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## TECHNICAL MEMORANDUM

### TxDOT IAC – Technical Support to the CAV Task Force

**DATE:** December 7, 2022

**TO:** Zeke Reyna, TxDOT  
Strategic Research Analyst, CAV

**COPY TO:** TTI\_Reports@tti.tamu.edu  
Tim Hein, Research Development Office, TTI  
Ed Seymour, Executive Associate Agency Director, TTI  
Robert Brydia, Senior Research Scientist, TTI

**FROM:** Beverly Kuhn Research Supervisor  
Senior Research Engineer Texas A&M Transportation Institute

**RE:** Data, Connectivity, Cyber Security and Privacy Subcommittee  
November 16, 2022, Meeting Notes

#### Attendees:

Beverly Kuhn	Texas A&M Transportation Institute
Beverly West	Texas Department of Transportation
Bobby Cottam	Burns and McDonnell
Brent Skorup	Mercatus
Brian Steiner	Cisco
Darran Anderson	Texas Department of Transportation
Ed Seymour	Texas A&M Transportation Institute
Hal Lenox	Wejo
Jason JonMichael	City of Austin
Jeff Stewart	ATT
Justin Johnson	Plum Catalyst, LLC
Nick Steingart	Alliance for Automotive Innovation
Thomas Bamonte	North Central Texas Council of Governments

**I. Opening Comments – Zeke Reyna, TxDOT**

- Thank you for joining us today for first meeting of the Data Subcommittee
- Welcome and roll call

**II. Mural Board Discussion – Beverly Kuhn, TTI**

- Review of White Paper draft
- Introduction
  - As we look at how we communication data through the exchange (how data exchanges take place), how do we address rules associated with the data exchange
  - Can really use good standard methodologies (could be built into the exchange) to be able to provide immutable validation that data is being used in the manner in which it is intended by the people intended
  - Lay out the choices that need to be made ahead of time; this has to live somewhere (cloud, entities, etc.)
  - Not a bad idea to hit on the choices that need to be made ahead of time on the logistics side
    - How is public data used? for what purpose? maintain rules for open-access data? Serve as stewards
    - Public and private sector data
- What is Data Exchange?
  - Comments
    - Is the concept to be multiple data sets of various forms and/or a single holistic data set?
      - A data lake is one approach
    - Expand the discussion on the types of data exchange; how they might be managed with different owners
    - Once you have an exchange set up, there will be vast amounts of data, much of which will keep it at the edge because of the size of the data, sovereignty, and privacy
    - Federated model is how it will have to be managed
    - Some of the data will stay at the edge because it might be used only for local use cases or because of its sovereign nature.
    - White paper could expand on the “data marketplace” concept.
  - Type of Data Exchanges
    - Is there a 4th type? The public workplace data exchange doesn't really seem to fit into the 3 existing categories (public sector data exchange, more open and likely non-sensitive data)?
    - Is that workplace data exchange peer-to-peer? If so, then needs to be noted; if not, then possibly add a 4th
      - Work zone data exchange?

- Baseline Functionality
  - Usage-based fee structure is only one piece of this (be delicate in the discussion of this topic)
  - Keep it as other payment-as-a-service in-vehicle and not speak to any particular side of policy that might be a sensitive issue
  - The more we stay away from specific and particular payment use cases, the legislature needs to see their role in facilitating the data exchanges and that they will need to be PPP
  - The more we can educate them and highlight use cases that are not confusing or confrontational
- Value-Added Features
  - Will have to be part of a PPP or a special-purpose vehicle
  - Predominantly managing data from commercial markets
  - From PPP you avoid some open-records issues; privacy, sovereignty and security can be maintained through a PPP
- Data Governance
  - Comment: Make sure that we are considering the particular audiences - as we look at who are the data generators / data stewards / etc., might be useful to provide examples that are domain-specific to CAV so that the audience can get an understanding of what we mean by these terms.
  - Steering Committee
    - How the steering committee and oversight committee have a role to play in the state and in the national conversations; private sector partners are doing business in other states
    - Need to create a committee to take these elements and take action on them
    - Need to add an organizational functional management piece
    - Done in a community of practice that can bridge the similarities and differences between the data owners
    - How would you open up and collaborate on the rules about how the data is being shared?
  - Data Owner
  - Data Steward
    - Who is the steward of privacy data? Some of this data cannot live on public servers (ties back to the immutability rules to ensure privacy data is not shared)
- Security and Compliance
  - Does this include any requirements for encryption during access or transfer or is it the credential piece? Do we want to go into that detail?
- Challenges and Issues
  - Ongoing access: don't necessarily have to get into the minutia but the fact that it is important; maintain and remove if necessary
  - Freshness vs. staleness of data

- Is there a standard method for describing the age of particular pieces of data?
    - Confidence level of the data
    - Option to represent the age of the data - especially if there are different snapshots of similar data - a weighting tool?
    - Insights as how to score that trust and verification of the data
    - Multiple agencies could be offering versions of the data. How do we score, weight, or validate the data? Perhaps data “freshness” is one attribute.
    - Applications can drive data “freshness” needs and impact how long we keep data.
  - Data trust: How do we validate and certify the data? Can we provide that level of data validation that is more demonstrable to an outcome than just availability?
- Industry Interviews
  - Interview Guide
    - Data Exchange
    - Privacy
    - Security and Management
    - Specifications
      - Relative to freshness, needs to be a brief discussion on application - i.e., infrastructure changes that will be made based on more longitudinal data; data minimization - how much to we keep for how long for which purpose
  - Panasonic
  - Locomotion
- Case Studies
  - Work Zone Data Exchange
    - Best Practices
  - Florida Department of Transportation Data Exchange
- Summary and Conclusion
  - Do we plan to discuss strategies for implementation? how this interacts with other types of data and analytical tools?

### **III. Closing Remarks – Brian Steiner**

- Thanks to everyone for participation
- The conversation and fine tuning on what is an already great White Paper is going to make this even better.

### **IV. Next Steps – Zeke Reyna**

- If you have yet to fully review the White Paper or think of additional comments not mentioned today, please submit them by 11/30/22. (No comments are too big or too small)
- On December 13<sup>th</sup>, there will be a discussion of the CAV communications plan, if interested, we would love to have you participate.

