



I-95 Corridor Coalition: Private Sector Origin-Destination Data TSMO Applications Webinar - December 6, 2018

Question and Answer Summary

Q: **Harun Rashid (Northern VA Transportation Authority): For HERE Trip data, what is the market penetration rate?**

A: Joe Guthridge (HERE): *The HERE Trip Data penetration rate varies across the country and through time, so we can't give a concrete answer to that.*

Q: **Harun Rashid (Northern VA Transportation Authority): For HERE Trip data - trip purposes are they reported/analyzed? How about trips on transit vehicles?**

A: Joe Guthridge (HERE): *HERE does not receive or include trip purposes.*

Q: **Bhavik Trivedi (TRANSCOM): Do you provide bus O-D data as a separate count?**

A: Joe Guthridge (HERE): *Transit or buses are not separately reported.*

Q: **Anthony Gallo (Kimley-Horn/VDOT): For the trip data in "TMC format", what zones are used outside of the TMCs you select? Do you also provide polygons for TAZs/geographic areas?**

A: Joe Guthridge (HERE): *In the "TMC Format," the customer still supplies a shapefile specifying the zone structure.*

Q: **Anthony Gallo (Kimley-Horn/VDOT): Is the HERE trip data available for purchase by consultants for individual projects? How should we reach out to obtain this pricing information?**

A: Joe Guthridge (HERE): Yes, Trip Data can be sold on a project basis for consultants. The HERE sales contact is Rick Ayers, rick.ayers@here.com.

Q: **Matthew Carlisle (North Carolina DOT): For HERE or INRIX, can you provide a very generic /rough probe split of connected vehicles vs. fleet vehicles vs. mobile phone GPS? I assume that mobile phone GPS represents the vast majority of the data.**

A: Joe Guthridge (HERE): *For HERE, we can't give exact numbers, but connected cars are the majority of sources in the US.*

A: Jim Williams (INRIX): *For INRIX, this varies based on market. We generally see about a 60/40 or so Commercial/Fleet split.*

A: Jose Maria Carazo (INRIX): *With the Trips report, INRIX provides an internal classification of the sample including Consumer & Fleets percentage, Driving Profiles and Weight Classes.*

Q: **James Li (MWCOG): Rick, how can the info of trips outside a region be provided?**

A: Jim Williams (INRIX): *For INRIX, I believe you are asking how we pull in probes for trips outside the bounding box. We have an anonymized probe ID that allows us to chain together the waypoints and thus pull in trips from outside the area.*



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A: Jose Maria Carazo (INRIX): *The INRIX trips report contains ALL the trips that start, end or cross the interested region/s. On the other hand, the output of an INRIX OD matrix will contain all possible movements (Internal-External, Ext-Int, Int-Int and Ext-Ext) so you will get results even if the trips start outside of your interested zones*

Q: Gail Yazersky (New Jersey DOT): Under which color are TNCs represented? I was referring the color coding for trip data in earlier slide regarding user probe classification. @Jim Williams was unsure whether TNCs are classified in the yellow color or possibly part of local fleets, or mobile users I believe I heard it described as 'app users.'

A: Rick Schuman (INRIX): *Regarding your TNC question, in the US we don't have TNC info in our trip data.*

Q: Stephanie Dock (District DOT): Rick - is it more accurate on the TNC front to say that you do not know if you have TNC data? And if they are in there, they would likely show as personal vehicles?

A: Rick Schuman (INRIX): *Stephanie - good point. We aren't getting them 'wholesale' from TNC operators, but we certainly could be getting them 'retail' - from our auto/connected care or mobile app partners.*

Q: Matthew Carlisle (North Carolina DOT): INRIX, can you zoom in and truly "watch" the probes one the past "live" view?

A: Jim Williams: *INRIX does not have an external platform on which to view trips. That sort of feature is available through external partners. Trips are all historical data.*

Q: Bhavik Trivedi (TRANSCOM): Rick - If a trip starts late night say by 11.50 pm from the origin and ends after midnight reaching destination. Do you cover such O-D patterns in a query made?

A: Jim Williams (INRIX): *INRIX does allow trips to span the midnight barrier in some cases. Several providers do rotate provider IDs at midnight UTC, however.*

Q: James Li (MWCOG): Rick, please shed some light on how reliable the truck trips data look like.

A: Jim Williams (INRIX): *INRIX gathers probe data from a number of freight providers. Can you elaborate on how you would measure reliability?*

Q: Josh O'Neill (State of RI – Div. of Planning): Do they report in a matrix format?

A: Joe Guthridge (HERE): *HERE Trip Data does report in a matrix format, as a list of matrix cells in CSV format.*



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Q: **James Li (MWCOG): Rick/Jim - regarding trips outside regional boundary, more specifically, can we know where and how many trips accessing a border facility are from outside origins?**

A: Jim Williams (INRIX): Trips able to freely move through border crossings can be reflected in reports. However, many probes reset their IDs upon engine stop/start. So, a probe stopping at a crossing and resetting its ID will be a trip end and a new trip start.

Q: **Josh O'Neill (State of RI – Div. of Planning): Is the mode imputation based on Census journey to work?**

A: Sepehr Ghader (UMD Maryland Transportation Institute): Our mode imputation is not based on ACS journey to work, but we use this dataset for validation.

Q: **Stephanie Dock (District DOT): How are you getting non-auto?**

A: Sepehr Ghader (UMD Maryland Transportation Institute): Our location-based services and cellphone data include all modes. We impute the mode based on the locations, speed, etc.

Q: **Stephanie Dock (District DOT): Sepehr - do you have more information on how you do that imputation? I have a lot of questions about the black box many firms are offering that purports to do that. Buses, bikes, cars, and even peds can move at the same speed in our downtown during peak hours.**

A: Sepehr Ghader (UMD Maryland Transportation Institute): Our mode imputation is an ongoing effort, but we have published some of the results we got so far. Please email me and I can send you more information. (sghader@umd.edu).

Q: **Harun Rashid (Northern VA Transportation Authority): For the MTI project - how are trip purposes determined?**

A: Sepehr Ghader (UMD Maryland Transportation Institute): We impute home, work locations and HBW, HBO, NHB can be obtained from these. Other purposes can also be imputed by integrating the data with POI data.

Q: **Tom Edinger (DVRPC): It seems that connected vehicles (GPS) is the most accurate data collection process. What steps are planned to increase this data collection effort? Are we reliant just on the car manufacturers?**

A: Joe Guthridge (HERE): The good news is that all manufacturers are moving to connected vehicles. Naturally, this doesn't help the fleet already on the road, and it will take some years for them to achieve the majority. Also, manufacturers typically sell their data, rather than provide it for free, so there will still need to be funding involved.



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Q: **Tom Edinger (DVRPC):** Mark, is there any freeware algorithm to snap GPS points to streets (lines) based on data alignment issues?

A: Mark Franz (CATT Lab): Tom, yes, there are some algorithms out there on sites like GitHub. It seems that most of the scripts that I discovered snap to OpenStreetMap (OSM). While this may be useful for some, CATT Lab uses the TMC map so we had to create a script for that purpose.

Q: **Todd Peterson (USDOT-FHWA):** Has this capability been applied to calibrating a regional planning model such as the MWCOG TPB travel demand model?

A: Michael Pack (CATT Lab): BMC is looking to do this. The State of MD just purchased 2 years' worth of data (2018-2019). There are a lot of folks in the state getting pretty excited about what they can potentially do.

Q: **Harun Rashid (Northern VA Transportation Authority):** Is CATT lab's "INRIX Trajectory Analytics" tool available to all existing subscribers? Who do we contact about the Trajectory data?

A: Michael Pack (CATT Lab): Harun -- it's available to states/agencies in the Coalition who purchase the Trajectory/waypoint data. You can contact Michael for more information.

Q: **Stan Young (NREL):** Mark - we need to see CDFs of the travel time on the OD pairs.

A: Michael Pack (CATT Lab): Stan - We know how much you love CDFs. Yes, this is something we are working on.

Q: **Stan Young:** Michael - are ATSPMs being developed into the tool, again CDFs between mid-blocks -- that would be awesome!

A: Mark Franz (CATT Lab): Stan, these are all great suggestions. We will certainly bring up these ideas with our working group to get feedback on how to integrate these suggestions into the tool.

Q: **Anthony Gallo (Kimley-Horn/VDOT):** Michael - any idea off the top of your head what those states are?

A: Michael Pack (CATT Lab): It's currently just Maryland, but others are getting close, I think. The availability of the data and tools were only just recently announced, and it takes folks a while to figure out procurements.



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- Q:** **Tom Edinger (DVRPC):** The Trajectory Analytics tool would be a great planning tool available to I-95 Coalition members.
- Q:** **David Heller (SJTPO):** Per Tom's comment above, yes-- I think this trajectory data depicting intersection travel times would be a great planning tool for us.

A: Michael Pack (CATT Lab): It is the same answer as I gave for Harun. It's available to states/agencies in the Coalition who purchase the Trajectory/waypoint data. The data is not free, though.

- Q:** **Daivamani Sivasailam (MWCOG):** Michael, what is the sample size of the turning movements you are able to estimate from the trajectory compared to the ground counts?

A: Michael Pack (CATT Lab): I'm not working on the Volume and Turning Movement Estimation project. For details on the status of the VTM research project, go here and click the VTM tab: <http://i95coalition.org/projects/vehicle-probe-project/>.

- Q:** **Tom Edinger (DVRPC):** Mike, how far back on the intersection approach would you aggregate travel times, etc. to indicate congestion at intersection - sometimes 1, sometimes 5 segments are congested leading to intersection.

A: Michael Pack (CATT Lab): Tom -- great point. We are still experimenting with this, and would welcome your input. The spacing between intersections is definitely an issue when they vary significantly.

- Q:** **Gail Yazersky (New Jersey DOT):** Is there a way to highlight unusually uncharacteristic travel times that might indicate some kind of an incident?

A: Michael Pack (CATT Lab): If the agency is also providing us with event data (or if we have Waze data) then that can be added to the ranking list. We also have a way to point out unusual outliers even if we don't know the reason for said outliers.

- Q:** **Gail Yazersky (New Jersey DOT):** Also wondering if any of this analysis can assist in identifying intersection influence area and if they are different in a downtown compared with arterial, i.e. differing types of land uses?

A: Michael Pack (CATT Lab): Gail, it sounds like you should be a part of our working group. Send me an email, and we can get you added if you are interested - PackML@umd.edu.

- Q:** **Tom Edinger (DVRPC):** Rick, talked about traffic volumes and travel time data on the same network. How many years are we away from having that data availability. Conflating DOT traffic volumes to INRIX or other vendor networks is a very time-consuming task and I believe not sustainable task, because of the different database architectures.

A: Rick Schuman (INRIX): For details on the status of the VTM research project, go here and click the VTM tab. It is showing promise, but there is still work to be done to 'productize': <http://i95coalition.org/projects/vehicle-probe-project/>