

Vehicle Probe Project Web Conference



Status Update

February 23, 2011



Call Courtesies

- Please give your name and agency before asking your question (at least the first time)
- 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 may be heard by the group
- Please press *0 to speak to an operator for questions regarding audio
- Please call 610-662-5569 for difficulties with the web application

Agenda

Topic		Speaker
1	Introductions and Welcome	Bill Stoeckert
2	Review of Action Items from previous webcasts	Karen Jehanian
3	Communications Update	Karen Jehanian
4	INRIX Update	Rick Schuman
5	Data Validation	Stan Young
6	Contract Issues and Year 19 Update	Kathy Frankle
7	Long Distance Trip Planner	Karen Jehanian
8	Agency Questions and Updates	All
9	Participation in Meetings/Conferences	Karen Jehanian
10	Review of Action Items from this call	Karen Jehanian
11	Selection of Date for Next Webcast	All

Introductions and Welcome

Bill Stoeckert
I-95 Corridor Coalition

Review of Action Items from previous webcasts

Karen Jehanian

Review of Action Items

from previous VP Webcasts

#	Responsible Party	Action Items	Due Date	Status
January 20, 2011 – VP Project Team Webcast				
1	Stan Young/ Jim Hadden	Ramps will be included in the next NJ validation The locations will be discussed and jointly agreed upon.	22feb11	ongoing
2	Stan Young/ Hugh Colton	Discuss the opportunity to conduct validation on arterials in Georgia where other more expensive types of validation are currently being considered.	22feb11	Data on arterials is not available
3	Kathy Frankle/Rick Schuman	Provide Andy Meese with specific cost information for the purchase of Vehicle Probe Project data.	22feb11	Complete
4	Rick Schuman	Prepare a general summary of costs for the Vehicle Probe Project data based on the INRIX contract expansion (which includes Year 19).	22feb11	In progress
5	Management Team	Notify agencies as soon as possible (at least one month prior) regarding future of the Long Distance Trip Planner (LDTP).	23feb11	Status of trip planner in discussion
6	Agencies without link to LDTP	Any agency who has not already done so, please add a direct link to the I-95 Corridor Coalition's Long Distance Trip Planning Website www.i95travelinfo.net from their 511 websites.	22feb11	
7	Kathy Frankle	Provide update on status of Pooled Fund Study at the VPP Team webcasts.	22feb11	Ongoing

Communications Update

Karen Jehanian

- Coalition Website Postings/
Correspondence
- Meetings with Agencies

Project Team Correspondence

Coalition Website Postings		
DOCUMENT	DATE POSTED	LOCATION ON WEBSITE
Validation of INRIX Data – Monthly Report – Virginia (dated Nov 2010)	Jan 24, 2011	On the Highlights page under “Data Validation”
Updated Data Use Agreements (with UMD and with INRIX)	Jan 31, 2011	On the Highlights page under “Contract Documents”
Validation of INRIX Data – Monthly Report – Delaware (dated Dec 2010)	Jan 31, 2011	On the Highlights page under “Data Validation”
January 20, 2011 VP Team Webcast – Presentation and Meeting Minutes	Feb 4, 2011	On the Highlights page under “Project Presentations”
Updates to agency 511 information	Feb 16, 2011	On the Coalition website, on the 511 Information page
TISPTC Meeting/Webcast information – March 9, 2011	Feb 17, 2011	On the Coalition website, on the TISPTC page & calendar
Transportation Camp East Information – March 5 & 6, 2011	Feb 17, 2011	On the Coalition website, on the TISPTC page & calendar

Project Team Correspondence

Correspondence Sent to the VPP Team		
DOCUMENT	DATE SENT	METHOD
Session of Interest at TRB on the Use of Private Sector Data	Jan 21, 2011	Via email
Validation of INRIX Data – Monthly Report – Virginia (dated Nov 2010)	Jan 25, 2011	Via email
Validation of INRIX Data – Monthly Report – Delaware (dated Dec 2010)	Feb 1, 2011	Via email
January 20, 2011 VP Team Webcast – Presentation and Meeting Minutes	Feb 4, 2011	Via email
Announcement regarding TISPTC Meeting/Webcast information – Mar 9, 2011	Feb 10 & 15, 2011	Via email
Announcement regarding Transportation Camp East Information – Mar 5 & 6, 2011	Feb 15, 2011	Via email

VP System Integration Meetings

State	2009 Meetings/ Webcasts	2010 Meetings/ Webcasts	2011 Meetings/ Webcasts
Delaware	Nov. 9, 2009		
Florida			
Georgia		Held on April 19, 2010	
Maryland	Sept. 29, 2009		
New Jersey	May 11, 2009		
North Carolina	July 2, 2009		
Pennsylvania		Held on April 1, 2010	
South Carolina	Nov. 18, 2009		
Virginia		Held on Aug. 30, 2010	

INRIX Update

Rick Schuman

- Project Statistics
- Other Topics
 - Map Update Status
 - Archive Issue and Response

Project Statistics

- Availability
 - 100% in January
 - 99% contract requirement
 - 99.88% in 2009; 99.94% in 2010
 - February Issues
 - Failed power distribution unit at datacenter caused both (now fixed)
 - Thursday, 2/4/11 – 1 hour 38 minutes
 - Tuesday, 2/9/11 – 1 hour 21 minutes
 - Will impact February availability statistics (~0.5%)
- Users (as of 2/10/11)
 - Monitoring Site – 419
 - Data Feed – 40
 - Archive requests – 506 since launch

Map Update Status

- Update Date April 4, 2011
 - Map: From Sept 2009 to Sept 2010
 - TMC: From version 3.6 to version 3.7
- VPP impact analysis completed
 - TMC “Add/Trim” list completed
- INRIX notifying feed users this week
 - Schedule and impact

Archive Issue and Response

- From 12/6/10 to 1/21/11, archive did not include real-time data
- Fixed and populated and now running fine
 - Those who made requests in the period were informed
- Working with UMD to provide “backup” DVD to populate UMD PM tools
 - Fill-in previous gaps and when UMD can’t access real-time feed

Data Validation Update

Stan Young
University of Maryland

- Status and Schedule
- Delaware Freeway Results – November 2010
 - Freeway Summary
 - Historical Data Analysis
- Other Ongoing Efforts

Data Validation Status

Month and Year	State	Ground Truth Data Collection [By mid-month]	Data Processed and Preliminary Results Ready for Review [By end of Month]	[+ 2 weeks]		State Review & Briefing [+ 2 weeks]	Publish [+ 2 weeks]
				UMD Review	INRIX Review		
Oct-10	MD	<i>Oct 8 - Oct 18, 2010</i>	<i>19-Nov-10</i>	<i>26-Nov-10</i>	<i>26-Nov-10</i>	<i>28-Nov-10</i>	<i>30-Nov-10</i>
Nov-10	DE	<i>Nov 3 - Nov 17, 2010</i>	<i>14-Dec-10</i>	<i>23-Dec-10</i>	<i>23-Dec-10</i>	<i>14-Jan-11</i>	<i>28-Jan-11</i>
Dec - Jan	-	-	-	-	-	-	-
Feb-11	SC	<i>Feb 1 - Feb 15, 2011</i>	1-Mar-11	15-Mar-11	15-Mar-11	31-Mar-11	14-Apr-11
Mar-11	NC	3/1/2011	1-Apr-11	15-Apr-11	15-Apr-11	1-May-11	15-May-11
Apr-11	NJ	4/1/2011	1-May-11	15-May-11	15-May-11	31-May-11	14-Jun-11
May-11	NJ	5/1/2011	1-Jun-11	15-Jun-11	15-Jun-11	1-Jul-11	15-Jul-11
Jun-11	PA	6/1/2011	1-Jul-11	15-Jul-11	15-Jul-11	31-Jul-11	14-Aug-11

- DE – Nov 2010, Highlights presented, report published
- SC – Sensors recently collected
- NC – Deploy late Feb/Mar 2011
- NJ – Targeting Mar/April/May 2011, concentrate on ramps

Delaware Validation - Nov 2010

Freeways –

9 paths, 9 TMCs

14.4 miles

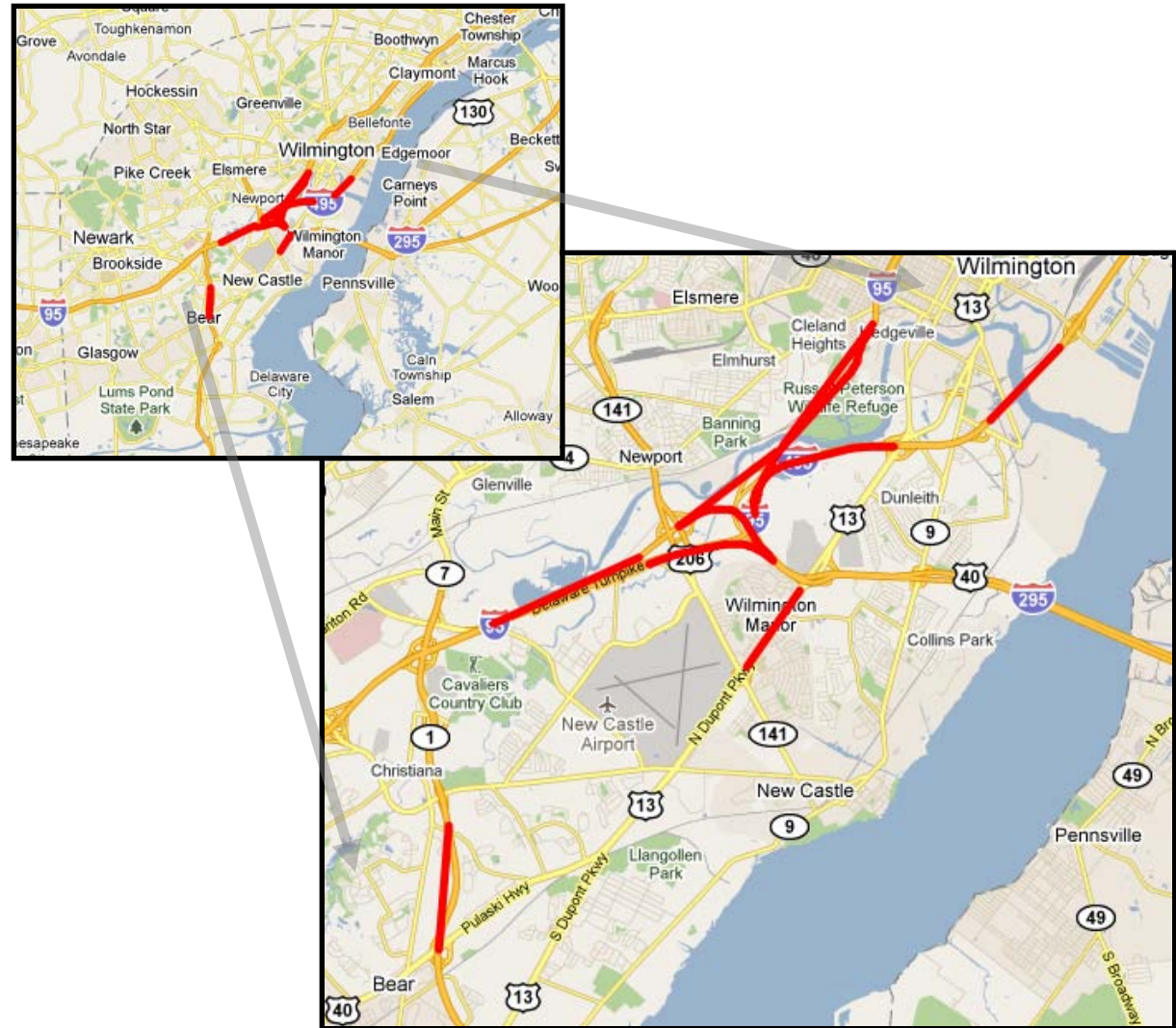
1520 hours of data

81 hrs of congestion

Arterials –

1 paths, 1 TMCs

1.0 miles



Delaware Validation

November 2010

- Freeway Summary
 - 9 Freeway segments on I95, I295, I495, & Route 1 in Northern DE
 - Nov 3, 2010 through Nov 17, 2010
 - 14.4 miles of Freeway validation
 - **37.9 hours < 30 MPH**
 - **43.7 hours 30- 45 MPH**
 - AASE in lower two bands
 - **3.9 / 6.2** (10 MPH is spec)

Delaware Validation Chart

November 2010

DE Evaluation Summary						
Speed Bin	Absolute Speed Error (<10mph)		Speed Error Bias (<5mph)		Number of 5 Minute Samples	Hours of Data Collection
	Comparison with SEM Band	Comparison with Mean	Comparison with SEM Band	Comparison with Mean		
0-30 MPH	3.90	5.30	3.00	3.70	455	37.9
30-45 MPH	6.20	8.30	4.30	5.70	524	43.7
45-60 MPH	1.60	3.40	0.60	1.40	5262	438.5
> 60 MPH	2.00	4.50	-1.80	-3.70	12014	1001.2
All Speeds	2.05	4.31	-0.81	-1.78	18255	1521.3

Based upon data collected from November 3, 2010 through November 17, 2010 across 14.4 miles of roadway.

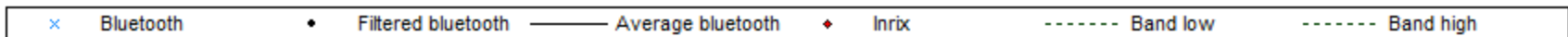
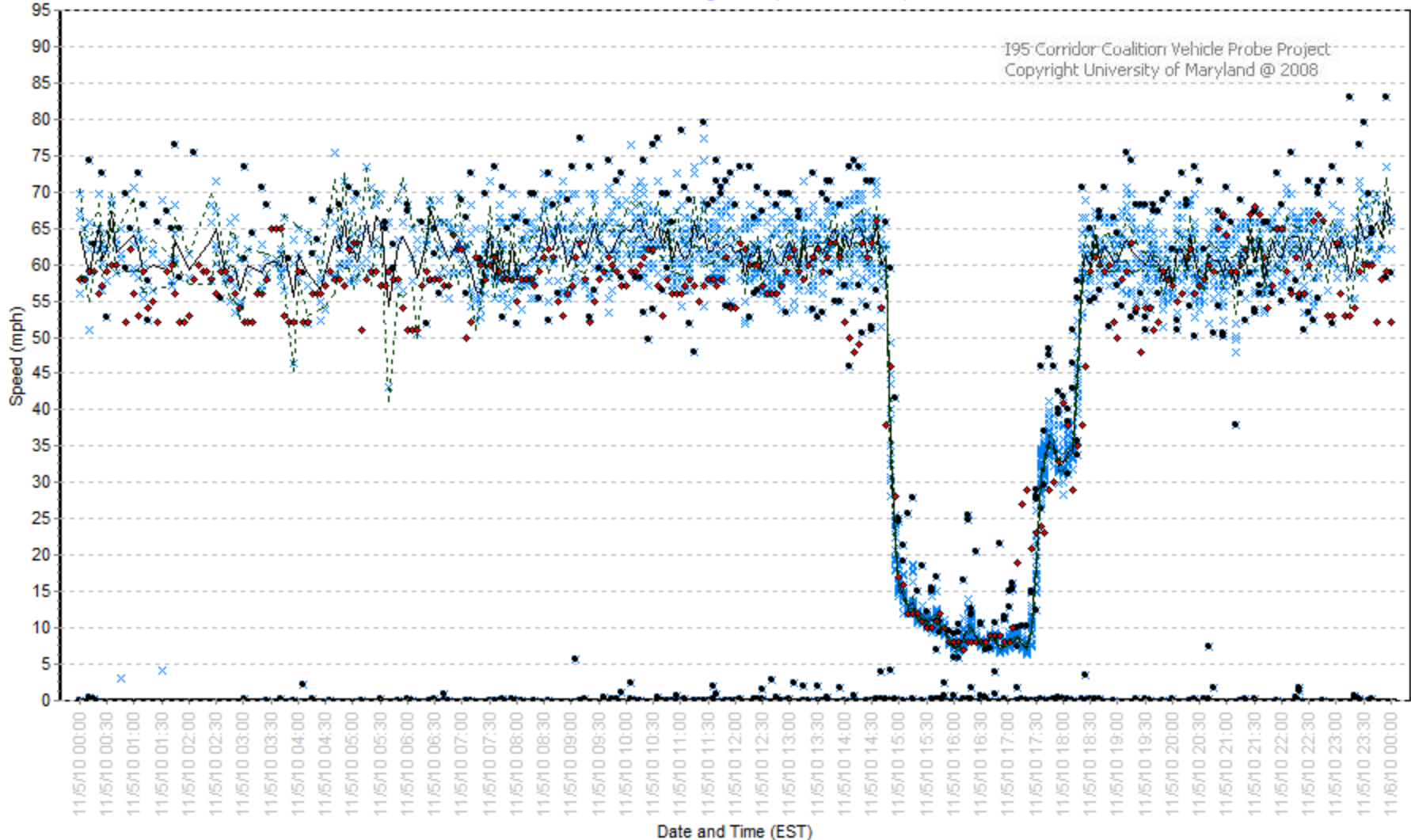
- Well within specifications
- Solid data collection, and validation results

Sample Freeway Data

DE – Nov 5, 2010 on I295 Northbound at I95

TMC:103P04181

I-295 NORTHBOUND ending at I-95 (1.5373436 miles)

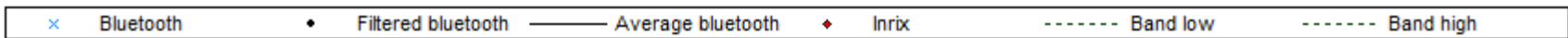
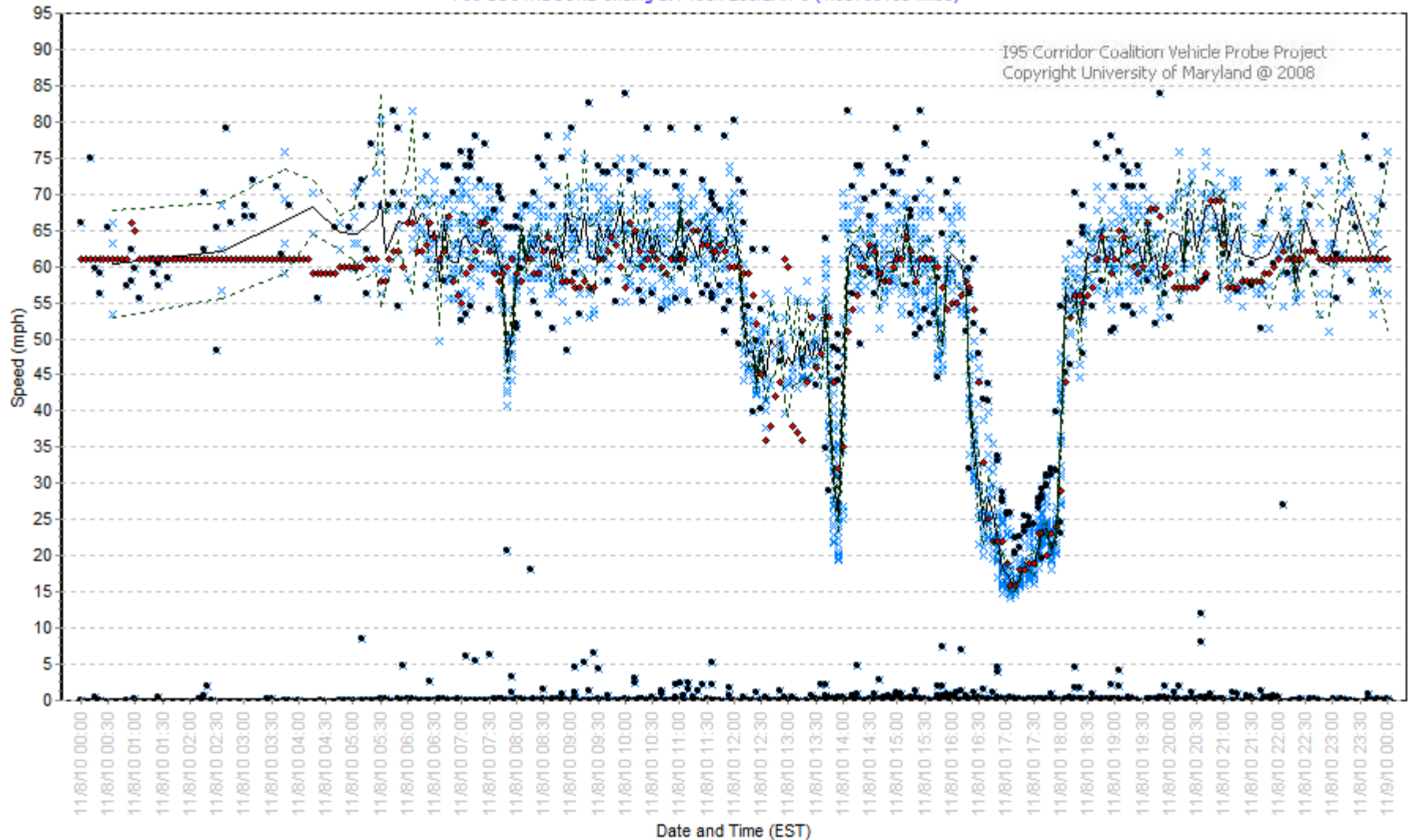


Sample Freeway Data

DE - Nov 8, 2010 on I-95 SB at I-495/I-295/Exit 5

TMC:103-04106

I-95 SOUTHBOUND ending at I-495/I-295/EXIT 5 (1.66796188 miles)



Delaware Cumulative

Delaware - Cumulative to Date						
Speed Bin	Absolute Speed Error		Speed Error Bias		Number of 5 Minute Samples	Hours of Data Collection
	Comparison with SEM Band	Comparison with Mean	Comparison with SEM Band	Comparison with Mean		
0-30 MPH	5.33	6.99	3.49	4.31	1366	113.8
30-45 MPH	4.91	7.38	2.16	3.47	2215	184.6
45-60 MPH	1.87	4.01	-0.26	-0.26	17014	1417.8
> 60 MPH	2.41	5.01	-2.23	-4.31	37263	3105.3
All Speeds	2.41	4.85	-1.35	-2.62	57858	4821.5

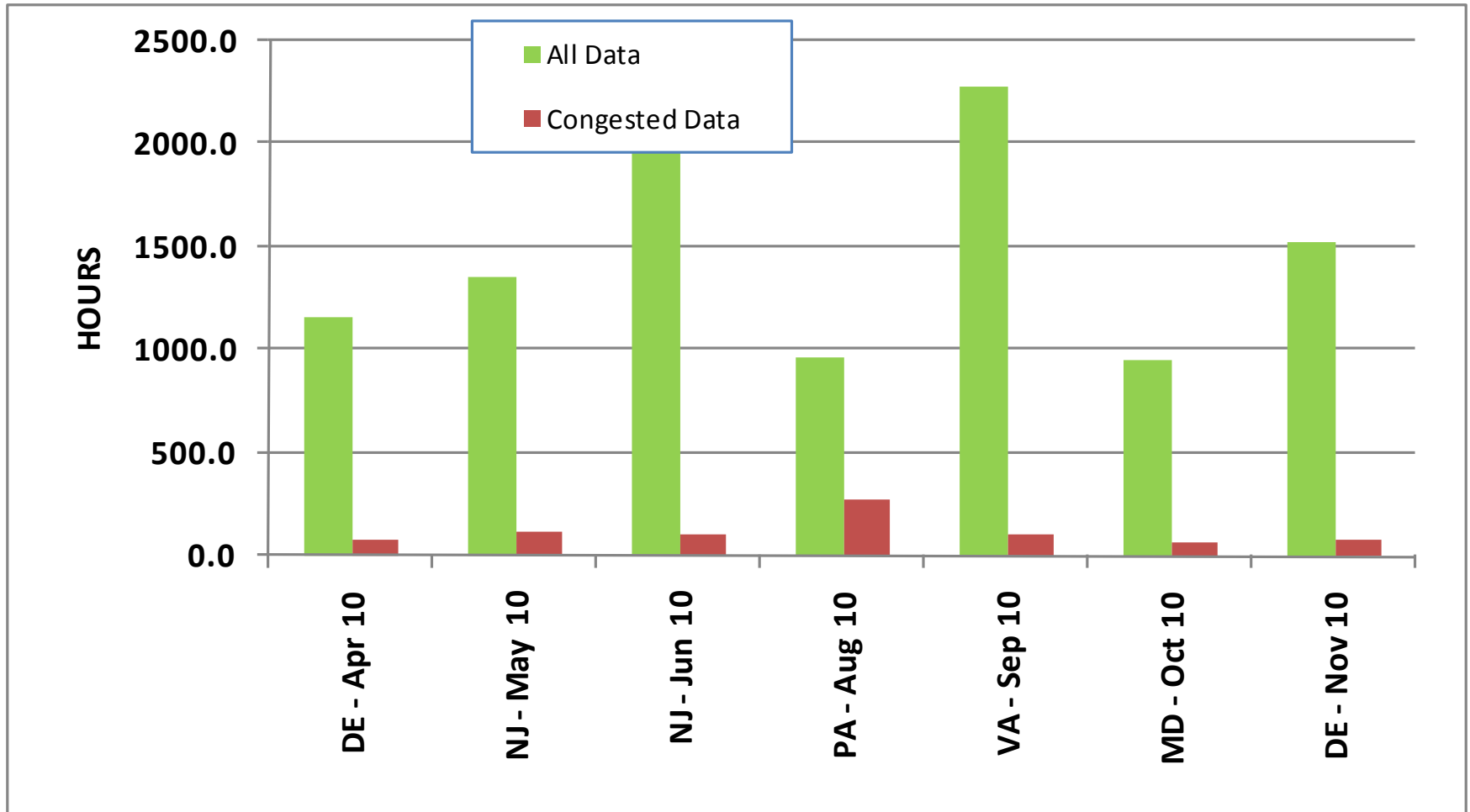
- Five Validations
 - Initial 08, Feb 09, Aug 09, Apr 10, Nov 10
- 57 miles, > 298 hrs of congestion
- **AASE of 5.33 / 4.91 in lower speed bins**

Payment Calculation – Dec 2010

CORE COVERAGE QUALITY							
State	Absolute Speed Error		Speed Error Bias		Hours of Data Collection	# Data Points	
	Comparison with SEM Band	Comparison with Mean	Comparison with SEM Band	Comparison with Mean			
AGGREGATE QUALITY CALCULATION							
	0-30 MPH	3.76	5.10	2.51	3.16	114.0	1368.0
	30-45 MPH	4.74	7.87	2.64	4.95	141.3	1695.0
	45-60 MPH	2.09	4.29	1.01	2.34	790.3	9483.0
	> 60 MPH	1.87	4.15	-1.56	-3.03	3707.9	44495.0
	All Speeds	2.04	4.30	-0.91	-1.75	4753.4	57041.0

- December 2010, includes DE, MD, and VA
- 100% Payment
 - Offset credit earned, 2.5%
 - NJ and NC expansion, 100% Payment

State Comparison Hours of Validation Data



DELAWARE HISTORICAL DATA ANALYSIS

Performance of Historical Data

- Does the validation distinguish between Historical and Live data?
- What value is there in Historical Data?

Historical Data Performance

- Delaware Real-Time Freeway Data vs. Historical, Reference and 55 MPH

SPEED BIN	Comparison of AASE Performance against SEM Band				
	All Freeway Data - 24 Hours a Day*				
	Real-Time Data	Historical Speed	Reference Speed	55 MPH**	Hours
0-30	3.9	18.5	37.2	32.7	37.9
30-45	6.2	8.4	18.2	14.3	43.7
45-60	1.6	3.1	2.0	1.0	438.5
60+	2.0	3.7	2.3	7.8	1001.2
ALL	2.1	4.0	3.6	6.8	1521.3

* Data taken from Nov 2010 VPP validation ** Only daytime data

Conclusions

- Looking at lowest speed bin –
Real-time (3.9) Historical (18.5) Reference (37.2)
- **Speed bins are critical!**
 - **Everything meets spec in ‘ALL’ category**
- Performance of Historical Data measures
Recurring vs. Non-recurring congestion

Other Ongoing Efforts

- Volume Analysis
- Delaware Arterial Validation
 - More in depth analysis
- Score analysis and filtering
- C-Value analysis and filtering

Contract Issues and Year 19 Update

Kathy Frankle

- DUA and Expansion Status
- Year 19 VPP Commitment Status
- Other Issues

DUA Status

Core States	
Delaware DOT	9-May-2008
Maryland SHA	12-Jun-2008
North Carolina DOT	15-Aug-2008
New Jersey DOT	19-Jun-2008
Pennsylvania DOT	----
Virginia DOT	26-Jun-2008

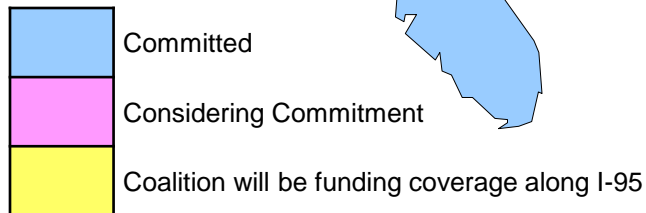
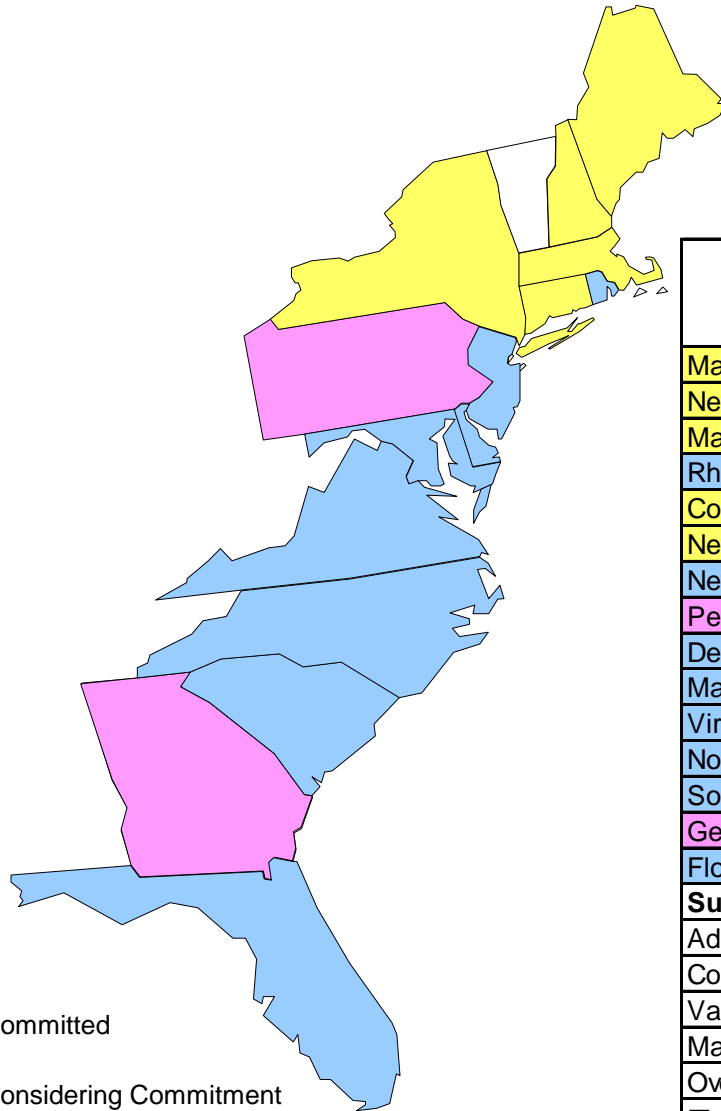
Other Coalition Members	
Baltimore MPO	17-May-2010
Delaware Valley Reg. Planning Comm.	22-Jul-2010
District of Col	22-Oct-2009
FHWA	3-Sep-2008
Florida DOT	7-Jun-2010
Georgia DOT	Inquired
MdTA	12-Dec-2008

Other Coalition Members (continued)	
MTA Bridges	23-Jul-2008
MWCOG	08-Jun-2009
New Hampshire DOT	03-Feb-2010
New Jersey Transit	In Process
North Jersey TPA	Inquired
NJ Turnpike	12-Jan-2009
NY State DOT	25-May-2008
Philadelphia Police	15-Jul-2010
Port Authority NJ/NY	22-Oct-2009
PRTC	26-Nov-2008
Rhode Island DOT	08-Feb-2011
Richmond, VA MPO	21-Sep-2010
Rutgers Univ. (for NJDOT)	30-Nov-2010
SC DOT	22-Jan-2009
South Jersey Transp. Auth.	14-Feb-2011

Expansion Status

Coalition Members	DUA Status	Expansion
Core States		
Delaware DOT	9-May-2008	----
Maryland SHA	12-Jun-2008	1-Sept-2010
MdTA	12-Dec-2008	
North Carolina DOT	15-Aug-2008	16-Apr-2010 (Mod)
New Jersey DOT	19-Jun-2008	8-Jul-2008
Penn DOT	----	going thru Telvent contract
VDOT	26-Jun-2008	going thru PBS& J contract
Other Coalition Members		
Florida DOT	7-Jun-2010	7-Jun-2010
New Jersey Turnpike	12-Jan-2009	covered by NJDOT
South Carolina DOT	22-Jan-2009	14-July-2010 (Mod)

Year 19 VPP Commitment Status



State	Total Miles	Total Cost	State Participation	Coalition Cost
Maine	53	\$39,750	\$0	\$39,750
New Hampshire	16	\$12,000	\$0	\$12,000
Massachusetts	88	\$66,000	\$0	\$66,000
Rhode Island*	78	\$58,500	\$29,250	\$29,250
Connecticut	111	\$83,250	\$0	\$83,250
New York	24	\$18,000	\$0	\$18,000
New Jersey	470.5	\$365,375	\$188,938	\$176,438
Pennsylvania	148.3	\$111,225	\$55,613	\$55,613
Delaware*	46	\$34,500	\$17,250	\$17,250
Maryland/DC	297.2	\$235,400	\$123,950	\$111,450
Virginia	305.5	\$241,625	\$127,063	\$114,563
North Carolina	261.8	\$208,850	\$110,675	\$98,175
South Carolina	220	\$177,500	\$95,000	\$82,500
Georgia	112	\$84,000	\$0	\$84,000
Florida	728	\$558,500	\$285,500	\$273,000
Sub-Total	2959.3	\$2,294,475	\$1,033,237.50	\$1,261,237.50
Additional Costs				
Contingency		\$86,387	\$0	\$86,387.00
Validation		\$336,279	\$0	\$336,279.00
Management		\$148,099	\$0	\$148,099.00
Overhead		\$12,500	\$0	\$12,500.00
Total		\$2,877,740	\$1,033,238	\$1,844,503

* Agency is contracting through Pooled Fund

Contract Changes (1 of 2)

- Revising Contract Renewal Term Structure
 - 1st extension – 3 years (7/1/11 thru 6/30/14) - AWARDED
 - 2nd and 3rd extensions – 2 years each
- Revising Pricing Structure

	Extension 1 (through 6/30/2014)	Extension 2 (through 6/30/2016)	Extension 3 (through 6/30/2018)
Freeway	<i>same rate (\$750/mile)</i>	\$800/mile	\$825/mile
Mobilization	<i>no fee</i>	\$160/mile	\$165/mile
Arterials	Current “donated arterials” (~1000 miles) continue at no cost Additional arterials (“as is” quality) – \$187.50/centerline mile *		
Ramps	No cost for ramps INRIX covers if both roads at interchange are covered either via contract or donation (“as is” quality)		

Contract Changes (2 of 2)

- Notes on arterials:
 - Arterial data is not subject to validation or accuracy requirements.
 - These data are provided “as is” quality
 - Minimum purchase of 100 centerline miles of arterials within a state or region
 - In the event that a State/Region has attained it’s “full freeway coverage” agency option to:
 - Acquire ALL other roads on which INRIX reports real-time data in state/region for a single fee of 25% of the collective “full freeway coverage” price

Long Distance Trip Planner (LDTP)

Karen Jehanian



I-95 CORRIDOR COALITION

I-95 Corridor Travel Time Information



innovation for a Nation on the Move



Traffic Travel Time Refresh Map Links Help/FAQ Contact Us

<<Departure>>
State
Select a state

Location
Select a location

>>Destination<<
State
Select a state

Location
Select a location

Get Travel Time

Traffic Color Scheme
Standard

COLOR LEGEND

- Free Flow
- Moderate
- Heavy
- Stop and Go
- Road Closed

Traffic updated on Thursday, Feb. 10, 2011 at 1:22 PM EST
Copyright © 2011 of INRIX. INRIX is a registered trademark of INRIX.



This I-95 Corridor Long Distance Trip Planning Website is sponsored by the U.S. Department of Transportation (USDOT) - Research and Innovative Technology Administration. This Website is part of a cooperative research effort among the USDOT, I-95 Corridor Coalition, INRIX, and the University of Maryland to evaluate how providing congestion information and travel times may assist travelers, and is focused on a portion of the I-95 Corridor from Maine to Florida. This site is best viewed with screen resolution 1024 x 768 or higher. University of Maryland, Copyright © 2009. [Disclaimer](#)

LDTP – from Maine to Florida

- Uses vehicle probe data to provide real-time traffic conditions
 - Including a close up look at any of the 15 participating states and Washington, D.C.
- Provides real-time travel times across state borders
 - including both the current and normal travel times between various cities, airports, and other landmarks on key routes in along the entire East Coast.
 - Origins and destinations are selected from a list of pre-defined locations on the “Travel Time” page.
- LDTP website was scheduled to end as of May 31, 2011 and was not included in the TISPTC’s Year 19 submission.

Projects using the LDTP or vice versa

- Virginia DOT
 - Public Traffic Map Displays at VA welcome centers (Skippers – NB and Fredericksburg – SB)
 - Tysons Corner Center Mall Traveler Information Displays
- Year 19 Performance Measures

VDOT Question last meeting precipitated discussion

- Trip planner activity was documented for the holiday time period
- Conference call was held to discuss the results and to consider alternatives
- Market the site?

Long Distance Trip Planner Actions

- Continue the website for an additional year with increased marketing by the agencies.
- Monitor website usage to determine the benefit to the Coalition members and need for additional funding.

Current Connections to LDTP website

•511 and member agency websites were visited to find connections to the I-95 CC LDTP website

• Eight states were found to have a link to the website.

State		State	
Maine		Pennsylvania	√
New Hampshire		Delaware	
Vermont		Maryland	
Massachusetts		Virginia	√
Rhode Island	√	North Carolina	√
Connecticut		South Carolina	√
New York	√	Georgia	√
New Jersey		Florida	√

North Carolina - Example

From North Carolina DOT's home page: (<http://ncdot.gov>)

Select:

- Travel & Maps
- Traveler Information Management System
 - Multi-State Travel Times

(<http://tims.ncdot.gov/tims/default.aspx>)

NCDOT NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
Connecting people and places in North Carolina — safely and efficiently, with accountability and environmental sensitivity.

Business DMV Newsroom Programs Projects

Travel Information»
Traveler Information Management System

Get real time information on events that cause severe and unusual congestion on [NCDOT](#) maintained roadways in North Carolina by clicking

Select by Region: Route: County:

11/3/2006 2:53:44 PM

[Download all Active Incidents into Excel](#) [RSS](#) [SOAP](#)

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What you can do

Coalition Request to Member Agencies

1. Provide a link in a prominent location from your 511 or agency website to www.i95travelinfo.net
2. Label the link with the user in mind – as a “Multi-State Trip Planner”
3. Advise travelers prior to a major event (such as a snow storm or holiday) that this resource is available

Agency Questions and Updates

All

Questions for the Project Team

Participation in Meetings/Conferences

Karen Jehanian

Meetings of Interest

- Recent Meetings
 - [TRB Annual Meeting](#), Washington DC – January 2011
- Upcoming Meetings
 - [I-95 CC Travel Information Services Program Track Committee Meeting/Webcast](#) – March 9, 2011 – 10 am to 2 pm at NJTPA in Newark, New Jersey – “[Meeting Notice](#) ” sent on February 10th
 - [ITE Meetings](#)
(2011 Technical Conference & Exhibit, April 3–6, 2011, Lake Buena Vista, FL)
(2011 Annual Meeting & Exhibit, August 13-16, 2011, St. Louis, MO)
 - [TRB – 4th International Transportation Systems Performance Measurement Conference](#) – May 18 – 20, 2011
 - [2011 ITS World Congress, Orlando, FL](#) – October 16 – 20, 2011

Participation in Meetings/Conferences/Papers

	Title	Paper	Presentation	Primary Author	Additional Authors	Notes
1	VPP Update at Data for Transportation Operations Subcommittee, AHB10(3)		TRB 2011	Stan Young		Sponsored By: Regional Transportation Systems Management and Operations (AHB10)
2	Challenges to Effective Arterial Traffic Monitoring: Lessons from the I-95 Corridor Coalition's Vehicle Probe Project	ITSWC		Stan Young	George Schoener, I-95 Corridor Coalition, Karen Jehanian, KMJ Consulting, Inc.	submitted
3	An Interactive, Web-based, Mobility Performance Measures Application Utilizing Probe Data	ITSWC	ITSWC	Michael Pack		submitted
4	VPP Benefits to Agencies	ITSWC/ITE Journal	ITSWC	Karen Jehanian		
5	Outsourced Data Use for Operations Performance Measures and Planning		ITSWC	Karen Jehanian	Stan Young, UMD/ Shawn Turner, TTI/ Michael Pack, UMD/ Andrew Meese, MWCOG	submitted

Review of Action Items from this Webcast

Selection of Date for Next Project Team Meeting

Thursday, April 14, 2011
10:30 AM
(proposed)

All

Questions?

- Stan Young at 301-403-4593 or seyoung@umd.edu
- Rick Schuman at 407-298-4346 or rick@inrix.com
- Karen Jehanian at 610-228-0211 or kjehanian@kmjinc.com
- For contract expansion issues Kathy Frankle at 410-414-2925 or kfrankle@umd.edu

Thank You



**I-95 CORRIDOR
COALITION**