



VPPIII – Bi-Annual Coalition State Vehicle Probe Web

January 19, 2021

Connecting for Solutions



Webcast and Audio Information

- Please enter your name in the chat box if you are signed in with another party.
- Please mute your line until you are making a comment or asking a question
- Please do not place call “on hold” as your hold music will be heard by the group
- Please call Justin for difficulties with the web or audio application
- **This meeting will be recorded for internal use only**





Asking Questions

Please participate.....

VERBALLY

- Please give your name and agency before asking your question (at least the first time)
- Keep your line muted when not asking a question

IN THE CHAT BOX

- You may ask questions or make comments using the chat box

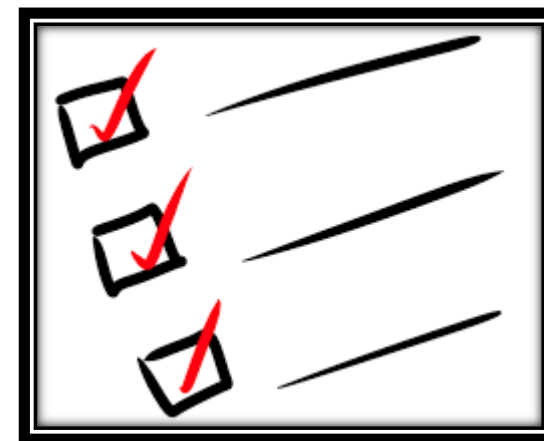


Type question or comment in the chat box then click here



Today's Agenda

- ☐ Data Product Updates for FY2022
- ☐ Validation Program Report
- ☐ Data Use Agreement Update
- ☐ FY2022 Contracting
- ☐ Volume Trend Data Licenses
- ☐ RFI Update and RFP Schedule





Vendor Product Updates



Included with HERE Data

- Here Traffic Service
- Traffic Analytics
- HERE Location Platform and Software

State	Full Jurisdiction
Alabama	\$ 135,000
Connecticut	\$ 135,000
Delaware	\$ 75,000
District of Columbia	\$ 75,000
Florida	\$ 180,000
Georgia	\$ 180,000
Maine	\$ 75,000
Maryland	\$ 180,000
Massachusetts	\$ 180,000
New Jersey	\$ 180,000
New York	\$ 180,000
North Carolina	\$ 180,000
Pennsylvania	\$ 180,000
Rhode Island	\$ 75,000
South Carolina	\$ 135,000
Tennessee	\$ 180,000
Vermont	\$ 75,000
Virginia	\$ 180,000



Price Reduction for FY2022

- One flat yearly fee for the entire jurisdiction.
- More data - including roads that are not state owned or maintained
- All members will realize an estimated cost reduction from 50% - 90%.



Vendor Product Updates



Ancillary products can be added as pre-negotiated fees, discounted from list price to existing long term contracts as well as annual contracts

Real-Time Options Safety Applications

- **Dangerous Slowdowns Real-Time API**
Delivers safety-focused alerts to agencies to augment current data or as a cost-effective option for rural states not involved presently in VPP.
- **Commercial Vehicle Safety Alerts**
Delivers warnings direct to truckers when heading towards slow/stopped traffic on highways and/or other agency-created safety information.
- **Highway Emergency Link Platform**
Off-the-shelf emergency alerting service that establishes two-way communication with those stranded in trapped queues due to incidents, weather, etc.

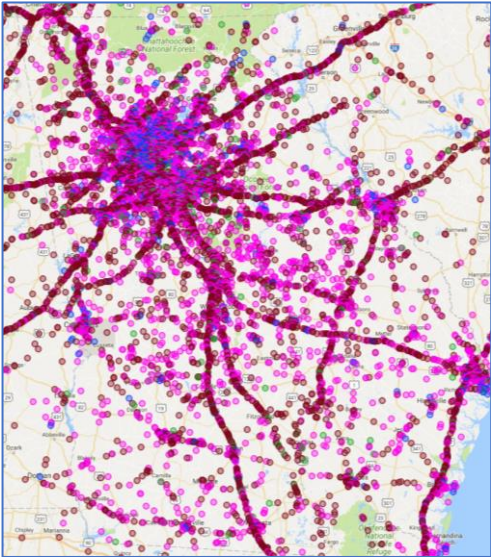
Historical Options Performance Management Applications

- **Trip Analytics and Datasets**
Offers reduced price access to various trip-level data options to support freight and transportation planning.
- **Signal Analytics**
Enables focused analysis of signal networks, as granular as the intersection level.
- **Volume Profiles**
Provides direct access to dataset that powers volume-weighted analyses. 15-min bins, total vehicle counts provided for every XD segment
- **Volume Archive Study Support**
Cost-effective combination of Trip Dataset and XD Segment Archive to power UMD CATT process to create highly detailed and accurate volume archive for agencies.
- **State/County TMC Location Referencing Network Shapefile**
- **XD Segment Traffic Archive**
Provides the option for access to XD archives.



Additional Procurements

Trips



HELP Emergency Communications

Emergency Alert
I-76 Exits 161 to 110 is closed due to severe weather. Visit 511PACONNECT.com

Pennsylvania Emergency Traveler Assistance System
Powered by Google Translate

CLOSURE: I-80 EB closure between exits 90 - 97

LAST UPDATE: 12/15/2016 10:37 AM

DESCRIPTION: Multiple crashes closing Eastbound I-80 between exits 90 - 97

[Register for this Closure](#)

[Message History](#)

MOBILE PHONE # (NUMBERS ONLY)

CONTACT ME VIA:
Text Message

WHAT TYPE OF VEHICLE ARE YOU IN?
Car/SUV/Small Truck

HOW MANY OCCUPANTS ARE IN YOUR VEHICLE, INCLUDING YOURSELF?

ARE YOU THE DRIVER OR A PASSENGER?
Driver

CV Safety Alerts



August 2020

Eastern Transportation Coalition Probe Data Validation: HERE, INRIX and TomTom

Report for Maryland (#13)
Arterial Validation (Low-volume)

Data Collection: July 2020
Report Date: January 2021



Prepared by:
Zachary Vander Laan, Sara Zahedian
University of Maryland, College Park

Acknowledgements:
The research team would like to express its gratitude for the assistance it received from the state highway officials in Maryland during the data collection phase of the validation effort.



Zach Vander-Laan
Validation Program Manager

Agenda

- ✓ Current validation efforts (MD, VT)
- ✓ Low volume methodology discussion
- ✓ Maryland report findings
- ✓ Spring/Summer schedule (TN, NC)



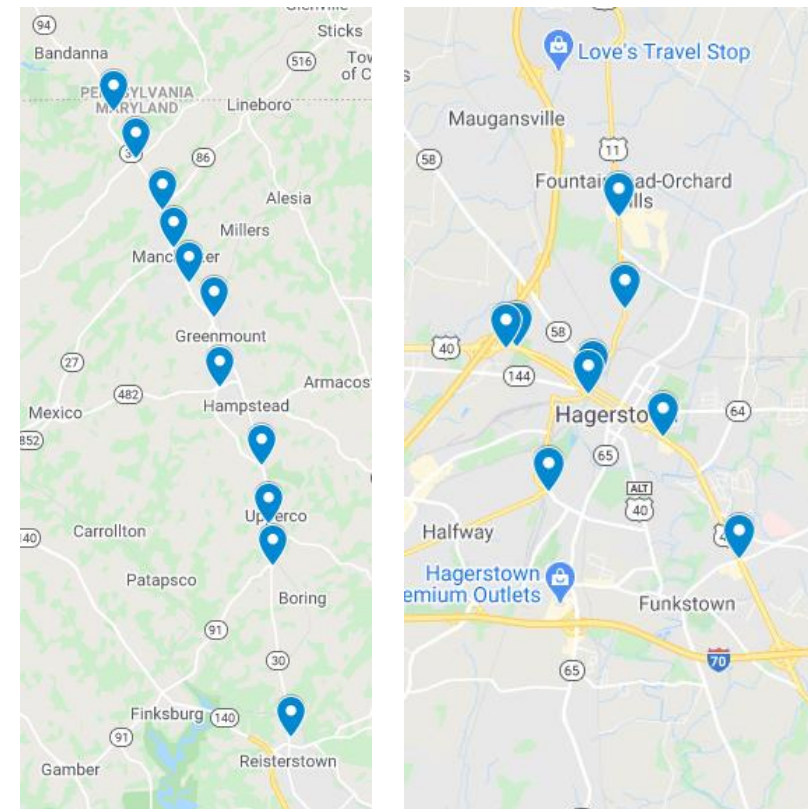
Current Validation Efforts

Maryland (complete)

- ✓ MD-30 (near PA border), US-40/US-11 (Hagerstown)
 - Locations among top priorities by MDOT-SHA
- ✓ **Low volume** emphasis
- ✓ Developed additional analysis techniques to analyze results
- ✓ Report complete, will be uploaded to website soon

Vermont (current)

- ✓ Multiple corridors near Essex and Montpelier
- ✓ **Low volume** emphasis
- ✓ Collected reference data Sept-Oct, currently conducting analysis
- ✓ Report expected in February



Maryland data collection locations on MD-30 (left) and US-40 & US-11 (right)



Low Volume Discussion

Low-volume emphasis in Maryland and Vermont

Key challenge: hard to characterize reference conditions

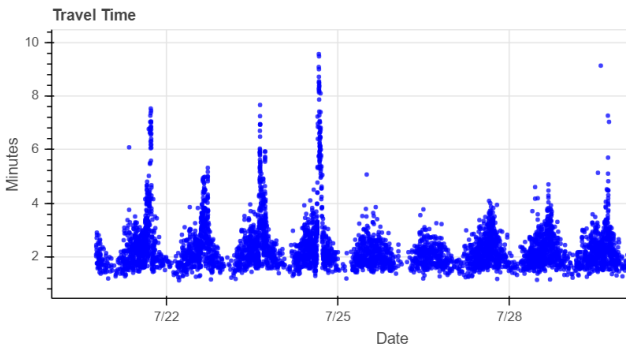
- E.g., 10k AADT → only ~2 samples per 5 min

How to validate low-volume data?

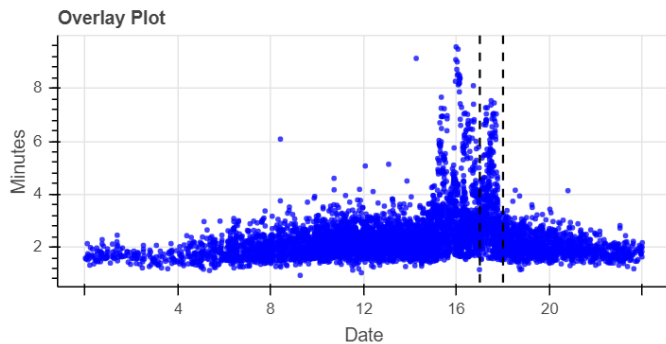
- ✓ *Point-in-time* (operations)
 - Traditional analysis (AASE, SEB)
 - Slowdown analysis (if slowdowns captured)
- ✓ **Repeatable Patterns** (historical/planning, arterial management)
 - Time-of-day distribution analysis (sampled distribution method)



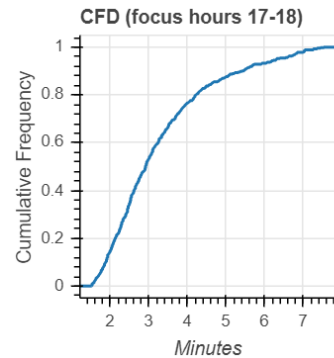
Sampled Distribution Method (1/3)



Travel time observations (single location)



Overlay travel times on 24-hour plot



Generate Cumulative Frequency Diagram (CFD) for each hour



Performance Measures (PM)

Extract percentile-based performance measures

Simple performance measures were chosen to quantify:

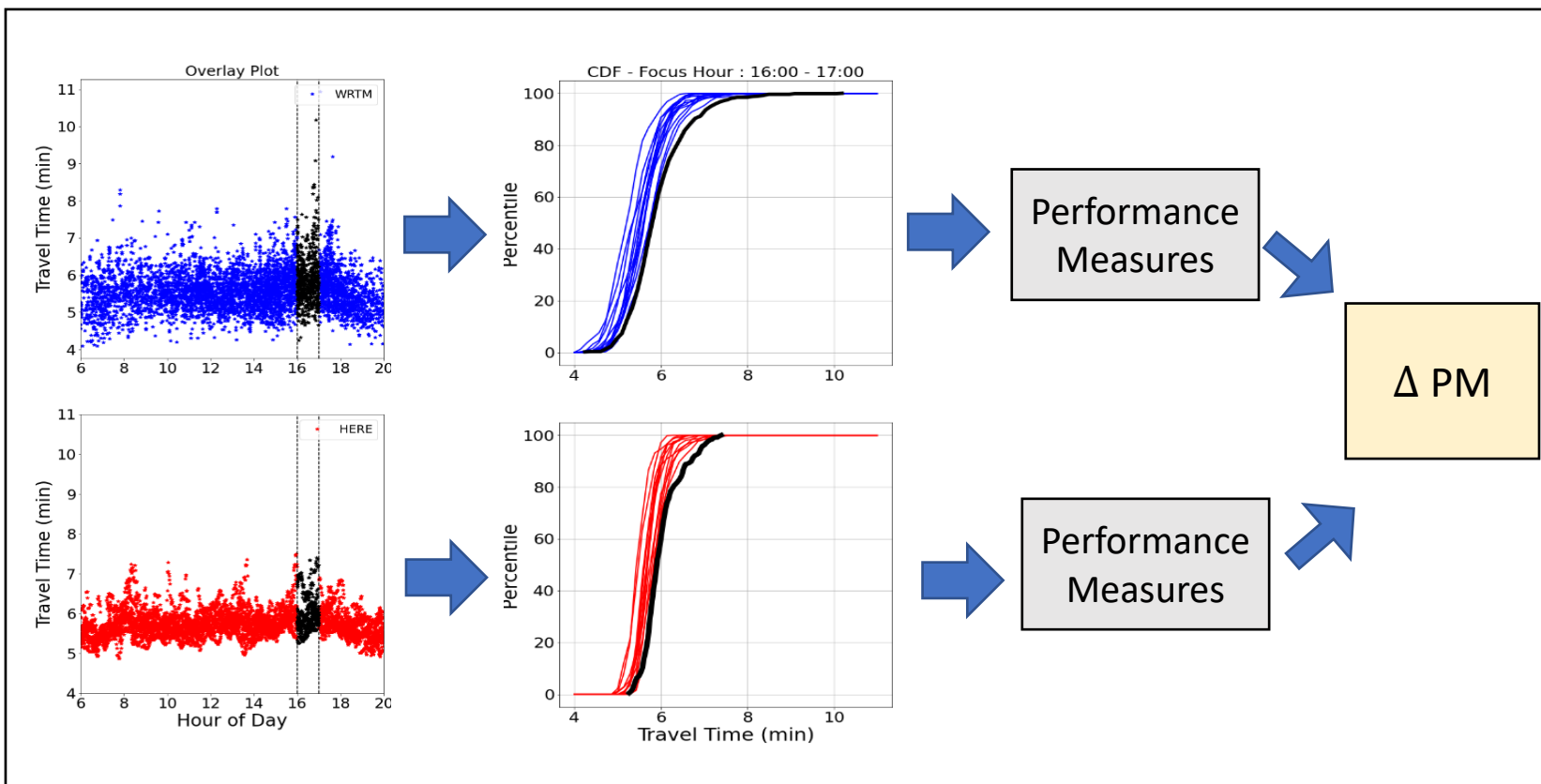
- **Central tendency**
- **Reliability /variation** →

Performance Measure (PM)	Median Travel Time Index (MTTI)	IQR Normalized Travel Time (IQRN)	Planning Time Index (PTI)
PM Definition	$\frac{TT_{50}}{TT_{FF}}$	$\frac{(TT_{75} - TT_{25})}{TT_{FF}}$	$\frac{TT_{95}}{TT_{FF}}$
PM Type	Central Tendency	Reliability / Variation	Reliability / Variation



Sampled Distribution Method (2/3)

(Repeat for each location and weekday hour from 8AM – 6PM)



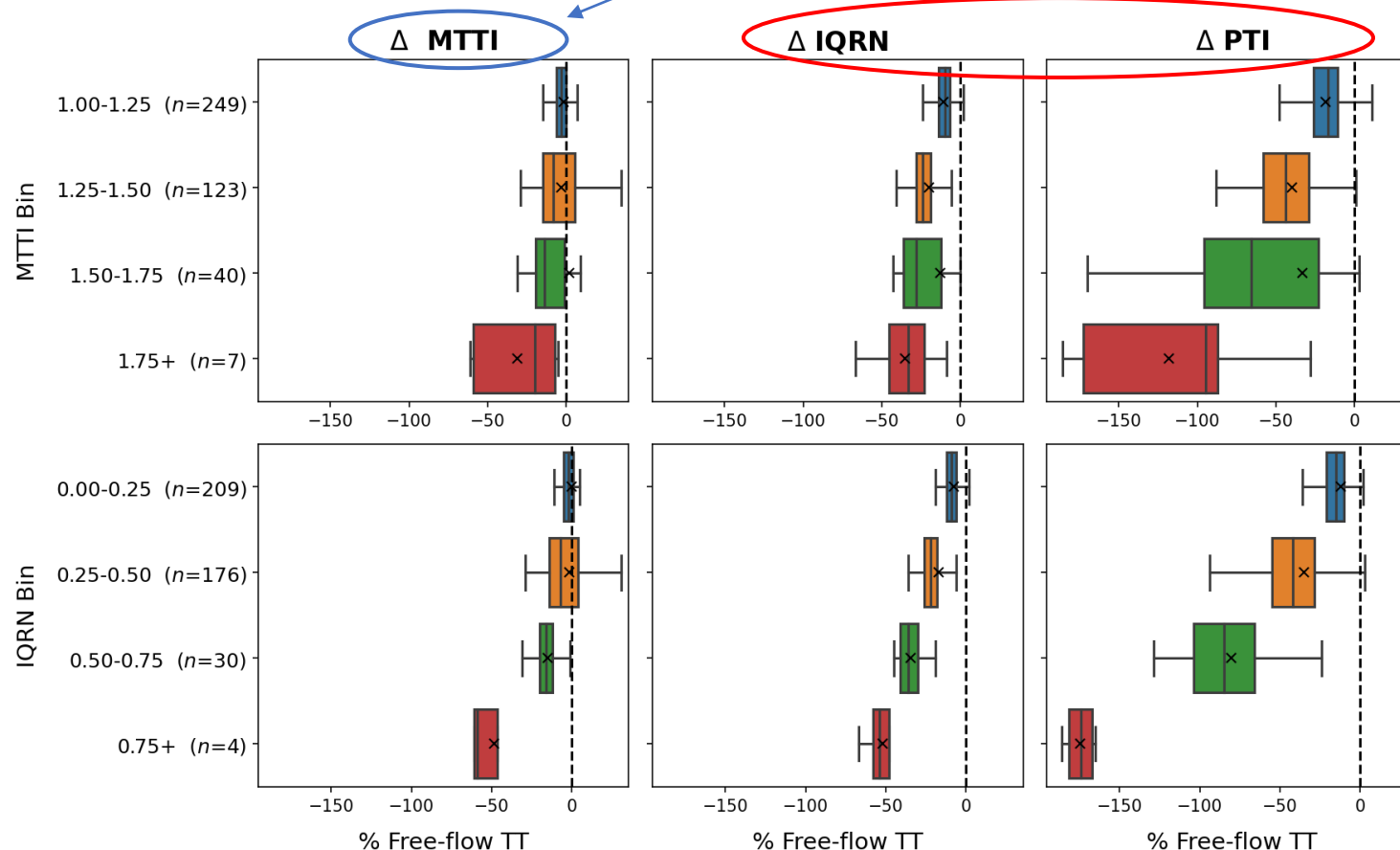
- Perform comparison for every path and hour (focusing on weekdays 6AM-8PM)
- How to analyze hundreds of comparisons?
 - Manually inspect CFD curves
 - Aggregate and Visualize delta PM values



Sampled Distribution Method (3/3)

Comparing hourly performance measures of **central tendency** and **variation / reliability**

Evaluate for different levels of congestion



More congestion

More variation



Key Findings: Maryland

➤ **Traditional Analysis** (*point-in-time*)

- HERE, INRIX, TomTom all well within contract specs for AASE and Speed Error Bias
- ... but only ~40% of 5 minute periods have enough reference data to validate vendors



➤ **Sampled Distribution Method** (*repeatable patterns*)

- **Central Tendency**: Vendor median travel times match reference data closely for most time-of day periods, particularly when there is less congestion and variation.
- **Variation**: The vendors tend underrepresent the true extent of travel time variation, particularly during periods that have significant congestion and a wide variation in travel times
 - **NOTE**: Vendor data uses 1-minute averages, which impacts the range of travel time values reported

➔ **Sampled distribution method is a useful tool to complement traditional point-in-time analysis**

- Further refinement / research planned



Spring Schedule

Tennessee (March)

- ✓ First deployment in TN – planned for March
- ✓ SR 1 near Nashville
 - High priority corridor for TDOT

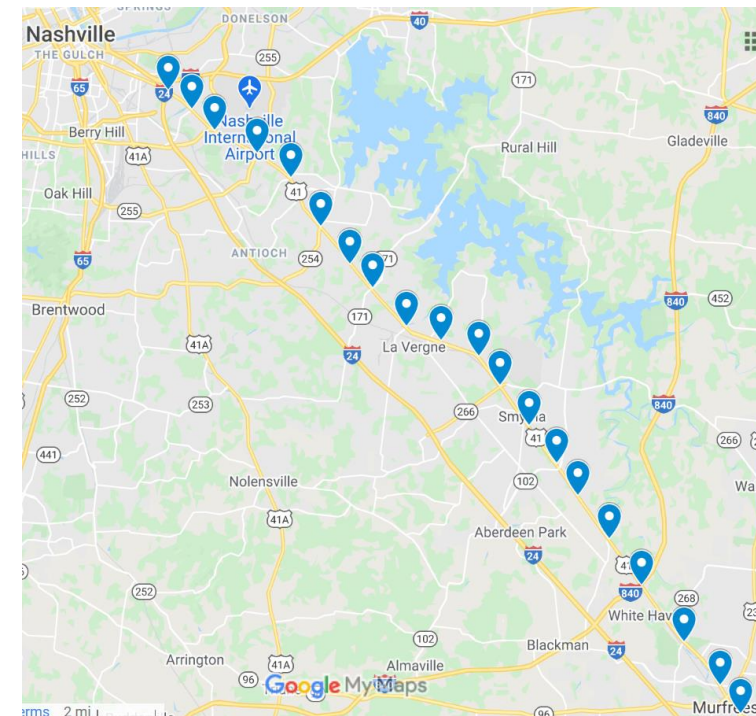
North Carolina is next in line (late Spring)

- ✓ Will begin outreach in February

Future focus

ETC Data Marketplace will formally establish a committee to guide the direction of validation, but we're open to feedback right now

- ✓ Ideas: low volume, bridge/tunnels, HOV, reversible lanes





- Total 269 Secondary DUA's on file

☐ Updated DUA is on the website

[illegible]

	Green	Mathew
	Huffman	Kyle
	Hurt	Travis
	Ip	Spencer
	Johnson	Catherine
	Joseph	Stefon
	Lee	Warren
	Legg	Jeff
	Liguori	Cole
	Mapp	Jamie
	Martin	Dwight
	Mohler	Scott
	Montigny	Pete
	Murata	Kai
	Nastasi	Sarah
	Pike	Ian
	Price	Geoffrey
	Queen	Carly



Data Use Agreements

- ☐ Completed review of existing DUA's
- ☐ Conducting Quarterly Status Consultant DUA Reviews

Affiliates



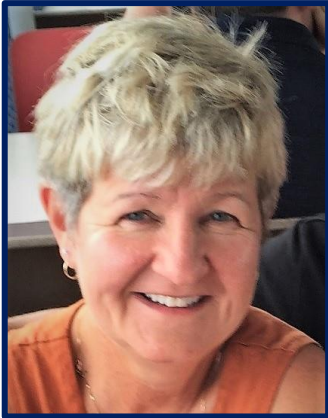
Secondary Affiliates

11/15/2019	Anne Arundel County (MDSHA)	Eutler	Dale	Mary
5/19/2020	Alliance for Sustainable Energy, LLC *(UMD)	Young	Stanley	Mary
3/28/2019	Baltimore City DOT	Penny	Charles	Mary
5/28/2015	Baltimore MPO	Singleton	Eileen	Mary
12/7/2015	City of Frederick (MD)	Davis	Tim	Mary
3/17/2015	Maryland Transit Administration	Helta	Michael	Mary
3/27/2015	Maryland Transportation Authority	Jordan	Bob	Mary

Date rec'd signed DUA	Expires	Notes	Organization Name	Last Name	First Name	Coalition Member	Last Name	First Name
Consultants								
8/28/2020	4/30/2021		Alfred Benesch & Company (PennDOT)	Sands	Ryan	Pennsylvania DOT	Borino	Jennifer
8/11/2020	11/30/2021		CDM Smith (PennDOT)	Klein	Jerry	Pennsylvania DOT	Mulkerin	Rob
6/8/2020	3/12/2023		CDR Maguire, Inc (PennDOT)	Hissong	Scott	Pennsylvania DOT	Zakovitch	Joshua
4/29/2020	10/22/2024		Dewberry Engineers (PennDOT)	Collins	Eileen	Pennsylvania DOT	Neidig	Christopher
4/29/2020	10/22/2024	Denise reviewed. OK!	secondary contact	Barley	Adam	Pennsylvania DOT	Neidig	Christopher
4/29/2020	10/22/2024		secondary contact	Woods	Annalee	Pennsylvania DOT	Neidig	Christopher
4/29/2020	10/22/2024		secondary contact	Brame	Jason	Pennsylvania DOT	Neidig	Christopher
4/29/2020	10/22/2024		secondary contact	Azer	Ereeny	Pennsylvania DOT	Neidig	Christopher
5/19/2020	4/21/2025		Erdman Anthony, Inc	Martin	Chad	Pennsylvania DOT	Fellin	Steven
10/30/2019	12/31/2021		Gannett Fleming, Inc (PennDOT)	Saltzer	Thomas	Pennsylvania DOT	Farley	Dan
12/17/2019	12/31/2021		Gannett Fleming, Inc (PennDOT)	Allen	Matthew	Pennsylvania DOT	Farley	Dan



Contracting – FY2022 Team



Denise Markow
Program Oversight



Kathy Frankle
Pricing/State MOU
Contracting



Mai Quynh Le
Vendor Contracting



Contracting – FY2022 Team

☐ **Kathy Frankle is starting outreach for new contracts immediately**

☐ **States needing renewals:**

- Tennessee
- Georgia
- Rhode Island
- New Jersey
- Maryland
- Virginia

☐ **Long term contracts:**

- Massachusetts
- North Carolina
- PA TPK
- PennDOT

☐ **Process**

1. State Agreements are finalized
2. State accounts are set up in the UMD system (KFS)
3. Upon receipt of KFS numbers, requests can then be sent to procurement
4. Procurement Amendments must follow State Agreements



Contracting – FY2022

- ❑ We need to start even earlier to meet a July 1 deadline for FY2022
- ❑ AG comments greatly slow the process





Contracting – FY2021 Last Year

States	Status	Vendor	Optional Products
Massachusetts**	Long term	INRIX	Trip Reports RITIS Optional Products
Rhode Island**	Renewal	INRIX	Traffic Analytics and Datasets RITIS Optional Products
New Jersey**	Renewal	INRIX	HELP RITIS Optional Products
PennDOT	Long term	INRIX	HELP
PA TPK	Long term	INRIX	HELP
Maryland**	Renewal	INRIX HERE TomTom	HELP
Virginia**	Renewal	INRIX	
North Carolina	Long term	HERE	
Georgia	Renewal	HERE	HERE Traffic Services (included) Traffic Analytics (included) HERE Location Platform and Software (included) HELP
Tennessee**	Renewal	INRIX	Dangerous Slowdowns

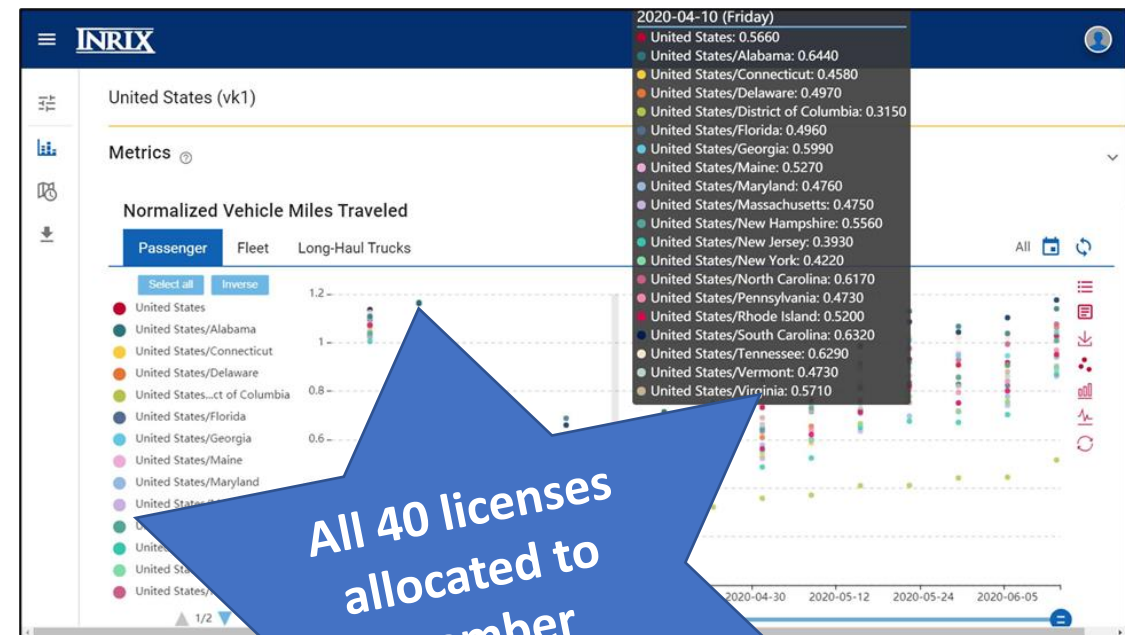
**XD Segment Traffic Archive Data Downloader (included)



Volume Trend Data Licenses

- Procured by the Coalition for Member States
- Free access to INRIX Trip Trends Dashboard with indices for VMT, Trip Counts, Trip Durations
- User training was scheduled
- Seasonality adjustments will be implemented in July

** Coalition will be conducting follow up to license holders to gather feedback on value of trend licenses.





New Website - www.tetcoalition.org

Contract Docs & Coverage Info

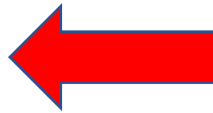
Data Validation

Reference Docs and Presentations

Contract Documents & Coverage Information: includes contracting documents and data use agreement template.

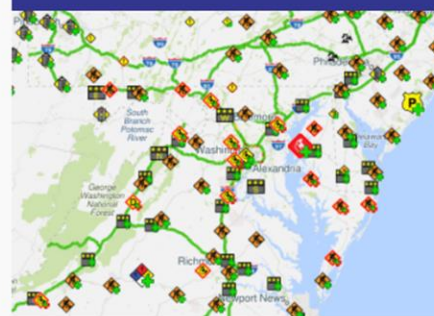
PPH (from 7/2014 to present)

- VPP DUA – Primary
- VPP DUA – Secondary
- VPPH RFP
- VPPH Amendment 2
- VPPH Amendment 3
- State Coverage Table



TRANSPORTATION SYSTEMS MANAGEMENT AND OPERATIONS

TRAVELER INFORMATION



- I-95 Live Traffic
- 511 Traveler Information
- Traveler Information Apps
- Commercial Vehicle Operations Online Portal

PEER EXCHANGES

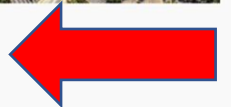


- Events
- Webinars
- Operations Academy

DATA TOOLS



- VPP Marketplace
- RITIS & PDA Suite





ETC TDM RFP Update

Legend

- 1 – Travel Time and Speed Data Responses
- 2 – Volume
- 3 – Conflation Services
- 4 – Waypoint Data
- 5 – O-D Data
- 6 – Freight Data
- NC – Contract questions

Jan 22	Zach - CWPC and Validation Discussion
Jan 29	Travel Time and Speed and Data Use/Sharing Agreement
Feb 5	Conflation, Waypoint, O-D
Feb 12	Freight Volume, Response back to Wejo due
Feb 19	General RFP Review/Contract Management to Review (Part 1)
Feb 26	General RFP Review/Contract Management to Review (Part 2)

Nos.	Potential Bidder	Dataset Responses in Matrix
1	1Spatial	3
2	<u>AirSage</u>	No comments submitted – but included Letter of Intent to Submit for the RFP
3	<u>Auble LLC (TomTom Reseller)</u>	1, 2, 5
4	Future Mobility (MTI)	5
5	<u>GeoTab</u>	1,5,6
6	HERE	Responded to all sections – see intro section in letter about referencing systems . . .
7	<u>Inrix</u>	Responded to all sections – see intro section in letter
8	<u>Iteris</u>	No responses to matrix but included a request to update requirements to add analytics . . .
9	<u>Optasense</u>	1,2
10	PTV Group	1,2,5
11	<u>Quetica</u>	6 Freight Data only
12	Streetlight Data	2,5
13	TT Carto <u>Geograma</u>	1,2,3,4,5
14	TTI	3
15	<u>Wejo</u> (2 documents)	Doc 1 – responded to all sections of the matrix; Doc 2 has specific questions we may want to review for response if not covered in Doc 1



ETC TDM RFP –Selection Team



Date	Event
April 1	RFP Release Date
Mid-April	Vendor Conference
May 1	2 week Q&A period ends
June 15	Proposals Due
June 15-August 31	Selection Committee Review and Score
September 1	Award to Procurement

In Closing....

Thank you for participating today

For Additional Information, please contact:

Denise Markow

TSMO Director

The Eastern Transportation Coalition

301-789-9088

dmarkow@tetcoalition.org





THANK YOU!

Connecting for Solutions