Vehicle Probe Project II

Agency Project Team Webcast
December 17, 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
<table>
<thead>
<tr>
<th>Agency</th>
<th>Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Jersey DOT</td>
<td>Neha Galgali, Sudhir Joshi</td>
</tr>
<tr>
<td>NYC DOT</td>
<td>Michael Marsico</td>
</tr>
<tr>
<td>North Carolina DOT</td>
<td>Kelly Wells, Mike Bruff</td>
</tr>
<tr>
<td>Pennsylvania DOT</td>
<td>Scott Benedict, Mark Kopko</td>
</tr>
<tr>
<td>South Carolina DOT</td>
<td>Dipak Patel</td>
</tr>
<tr>
<td>Virginia DOT</td>
<td>Mena Lockwood</td>
</tr>
<tr>
<td>FHWA</td>
<td>Rich Taylor</td>
</tr>
<tr>
<td>BMC</td>
<td>Ed Stylc, Victor Henry, Eileen Singleton</td>
</tr>
<tr>
<td>DVRPC</td>
<td>Jesse Buerk</td>
</tr>
<tr>
<td>MWCOCG</td>
<td>Wenjing Pu, Andrew Meese</td>
</tr>
<tr>
<td>NJTPA</td>
<td>Solomon Caviness, Sutapa Bhattacharjee</td>
</tr>
<tr>
<td>Richmond Regional TPO</td>
<td>Tiffany Dubinsky</td>
</tr>
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</table>
Please confirm that your line is muted

*6

Thank you!
<table>
<thead>
<tr>
<th></th>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Introductions &amp; Welcome</td>
<td>George Schoener, I-95 Corridor Coalition</td>
</tr>
<tr>
<td>2</td>
<td>VPP Contracting Issues</td>
<td>Kathy Frankle, University of Maryland</td>
</tr>
<tr>
<td></td>
<td>• VPP Coverage &amp; VPPII Agreement Status</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Technical Coordination Update</td>
<td>Masoud Hamedi, UMD CATT</td>
</tr>
<tr>
<td></td>
<td>• Validation</td>
<td>Stan Young, NREL</td>
</tr>
<tr>
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<td>o Summary</td>
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<td></td>
<td>o Presentation of Results</td>
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<tr>
<td></td>
<td>• Real-time Volume project</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Spotlight: Traffic Message Channel (TMC) White paper findings</td>
<td>Stan Young, NREL</td>
</tr>
<tr>
<td>5</td>
<td>VPP Suite Update</td>
<td>John Allen, UMD CATT Lab</td>
</tr>
<tr>
<td>6</td>
<td>Updates by Agencies on uses of VPP data</td>
<td>All</td>
</tr>
<tr>
<td></td>
<td>Use of VPP data for Holiday Trend Analysis: what was provided, when,</td>
<td></td>
</tr>
<tr>
<td></td>
<td>how, where, feedback, &amp; lessons learned</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Other VPPII Activities</td>
<td>Karen Jehanian, KMJ Consulting</td>
</tr>
<tr>
<td></td>
<td>• Website changes &amp; Upcoming meetings/events</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Wrap Up &amp; Thank You</td>
<td>George Schoener, I-95 Corridor Coalition</td>
</tr>
</tbody>
</table>
Welcome

George Schoener
I-95 Corridor Coalition
VPP Data Use Agreements

Kathy Frankle

• Signed DUAs needed from: DC, GA
  • This DUA includes TomTom and their data to be incorporated into VPP Suite by January 31, 2016
• Data access will be denied if DUA is not signed once TomTom data part of VPP Suite
# VPP Coverage Summary

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Agency Purchasing Data</th>
<th>Coverage</th>
<th>Vendor</th>
<th>VPP Suite</th>
<th>Agreement &amp; Coverage Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maine</td>
<td>Maine Turnpike</td>
<td>Partial</td>
<td>TomTom</td>
<td></td>
<td>They want coverage with TomTom on I-95.</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>NHDOT</td>
<td>Partial</td>
<td>TomTom</td>
<td>evaluating</td>
<td>(3) year contract with TomTom to start Jan 1, 2016.</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>RIDOT</td>
<td>All-in</td>
<td>HERE</td>
<td>no</td>
<td>Under contract thru November 30, 2016.</td>
</tr>
<tr>
<td>Maryland</td>
<td>MdSHA, MDTA</td>
<td>All-in</td>
<td>ALL</td>
<td>✓</td>
<td>New contract began Sept 1, 2015. All in with INRIX, redundant coverage with HERE &amp; TomTom</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>DDOT</td>
<td>All-in</td>
<td>INRIX</td>
<td>✓</td>
<td>Under contract directly through INRIX.</td>
</tr>
<tr>
<td>Virginia</td>
<td>VDOT</td>
<td>All-in</td>
<td>INRIX</td>
<td>✓</td>
<td>Under contract directly through INRIX.</td>
</tr>
<tr>
<td>South Carolina</td>
<td>SCDOT</td>
<td>All-in</td>
<td>INRIX</td>
<td>✓</td>
<td>Under contract thru June 30, 2016.</td>
</tr>
</tbody>
</table>

December 17, 2015
# New Contracts for These States

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Agency Purchasing Data</th>
<th>Coverage</th>
<th>Vendor</th>
<th>VPP Suite</th>
<th>Agreement &amp; Coverage Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>South Carolina</td>
<td>SCDOT</td>
<td>All-in</td>
<td>INRIX</td>
<td>✓</td>
<td>Under contract thru June 30, 2016.</td>
</tr>
</tbody>
</table>

- **Starting process in January 2016**
Technical Coordination Update

Masoud Hamedi, UMD CATT
Stan Young, NREL

- Validation (Masoud)
  - Summary
  - Proposed Changes to Validation Process for Arterials
  - Presentation of Results
- Real-time Volume project (Stan)
### VPPII Validation - Current Schedule

<table>
<thead>
<tr>
<th>Collection Date</th>
<th>State/Route</th>
<th>Status</th>
<th>Emphasis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul-15</td>
<td>NJ-13 (NJ-37 Ocean County)</td>
<td>Reports to be published</td>
<td>Arterial</td>
</tr>
<tr>
<td>Dec-15</td>
<td>SC-02 (I-85, I-26)</td>
<td>Ongoing deployment</td>
<td>Freeway</td>
</tr>
<tr>
<td>Jan-16</td>
<td>GA-02</td>
<td>DOT contacted</td>
<td>Arterial</td>
</tr>
<tr>
<td>Feb-16</td>
<td>MD-10</td>
<td></td>
<td>Arterial</td>
</tr>
<tr>
<td>Mar-16</td>
<td>NH-01 (tentative)</td>
<td></td>
<td>Freeway</td>
</tr>
<tr>
<td>Apr-16</td>
<td>VA-11</td>
<td></td>
<td>Arterial</td>
</tr>
<tr>
<td>May-16</td>
<td>PA-09</td>
<td></td>
<td>Freeway</td>
</tr>
</tbody>
</table>
Proposed Changes to Validation Process for Arterials

- Working with vendors to include the **slowdown analysis** part of the standard report on arterials
- Plan to report performance measures for **real-time data separately**
  - Criteria
    - **INRIX**: score 30
    - **HERE**: confidence factor between 0.71 and 1.0
    - **TomTom**: >60 for real time data only
- Plan to report **data availability measures** (percentage of time that vendor data has been available for each speed bin)
  - Vendors have been informed about the lapse in their data
- **Latency** measurement – to be studied and included at a later date
NJ13 Arterial Validation

Data collection period: 6/30/2015 – 7/12/2015

Route: NJ-37, from NJ-35 to the seaside, validation segments, 23 miles

Average AADT: 37,550, Speed Limit: 50 MPH

Average Signal Density: 1 per mile

Number of lanes: 2-3 per direction

Based on VPP Arterial Probe Data Usability guidelines – NJ 37 is an arterial for which the data ‘Should be Tested’ prior to use
## Summary of Results – NJ13

<table>
<thead>
<tr>
<th>State</th>
<th>Speed Bin</th>
<th>Confidence Band</th>
<th>Mean</th>
<th># of Vendor 5 min counts</th>
<th># or Bluetooth 5 min counts</th>
<th>Data Availability *</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SEB &lt;5 MPH</td>
<td>AASE &lt;10 MPH</td>
<td>SEB</td>
<td>AASE</td>
<td></td>
</tr>
<tr>
<td>VENDOR 1</td>
<td>NJ</td>
<td>0-15</td>
<td>4.8</td>
<td>4.8</td>
<td>6.4</td>
<td>6.7</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
<td>15-25</td>
<td>4.8</td>
<td>5.0</td>
<td>8.9</td>
<td>9.7</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
<td>25-35</td>
<td>2.4</td>
<td>2.8</td>
<td>6.3</td>
<td>8.1</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
<td>&gt;35</td>
<td>-0.5</td>
<td>1.6</td>
<td>-0.4</td>
<td>6.0</td>
</tr>
<tr>
<td>VENDOR 2</td>
<td>NJ</td>
<td>0-15</td>
<td>5.1</td>
<td>5.1</td>
<td>7.0</td>
<td>7.0</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
<td>15-25</td>
<td>2.8</td>
<td>2.8</td>
<td>6.9</td>
<td>7.2</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
<td>25-35</td>
<td>0.6</td>
<td>0.8</td>
<td>3.3</td>
<td>5.1</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
<td>&gt;35</td>
<td>-1.2</td>
<td>1.3</td>
<td>-3.4</td>
<td>5.4</td>
</tr>
<tr>
<td>VENDOR 3</td>
<td>NJ</td>
<td>0-15</td>
<td>4.7</td>
<td>4.7</td>
<td>6.6</td>
<td>6.6</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
<td>15-25</td>
<td>7.0</td>
<td>7.0</td>
<td>12.1</td>
<td>12.1</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
<td>25-35</td>
<td>3.6</td>
<td>3.7</td>
<td>8.5</td>
<td>9.0</td>
</tr>
<tr>
<td></td>
<td>NJ</td>
<td>&gt;35</td>
<td>-0.4</td>
<td>1.3</td>
<td>0.3</td>
<td>5.9</td>
</tr>
</tbody>
</table>

* Data Availability = Vendor 5 minute data count / Bluetooth 5 minute data count
Summary of Slowdown Analysis– NJ13

<table>
<thead>
<tr>
<th>Vendor</th>
<th>Fully Captured</th>
<th>Partially Captured</th>
<th>Failed To Capture</th>
<th>No Data</th>
<th>TOTAL NUMBER OF SLOWDOWN EVENTS*</th>
</tr>
</thead>
<tbody>
<tr>
<td>VENDOR 1</td>
<td>9</td>
<td>7</td>
<td>1</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>VENDOR 2</td>
<td>5</td>
<td>10</td>
<td>0</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>VENDOR 3</td>
<td>7</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
</tbody>
</table>

*A significant slowdown in this context is when traffic speed reduced at least 15 mph from nominal for a period of one hour or more.

With reference to the I-95 Corridor Coalition Arterial Probe Data Usability guidelines, the slowdown analysis results in NJ13 show considerable improvement in capturing the slowdowns.
Fully captured: VPP data indicated a significant disruption in traffic flow, and accurately characterized its magnitude.
Partially captured: VPP data indicated a significant slowdown, but failed to accurately characterize the magnitude, typically underestimating the extent of delay.
Failed to capture: VPP data either completely missed the slowdown, or the extent of severity of the slowdown was significantly different from the reference data.
No Data: VPP data was not available during the identified slowdown period
NC07 Deployment
Charlotte Area

US-29 North East of Charlotte: from US-601/Warren C Coleman Blvd to Castaway Dr

US-74 South East of Charlotte: from I-485 to Briar Creek Rd/Television Ln

Start and end date:
SC02 Deployment
Columbia & Greenville

Start date: 12/02/2015

I-85  South East of Greenville
from US-276/Exit 48 to SC-14/Exit 56

I-26  North West of Columbia
(from Bush River Rd/Exit 108 to Harbinson Blvd)
Real-Time Volume Project
(Stan)

• Provide real-time volume & turning movement data similar to travel time
• Re-initiated Feb 2015 – NOW under contract Dec 2015
• Scope
  – Estimate volume and turning movements
  – Calibrate to known volume sources
  – Investigate freight data
  – HERE / INRIX / TomTom / NREL partner
• Initiate project Jan 2016!!!
Real-Time Volume Project
(Stan)

Agencies interested in participating
UMD Contact: Kaveh Sadabadi at kfarokhi@umd.edu
Soliciting steering committee members – send an email

– MWCOG, Wenjing Pu
– DVRPC, Zoe Neaderland
– TTI, Shawn Turner
– NCDOT, Kelly Wells
– NHDOT, Denise Markow

– CATT, John Allen
– PennDOT, Doug Tomlinson
– VDOT, Michael Fontaine + Mena Lockwood
Spotlight Presentation:
Traffic Message Channel 101

Stan Young, NREL
Traffic Message Channel 101

• The white paper, “Traffic Message Channel (TMC) Codes: Impact and Use within the Coalition”, reviews:
  – TMC Background
  – TMC Code Governance
  – TMC Implementation
  – TMC Pros and Cons
  – Recommendations and Key Findings

• Funded by MCOM1
What is a TMC code?

• Traffic Message Channel code:
  – Shorthand method to communicate a location
  – Breaks the roadway network into links and nodes
  – **Tech issues**: Length of segments, frequency of update, and availability of codes for all roadways are the primary issues
  – **Programmatic issues**: Availability of base maps, conflation, and licensing
How to read a TMC code

The following TMC can be broken down

110N04615

110 - The area code/ region

N – The direction of travel

04615 – Defines road and segment in linear manner

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Internal/External</th>
<th>Direction</th>
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</thead>
<tbody>
<tr>
<td>N</td>
<td>I</td>
<td>S, E, CCW</td>
</tr>
<tr>
<td>- *</td>
<td>E</td>
<td></td>
</tr>
<tr>
<td>P</td>
<td>I</td>
<td>N, W, CW</td>
</tr>
<tr>
<td>+ *</td>
<td>E</td>
<td></td>
</tr>
</tbody>
</table>

* TeleAtlas only
TMC Background

- Decades old, developed by traffic industry to relay traffic data with low-bandwidth
- VPPI – TeleAtlas TMC codes were used
  - Timeliness of updates (new roads)
  - Availability on non-freeway facilities (ramps, special use lanes, arterials)
- VPPII – TeleAtlas & Navteq TMC codes
  - Alternate segmentation schemes
TMC Code Governance

• Standards
  – Maintained by the Traveler Information Services Association (TISA), hosted in ERTICO (ITS Europe)
  – Serve as guidelines to create TMC tables containing roadway points and corresponding segments

• The North American TMC Code Alliance (NATMCCA) maintains the American and Canadian TMC Table
What is a TMC Table?

• Provides locations where roadway is broken into segments usually at intersection, borders, or natural features via text description, not Lat/Lon’s

• Defines points and segments connecting points in accordance to TISA standards.

• Are proprietary and different from the vendors’ TMC maps
TMC Layers

TMC Standard – Ertico / TISA
How to create TMC Tables – ISO standards

North America TMC Code Alliance
Predominant TMC Tables in use in North America – HERE & TomTom

Electronic Map Makers
Distribute and license digital maps with TMC elements – TeleAtlas (TomTom) and Navteq (HERE)

Traffic Data Vendors
Traffic Data Products delivered in TMC Coding – INRIX, HERE, TomTom & others
Flavors of TMC

Ends don’t match

External TeleAtlas TMC
110-04615

Internal TeleAtlas TMC
110N04615

Unified Navteq TMC
110N04615
TMC Length Differences

![Graph showing TMC Length Differences]

- TeleAtlas combined TMC Length (Miles)
- Navteq TMC Length (Miles)
# TMC - Pros and Cons

<table>
<thead>
<tr>
<th>Pros</th>
<th>Cons</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not data intensive</td>
<td>Segment lengths can be too long or short</td>
</tr>
<tr>
<td>Maintained by industry</td>
<td>Inflexible</td>
</tr>
<tr>
<td>Maintained to TISA standard</td>
<td>Not always available (HOV/HOT, ramps, lower classifications)</td>
</tr>
<tr>
<td>Backward/forwards compatible</td>
<td>Slow to update</td>
</tr>
</tbody>
</table>
Key Findings

• TMC’s will continue to enable cost-effective and stable data delivery
  – TMC traffic data ‘sweet spot’ are performance measures and traveler information on freeway and other principle arterials

• Alternative segmentation schemes are available by each vendor (available in appendix)
  – Alternate segmentation schemes enable applications requiring greater spatial resolution

• New standard unlikely
Recommendations for the Coalition

1. Continue developing and sharing TMC educational material
2. Use TMCs for long-term analysis, traveler info, sharing of data, higher level facilities
3. Use non-TMC methods as needed, conflation required
4. I-95CC provide forum for best practices
5. Encourage open standards when possible
VPP Suite Status Update

John Allen, UMD CATT Lab

• Select Features
• VPP Suite User Group
• Probe Data Analytics Forum
Select Features

Recently Deployed (11.30.15)

• Multi-road Congestion Scan
  › Define travel routes (commuter, recreational, goods movement)
  › Compare alternate route performance (speeds, travel times, etc.)
  › Locate “hotspots”, bottlenecks
  › Better develop projects$strategies (ITS, ICM, etc.)
  › New Feature Guide helps you get up and running fast!
    – Under final review

Coming Soon (ETC Q1 2016)

• Bottleneck Algorithm
  › More accurate representation of bottlenecks (temporally/spatially)
  › Familiar “faces” (graphics); new “faces”
  › Addresses challenges reported by users (bottleneck overlap, etc.)

• Backend Framework
  › Will substantially improve tool performance:
    – Greater speed
    – Longer date ranges
    – Larger geographies
Overarching User Group Goals

Addressing User Needs
- Assistance with software issues
- Detailed explanation/guidance on using the tools

Addressing Developer Needs
- Gain feedback on usability
- Gather requests for added features & functions

VPP Suite User Group

New Co-chair Leadership Structure

Planning
- Jesse Buerk (DVRPC)

Traffic Operations
- Kim Samson (Consultant to FL TPK.)

Traveler Information
- Kelly Wells (NCDOT)

Addressing User Needs
- Better tracking of “new features status”

Addressing Developer Needs
- User Focus Group established to develop performance summary templates:
  - Jesse Buerk, Zoe Neaderland (DVRPC)
  - Kelly Wells (NCDOT)
  - Kim Samson (consultant to FL TPK)
  - John Allen (CATT), Joanna Reagle (KMJ)
- Better use of the Probe Data Analytics Forum
- Some recent features suggestions/interests:
  - History dropdown – to choose recent data runs
  - Streamline Login (“Remember me”)
  - Freight performance measures
- More systematic way to suggest new features

Next User Group Mtg: Jan 20, 2016 (10:30 am to Noon)
Probe Data Analytics Forum

AGENCY USE CASES – NUMBER OF VIEWS

<table>
<thead>
<tr>
<th>Case Study</th>
<th>Views</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papal Visit Philadelphia, PA</td>
<td>85</td>
</tr>
<tr>
<td>Maryland Mobility Reports</td>
<td>86</td>
</tr>
<tr>
<td>&quot;Fortify&quot; Travel Time Monitoring</td>
<td>129</td>
</tr>
<tr>
<td>Amtrak Derailment</td>
<td>104</td>
</tr>
<tr>
<td>I-95 Reconstruction Project</td>
<td>107</td>
</tr>
</tbody>
</table>

**VIEWING PERIOD**
Oct 12th through Dec 15th

**TOTAL NUMBER OF VIEWS**
511 (+144 just from 12.03 to 12.12)

**MOST VIEWED**
"Fortify" Travel Time Monitoring (129 views)

**BY THE NUMBERS...**

- Link the Forum to VPP Suite
- Post Focus Group work for comment/feedback
- Consider using polling feature to gauge new ideas/suggestions
- Better functionality (attachment type/upload sequence)
- Post "Feature Guides" (under VPP Suite Tutorials)

**IN THE WORKS...**
Updates by Agencies

All

Facilitated by Karen Jehanian,
KMJ Consulting
(I-95 Corridor Coalition support)
Use of VPP data for Holiday Trend Analysis

• What information did you provide?
• What days did you provide this information?
• Did you provide this information – on your website, mobile app, press release?
• Did you receive any feedback on the information that you provided?
• What lessons learned would you like to share
NCDOT Experience Using VPP Trend Maps for Thanksgiving Travel 2015

Kelly E. Wells, PE
December 17, 2015
VPP Agency Webcast
THANKSGIVING TRAVEL

Thanksgiving travel will affect traffic conditions from Wednesday, Nov. 25 through Monday, Nov. 30.

To see traffic conditions from Thanksgiving 2014 heavy travel days click on the links below and press the play button at the bottom left

• Wednesday Before Thanksgiving 2014
• Saturday After Thanksgiving 2014
• Sunday After Thanksgiving 2014

While the maps cannot predict exact amounts of congestion for this year, you can use them as a guide to better time your travel.

• Virginia Thanksgiving Travel Info
• I-95 States Real Time Travel Info
Challenge

• Accommodations for Apple Users
  – Works on Macs, needs Flash player installed
  – Won't work on an iPad
  – Alternatively, export a video or animated gif, just not interactive

• DOT employee thought we had our 2014 Thanksgiving message up

• VPP was easy ( 20 mins max), some DOT web challenges. Allow time for coordination: start Nov 1!
431 Views of Trend Map
NCDOT Experience Using
VPP Trend Maps
for Thanksgiving Travel 2015

Kelly E. Wells, PE
919-825-2615
Other Updates?
Other VPPII Activities

Karen Jehanian, KMJ Consulting

- VPP Newsletter
- Other Upcoming meetings/events
  - Connected and Automated Vehicles: *What Public Agencies Need to Know*
# Upcoming Meetings/Events

<table>
<thead>
<tr>
<th>Date</th>
<th>Event</th>
<th>Location</th>
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<tbody>
<tr>
<td>Jan 10-14, 2016</td>
<td>TRB</td>
<td>Washington DC</td>
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<td>Jan 20, 2016</td>
<td>VPP Suite User Group Webcast</td>
<td>Webcast</td>
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<td>May 1-4, 2016</td>
<td>NATMEC 2016</td>
<td>Miami, Fl</td>
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<tr>
<td>Jun 21-22, 2016</td>
<td>Connected and Autonomous Vehicles Conference</td>
<td>Maritime Institute, Linthicum, MD</td>
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I-95 Corridor Coalition Conference
Connected and Automated Vehicles: What Public Agencies Need to Know

• June 21-22, 2016 – Maritime Institute (near BWI Airport)

• Agenda developed by and for Public Agencies:
  – Connected/Automated Vehicles (C/AV) 101
  – C/AV Activity and Pilots in the Corridor
  – State of the Industry
  – Regional Planning/Operational Issues
  – Managing the Transition
  – Mitigating Risk & Maximizing Benefits

• Targeted Audience:
  – Agency personnel involved in planning, policy, infrastructure, systems, O&M, incident management, and safety/security – for any and all modes (autos, transit, commercial vehicles, freight)
  – State and Federal government officials
  – First responders and public safety
VPPII Contact Info

• General project questions & Contracting Issues:
  Kathy Frankle at 301-405-8271 or kfrankle@umd.edu

• Data Validation:
  Masoud Hamedi at 301-405-2350 at masoud@umd.edu

• Vehicle Probe Project Suite:
  UMD CATT Lab at vpp-support@ritis.org
Wrap Up & Thank You

George Schoener
I-95 Corridor Coalition
Thank You