**Transportation Data Marketplace**

Bi-Annual Contracts State Point of Contact Web Meeting

November 14, 2023

Welcome

- We are using **Zoom Meeting**

- **VIDEO:** You are welcome to turn on your camera by pressing the camera icon in the bottom left corner of your screen

- **AUDIO (Computer):** Use your computer speakers and microphone by clicking the "Join Audio" button at the bottom left of the screen.

- **Alternate Audio (Phone):** Call into the meeting by dialing the phone number based on your location (provided in the confirmation email) and enter the Meeting ID at the prompt.

- Please keep your line muted when you are not speaking.

- **This web meeting is being recorded for internal use.**

- **Questions** with the audio or web? Please contact Esther directly via the chat box or email (ekleit@kmjinc.com)
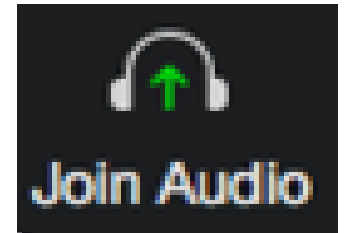
Asking Questions in Zoom Meeting

- **IN THE CHAT BOX**
  - You may pose your questions using the Chat Box. Click on the chat icon at the bottom of your screen.
  - The questions in the Chat Box will be monitored and answered at the end of the session.
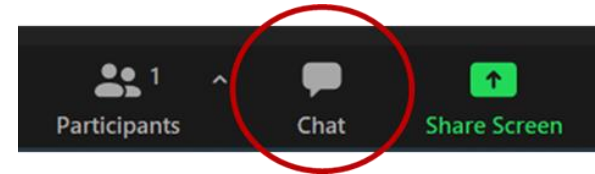
- **VERBALLY**
  - Please raise your hand (click on the participants button at the bottom of the screen then scroll down to the bottom of the list of participants and click on the "Raise Hand" button), and a host will unmute you.
  - Please give your name and agency before asking your question
  - **Please mute yourself when you are finished asking a question**

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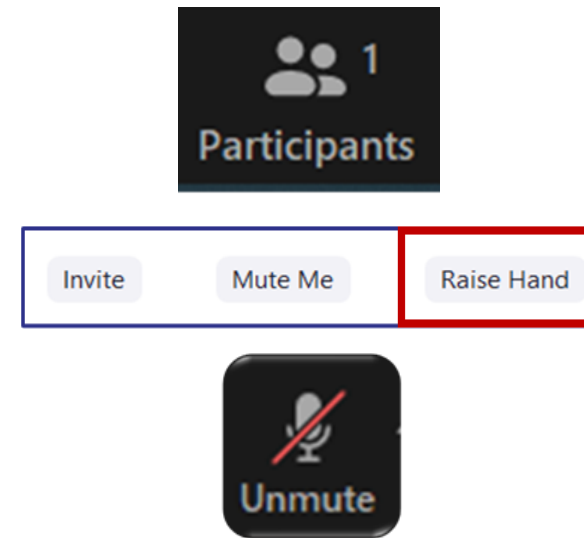
Agenda

Topic	Speaker
Welcome and Agenda	Stan Young, The Eastern Transportation Coalition
Contracting Updates & State Contract Status	Kathy Frankle, University of Maryland
Data Use Agreement Update	Kathy Frankle Mai Quynh Le, The Eastern Transportation Coalition
Validation Update	Zach Vander-Laan, University of Maryland CATT Stan Young
Ancillary Products and Services: 2024 Update of Process	Stan Young
Communication between Coalition Members & TDM Vendors	Stan Young
New TDM Programmatic Processes	Stan Young

The Coalition

Adding our unique Eastern voice to the national conversation, while respecting differences within member states.
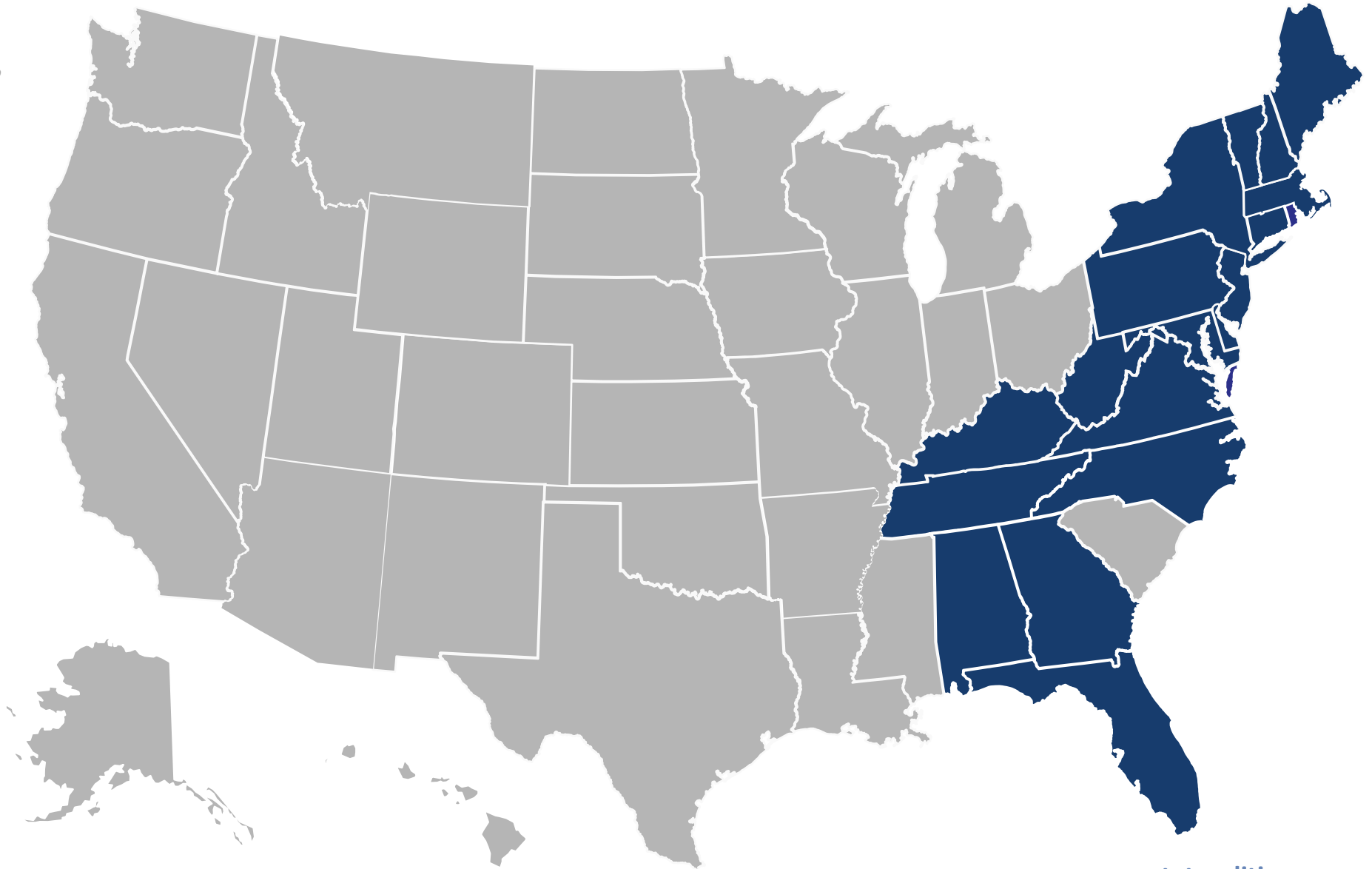
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Contracting – FY2023-2024 Team

Sheryl Bradley

Program Oversight

Stan Young

Vendor Products

Kathy Frankle

Pricing/State MOU

Contracting

Mai Quynh Le

Vendor Contracting
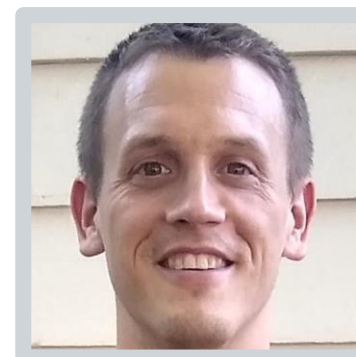
Zach Vander-Laan

Validation Program Manager

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Contracting Updates & State Contract Status

States	Probe Data Vendor	New Mods/Ancillaries
Alabama	HERE*	HELP*
Connecticut		Through Transcom
DC	INRIX*	
Delaware		
Florida	HERE*	
Georgia	HERE	HERE Volume/Streetlytics
		INRIX HELP
		INRIX Trips
		INRIX CV Alerts (Drivewyze)
		HERE Traffic Analytics
		Clearguide Premium and Safety Module
Kentucky		
Maine	TomTom	
Maryland	INRIX	INRIX Signal Analytics
		INRIX HELP
		INRIX Freight Data
Massachusetts	INRIX	INRIX Waypoint Data
		INRIX Trip Data
		INRIX Volume Data
		INRIX Replica
		Quetica Freight Data
		1Spatial Conflation
MBTA (Mass)		INRIX Signal Analytics
New York		Through Transcom

States	Probe Data Vendor	New Mods/Ancillaries
New Jersey	INRIX	INRIX HELP
		INRIX CV Alerts (Drivewyze)
North Carolina	INRIX	INRIX HELP
		INRIX CV Alerts (Drivewyze)
		INRIX Signal Analytics
		INRIX Dangerous Slowdowns
		INRIX TMC Shapefiles
		Iteris Clearguide Premium
		Iteris XD Storage
		Iteris ClearguideEnhancements
		Streetlight
Pennsylvania	INRIX	INRIX Waypoint (Trip Paths)
Pennsylvania Turnpike	INRIX	INRIX CV Alerts (Drivewyze)
		INRIX Dangerous slowdowns
Rhode Island		INRIX Trips
		Streetlight #2
Tennessee	INRIX	Dangerous Slowdowns
		Streetlight
		HERE Teralytics
GNRC (TN)		INRIX Replica
Vermont	INRIX	INRIX Waypoint Data
		INRIX Volume Data
		INRIX Conflation Data A
		INRIX Dangerous slowdowns
Virginia	INRIX	INRIX CV Alerts (Drivewyze)

As of November 14, 2023

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TDM Contracting Update

- Currently Working On:
  - Georgia DOT
  - Pennsylvania DOT
  - Maine DOT
  - Virginia DOT

- Coming Up in Dec:
  - DVRPC ?
  - South Jersey

- Annual Renewals in Jan/Feb:
  - Georgia DOT
  - Maryland SHA
  - New Jersey DOT

Anyone Missing?

Important Notes on Vendor Discussions and Quotes

- States meet with vendors to discuss data needs

- Quotes from vendors needed to issue a PO
  - Addressed to Sheryl Bradley, University of Maryland (new contracts)
  - Vendors email them to Kathy Frankle and State Contact
  - Quotes are NOT confidential
  - Included should be:
    - Data title, description and price
    - State and state contact
    - Billing info – ie monthly, quarterly or annually (state must agree with it)
    - Dates of service

TAC Leaders

Mike Fontaine, PE, PhD
TAC Chair
Associate Director
Virginia Transportation Research Council
Virginia DOT

Stan Young, PE, PhD
Chief Data Officer,
The Eastern Transportation Coalition

Zach Vander Laan,
Faculty Specialist
University of Maryland CATT

Current TAC members

Alabama DOT (University of Alabama)	Alex	Hainen			
Connecticut DOT	Alexander	Finch	North Carolina DOT	Tae-Gyu	Kim
Delaware DOT	Chris	Marsh	North Carolina DOT	Kent	Taylor
District DOT	Ting	Ma	North Carolina DOT	Kelly	Wells
District DOT	Laura	MacNeil	Pennsylvania DOT	Scott	Benedict
Florida DOT	Derek	Vollmer	State of Rhode Island - Division of Planning	Josh	O'Neill
Florida DOT (HNTB)	Mark	Dunthorn	Tennessee DOT	Heewon	Chea
Georgia DOT	Samuel	Harris	Tennessee DOT	David	Lee
Georgia DOT	Ron	Knezevich	Tennessee DOT	Matt	Merservy
Kentucky Transportation Cabinet	Daniel	Hulker	Tennessee DOT	Michelle	Nickerson
Maine DOT	Colby	Fortier-Brown	University of Kentucky (Kentucky Transportation Center)	Mei	Chen
Maryland DOT - SHA	Carole	Delion	University of Maryland CATT	Zachary	Vander Laan
Maryland Transportation Authority	Rob	Pangborn	Vermont AOT	Ian	Degutis
Massachusetts DOT	Bob	Frey	Vermont AOT	Zoe	Neaderland
National Renewable Energy Laboratory (NREL)	Stan	Young	Virginia DOT	Simona	Babiceanu
New Jersey DOT	Sudhir	Joshi	Virginia DOT	Michael	Fontaine
Niagara International Transportation Technology Coalition (NITTEC)	Athena	Hutchins	West Virginia DOT	Elwood	Penn

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TAC/Validation Updates

POC Staff receive quarterly validation reports via email

Location of validation reports: https://tetcoalition.org/projects/transportation-data-marketplace/

TDM (7/2022 to present)

- TDM 03 – Origin-Destination Validation – Literature Review & Recommendations – Apr 2023
- TDM 02 – Initial TDM Validation Activity: Volume & Travel Time Study (NC) – Mar 2023
- TDM 01 – Traffic Volume Validation – Literature Review & Recommendations – Nov 2022

TDM Validation 2023 Schedule through December

- Travel Time
  - Stowe, VT – rural/low volume travel time validation – results to be shared in July TAC meeting
  - Coordinating with VT for rural work zone validation – summer 2023

- Volume
  - Second NC Volume Validation being processed, results to be shared at special meeting in late summer
  - Volume validation (#3) – schedule for late 2023

- OD
  - June 2023 – Vendor questionnaire
  - Aug 2023 – targeted 1st OD Exercise in VA

Validation Update

TDM Validation: Summary by Data Type

- **Travel Time**
  - <u>Completed</u>: Stowe, VT – rural/low volume study with ski resort traffic
  - <u>Up Next</u>: Atlanta, GA – benchmark accuracy & latency on congested corridor (Dec)

- **Volume**
  - <u>Completed</u>: North Carolina – first comprehensive volume study with all 4 vendors and all 4 volume data elements included (Hourly, AHDT, ADT, AADT)
  - <u>Up Next</u>: TBD – planning next study for early 2024 (possible AADT emphasis)

- **OD**
  - <u>Completed</u> – Lit Review
  - <u>In Progress</u> – Richmond, VA – inaugural OD study

Travel Time – Stowe, VT Study Findings

- Congestion captured on low-volume / rural roads (success!)

- All vendors reflected congestion in their feeds -- some differences

- Vendor data converged during peak periods & **diverged during off-peak periods**
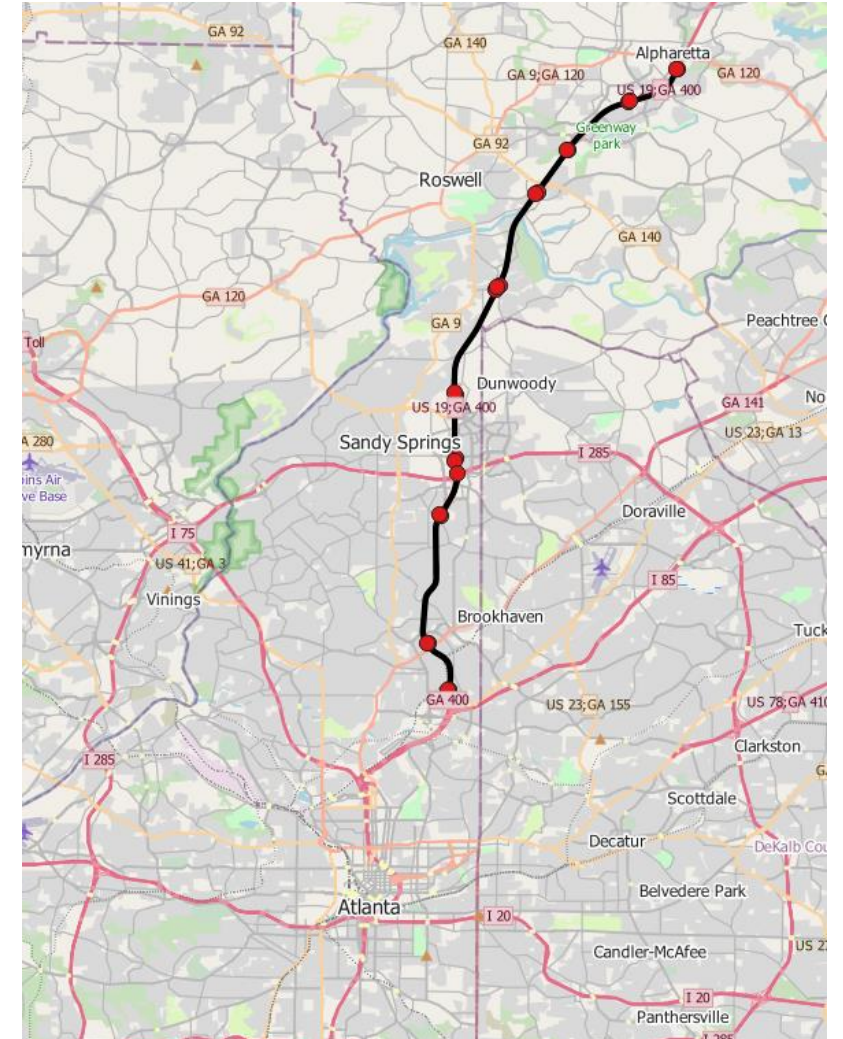
- Interactive HTML plots produced
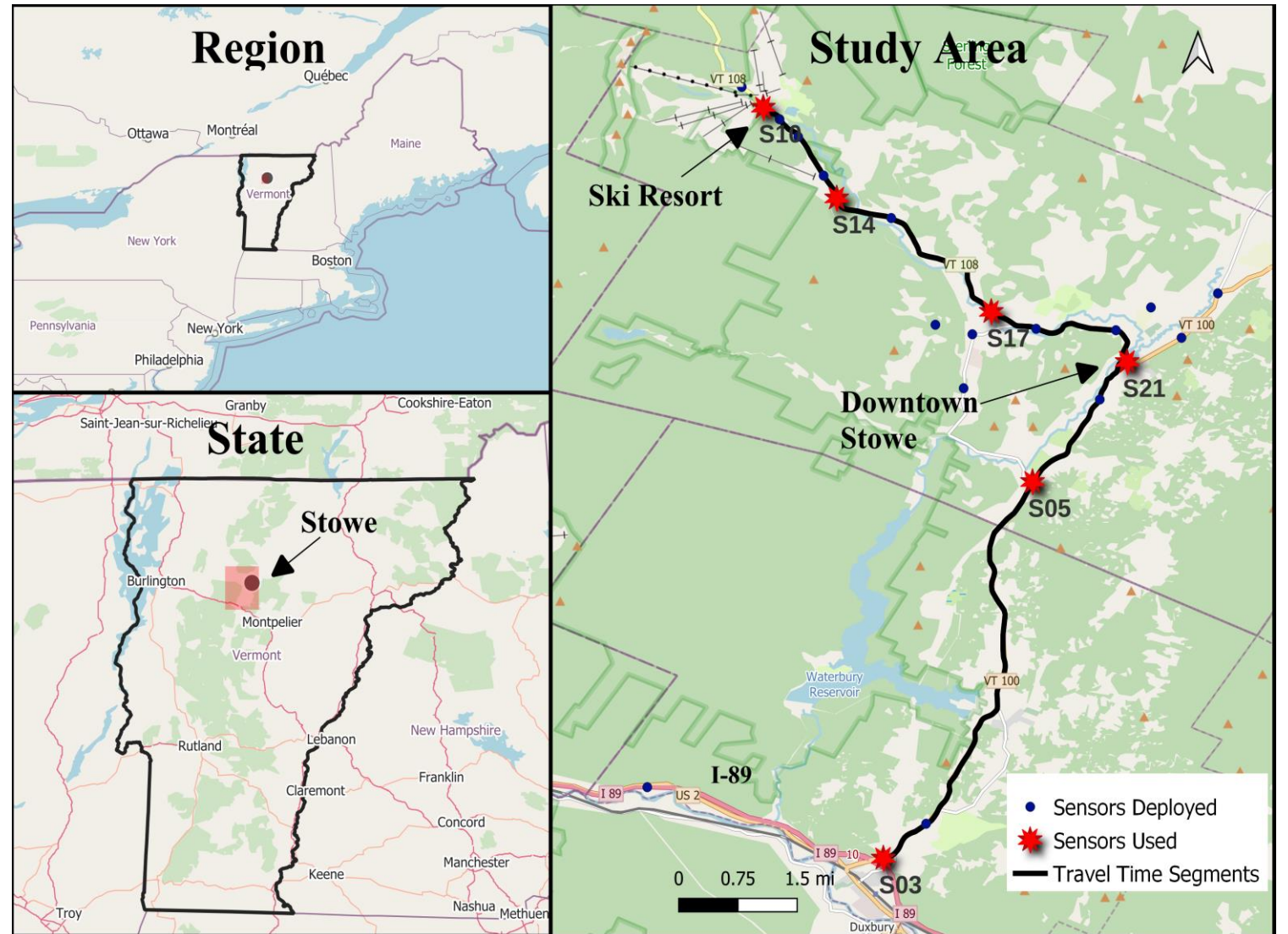
Travel Time – Up Next

Study Area: GA-400 / US-19 in Atlanta, GA

Evaluation Period: December 4-15, 2023

Objectives:

- Evaluate latency during congestion events

- Benchmark accuracy
  (post Wejo bankruptcy)

Volume -- North Carolina Study Recap (1/2)

- **Study Details**
  - **Geographic Scope**: North Carolina continuous count stations
  - **Evaluation Period**: Dec 17, 2022 – Jan 31, 2023
  - **Data Items**
    - *Avg Annual Daily Traffic (AADT) – avg volume for a day in 2022*
    - *Average Daily Traffic (ADT) -- avg volume for a day in Jan 2023*
    - *Average Hourly Daily Traffic (AHDT) -- e.g., avg volume between 8-9am on Mondays in Jan 2023*
    - *Hourly Volumes -- e.g., volume between 8-9am on Jan 1, 2023*

- Briefed volume vendors 1-on-1

Volume – North Carolina Study Recap (2/2)

- All 4 vendors able to deliver data to support validation – reflects major milestone for industry

- Standardized set of visuals, metrics, and benchmarks are emerging
  - … but the need to observe time series data remains critical to understand temporal trends

- Accuracy and fidelity of vendor data is measurable – some differences noted across vendor products
  - 3 of 4 vendors take "top-down" approach to estimation (emphasize aggregate products), one takes "bottom-up"

- Further work in progress/planned:
  - Urban/Rural & Peak/Off-Peak breakdowns
  - AADT accuracy using FHWA evaluation framework
  - Incorporation of cross-validation

Volume – Up Next

- Next study in early 2024

- Looking to start running ~ 2 volume studies / yr (likely overlapping)

- Have noted agency interest in AADT products – may emphasize this in future study (details TBD)

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OD – Richmond, VA Study (1/2)

Two components:

1. **Vendor Questionnaire**: tease out important aspects of each vendor's OD offering and summarize for easy compare/contrast.

2. **Sample Data Request**: Obtain sample OD data from vendors at selected locations (Richmond, VA)

   - Summarize data request process (e.g., UI) and document download formats
   - Basic descriptive analysis & visualization
   - Preliminary comparisons (details TBD)

OD – Richmond, VA Study (2/2)

- **Geographic Scope**: 1202 TAZs from Richmond, VA (corresponding to VDOT demand model)

- **Temporal Period**: October 2022

- **Day Type:** Typical Weekdays, Weekends, All

- **Day Part:** AM Peak (6-9am), PM Peak (3:30-6:30pm), Midday, Night, All

- **Additional Filters:**

  - Trip purpose (where possible)

  - Vehicle class (where possible)

  - Summary metrics (avg travel time and distance)
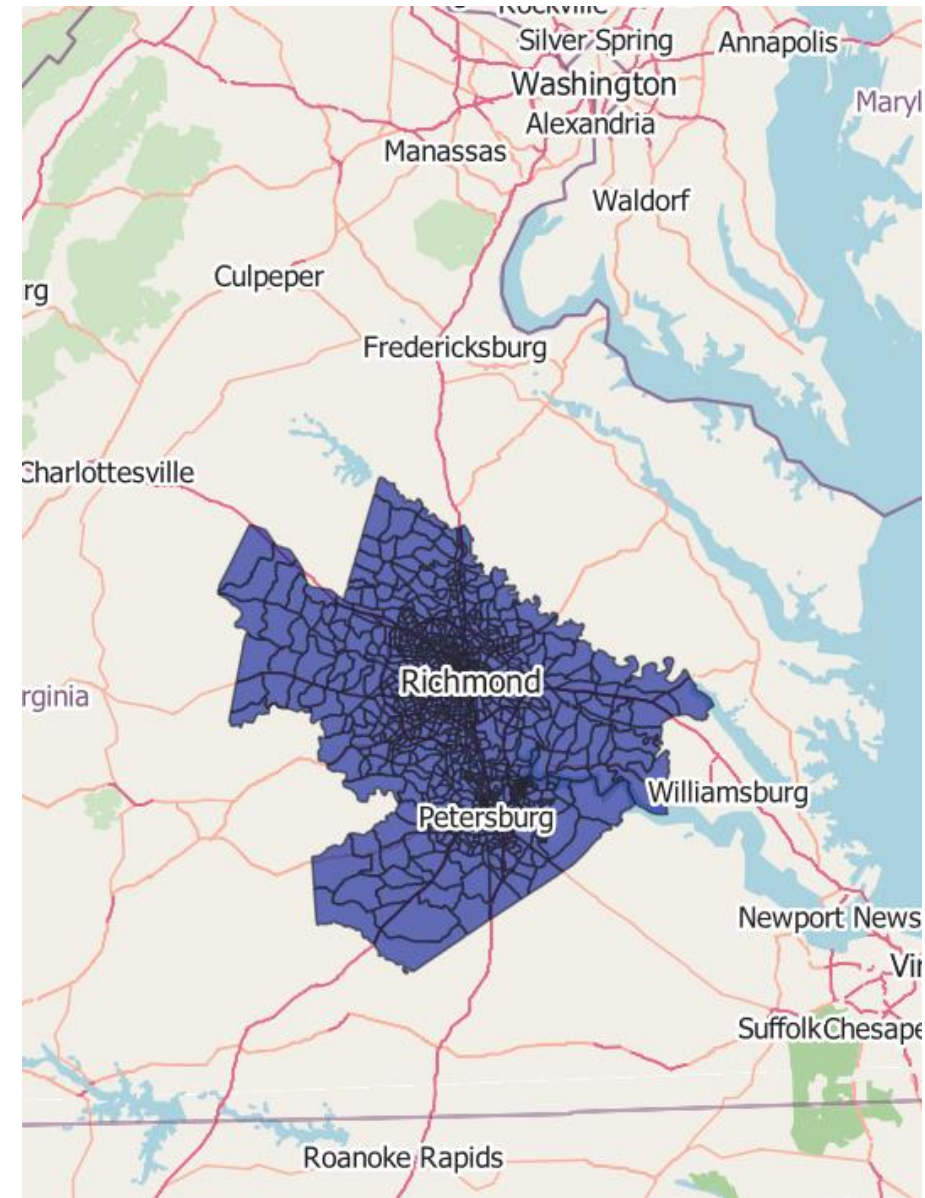
TAC/Validation Updates

- POC Staff receive quarterly validation reports via email

- Validation Reports

  - Initially distributed only to TAC / Coalition members

  - After several months, published to Coalition site
    (https://tetcoalition.org/projects/transportation-data-marketplace/)

    - TDM – Origin-Destination Validation – Literature Review & Recommendations – April 2023

    - Initial TDM Validation Activity: Volume & Travel Time Study – March 2023

    - TDM – Traffic Volume Validation – Literature Review & Recommendations – November 2022

Data Use Agreement

Data Use Agreements Updates

- All agreements are submitted online

- We are now using only V10 – no pdf's anymore

- Starting July 1, 2023 –
  - Mai will start migrating all existing DOMAIN agreements to v10

- Request for all affiliates to be approved by state reps
  - DUA comment – affiliates liable for data use – not states

- Request from Federal Agencies to be approved by state reps

- **The DUA cannot be edited for any affiliate – no exceptions!**

New TDM Programmatic Processes

Programmatic Topics

- Ancillary Products and Services
    - 2023/4 Process to add Ancillary Products begins in November
    - New methodology for vetting/accepting, requires TAC/POC representation
    - List of ancillary products and services to be developed/maintained
- Addendum to DUA to handle seat licensing
- Impacts of Wejo vendor matrix
- Vendors and subcontractor matrix and products
- Coordination of communications with vendors

TDM Ancillary Products

- Background
  - Ancillary products/services provide the Transportation Data Marketplace to:
    - Access products key to leveraging core data, such as:
      - Maps, Data Analytics, Applications that utilize core data
    - Evolve as new data capabilities emerge within and associated with core data areas
  - Ancillary products are NOT meant to ….
    - Avoid a procurement activity out of convenience
    - Include additional core data vendors after the fact

- Evolution in Ancillary Products from VPPII to TDM
  - Ancillary products are now subject to DUA and price transparency
  - Ancillary products MAY also be subject to validation

TDM Ancillary Products (AP) – Process for Adding

- Timing – begins in November each year
  - Vendors are invited to submit AP candidates once per year, traditionally in November timeframe for activation in January

- Addressing concerns
  - 2022/23 ancillary products were larger and more diverse, reflecting a quickly evolving traffic data marketplace
  - Large number of vendors (from 3 to 11), plus sub-contractors make management more challenging

- The 2022/23 additions spanned five vendors
  - Included new sub-contractor/s and a SaaS analytics tool for which a DUA addendum was needed

- The volume, nature, and scope of these products AP require a modified approach for vetting/approving/activating

TDM Ancillary Products Process Changes

- TETC will formalize the review/vetting process for any APs to include Coalition representative review and approval

- With each cycle AP cycle, Coalition will …
  - Renew products summaries, updating TDM 101 slide deck
  - Perform outreach to Coalition related to TDM products (old and new)
  - Outreach to Vendors (and subs) to adhere to protocols and policy

- Vender specific:
  - TETC **should be** copied on any outreach to Coalition Members
  - **Sub-Contractors should work with/through Prime vendors** for outreach to Coalition members
  - Price quotes should come from **Prime Vendors** with copies to the Coalition
  - Subs are *not* new vendors to the TDM but part of a team and their contracting mechanism flows through the prime vendor

Ancillary Products Review and Vetting

- November 2023 – establish TETC Review Committee

- December 2023 – Initial webinar to …
  - Discuss issues, ground rules, and provide any feedback to vendors

- In Jan – review vendors proposed ancillary products
  - Review products (22/23 & 23/24), and request any clarification
  - Vendors may be requested to present APs to the committee
  - Recommend (by vote) acceptance of APs to the TETC (UMD)

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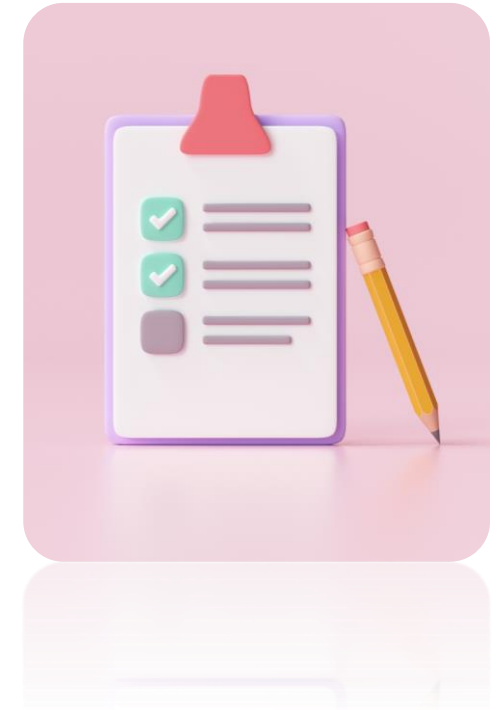
DUA Addendum – Seat Licensing

- Due to an ancillary product in the 22/23 cycle, a DUA addendum was constructed to handle seat licensing.

- Access to data (sharing vertical and horizontal) still governed by primary DUA

- Addendum only addressed 'who could sit in front of the analytics screen'
  - Any material downloaded is subject to core DUA
  - Running an analysis on behalf of another jurisdiction addressed

- Additional issues –
  - Licensing is still intended for enterprise – 'not onesie and twosie'
  - May need additional conversation on keeping consistent with TDM tenets

Current TDM Prime Vendors

Travel Time & Speed	**Carto INRIX HERE Iteris Timmons Group**	Speed & Travel Time are critical to the operations of transportation agencies to provide real-time data for use in operations for incident management and traveler information and historical data as a basis for various performance measures. Specifications for this data set are highly mature.
Volumes Estimates	**HERE INRIX Iteris Streetlight**	Ubiquitous volume data has long been a missing link in the tool box of transportation agencies. Volume estimates (not collected using hardware) would assist agencies by providing real-time traffic volumes network-wide including during inclement weather or special events and enable more robust planning and PM tools. This is an emerging area, with Coalition research contributing to industry progress.
Conflation Services	**1Spatial INRIX**	Conflation services provide support for translating from one mapping system to another or combining mapping systems, for example the TMC network and a state's own linear reference system (LRS). Translating data between vendor-provided and Coalition member base maps has proved time intensive and costly. Providers of these services will be able to translate from any base map to any other base map as needed by a Coalition member.
Waypoint Data	**AirSage INRIX Stellar**	Waypoint data reflects the path movement of vehicles and people and is based on 'bread-crumb trail' of GPS latitude longitude point data. Data is collected either through connected vehicle technology or location-based services. Data is provided in such a way to protect privacy (such as the obfuscation of home/work info and aggregated to census boundaries), and supports in-depth analysis such as traffic signal performance.
O-D Data	**AirSage Geotab INRIX Streetlight**	O-D data is closely associated with Waypoint Data, but includes only end points, and information related to the endpoints that reveal trip purpose. O-D data is derived from Waypoint data that is scalable, timely and statistically representative to provide trip data for various agency needs. Similar to Waypoint data, O-D data is provided in a manner to protect privacy, and is a great asset for planning, behavioral, and before & after studies.
Freight Data	**Geotab INRIX Quetica Streetlight**	A variety of freight related data is being provided including the following: Travel Time, Speed and Volume data (as well as reliability), Origin and Destination information for long-haul and regional fleets, and Parking data including availability and utilization. In addition, commodity movement is also being provided. This will enable broader understanding of freight movement.

Vendors and Subcontractors (and Alliances)

1Spatial

Carto
Geograma - KBP
Unacast - KDS
Geotab - KDS
TomTom - KDS

Quetica
WISERTrade - KDS

Streetlight Data
INRIX – KDS
TomTom – KDS (2023)

Geotab

HERE
Teralytics - KPP
Iteris - APS

Stellar
Moonshadow – KPP
Arup - KBP
Otonomo - KDS
Michelin – KDS

INRIX
Replica – KPP
Information Logistics - APS
Drivewyze - APS

AirSage

Iteris
Comtech - KPP

Timmons
Auble LLC - KBP
TomTom - KDS
SP - Critical Infrastructure Mapping, James W. Sewall Company, Denver South Economic Development Partnership, Delta State University Geospatial Information Technologies

KBP – Key Business Partner
KPP – Key Product Provider
KDS – Key Data Source
APS - Ancillary Product/Service
SP – Supporting partner

Vendors and Sub-Vendors

	1Spatial	AirSage	Carto	Geotab	HERE	INRIX	Iteris	Quetica	Stellar	Streetlight	Timmons
Prime Vendors											
Sub 1			Unacast		Teralytics	Replica	Comtech Telecomm	WISER Trade	Arup	INRIX	TomTom
Sub 1 Product			Human Mobility Data		Volume Data	OD Data & Ancillary Products	OSM Provider	Import/Export Commodity Flow	Professional Services	Fleet Data	Core Traffic Data Provider
Sub 2			Geograma		Iteris	Info Logistics			Moonshadow	TomTom	Auble
Sub 2 Product			GIS and Traffic		Analytics (ClearGuide)	IPAWS (Ancillary Product)			Large Data Hosting	Source Data for Select Products	Coalition Member Support
Sub 3			Geotab			Drivewyze			Otonomo		Critical Infrastructure Mapping
Sub 3 Product			Commercial Vehicle Data			Ancillary Product			CV Data		Basemap Support
Sub 4			TomTom			TTI			Michelin		James W. Sewall Co.
Sub 4 Product			Core Traffic Data Provider			Conflation			LBS Data		Engineering Support
Sub 5									Cambridge Systematics		Denver South Econ Dev Partnership
Sub 5 Product									LOCUS Ancillary Products		Historic Traffic Data Support
Sub 6									Driver's Seat		Delta State University - GIS
Sub 6 Product									TNC Waypoint Data		Geospatial Engineering Technology

Communication Protocol ….

- Communications to member agencies (state members) should be coordinated through prime vendor and state POC
  - Coalition will provide list of all full members and associated points of contact
  - Expectation of contracting is through the TDM

- Communication/marketing to affiliate members …..
  - Coalition will provide a list of affiliate members – but not contacts
  - Vendors and subcontractors will apprise affiliates of TDM program
    - Highly encouraged to channel procurements through TDM –
  - Pricing for products (data, analytics, and licensing) consistent with TDM

- Keep Coalition TDM management informed of discussions with Coalition member agencies (full or affiliate)

Impacts of Wejo – See 10/2/2023 email

Organization	What products in your portfolio of offerings to the TDM were reliant on Wejo data to produce?	Will these data products remain available to the Coalition given the unresolved status of Wejo?		Are you partnering with other connected vehicle data providers to compensate for the loss of Wejo's data?	
		Yes or No	Primary data sources in lieu of Wejo	Yes or No	Working with the following providers
1Spatial Inc.	None	N/A	N/A	No	N/A
AirSage	Waypoint Data (but not fully reliant on it)	Yes	Other vehicle data obtained from fleets, TSPs, etc.	Yes	Response not provided
Geotab	Only reliant upon Wejo data for an **optional consumer vehicle data add on (O-D data only)**. It has **no effect on the commercial vehicle O-D and freight data offerings**.	Partial	**The optional consumer vehicle data add on (for OD) is being be removed from the TDM.**	N/A	N/A
HERE Technologies	No product uses Wejo data	N/A	All products remain available – no dependency on Wejo	N/A	N/A
HERE Technologies (Teralytics)	None	N/A	N/A	No	N/A
INRIX	No core product offerings that rely on Wejo data. Some ancillary products are reliant on Connected Vehicle Data of which Wejo was an important source (Signal Analytics).	Yes	Core products use data sources across location-based services, connected car and telematics/fleet. **Signal Analytics is currently unavailable; a replacement source will be announced soon**	Yes	We have hundreds of different suppliers, and monitor quality, health & diversity of our panel.
Iteris	ClearData - Wejo data has been one of the data sources used in producing ClearData travel time and speed feeds as well as probe-based volume estimates.	Yes	Noted that sources were added but did not provide them.	Not provided	Not provided
Quetica	None	N/A	N/A	N/A	N/A
StreetLight Data	The following offerings (*for personal vehicles only*) are partially reliant on Wejo data - *other products and modes are unaffected* Initial Core Offering: - Vehicle Metrics (Volume, O-D) Initial Core Offering Add Ons: - Enhanced Trip Attributes (speed,TT, circuity, etc.) - Top Route O-D - AADT Ancillary Offering: - StreetLight InSight	Yes	They have Wejo data through May 2023 fully processed so personal vehicle data and products for any data month up to May 2023 are available (using Wejo in conjunction with other past suppliers).	Yes	SLD is now partnered with TomTom to continue delivering data for Coalition Members.
Timmons Group	None	N/A	N/A	N/A	N/A

Other Programmatic Updates

Technical Advisory Committee (TAC) and Points of Contact (POC) meetings to be combined in 2024 – starting in January, quarterly

In 2024 begin to look at Core Data Item additions

TDM 101 slide deck developed, and ready to share with members

Can be forwarded, or a briefing scheduled

Will be refreshed as needed

SCOOP Capable project getting under way

Looks at ways to improve bike and ped data

FY2024 - Data Planning
Final Wrap Up

Data Forums in FY2024 – what do you want to hear about

- ## Specific Data Vendors?

- ## Emerging Technologies?

- ## Video Analytic Platforms?

Coalition Update – Recent & Upcoming Events

RECENT

✓ Freight Data and Planning Working Group Web Meeting - Sep 13, 2023

✓ Regional HOGs In-person Exchange with Virtual Reality TIM Training Session *(invite only)* – Sept 13, 2023 (New England), and Oct 19, 2023 (Potomac)

✓ RITIS User Group Meeting - Oct 19, 2023

✓ Travel Information Summit, Raleigh, NC & via web *(invite only)* – October 24 & 25, 2023

✓ Virtual Information Exchange: Moving the Needle on CAV Research – November 9, 2023

UPCOMING

- MBUF International Truck Pilot Report - A Scalable Approach that Links Road Use & Payment – Nov 21, 2023

- Southern HOGs In-person Exchanges with Virtual Reality TIM Training Sessions *(invite only)* – December 6, 2023

- RITIS Workshop: What's New with PDA & RITIS Tools – December 5, 2023

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THANK YOU

Stan Young,

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Kathy Frankle,

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Mai Quynh Le,

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THE EASTERN
TRANSPORTATION
COALITION

CONNECTING FOR SOLUTIONS