Planning Org.	Eileen Singleton
DVRPC	Jesse Buerk
MWCOG	Andrew Meese, Wenjing Pu
North Jersey Transp. Planning Authority	Keith Miller, Sutapa Bhattacharjee
South Jersey TPO	Andrew Tracy



Please confirm that your line is muted \*6

Thank you!





## Agenda

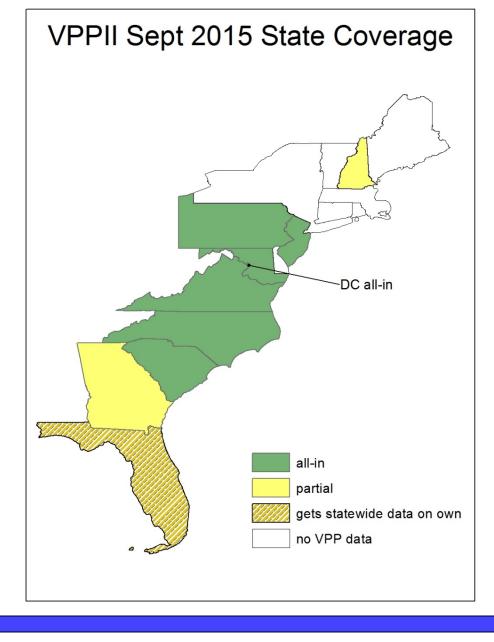
1	Welcome & Coalition News	George Schoener, I-95 Corridor Coalition
2	<ul> <li>VPPII Update – Data Validation &amp; Tech Activities</li> <li>Validation         <ul> <li>Summary</li> <li>Presentation of Results (Virginia &amp; Maryland)</li> </ul> </li> <li>Real-Time Volume project status</li> </ul>	Masoud Hamedi & Reuben Juster, University of Maryland CATT
3	<ul> <li>VPP Suite</li> <li>Co-chair Update</li> <li>Features Status</li> <li>User Forum (Probe Data Analytics Forum)</li> </ul>	Michael Pack & John Allen, UMD CATT Lab
4	Updates by Agencies on uses of VPP data	All Facilitated by Karen Jehanian, KMJ
5	Other VPPII Activities  • Website changes & Project documents  • Papal Visit Update  • Upcoming meetings	Karen Jehanian, KMJ Consulting (I-95 Corridor Coalition support)
6	Wrap Up & Thank You	George Schoener, I-95 Corridor Coalition

# Welcome & Coalition News

George Schoener

I-95 Corridor Coalition

# VPP Coverage Summary



# VPPII Update – Data Validation & Tech Activities Update

#### Masoud Hamedi & Reuben Juster, University of Maryland CATT

- VPPII Update Data Validation & Tech Activities
  - Validation
  - Summary
  - Presentation of Results (Virginia & Maryland)
- Volume & O/D project status

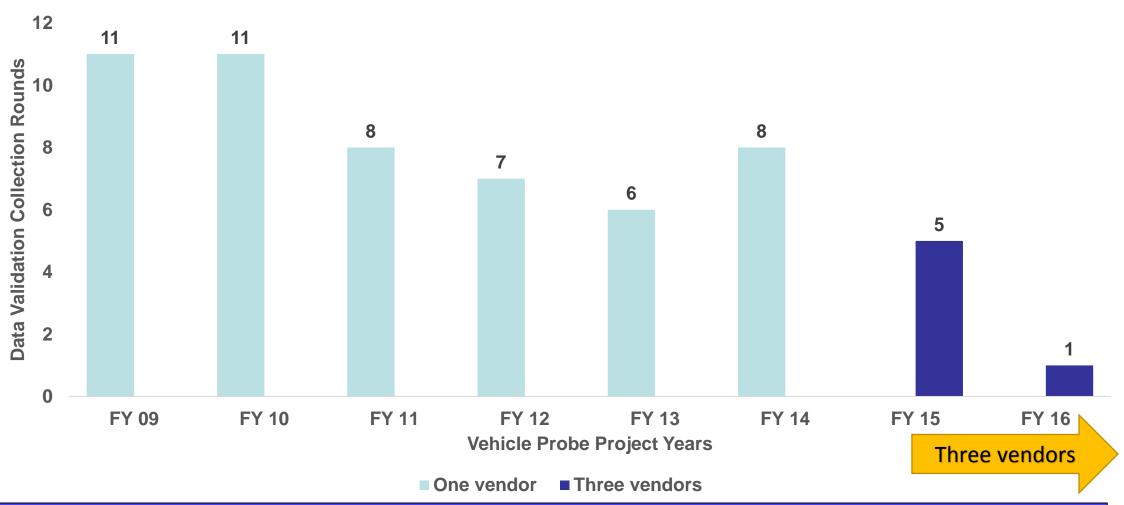
#### **VPPII Tech Activities**

#### Stan Young

- Masoud Hamedi VPPII Update Data Validation
- Reuben Juster Technical Activities (including Road Coverage Info & Contract Tech Specs)

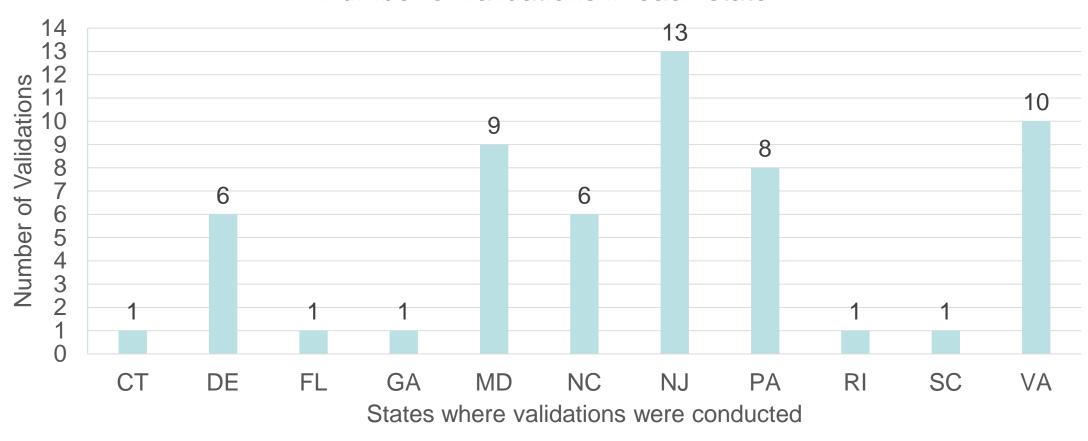
#### VPP I & VPP II Validation Rounds

#### Number of data collection rounds for validation



## VPPI & VPP II Validations per State

Number of validations in each state



#### VPPII Validation - Current Schedule

Collection Date	State/Route	Status	Emphasis
May-15	MD-09 (US-50 , US-40)	Under Review	Freeway with special traffic flow pattern (HOV)
Jul-15	NJ-13 (NJ-37 Ocean County)	In progress – reports are in production	Arterial
Oct-15	NC-07	Segment selection	Arterial
Nov-15	SC-02	DOT contacted	Freeway
Dec-15	GA-02		Freeway
Feb-16	MD-10		Arterial
Mar-16	NH-01 (tentative)		Freeway
Apr-16	VA-11		Arterial
May-16	PA-09		Freeway

## Virginia Arterial Validation Results

#### • VA09:

- Dec 4 to Dec 18, 2014
- US-1 corridor from Huntington
   Ave to Joplin Rd
- 25 miles, 2-3 lane major arterial, average AADT 38,933
- 26 directional segments, speed limit 45mph
- Average signal density: 3 signal/mile

#### • VA10:

- Jan 15 to Jan 28, 2015
- US-1 corridor from Joplin Rd to Harrison Rd
- 24 miles, 2 lane arterial, average
   AADT 21,500
- 16 directional segments, speed limit 45 mph
- Average signal density: 1.5 signal/mile

### VA Validation Results from HERE

	VA09 (US 1, Arterial)				VA10 (US 1, Arterial)			
Speed Bin	SEB< 5 MPH (Comparison with confidence band)	SEB< 5 MPH (Comparison with mean)	AASE< 10 MPH (Comparison with confidence band)	AASE< 10 MPH (Comparison with mean)	SEB< 5 MPH (Comparison with confidence band)	SEB< 5 MPH (Comparison with mean)	AASE< 10 MPH (Comparison with confidence band)	AASE< 10 MPH (Comparison with mean)
	4.0	7.0	4.0	7.0	4.0	7.4	4.0	7.0
0-15 MPH 15-25 MPH	1.2	7.8	4.8 1.4	7.8 4.6	1.2	7.1 3.2	<u>4.6</u> 1.6	7.3 4.7
25-35 MPH	-0.6	-1.5	1.1	3.9	0.0	-0.2	1.1	4.4
>35 MPH	-3.8	-7.4	3.8	7.8	-2.0	-4.5	2.3	6.0

### VA Validation Results from **INRIX**

	VA09 (US 1, Arterial)				VA10 (US 1, Arterial)			
Speed	SEB< 5 MPH (Comparison with confidence band)	SEB< 5 MPH (Comparison with mean)	AASE< 10 MPH (Comparison with confidence band)	AASE< 10 MPH (Comparison with mean)	SEB< 5 MPH (Comparison with confidence band)	SEB< 5 MPH (Comparison with mean)	AASE< 10 MPH (Comparison with confidence band)	AASE< 10 MPH (Comparison with mean)
Bin								
<u>0-15 MPH</u>	6.4	9.5	6.4	9.5	8.7	11.7	8.8	11.8
15-25 MPH	2.6	5.7	2.8	6.6	2.9	5.8	3.3	7.2
25-35 MPH	0.2	0.6	1.7	5.1	0.8	2.4	1.7	5.4
>35 MPH	-2.6	-5.1	3.2	6.9	-1.4	-3.0	2.1	5.6

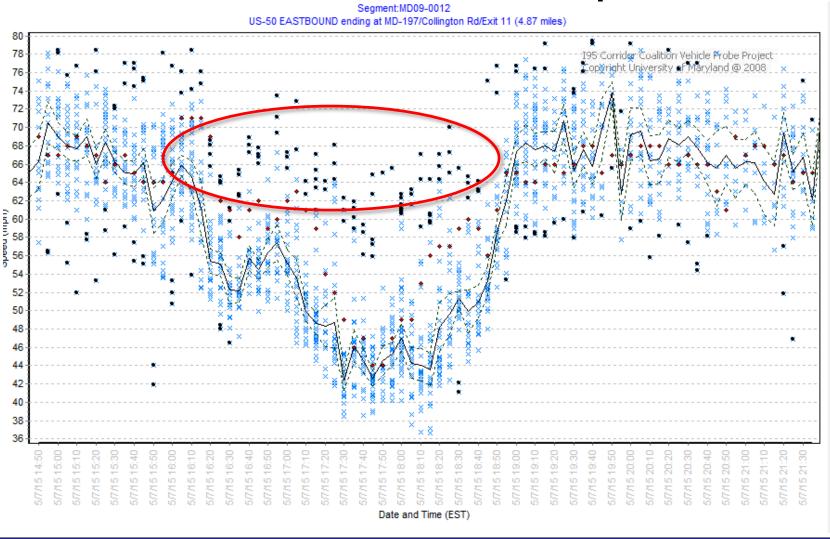
#### VA Validation Results from TomTom

	VA09 (US 1, Arterial)				VA10 (US 1, Arterial)			
	SEB< 5 MPH (Comparison	SEB< 5 MPH (Comparison	AASE< 10 MPH	AASE< 10 MPH	SEB< 5 MPH (Comparison with	SEB< 5 MPH (Comparison	AASE< 10 MPH	AASE< 10 MPH
	with confidence band)	with mean)	(Comparison with	(Comparison with mean)	confidence band)	with mean)	(Comparison with	(Comparison with mean)
Speed Bin	24.14)		confidence band)				confidence band)	
0-15 MPH	9.0	12.3	9.0	12.3	6.6	9.4	6.7	9.6
15-25 MPH	6.1	11.2	6.1	11.3	5.3	9.6	5.4	9.9
25-35 MPH	3.1	6.8	3.3	7.6	3.0	6.7	3.3	7.9
>35 MPH	-0.2	0.1	1.8	5.2	-1.1	-1.2	2.5	6.2

## Maryland Validation Results

- Apr 30 May 11, 2015
- US-50 corridor, from Garden City Dr/Exit 6 to MD-665/Aris Allen Blvd/Exit 21-22
- US-40: due to Bluetooth data quality issues, this portion was discarded
- 37 miles, four lane freeway including 7.5 mile HOV on both directions (between the Capital Beltway and US 301)
- 13 directional segments, speed limit 55 mph

## MD 09 - The HOV Impact



#### MD Validation Results from **HERE**

	MD09							
	SEB< 5 MPH (Comparison with confidence band)	SEB< 5 MPH (Comparison with mean)	AASE< 10 MPH (Comparison with confidence band)	AASE< 10 MPH (Comparison with mean)				
Speed Bin			,	,				
DIII								
<u>0-15 MPH</u>	6.5	7.2	6.8	7.8				
15-25 MPH	0.1	0.2	4.2	6.3				
25-35 MPH	-0.9	-0.3	2.6	5.2				
>35 MPH	-2.3	-4.7	2.5	5.5				

#### MD Validation Results from **INRIX**

	MD09							
	SEB< 5 MPH (Comparison with confidence band)	SEB< 5 MPH (Comparison with mean)	AASE< 10 MPH (Comparison with confidence band)	AASE< 10 MPH (Comparison with mean)				
Speed Bin			,					
<u>Dili</u>								
<u>0-15 MPH</u>	4.1	4.7	4.7	5.7				
15-25 MPH	4.8	6.6	5.5	7.7				
25-35 MPH	3.1	5.4	4.3	7.4				
>35 MPH	-1.1	-1.9	2.2	5.0				

#### MD Validation Results from TomTom

	MD09							
Speed Bin	SEB< 5 MPH (Comparison with confidence band)	SEB< 5 MPH (Comparison with mean)	AASE< 10 MPH (Comparison with confidence band)	AASE< 10 MPH (Comparison with mean)				
0-15 MPH	1.2	1.3	3.4	4.4				
15-25 MPH	0.6	1.3	6.5	8.6				
25-35 MPH	2.9	4.8	4.4	7.3				
>35 MPH	-3.5	-6.6	3.5	6.8				

## Real-Time Volume and Turning Movements (Reuben)

- Cooperative approach with industry/ Coalition vetted
- **Phase 1**: 6-9 months
  - Collaborative approach for specs, formats, and validation
  - Testbed constructed from volume data of known accuracy
  - Origin and destination (freight) workshop
- Phase 2: 12-18 months (Contingent of Phase 1)
  - Offline development and testing with testbed and vendors
  - Real-time proof of concept for volume and turning movements

#### **VPP Suite**

#### Michael Pack John Allen

- Co-chair Update
- Features Status
- User Forum (Probe Data Analytics Forum)

## **Co-chair Update**

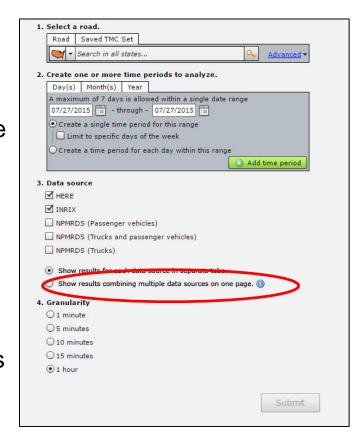
- Potential ops candidate identified in Florida. Participation is being vetted with Turnpike/FDOT senior leadership.
- For now, the two existing co-chairs (Kelly Wells, NCDOT & Jesse Buerk, DVRPC) continue to do a FANTASTIC job!

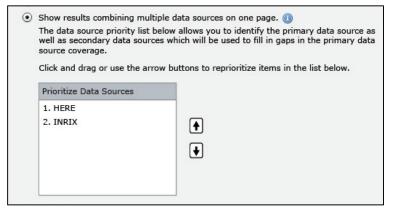


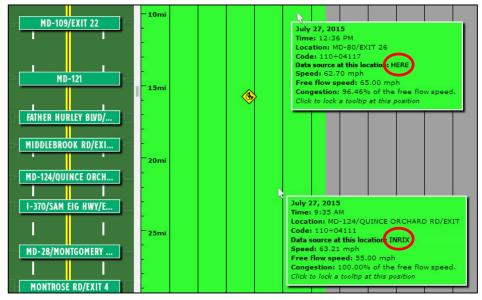
## **Upcoming Features**

#### Multivendor Congestion Scan

- Right now you can show results for each data source in separate tabs
- Another option will be added to combine the sources on one page
- This option is useful for when one data source does not cover an entire region or road

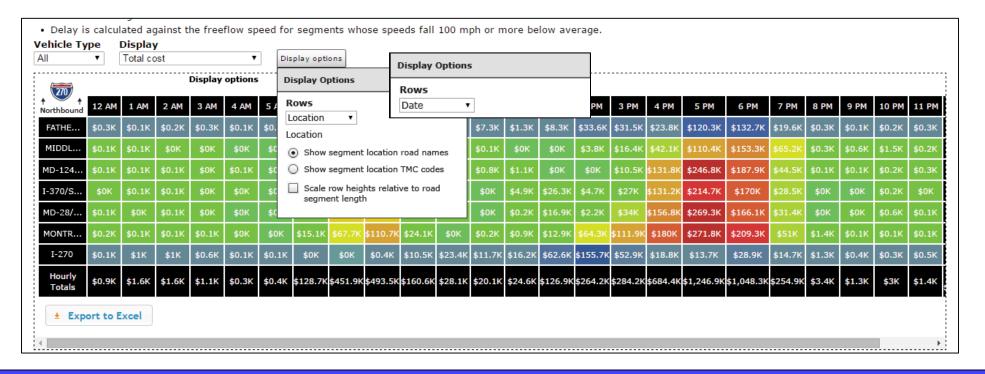






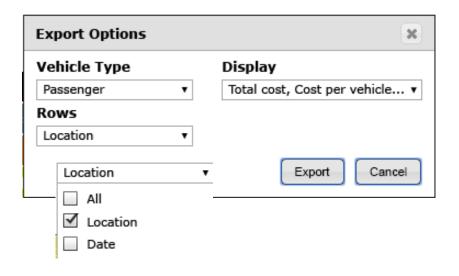
#### Delay by TMC

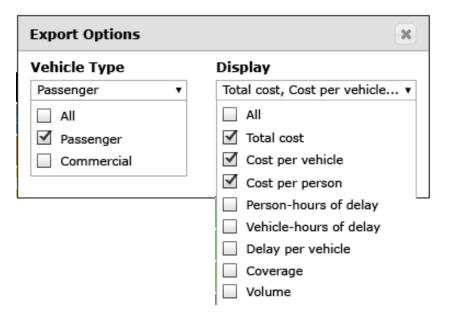
- Additional display options for the Total Cost table:
  - Show segment location by Road Names, TMC codes or Data
  - Can scale row height relative to segment length



#### Delay by TMC – Excel® Export

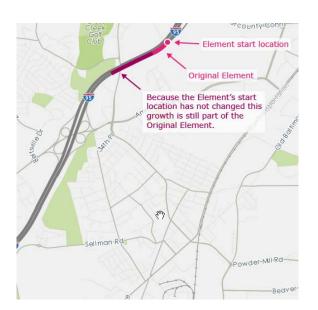
- Currently the Excel export creates multiple tabs within the downloaded spreadsheet.
- Using this pop-up gives you total flexibility in choosing what tabs to display.





#### New Bottleneck Algorithm

- The new algorithm captures the complexities of how bottlenecks start, grow and change via elements:









#### New Bottleneck Algorithm - Display

Working on a new set of displays to give you a new level of visualization and analytical capability:

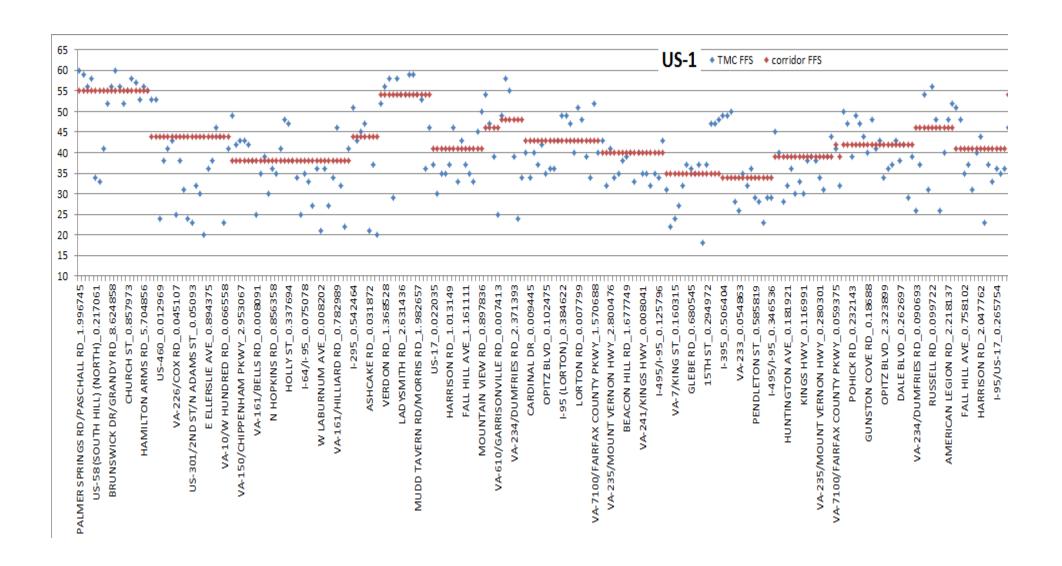




## **Updates by Agencies**

All
Facilitated by Karen Jehanian,
KMJ Consulting
(I-95 Corridor Coalition support)









# Sharing Info among Member Agencies

 Would you like to share new uses or important issues related to the VPP data?

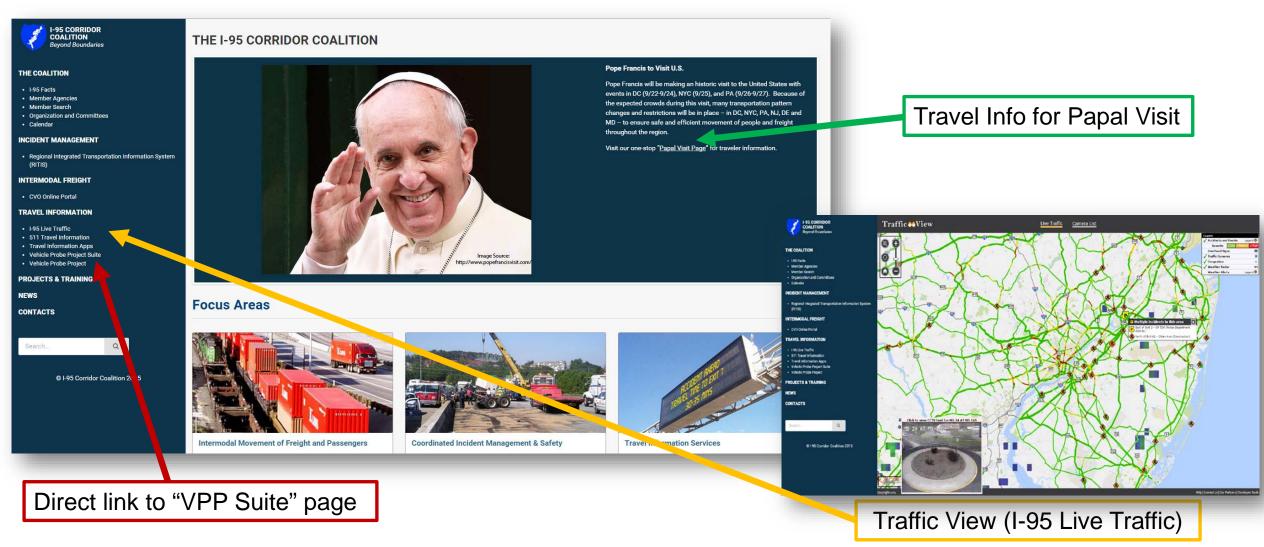


#### Other VPPII Activities

#### Karen Jehanian, KMJ Consulting (I-95 Corridor Coalition support)

- Website additions/Updated Project documents
- Papal Visit Update
- Other Upcoming VPP Meetings

#### Website Additions





## Updated Project Documents on I-95 Corridor Coalition website



So....your agency is interested in obtaining access to the Vehicle Probe Project Data?

Now what do you do?

**VPPII Quick Start Sheet** 

First, check to see if the roads in which you are interested are covered by the VPP. Contact Reuben Juster (UMD) at <a href="micar@umd.edu">micar@umd.edu</a> to find out. Then, apply the following steps to gain access to ANY data within the VPP.

Step 1	Step 2
Not a member of the I-95 Corridor Coalition? You first need to become one.	Execute a Data Use Agreement to use the Vehicle Probe Project Data
Send an e-mail to <u>George Schoener</u> requesting membership in the I-95 Corridor Coalition (please	A DUA is available on the Coalition website at the <u>Vehicle Probe Project Page</u> or from the link below
copy Patty Reich). Eligibility requirements are provided on the Member Eligibility section of the Coalition website. You will receive a response in	Note: Signing the DUA does NOT commit you to purchasing data – it simply extends the data license to your jurisdiction. Click here for the <a href="YPPII DUA Rev 9">YPPII DUA Rev 9</a>
less than one week.	Completed DUAs should be submitted to Karen Swick (UMD) at <a href="mailto:kswick@umd.edu">kswick@umd.edu</a> . Processing of DUAs could take up to 2 weeks.
George Schoener,	
Executive Director	Questions regarding VPP contracts or DUAs should be sent to Kathy Frankle.
I-95 Corridor Coalition geschoener@comcast.net	I-95 Vehicle Probe Project
Patty Reich preich1@umd.edu	T-95 Venicie Probei Project
I-95 CORRIDOR	(91) SUX PROTECTIONS OF THE PROPERTY OF THE PR
COALITION	NOTE: Vendors will need to verify your completion of Step 2 prior to agency receiving access. (This
	is not immediate as it requires staff verification.)

on a project requiring access to the VPP, may be granted access for that specific project. Please work with your agency to obtain the needed approval and complete Attachment A along with the Data Use Agreement.

July 28 201



If you want to Access Real-time Data only, here's how:	If you want Access to Archived Data and Performance Measurement Tools, here's how:
These steps will allow you to gain access to the vendor/s monitoring site and data feeds (Note this is vendor specific):	These steps will allow you to gain access to RITIS & the VPP Suite tools:
For INRIX: Go to the INRIX monitoring site and create an account.  INRIX will verify that your agency has executed a DUA for the VPP and send you access information via email within 2 business days.  Download the VPPII Interface Guide for INRIX for more information on real-time	First, create a <u>RITIS account</u> – you will need to create a RITIS account through this link to gain access to RITIS and/or the VPP Suite.
data feed integration. Questions for INRIX? Contact Rick Schuman at 407-298-4346 or rick@inrix.com.	<ol> <li>After you have requested an account, the UMD's CATT Lab will verify your information and send you an email with your login credentials. These credentials will enable you to access both RITIS and the VPP Suite.</li> </ol>
For HERE: To obtain information on their monitoring site or project interface guide, or if you have any other questions, contact Terri Johnson at 570-470-4075 or <a href="mailto:terri.johnson@here.com">terri.johnson@here.com</a> .	You are now able to Login to the <u>VPP Suite</u> or the <u>RITIS website</u> .  You are encouraged to view these <u>video tutorials of the VPP Suite</u> .



Please contact <a href="mailto:vpp-support@ritis.org">vpp-support@ritis.org</a> with any questions regarding the VPP Suite.





TOMTOM

Please note that the steps listed above for access to data or the VPP Suite will need to be completed for <u>each person</u> within the organization who is seeking access. (Time for subsequent applications will be less.)

July 28, 20

Updated - Quick Start Sheet - based upon comments received from members

x13277 or mark.dykstra@tomtom.com.

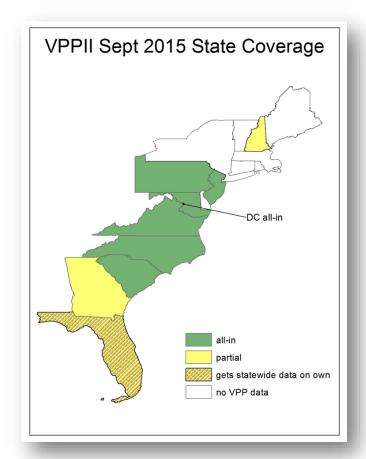
data feed integration.

Download the VPPII Interface Guide for TomTom for more information on real-time

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## **Updated Project Documents**

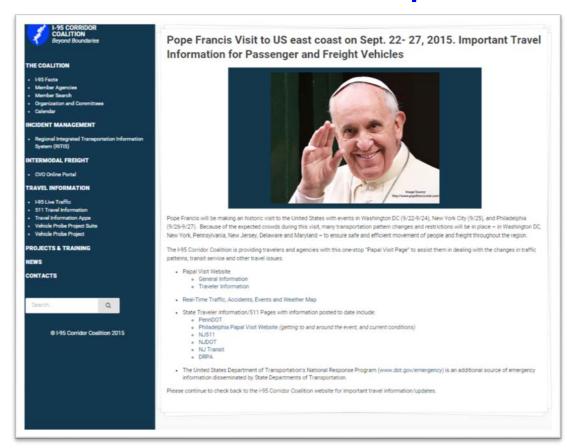
#### on I-95 Corridor Coalition website



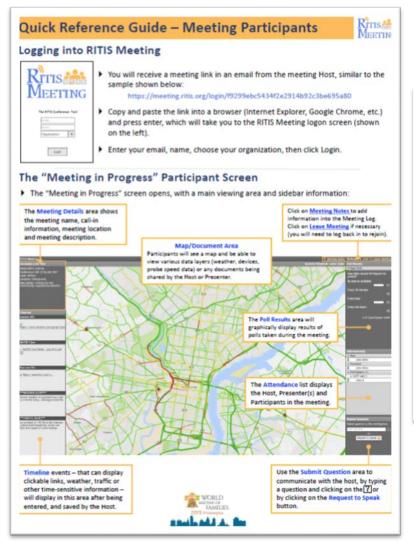
I-95 Corridor Coalition - Vehicle Probe Project II Coverage Summary Table					
State	Freeway	*Arterial	Total Miles	Description	
New Hampshire	16	0	16	Coverage on I-95	
New Jersey	919	5613	6532	State is all-in	
Pennsylvania	2166	8381	10547	State is all-in except Turnpike facilities	
Maryland	785	2971	3756	All in. Redundant coverage on select corridors	
Washington DC	28	225	253	State is all-in	
Virginia	1382	5087	6469	State is all-in	
North Carolina	1716	6895	8611	State is all-in	
South Carolina	932	4225	5157	State is all-in	
Georgia	1287	0	1287	Covers major freeways	
Total	9231	33397	42628	*All-in arterial mileage estimated w/ HPMS	
	Date: 22-Sept-15				

VPP State Coverage Table (VPP page – Contract Docs & Coverage Info tab)

#### Papal Visit Update



There is a page dedicated to travel information for the Papal visit on the Coalition's website.



RITIS Meeting/
I-95 Collaborative
Decision Tool,
sponsored in part
by the Coalition, is
being used for the
coordination
among
transportation
agencies during
the Papal visit.

## **Upcoming Meetings/Events**

Tuesday, October 13, 2015 (10:30am – noon)	VPP Suite User Group	webcast
Wednesday, November 18, 2015	TISPTC Meeting	Philadelphia, PA (DVRPC) & via webcast
Thursday, December 17, 2015 (10:30am – noon)	VPP Agency Project Team	webcast

#### **VPPII Contact Info**

General project questions:

George Schoener at 703-389-9281 or <a href="mailto:geschoener@comcast.net">geschoener@comcast.net</a>

Technical Activities & Road Coverage Info:

Reuben Juster at 301-314-0426 at <a href="mailto:rmjcar@umd.edu">rmjcar@umd.edu</a>

Data Validation:

Masoud Hamedi at 301-405-2350 at masoud@umd.edu

Vehicle Probe Project Suite:

UMD CATT Lab at <a href="mailto:vpp-support@ritis.org">vpp-support@ritis.org</a>

Contracting Issues:

Kathy Frankle at 410-414-2925 or kfrankle@umd.edu

## Wrap Up & Thank You

George Schoener

I-95 Corridor Coalition

## Thank You

