



## I-95 Corridor Coalition: RITIS & PDA Suite User Group Webinar

July 19, 2018

### *Question and Answer Summary:*

**Q: Sanhita Lahiri (Virginia DOT): How long are each corridor sections? Also, roughly what kind of signal density would you have?**

A: Michael Pack: I'm assuming this question was asked about the upcoming PennDOT-funded work to integrate XD data into an arterial performance measures analytics tools in the PDA Suite. If this assumption is correct, then the signal density is whatever the agency's signal density is. We are just ingesting signal locations from the agency directly. The XD segments are provided by INRIX, and vary in length depending on the geography. We will allow users to define corridors however they desire based on a combination of one or more XD segments joined together.

**Q: Arash Roshandeh (City of Alpharetta, GA): This question is regarding road selection: for example, TMC Code 101-20093 starts from the intersection of GA-9 @ Hembree Rd and ends at the intersection of GA-120 @ GA-9. How can I break this segment into two parts? To be more specific I need data for part of this segment only between GA-9 @ Wills Rd and GA-120 @ GA-9.**

A: Michael Pack: The PDA Suite tools being developed as described by PennDOT will abandon TMC segments in favor of XD Segments which generally have higher resolution. So, a TMC that may have been 1 mile long may now be broken down into 4 XD segments. This XD segmentation *may* make it possible to get to the intersection(s) that you want, but the segmentation is provided by INRIX, HERE, and TomTom, not the CATT Lab.

**Q: James Li (MWCOCG): Are the tools you mentioned available in the PDA suite?**

A: Michael Pack: The tool that Dan just showed you is being developed right now. It will be available in the PDA Suite for those who are working with us on XD integration later this year.

**Q: Gail Yazersky (New Jersey DOT): which state's data were used for the Waze analysis?**

A: Michael Pack: California, Florida, and Virginia. We analyzed these three states because we also had really good ATMS data coming from these state DOTs and because these three states were some of the first states to also sign a Waze Connected Citizen Partnership Agreement with Waze—therefore making their data available to RITIS.



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**Q: Kelly Wells (North Carolina DOT): Are the Average Waze Events per Day unique events or are some double counted in this number?**

A: Michael Pack: Some are double counted. Part of our analysis dug into identifying duplicates and creating a methodology on how to cut down on the number of duplicates. At the end of Mark's presentation, you'll see how many duplicates we were able to remove from each state, and how that might affect operations.

**Q: Tom Edinger (DVRPC): Can we conflate Waze data to INRIX TMC or XD data to determine % of congestion related to weather or hazard events? If so can this be done by DOT or MPO agency in a cost-effective way?**

A: Michael Pack: Conflating Waze AND Agency events to the TMC network is something that we do within RITIS. Before long, you will see Waze data popping up within the PDA Suite reports, and that would enable you to conduct analysis as to the possible causality of congestion.

**Q: Tom Edinger (DVRPC): Thanks, the reports would be good if we can analyze just not in real time, but over for example a 1-year period. We want to know % of congestion due to bottlenecks, weather, etc. over a 1-year period to filter out short-term bias.**

A: Michael Pack: Yes, you'll be able to do that. We are actively working on those capabilities.

**Q: Gail Yazersky (New Jersey DOT): For events that aren't potentially a match, did any of those get analyzed to determine if there were other events a DOT may not have been aware of?**

A: Michael Pack: Yes. We did some analysis on that. It's agency and geography specific.

**Q: John Claudy (Drive Engineering): Since the Reliability score develops as it receives more feedback from the moment the incident is reported in Waze, have you performed analysis on the development of this report attribute? Does your analysis use the final reliability score or a score at some point within the reports existence?**

A: Mark Franz: This was a historical analysis and did not assess the evolution of the reliability score. We only looked at the final score. As we prepare to consume the national Waze data feed, this information will be incorporated in the user defined data filters.



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**Q: Jonathan Howard (Central Shenandoah PDC): For VA between Mar2017-May2017, VDOT reported ~600 incidents per day. After "cleaning" the WAZE data, it was found that an additional 585 incidents went unreported by the DOT?**

A: Mark Franz: Correct, those are the statistics for crashes on freeways and ramps and do not include the crashes on primary/secondary roads or any disabled vehicle events.

**Q: Justin Neff (DVRPC): What is considered a "unique" event?**

A: Mark Franz: In our study, the unique events are the clustered Waze events that do not have a DOT event match.

**Q: Gail Yazersky (New Jersey DOT): Is the additional event data available in real time? And if so, are they categorized in some way for TOC operators?**

A: Mark Franz: The Waze data is available in real-time. The data is categorized using the default Waze categories and sub-categories. Slide 35 of the presentation showed the major categories, though there are many more which we intend to allow RITIS users to filter by.

**Q: Robert d'Abadie (Michael Baker): How accessible is the historical data, really what did it cost for the Waze data?**

A: Mark Franz: Similar to the other data feeds on RITIS, we are storing all Waze data that we receive. We are working to integrate the Waze data into our Event Query Tool (EQT) so that users can access it. The Waze data is free to agencies who have signed a Waze CCP agreement.

**Q: Kelly Wells (North Carolina DOT): Could you look at slide 42 without including disabled vehicles, since so many Waze reports are shoulder?**

A: Mark Franz: That is a good suggestion and something we will do. Thanks



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**Q: Matthew Carlisle (North Carolina DOT): Is there a timeline for RITIS to have sub-TMCs integrated?**

A: Michael Pack: We are currently working on integrating INRIX XD data capabilities into the PDA Suite. Michigan DOT is funding this effort. Early functionality will roll out in August (basic downloading) with performance measures and other features (like Congestion Scan and Trend-maps) rolling out later this fall.

**Q: Harun Rashid (NVTA): The O-D Analytics is now available to users?**

A: Michael Pack: Yes and No. To make use of this tool, you (or your agency) have to have purchased an O-D or Trajectory dataset from INRIX and then you must work with the CATT Lab to have us integrate it into our databases and tools. Basic matrix generation, segment analysis, and chord diagrams are available for purchase today, and additional features and functionality will be rolled out later this year and the next. We will be standing up a working group (just as we have with other tools in RITIS) to ensure we are building out the tools in a way that will make them useful to agencies.

**Q: Robert d'Abadie (Michael Baker): Would the OD analytics be vehicle based, thinking of application to Park and Ride lots?**

A: Mark Franz: Yes, the data comes from individual vehicle trips (both passenger and commercial).

**Q: Gail Yazersky (New Jersey DOT): What is source of identifying origins and destination info?**

A: Mark Franz / Michael Pack: The data comes from third party trajectory data. The demos we used today leveraged the INRIX data, but HERE, Airsage, and even modeled O-D data from activity-based models can be integrated.

**Q: Robert d'Abadie (Michael Baker): Wow, is this good enough for calibration/validation of travel demand models?**

A: Mark Franz / Michael Pack: Potentially. Similar to probe data, the trajectory data only represents a few percent of the total traffic stream, so calibration and validation would still rely on some assumptions to scale up these observations. That said, it's certainly better (and more complete) than survey data or data collected via roadblocks. The penetration rate is growing every day, too.



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**Q: Gail Yazersky (New Jersey DOT): If these are vehicle-based trip counts what assumptions were made regarding vehicle occupancy?**

A: Mark Franz: The tools only estimate vehicle trips, not person trip...no assumptions on the occupancy in our tools. This may change in the future, but today we are just helping you to visualize the raw data.

**Q: Tom Edinger (DVRPC): I believe you showed light, medium and heavy vehicle classes for O-D. How does this compare to the FHWA vehicle category classes: 1 - 13? For example, class 6 is three axle, single unit. We are trying to understand truck freight movements throughout the region.**

A: Mark Franz: We are conducting research using virtual weigh station data to estimate the vehicle classes 1-13. For truck and freight movements, the raw data is lat/long with a time stamp every X seconds. The data must be pre-processed to "snap" the way points to the network and we've develop a sophisticated algorithm to infer the route taken between each waypoint.

**Q: Tom Edinger (DVRPC): Does every waypoint include roadway segment, so you can see the actual roadways a driver was taking. Again, this region is interested in actual roadways freight trucks are using.**

A: Michael Pack: Regarding waypoints. It depends on the data provider. Some provide that level of detail, and some do not.

**NOTE:** Mark Franz Provided a link to the I-95 CC Crowdsourcing Summit (September 2017) documents - <http://i95coalition.org/events-calendar-event/crowdsourcing-summit/>



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