Vehicle Probe Project II

Agency Project Team Webcast
March 8, 2016
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 on the Coalition website.
## Agency Project Team Webcast Participants

<table>
<thead>
<tr>
<th>Agency</th>
<th>Representative</th>
</tr>
</thead>
<tbody>
<tr>
<td>Maryland SHA</td>
<td>Glenn McLaughlin</td>
</tr>
<tr>
<td>New Jersey DOT</td>
<td>Sudhir Joshi, Neha Galgali, Ira Levinton, Kitae Kim (NJIT), Branislav Dimitrijevic (NJIT)</td>
</tr>
<tr>
<td>North Carolina DOT</td>
<td>Kelly Wells, Mike Bruff</td>
</tr>
<tr>
<td>Pennsylvania DOT</td>
<td>Scott Benedict</td>
</tr>
<tr>
<td>South Carolina DOT</td>
<td>Dipak Patel, Paul Thebo</td>
</tr>
<tr>
<td>Virginia DOT</td>
<td>Scott Cowherd, Sanhita Lahiri, Greg Bilyeu, Mena Lockwood, Ralph Jones, Ram Venkatanarayana</td>
</tr>
<tr>
<td>BMC</td>
<td>Ed Stylc, Victor Henry</td>
</tr>
<tr>
<td>DVRPC</td>
<td>Jesse Buerk</td>
</tr>
<tr>
<td>MWCOG</td>
<td>Andrew Meese, Wenjing Pu</td>
</tr>
<tr>
<td>RRTPO</td>
<td>Greta Ryan</td>
</tr>
<tr>
<td>NJTPA</td>
<td>Keith Miller</td>
</tr>
<tr>
<td>SJTPO</td>
<td>Andrew Tracy, William Schiavi</td>
</tr>
<tr>
<td>FHWA</td>
<td>Rich Taylor</td>
</tr>
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</table>
Please confirm that your line is muted

*6

Thank you!
<table>
<thead>
<tr>
<th>Topic</th>
<th>Speaker</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 10:30am-10:40am Introductions &amp; Welcome</td>
<td>Marygrace Parker, I-95 Corridor Coalition</td>
</tr>
<tr>
<td>2 10:40am-10:45am VPP Contracting Issues</td>
<td>Kathy Frankle, University of Maryland (UMD)</td>
</tr>
<tr>
<td>• VPP Coverage &amp; VPPII Agreement Status</td>
<td></td>
</tr>
<tr>
<td>3 10:45am-11:05am VPP Technical Coordination Update</td>
<td>Masoud Hamedi, UMD CATT</td>
</tr>
<tr>
<td>• Validation</td>
<td></td>
</tr>
<tr>
<td>o Summary</td>
<td></td>
</tr>
<tr>
<td>o Presentation of Results for recent deployments in North Carolina &amp; South Carolina</td>
<td></td>
</tr>
<tr>
<td>o Update on proposed changes to the VPP validation processes</td>
<td></td>
</tr>
<tr>
<td>4 11:05am-11:15am VPP Suite Update</td>
<td>John Allen, UMD CATT Lab</td>
</tr>
<tr>
<td>5 11:15am-11:45am Updates by Agencies on use of VPP data</td>
<td>All Facilitated by Karen Jehanian, KMJ Consulting</td>
</tr>
<tr>
<td>For winter weather events &amp; Year-end Performance Measures</td>
<td></td>
</tr>
<tr>
<td>o Wenjing Pu</td>
<td></td>
</tr>
<tr>
<td>o Dipak Patel</td>
<td></td>
</tr>
<tr>
<td>6 11:45am-11:55am Other VPPII Activities</td>
<td>Karen Jehanian</td>
</tr>
<tr>
<td>• VPP Newsletter &amp; Website changes</td>
<td></td>
</tr>
<tr>
<td>• Upcoming meetings/events</td>
<td></td>
</tr>
<tr>
<td>7 11:55am-noon Wrap Up &amp; Thank You</td>
<td>Marygrace Parker</td>
</tr>
</tbody>
</table>
Welcome

Marygrace Parker
I-95 Corridor Coalition
VPP Data Use Agreements

Kathy Frankle
University of Maryland

• VPP Coverage Summary
• TomTom data in VPP Suite. Need signed DUA V9
# 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>Maryland</td>
<td>MdSHA, MDTA</td>
<td>All-in</td>
<td>ALL</td>
<td>✓</td>
<td>Under contract through August 30, 2016. 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 through June 30, 2016.</td>
</tr>
</tbody>
</table>
DUA Rev 9 Update/TomTom Data

• Signed DUAs needed from:
  – District DOT
  – Georgia DOT
• TomTom data will be included in VPP Suite by April 30, 2016
• An executed DUA Rev 9 is needed by all agencies once TomTom is incorporated into VPP Suite
• Agencies without an executed DUA Rev 9 will not be permitted to have access to the VPP Suite after April 30th
• Please contact Karen Swick (kswick@umd.edu) with questions.
VPP Technical Coordination Update

Masoud Hamedi, UMD CATT

- Schedule
- Presentation of Results
  - North Carolina (07) arterials
  - South Carolina (02) freeways
- Update on proposed changes to the VPP validation processes
# 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 published</td>
<td>Arterial</td>
</tr>
<tr>
<td>Nov-15</td>
<td>NC-07</td>
<td>Report to be posted 3/11/2016</td>
<td>Arterial</td>
</tr>
<tr>
<td>Dec-15</td>
<td>SC-02</td>
<td>Report to be posted 3/11/2016</td>
<td>Freeway</td>
</tr>
<tr>
<td>Feb-16</td>
<td>GA-02</td>
<td>Deployment complete</td>
<td>Arterial</td>
</tr>
<tr>
<td>Mar-16</td>
<td>PA-09</td>
<td>DOT contacted</td>
<td>Arterial</td>
</tr>
<tr>
<td>Mar-16</td>
<td>MD-10</td>
<td>DOT contacted</td>
<td>Arterial</td>
</tr>
<tr>
<td>Apr-16</td>
<td>VA-11</td>
<td></td>
<td>Arterial</td>
</tr>
<tr>
<td>May-16</td>
<td>NH-01 (tentative)</td>
<td></td>
<td>Freeway</td>
</tr>
</tbody>
</table>
NC07 deployment area

Charlotte Area - Arterials

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: 11/11/2015 – 11/25/2015

Number of lanes: 2-4 per direction
Average signal density: 1 signal per mile
Average AADT: 42,500
Speed limit: 45 MPH
Quality Control of the Ground-truth Data
Segment NC07-0030, opposite direction of NC07-0019

Bimodal Distribution in Bluetooth data
Segment NC07-0030, Gas station effect?
### Summary of Results – NC07 Arterials

<table>
<thead>
<tr>
<th></th>
<th>Speed Bin</th>
<th>State</th>
<th>CONFIDENCE BAND</th>
<th>MEAN</th>
<th>VENDOR 5 MIN COUNT</th>
<th>BLUETOOTH 5 MIN COUNT</th>
<th>AVAILABILITY</th>
<th>REAL TIME SHARE**</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>SEB &lt;5 MPH</td>
<td>AASE &lt;10 MPH</td>
<td>SEB &lt;5 MPH</td>
<td>AASE &lt;10 MPH</td>
<td></td>
<td></td>
</tr>
<tr>
<td>VENDOR 1</td>
<td>0-15</td>
<td>NC</td>
<td>4.7</td>
<td>4.7</td>
<td>6.8</td>
<td>6.8</td>
<td>1859</td>
<td>1862</td>
</tr>
<tr>
<td></td>
<td>15-25</td>
<td></td>
<td>2.1</td>
<td>2.1</td>
<td>4.3</td>
<td>4.6</td>
<td>4654</td>
<td>4460</td>
</tr>
<tr>
<td></td>
<td>25-35</td>
<td></td>
<td>0.7</td>
<td>1.1</td>
<td>2.1</td>
<td>3.2</td>
<td>7139</td>
<td>7156</td>
</tr>
<tr>
<td></td>
<td>&gt;35</td>
<td></td>
<td>-1.8</td>
<td>1.9</td>
<td>-3.5</td>
<td>4.2</td>
<td>17158</td>
<td>17181</td>
</tr>
<tr>
<td>VENDOR 2</td>
<td>0-15</td>
<td>NC</td>
<td>2.6</td>
<td>2.7</td>
<td>3.8</td>
<td>4.2</td>
<td>1857</td>
<td>1862</td>
</tr>
<tr>
<td></td>
<td>15-25</td>
<td></td>
<td>1.1</td>
<td>1.8</td>
<td>1.8</td>
<td>4.0</td>
<td>4653</td>
<td>4460</td>
</tr>
<tr>
<td></td>
<td>25-35</td>
<td></td>
<td>0.9</td>
<td>2.0</td>
<td>2.0</td>
<td>4.7</td>
<td>7152</td>
<td>7156</td>
</tr>
<tr>
<td></td>
<td>&gt;35</td>
<td></td>
<td>-1.8</td>
<td>2.3</td>
<td>-3.1</td>
<td>4.7</td>
<td>17169</td>
<td>17181</td>
</tr>
<tr>
<td>VENDOR 3</td>
<td>0-15</td>
<td>NC</td>
<td>5.4</td>
<td>5.4</td>
<td>7.4</td>
<td>7.5</td>
<td>1862</td>
<td>1862</td>
</tr>
<tr>
<td></td>
<td>15-25</td>
<td></td>
<td>4.5</td>
<td>4.5</td>
<td>7.6</td>
<td>7.8</td>
<td>4660</td>
<td>4460</td>
</tr>
<tr>
<td></td>
<td>25-35</td>
<td></td>
<td>3.6</td>
<td>3.8</td>
<td>6.9</td>
<td>7.5</td>
<td>7156</td>
<td>7156</td>
</tr>
<tr>
<td></td>
<td>&gt;35</td>
<td></td>
<td>-0.8</td>
<td>1.5</td>
<td>-1.2</td>
<td>3.8</td>
<td>17181</td>
<td>17181</td>
</tr>
</tbody>
</table>

* Availability = Vendor 5 minute data count / Bluetooth 5 minute data count

** Real-Time Share = Real-time vendor data count / Bluetooth 5 minute data count
Slowdown Analysis Explanation

- 24 hour plots for each vendor are investigated to identify slowdown cases where:
  - Speeds fall significantly (at least by 15 mph on arterials)
  - Slowdown continues for a significant amount of time (at least for one hour)

- Vendor’s performance is categorized as:
  - No data available
  - Completely captures ground-truth pattern
  - Partially captures
  - Fails to capture
Slowdown Analysis– NC07
Fully captured by all vendors
Slowdown Analysis– NC07

Fully captured by two vendors, partially captured by one
Slowdown Analysis– NC07
Failed to capture by all three vendors
# Summary of Slowdown Analysis— NC07 Arterials

<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>52%</td>
<td>29%</td>
<td>19%</td>
<td>0%</td>
<td>101</td>
</tr>
<tr>
<td>VENDOR 2</td>
<td>84%</td>
<td>15%</td>
<td>1%</td>
<td>0%</td>
<td>101</td>
</tr>
<tr>
<td>VENDOR 3</td>
<td>49%</td>
<td>40%</td>
<td>12%</td>
<td>0%</td>
<td>101</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.
SC02 deployment area
Columbia & Greenville – Freeways

Start and end date: 12/02/2015-12/15/2015

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

Number of lanes: 3 per direction
Average AADT: 37,550
Speed limit: 55 MPH

I-26 North West of Columbia
from Bush River Rd/Exit 108 to Harbinson Blvd
# Summary of Results – SC02 Freeway

<table>
<thead>
<tr>
<th>State</th>
<th>Speed Bin</th>
<th>CONFIDENCE BAND</th>
<th>MEAN</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>SEB &lt;5 MPH</td>
<td>AASE &lt;10 MPH</td>
</tr>
<tr>
<td>VENDOR 1</td>
<td>SC</td>
<td>0-30</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30-45</td>
<td>1.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45-60</td>
<td>1.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;60</td>
<td>2.6</td>
</tr>
<tr>
<td>VENDOR 2</td>
<td>SC</td>
<td>0-30</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30-45</td>
<td>4.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45-60</td>
<td>2.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;60</td>
<td>2.0</td>
</tr>
<tr>
<td>VENDOR 3</td>
<td>SC</td>
<td>0-30</td>
<td>3.4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>30-45</td>
<td>3.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>45-60</td>
<td>0.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>&gt;60</td>
<td>4.0</td>
</tr>
</tbody>
</table>

* Availability = Vendor 5 minute data count / Bluetooth 5 minute data count

** Real-Time Share = Real-time vendor data count / Bluetooth 5 minute data count
GA02 deployment area

*Atlanta – Arterials*

GA-141: from GA-140 to GA-120
US-19 (GA-9): from I-285 to GA-140
US-41: from I-285 to GA-120

Start and end date: 2/3/2016 – 2/18/2016
Proposed Changes to Validation Process for Arterials

- Making the **slowdown analysis** part of the standard report on arterials (not as a separate memo)

- Plan to report performance measures for **Real-time data separately & Data availability measures** (percentage of time that vendor data has been available for each speed bin)
  - May not be needed based upon the data quality of the NC-07 and SC-02 validations
  - Will continue to monitor these measures and provide the information during the vendor coordination webcasts.

- **Latency** measurement
Data Latency

Timeline

- **T1** Field data recorded
- **T2** Field data received
- **T3** Probe data generated
- **T4** Probe data is made available
- **T5** Probe data received by user

Delay caused by the telecommunication medium
Delay dictated by the processing time of the data fusion algorithms
Delay caused by the internal processes to generate the real-time feed
Latency due to query time, internet speed, etc.
Latency Measurement

- Only for peak hour or congestion times
- Data smoothing may be required
- Shift vendor data horizontally in one minute increments, calculate average absolute vertical distance between Bluetooth and vendor data points
- The time offset that results in the best fit between the two curves, is the latency
- Calculate statistical distribution of the latency based on all cases across all the segments
VPP Suite Update

Michael L. Pack & John Allen,
UMD CATT Lab

• Probe Data Analytics Forum
• Suite Features Deployment
• Deployment Status Table
• VPP Suite Focus Group
 Probe Data Analytics Forum Update

**Agency Use Cases**

- 6 Use Cases now posted (since 10.12.2015)
- New! Papal Visit Impacts in the DC Region (MWCOG)
- 1,752 total views to date

**VPP Suite Tutorials**

- 1 Post for using the Multi-road Congestion Scan
- Step-by-step Instructions (query + results pages)
- Example Use Case Included

**Tech Discussion**

- 1 Scenario posted asking how to combine the impacts of overlapping bottlenecks (for Quarterly Congestion Analysis Reports)
- An in-depth reply posted to how the upcoming algorithm will handle this + guidance for using the current tool (if time is a constraint)

**Benefits**

Gain insight on effective use of Suite tools!

Learn how to use new features quickly & easily!

Leverage discussions on specific issues to help your own reporting!

[Probe Data Analytics Forum](http://i95coalition.org/forum/) Use cases, tutorials, discussions and all things VPP Suite

March 8, 2016

www.I95Coalition.org
Suite Deploy Update

Recent Deploys

- Massive Data Downloader Performance Improvements
  - Data export speeds increased by a factor of four
- NPMRDS data for January 2016 now available
- Partial Road selection bug fixed

Backend Framework

- Will substantially improve tool performance
- Internal testing for NC for all Suite tools (except Bottleneck Ranking)
- Q2 deploy to the Coalition

Bottleneck Ranking

- Better, deeper insights into bottleneck dynamics
- New set of graphics and analytics
- Deploy internally in a month (for testing); Roll-out (two months)
- A “tutorial” webinar will be held at the next User Group meeting (04.21.16)

Some Other Deploys

- DelDOT incident & detector data (Mar./Apr. 2016)
- Advanced Time Selection (Q3 2016)
  - Query Date Range Summary (ATS) (Q3 2016)
- ATS must follow Raptor release

Vehicle Probe Project Suite

https://vpp.ritis.org/suite/
Deployment Status Table

“In the Works”

- Working w/developers to better track progress of deploys
- Grouped by category:
  - Recent Deploys
  - Scheduled for Deployment
  - New Features
  - Improved Functions
  - Considering others
- Recent Deploys will be used to populate another table, “YTD Accomplishments”
- To be distributed quarterly to the User Group

<table>
<thead>
<tr>
<th>Category</th>
<th>Tool(s)</th>
<th>Description</th>
<th>Deployment Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Recent Deploys</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Partial Road radio button affects TMC segment selection</td>
<td>🍇 Bug Fix that corrects some segments disappearing from either end of the selected road after clicking the partial road radio button.</td>
<td>Deployed 03.03.2016</td>
<td></td>
</tr>
<tr>
<td>Faster Data Downloads</td>
<td></td>
<td>🍇 An Improvement in Massivse Data Downloader that achieves 0-5x faster data exports.</td>
<td>Deployed 02.08.2016</td>
</tr>
<tr>
<td>Multi-Road Congestion Scan</td>
<td></td>
<td>🍇 A New Feature In Congestion Scan that allows you to stitch together multiple roads to define travel routes and corridors for more comprehensive analyses.</td>
<td>Deployed 11.30.2015</td>
</tr>
<tr>
<td>Download by Quality</td>
<td></td>
<td>🍇 A New Feature In Massive Data Downloader that allows you to choose to filter out data that does not match your agency’s criteria for quality (can also significantly reduce the size of a data export).</td>
<td>Deployed 10.15.2015</td>
</tr>
</tbody>
</table>

**Scheduled for Deployment**

<table>
<thead>
<tr>
<th>Category</th>
<th>Tool(s)</th>
<th>Description</th>
<th>Deployment Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>MAP-21 widgets</td>
<td></td>
<td>🍇 Dashboard-style widgets that make it easy to produce MAP-21 systems performance reports. Results are displayed on interactive maps and graphs. They display actual performance compared to state, MPO, and/or federal targets.</td>
<td>Pending release of NPMF/Final Rule</td>
</tr>
<tr>
<td>Advanced time selection &amp; Filtering</td>
<td></td>
<td>🍇 Allows users to perform advanced time-based filtering for all reports including things like excluding outlier dates (weather events, holidays, sporting events, etc.), aggregating non-consecutive data ranges (the last four Thanksgivings), etc. Want a year’s worth of data but not Thursdays at 3 PM? This will allow you to do that.</td>
<td>Late Q3/Early Q4 (must follow-Raptor release)</td>
</tr>
<tr>
<td>Query Date Range Summary</td>
<td></td>
<td>🍇 Enhance all summary reports so that it is more clear as to which dates, read filters, and other query parameters were selected by the user.</td>
<td>Late Q3/Early Q4 (must follow-Raptor release)</td>
</tr>
<tr>
<td>Bottleneck Algorithm/Ranking Tool</td>
<td></td>
<td>🍇 An updated algorithm and additional graphing features will significantly improve the usability of the Bottleneck Ranking tool.</td>
<td>2nd Q 2016</td>
</tr>
<tr>
<td>Embedded Dashboards</td>
<td></td>
<td>🍇 Allows users to embed (publish) the dashboards they have created in the VPP Suite on other web sites (like agency websites, for press releases, etc.). This feature exists for the trend maps today.</td>
<td>3rd Q 2016</td>
</tr>
<tr>
<td>TomTom data</td>
<td></td>
<td>🍇 TomTom data will be integrated into the Suite in the same way that HERE, INRIX, and the NPMFDS</td>
<td></td>
</tr>
</tbody>
</table>

9 enhancements scheduled for deploy; 25 need prioritization
VPP Suite Focus Group Update

Focus Group Goal

› To develop performance report templates for use with Suite summaries and visualizations that “tells the story” to target audiences on the issues and matters that concern them.

Kick-off Meeting

› Held 01.19.2016 to discuss:
  – Guidance
  – Logistics
  – User Group Interaction
  – Deliverables

Vehicle Probe Project Suite
Performance Summary Report Templates Focus Group

Next Meeting – 03.15.2016

Action Items

› Leverage “off-the-shelf” guidance (e.g.; FHWA Performance Reporting Prototype Report)
› Consider NCDOT’s Annual Performance Analysis Report as a “real-world” example
› Coordinate with the Partners in Using Archived Operations Data

Considerations

› Audiences
  – For practitioners
  – For the public
› Focus Areas
  – “Big Picture” (State/Region-wide)
  – Corridor
  – Before & After (Project Evaluation)
› Include “How-to” guidance
Updates by Agencies

All

Facilitated by Karen Jehanian, KMJ Consulting (I-95 Corridor Coalition support)
Use of VPP data
VPP Real-time Data for Winter Weather Events
VPP Suite Data for Year-end Performance Measures

Questions
1. What information did you provide?
2. Did you receive any feedback on the information that you provided?
3. What lessons learned would you like to share
4. For winter weather events, did you provide this information – on your website, mobile app, press release?
5. For Year-end Performance Measures,
   a. What were the measures that you used?
   b. To whom did you present this information?
VPP SUITE DATA FOR YEAR-END PERFORMANCE MEASURES AND SNOW IMPACT ANALYSIS

Update from MWCOG/NCRTPB

Wenjing Pu, PE, PhD
Senior Transportation Engineer
wpu@mwcog.org

I-95 CC – VPP Agency Project Team Webcast
March 8, 2016
Travel Time Index 2010-2015 (Draft)

- Peak period congestion in the Washington region experienced a flattened “U” shape from 2010-2014 with 2012 being the least congested year and 2010 the most congested.

- 2015 congestion was (1%) slightly less than that of 2014, 4% less than 2010, but 3% higher than 2012.
Other Measures

- In progress
  - Planning Time Index, 2010-2015
  - Congestion monthly variations, 2015
  - Congestion time of day, day of week variations, 2015
- Waiting for VPP Suite upgrade for
  - Top 20 bottlenecks in 2015
  - Congestion maps for major highways
- Adjustments based on anticipated MAP-21 rulemaking
Impacts of Jan. 2016 Snow Events

• Draft technical memorandum completed to support after-action reviews for decision makers

• To be published with a TPB Weekly Report at: www.mwcog.org/transportation/weeklyreport

• To be highlighted in the National Capital Region Congestion Report for 2016Q1 at: www.mwcog.org/congestion

Source: Taran L. Hutchinson using the Trend Maps tool.
Update from
Dipak Patel, SCDOT
Other Updates?
POLL: Use of Real-time VPP data

- Vendor Monitoring Site
- Integrate probe data directly into travel information website map
- Incident management
- Travel times on message signs
- Travel times on websites
- Travel times on 511 IVR
- Welcome center/mall displays
- Speed enforcement zones
- Other
Other VPII Activities

Karen Jehanian, KMJ Consulting

• VPP Newsletter & Website changes
• Upcoming meetings/events
VPP Newsletter

- Sent 2/25/2016
- Highlights the findings of the TMC code report & provides a link
- Provides info on upcoming meetings & links you to on-line meeting registration
- All VPP (and TISPTC) newsletters are available on the Coalition website
VPP Newsletters on the Coalition website

Vehicle Probe Project

The I-95 Corridor Coalition’s Vehicle Probe Project (VPP) began in 2008 with the primary goal to provide Coalition members with the ability to accurately calculate travel time & speed data for their roadways without the need for sensors and other hardware. The VPP surpassed the original expectations and also provided real-time, historical tools for operations and planning. The VPP is moving forward again as a “traffic probe data marketplace”. Three highly qualified vendors (HERE, INRIX and TomTom) were selected by a team of agency members to provide data under the new contract. This structure gives agencies the opportunity to select the vendor that best suits their individual needs at a cost that was negotiated for the Coalition. As part of this new contract, the data is still subject to agency validation for re-use. In addition, all data, regardless of vendor, is available to each of the participating agencies providing a truly shared effort.

Quick Links: Project One-Pager, Quick Start Sheet, VPP Data, VPP Suite

VPP Weekly Newsletter – February 2016
VPP VPP Suite Newsletter – December 2015
VPP VPP Suite Newsletter – October 2015

Vehicle Probe Project Suite

The Vehicle Probe Project Suite tools allow agencies to support operations, undertake planning activities, perform analysis and research activities, and develop performance measurement reports with lightning speed. The suite enables the use of I95 probe data and SMS, INRIX, TomTom, and other VPP tools with standardized formats to create "Big Data" analysis platforms. You gain access to a collection of data classification and retrieval tools. Two web-based tools allow users to download reports; metrics data on maps is in other visualization graphics, and download raw data for all the variables.

Common uses of the probe data suite include:
- Developing regional transportation information systems (RTIS)
- Developing regional transportation analysis tools
- Producing maps and other visualization graphics
- Developing and publishing press releases for public and media organizations
- Measuring the economic and socio-demographic impacts of transportation and commercial vehicle travel delays

The VPP Suite User Group is formed to facilitate Suite use and improve features and functionality. The user group is composed of state and county transportation, including and recently including the VPP Suite in their performance measures, and the “power users” of the tools. The group’s goal is to work collaboratively with the developers to identify and support the use of the Suite by addressing both user and vendor needs.

For additional information on the VPP Suite, please contact Michael L. Pau at Mlauk@i95coalition.org.

Quick Links: Quick Start Sheet, VPP Suite Tutorial, VPP Suite Log-In, Probe Data Analytics Forum

VPP Suite User Group Webcast
April 21 (9:30 am - 12:00 pm) Leslie: 9604, ATC2

Upcoming Meetings

VPP Agency Project Team Webcast
March 8 (9:30 am - 12:00 pm)
Location: Webcast

www.I95Coalition.org

I-95 Corridor Coalition Vehicle Probe Project

March 8, 2016
Save the Date

VPP Agency Project Team

Wednesday, June 8, 2016
(10:30am – noon)
## VPP & Other Events/Activities

<table>
<thead>
<tr>
<th>Coalition Activities/Presentations/Meetings</th>
<th>Date</th>
<th>Location</th>
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<tbody>
<tr>
<td>VPP Suite User Group Webcast</td>
<td>Apr 21</td>
<td>Webcast</td>
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<tr>
<td>ITE Mid-Colonial District Annual Meeting</td>
<td>Apr 17-19</td>
<td>Wilmington, DE</td>
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<tr>
<td>I-95 CC - TISPTC Meeting</td>
<td>Apr 26</td>
<td>DVRPC, Phila., PA</td>
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<td>NATMEC 2016</td>
<td>May 1-4</td>
<td>Miami, Fl</td>
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<td>2016 AASHTO Spring Meeting</td>
<td>May 24-26</td>
<td>Des Moines, Iowa</td>
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<td>2016 NASTO Conference</td>
<td>Jun 5-7</td>
<td>Quebec City, Quebec</td>
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<tr>
<td>VPP Agency Project Team</td>
<td>Jun 8</td>
<td>Webcast</td>
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<tr>
<td>ITS America 2016</td>
<td>Jun 12-15</td>
<td>San Jose, CA</td>
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<tr>
<td>I-95 CC Connected and Automated Vehicles:</td>
<td>Jun 21-22</td>
<td>Maritime Institute, Linthicum, MD</td>
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<tr>
<td>What Public Agencies Need to Know Conference</td>
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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:**
  John Allen at 215-666-3057 or jallen35@umd.edu
  or UMD CATT Lab at vpp-support@rtis.org

• **Logistics:**
  Joanna Reagle at 610-228-0760 or ireagle@kmjinc.com
Wrap Up & Thank You

Marygrace Parker
I-95 Corridor Coalition