

June 16 - 18, 2025 Fort Worth, TX

Connecting Texas to the Future of Transportation



JUNE 17

CONFERENCE

Fireside Chat: Innovation Across Texas Leadership Panel

Darran Anderson, TxDOT Eric Lykins, TxDOT Odessa District Dillon Maroney, Tarrant County Precinct 4 Michael Morris, North Central Texas Council of Governments

- What's a transportation innovation you're most proud of implementing or supporting in your area?
 - Erik: The initiative they are most proud of is the Permian Basin 2035 initiative with TTI, reconstructing I-20 for 43 miles with portable DMS, travel time and end of queue warnings. They are using INRIX and CV data to populate the boards. Not using Drivewyze but have a real-time website that has increasing usage
 - Michael: Partnership with regional partners 20 years ago, 300 miles of dynamically priced managed lanes, P3 provider brought \$7B and generated revenue under a 52-year lease that builds additional projects. Dynamically priced by congestion levels. Some lanes operated by NTTA, all that generate revenue for the region. The theme of technology is partnerships: who takes the risk and who can carry projects through.
 - Dillon: Focused on adapting to growth. Our approach to transportation is partnerships is our innovation.
 County participation in the projects and through their bond program. Their innovation is how they are leveraging their money to produce shovel-ready projects.
 - O Darran: It's not just about tech, it is about setting conditions, who to engage, who to inform.
- What's an example of successful partnership that led to a transportation innovation in your region?
 - Eric: The Odessa District has a sizable construction program, \$1.5B in active construction, \$400-\$500m per year. We previously had the highest fatality rate of districts in Texas, and we are tackling that aggressively; In 2023, we have the lowest fatality rate in district history. We are the first non-metro area to implement a HERO service patrol program. A consortium of the Permian Basin Strategic Partnership, county, and TxDOT pay for two years of operation. The first trucks are set to be delivered on July 5th. Our goal is to improve safety, especially on I-20, where we have 55,000 vehicles daily traffic and 50% trucks. The other facility is SH 191; these are the two corridors with highest fatalities. For the HERO program, it took 3 years to get the agreements in place.
- How do you engage communities and stakeholders in shaping or accepting innovative transportation solutions?
 - Eric: For our HERO program, it was joint effort in public engagement, with a kick-off in March with media attention, and one-on-one meetings with law enforcement based on best practices from other regions.







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- Michael: Mobility Assistance Patrols (MAP) been going for 20 years in DFW, where we created unique arrangement for personnel with Tarrant County and Dallas County Sheriff's rotate into MAP.
 - We are "outcome crazy" at NCTCOG. For example, Audi wants signals to communicate with cars at 7000 intersections across the region, so we are creating one-shop stop, and have adopted FL specifications to expedite the initiative. Nick Konen, Alliance partner, has been instrumental on exclusive truck direct connects improving efficiency at transloading; We have led in drone delivery 6 companies (none blown out of the sky). Working with Corps of Engineers locate transportation facilities to maximize flood storage with smart culverts on upstream side and recharge the aquifers in Parker County and seeking an innovation partner to help.
- What innovation do you believe will most significantly transform your agency's work in the next 10 years? Speed round
 - Michael: Dynamic pricing, smart corridors, unmanned truck, drones, eliminating food deserts with broadband delivery by drone or ground robot, or pick up. RFI this week on our food desert initiative.
 - o Dillon: Delivery on projects, in partnership with other agencies, integrate digital mapping
 - Eric: Kodiak is autonomously delivering sand for oil and gas development; a 40–50-mile conveyor belt system crossing highways, taking vehicles off the highways; Al/machine learning for traffic management, but also coupled with GIS and asset management of the system, real time awareness of asset conditions for managing the system better.
- How are you using innovation to stretch resources and improve safety?
 - Dillon: From the local standpoint, it's the conduit to communicating innovation to the public, "roads before rooftops" planes, trains and lakes are our advantage and our challenge. Hold regular meetings, engage developers beforehand with a business mindset, use special districts to fund infrastructure; real transparency; up to us to create environment for our region to thrive
 - Eric: It's about transparency and communication; we went from rural to urban district in the last year. Some of the sparsely populated counties have grown exponentially and they have had to adapt; Costco, Bass Pro Shop, and other developers have tight timelines, so we have to innovate in getting infrastructure in. Local agencies can also move more quickly; for example, taking 6 months to year to get a traffic signal installed as opposed to 2-3 years.
- Takeaways:
 - o Innovation is not just tech. Partnerships are the key innovation.
 - Perseverance 3 years to get the HERO program launched in Odessa
 - Proactive big picture view of system of systems -Tarrant County facilitates partnerships and engaging stakeholders to deliver

Panel: Driving Texas Forward – Economy and Transportation

Steve Montgomery, Fort Worth Chamber of Commerce Paul Puopolo, DFW Airport Nick Konen, AllianceTexas







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- DFW Airport is investing in electric buses and autonomous technology, both for internal operations and for transporting passengers to and from the airport.
- DFW AIRPORT is also actively supporting Advanced Air Mobility (AAM), with partnerships such as Overair, and aims to position the region as a national hub for AAM deployment.
- There is value in collaborating with AllianceTexas other regional partners to work with the FAA on corridor development for AAM and working to attract additional AAM operators to North Texas.
 - Need for clear data-sharing guidance and standards to support expansion of connected and automated technologies statewide.
- AllianceTexas is making significant investments in the connected and autonomous vehicle (CAV) ecosystem, focusing on freight movement, regional testing corridors, and long-term economic development.
- Partnerships between public infrastructure owners and private-sector technology developers are essential to derisk deployment and move faster.
- Infrastructure-readiness is a top priority for regions positioning themselves to compete.

Panel: Partnerships for Implementation

Kay Shelton, DART
Qing Li, TxDOT Houston District & Lisa Hawkins, Replica
Brian Moen, City of Frisco & Kendal Prosack, Wing
Mike Arellano, TxDOT Austin District & Paul-Matthew Zamsky, Rekor

- DART (moderator) introduction
 - o Relationship-building and partnerships are central to their delivery model.
 - o They're actively testing technologies with partners (e.g., detection tech).
 - Emphasized that these projects are demonstrations and examples for others.
 - o Remaining patient, allowing relationships to build, being flexible
- Houston District / Replica
 - Using Origin-Destination (O/D) data from Replica
 - o Statewide procurement model, but developed district- and region-specific relationships.
 - Replica has been transparent about validation and modeling.
 - Effective communication and collaboration are key: "Replica is very responsive to what we ask and what our requests are."
 - o Data challenges:
 - Big data consistency is tough—formats vary.
 - Learning curve for new datasets. Takes about a year before people really understand how to use the data."
 - They host monthly meetings to guide users on applying the data.
- Frisco / Wing
 - Frisco has a history of been open to innovation: You need to be open and willing to pilot







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- Wing benefited from having a dedicated city contact early on—a Director of Innovation (since departed).
 This streamlined meetings as they handled internal coordination across permitting, public works, city manager, etc.
- Emphasized the importance of collaboration and understanding public-sector constraints.
- Highlighted Wing's openness to outreach, including participation in public town halls and a transparent approach that built trust.
- Pointed to the value of involving communications staff and other internal city teams (PIO) to align on messaging and engagement.
- Visiting the MIZ gave Frisco a clearer understanding of potential noise impacts and helped prepare the city to address community concerns.

• Austin District / Rekor

- The district prioritized understanding how tools would be used operationally, leading to a multi-year, collaborative process rather than a simple rollout.
- Success depended heavily on internal champions—individuals who could lead change, build support, and connect new tools to day-to-day needs.
- Rekor is now embedded in the district's standard operating procedures.
- Some of the success change management and education. Find the right champion and it can make a project successful.
- Procurement challenges: "Trying to procure AI using the same system we use to order pencils."
- Ask the right questions
- Build relationships with strong local partners who can support implementation.
- Coordinate with peer agencies to share use cases and lessons learned.
- Document system architecture, implementation decisions, and lessons learned.
- Start with real needs, don't build tools in search of a problem.
- "Think about the art of the possible—can we do this better?"
- "Get out of your own way."

Panel: Homegrown Innovations

Randy Hopmann, CONSOR Engineers
Dan Neal, TxDOT PEPS Division
Jeff Bush, TxDOT Dallas District
Theresa Poer, TxDOT Fort Worth District
Michael Bolin, TxDOT Waco District
Noel Paramanantham, TxDOT Paris District

- Automation efforts can streamline workflows: automated invoice entry, DocuSign CLM workflows, and a modernized contracting database.
- Goal of reducing manual processes and improving system-to-system communication.







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- Fort Worth presented a pilot project using ITS infrastructure to detect pedestrians on interstate corridors and connect alerts to TMC operations.
 - Noted 571 pedestrian detections on a 5-mile I-30 corridor during the pilot, triggering over 30 real-time
 911 calls.
 - Reported zero pedestrian fatalities in the corridor during the pilot period—technology proved useful for identifying stalled or abandoned vehicles.
- End-of-queue crash mitigation using an autonomous trailer with a message sign that can be deployed ahead of work zones.
 - Field testing is underway with positive results
- Progress update on TPAS that provides real-time parking data to drivers, integrated with statewide systems.

Panel: Future of the Freight Ecosystem

Caroline Mays, TxDOT Tiffany Melvin, NASCO French Thompson, BNSF Railway Earl Adams, Plus Andrew Canon, TxDOT

- Partnerships are required to move the economy.
- Freight movement undergoing major transformations.
- How is the freight ecosystem evolving, and what do you see as the biggest disruptors in the next 5–10 years?
 - o Disruptors include "just in time" delivery, geopolitical, public health, and social license to grow "NIMBYs".
 - The public can be swayed by ideas like "bringing back US manufacturing" and other politics that are a massive threat to North American competitiveness.
- Need for private sector to work with public partners to talk about solutions.
- Niche for everyone in freight and multimodal has opportunity for all to work together in the overlap of the niches in the Venn diagram of supply chain.

Breakout 1: Al and Data Tools

Ben McCulloch, TxDOT Leo Fan, Dell Mark Pittman, Blyncsy Carl Novelli, Streetlight Daniel Pelaez, Cyvll

- Ben opened the session with some background on his experience working with data and AI at TxDOT
 - Discussed previous efforts to establish a data lake and emphasized the importance of building trust by making sure people understand why the initiative is important and what how the data will be used







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- New solutions that leverage data and AI enable DOTs to leverage sensor data to generate plan sets and gather data on asset condition that can be used to inform maintenance planning
- DOTs are working to make use of data they already have by unifying data silos because "data isn't worth much if you can't use it" Carl Novelli
 - o If data can be queried easily, there is less need for field work to answer questions around what assets are in/out of spec (e.g., which sections of guardrails are compliant with the latest spec)
- Emphasized the importance of developing/deploying solutions that are affordable and can be implemented at scale there is limited value in exceedingly costly tools
- New sensors are generating new data sets and the key is using this data to bring awareness to new issues or to provide additional information about known issues
- When talking about how to validate the output of data tools & AI, panelists discussed:
 - Avoid reliance on pre-built models and, where possible, make sure a model is trained on data that is relevant to your agency
 - Having a human in the loop as a tool for monitoring AI will help to catch a lot of issues (e.g., accuracy issues)
 - Need to ensure the AI output is valid one way to do this is by leveraging existing infrastructure (e.g., using loop detector counts to validate traffic volume data)
- Successful implementation of data tools & AI requires time and effort to be invested make sure you stick with it
 - Build feedback loops to validate the outputs and leverage your peer network (Have other agencies used this tool? Did they like it?)
- In the realm of gathering data, it may be beneficial to use multiple sensors and cross-validate between the sensors (e.g., LiDAR and camera)
- When providing a recommendation, such as a maintenance treatment, it can be valuable to add citations to justify
 why this treatment is recommended helps the user validate that this treatment is appropriate or identify where
 something went wrong
 - Similarly, if there is imagery of an issue (e.g., pavement cracking), show this to the user as proof of the problem
- Prompt engineering can be a challenge when there is a goal of repeatable outcomes use workflows and structured processes to limit the risk of deviations
 - Ask many small questions to inform a standardized prompt instead of expecting users to craft the full prompt
- At the end of the day, people must be held responsible for how they're using AI and cannot blame AI for their mistakes
- When discussing pitfalls and interesting challenges they've faced, panelists shared:
 - Challenges with variability in the design of signs/license plates at an international level privacy blur which is designed to hide license plate information was instead blurring signs







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- Generating an inventory of missing assets is not always desirable for an agency, as this can introduce liability concerns – be mindful of what problem you're being asked to solve
- Detecting shadows on pavement as cracks is a big challenge had to add more sensors to address the problem
- Make sure that a client has the appropriate infrastructure in place to make use of the data that they're being provided – don't want delays due to a lack of storage space or inability to query the data
- Final thoughts:
 - Data is increasingly becoming a commodity and this supports the training of AI buy the data you need
 a manageable price point
 - "What's your definition of real time?" (Carl Novelli) make sure you understand what a client's needs
 are and avoid over-engineering a solution where it's not necessary
 - Build in as much redundancy as possible to sustain real-time data, as outages are a disruption to operations
 - Understand your business & your use case

Breakout 2: Connected and Autonomous Vehicles

Zeke Reyna, TxDOT Panel 1: Yariel Diaz, Serve Robotics, Richard Steiner, Gatik Jeremiah Kuntz, Aurora Dan Goff, Kodiak

Panel 2: Bart Teeter, Bot Michael Hammond, Volvo Anita Kim, Torc Liz Fishback, Stack

- It is important to keep stakeholders informed on the operator's plans—operators do not want anyone to feel surprised when they make a decision such as going driverless.
- Engagement with the community is important. For instance, Serve Robotics redesigned the look of their robots to look "cute" after hearing that some community member's felt unsettled seeing the original robots in operation.
- Operators are intentional about fitting into the existing transportation system seamlessly.
- Kodiak is moving towards the "driver as a service" model. This means that they will be more of a software operator while someone else owns and maintains the vehicle.
- Things that are good for a human driver is good for a robot, they do not want to ask for more infrastructure, more data, etc. beyond what is already in place. More data is always welcome, but these operators cannot rely upon external data accessibility.
- Data sharing takes a lot of effort to tag data based on what is wanted (e.g., queuing, collisions, near misses, pedestrians, etc.)
- Collaboration with communities is critical, especially first responders. Building trust is important.
- Every state has different challenges: weather, expectations, laws, etc.
- Current rules are made with human drivers in mind.







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- Regulatory frameworks are needed, but that doesn't stifle innovation.
- Safety case is not exclusive to the vehicle itself.
- Audience Q&A:
- How do you handle weather?
 - o If a human shouldn't drive, a robot shouldn't either.
- How transferrable is this to other modes?
 - Most of the operators focus on repetitive structured routes, most similar to fixed route transit systems. While operators are not currently looking at transit applications, there is certainly a level of transferability.
- What is needed for the roads of the future?
 - o Clean shoulders are greatly appreciated, as well as knowing when construction is coming.
- Do your systems prefer 6" or 4" stripes?
 - o Have not seen a difference between the two in terms of ease of system detection.
- What about faded striping? Or abnormal striping?
 - This is addressed in the "mapping" process.

Breakout 3: Multimodal Systems

Bonnie Sherman, TxDOT Yulia Shveyko, Avride Ann Foss, City of Arlington Misty White, Metropia Anette Landeros, Trinity Metro Christina Liu, City of Austin Steve Young, Masabi

- TxDOT: EV transit tested in 4 of Texas's 36 rural districts using on-demand, fixed-route, and microtransit models.
- Arlington operates an on-demand service that crosses city boundaries to improve regional connections. Pilots include:
 - Rapid AV (May Mobility)
 - Arlington Express (connecting to rail)
- Arlington lacks the density for traditional fixed-route transit, so flexible models are preferred.
- City of Austin has long-term goal: 50/50 SOV vs. alternative mode share by 2039. Programs supporting this include CPRG, Transportation Alternatives
- City of Austin also has an AV Safety Working Group with a data-sharing dashboard.
- Tools like Masabi and Metropia support payment integration, VMT tracking, and trip planning across modes.
- Trinity Metro operates Via's on-demand service, fixed-route lines (blue/orange), TRE to DFW, and relaunched metro bikes







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- On-demand also supports paratransit users; phone-based scheduling still supported.
- What Defines a Multimodal System?
 - o Accessible, safe, reliable, and user-centered.
 - o Context-sensitive: varies by location (Dallas vs. Fort Worth vs. Arlington).
 - o Focused on where people want to go, how they want to get there, and improving access.
- Key Challenges
 - o Funding is the top barrier; most discussions start with "what can we do with limited resources?"
 - Behavior change is slow, requires community engagement and education.
 - Easier when paired with major life changes.
 - Awareness and access: infrastructure may exist, but usage lags if people don't know about it.
 - o Land use and zoning affect viability-- density is needed to support multimodal.
 - Jurisdictional boundaries limit regional travel (e.g., crossing cities for basic needs).
 - o Coordination challenges: data-sharing agreements, aligning funding and political will.
- Technology Solutions
 - o Real-time data improves operational awareness and user experience.
 - o GTFS and open data initiatives expand integration and public access.
 - o AV data helps cities improve street design and network performance.
 - o On-demand systems provide scalability and resilience (e.g., during COVID).
 - Pilots help cities test and refine services gradually.
 - Robot testing has uncovered ADA accessibility issues.
 - o Improved data reporting: event closures, broken infrastructure, etc.
 - Technology enables more robust data collection and user interaction (e.g., surveys).

Breakout 4: Traffic Operations:

Will McLane, TxDOT Ross Sheckler, iCone Scott Lee, Iteris Fabio Capillo, City of Houston Tim Adams, HAAS Alert Brian Hoeft, Mixon Hill

- What operational challenges are you currently prioritizing, and how are you approaching them differently today than in the past?
 - o Desire to make things better and technology can help.
 - Challenge to integrate technology into old infrastructure.
 - We have all this data but do we do with it.
 - o Public has big expectations, and everyone has a phone so everyone thinks they are a traffic engineer.
 - Ability to get information into vehicles as a proactive safety feature.







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- Asset management is a must and manual will not work when talking about over a million signs.
- Public sector first is safety and next is find ways to use technology and be on the cutting edge.
- How are you incorporating emerging technologies—like AI, connected vehicle data, or advanced sensors—into
 your traffic operations strategy?
 - Make sure ground troops at agencies are ready for the data.
- Can you share a recent project or pilot that succeeded (or failed) and what others can learn from it?
 - Houston smart city initiative to build a "cell phone" that you load apps onto instead of buying a new phone for each app.
 - Not a specific pilot but understand why a project is a pilot and then find a path to success of building it into a long term budget.
 - A pilot project is a good opportunity for workforce development.
 - A pilot does not need to be expensive and you can start without a headquarters office and major funding.
- What does successful collaboration look like between public agencies and private partners in traffic operations? Where do you see room for improvement?
 - Goes back to trust and need to prove that the private partner can do it at least as well as it was done before.
- Closing remarks:
 - Be curious and do not be afraid to try new things.
 - We are all in this together and we should all connect.

JUNE 18

TEAM SHOWCASE

Team Arlington

Presenter: Ann Foss

Project Lead: City of Arlington

Project Abstract: As the City prepares our safety action plan, called Safe Streets Arlington, a key safety concern heard from stakeholders and the public, and supported by crash data analysis, focuses on visibility and lighting to improve safety on our roadways. The City proposes to use data from the Safe Streets Arlington Plan to identify locations for installation of lighting improvements, coupled with technology that can help us monitor safety, identify additional safety concerns at these locations, remotely signal maintenance needs, and track safety improvements after the installation.

FEEDBACK FROM JUDGES

- Strong focus on nighttime safety and use of smart infrastructure to reduce maintenance burdens.
- Good use of crash data used to guide deployment locations.
- Recommended clarifying what specific technologies are being deployed.
- Suggested expanding capabilities (e.g., near-miss analytics) during initial deployment rather than retrofitting later.







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Team Austin

Presenter: Jo Namayanja **Project Lead:** CapMetro

Project Abstract: Following a successful Phase 1 deployment of a Level 4, 40' battery electric bus (BEB) in live yard conditions, CapMetro now aims to scale its autonomous yard operations. Phase 2 will expand vehicle integration, advance dispatch capabilities, and focus on workforce development to enable remote, driverless yard functions across a broader fleet.

FEEDBACK FROM JUDGES

- Judges were excited about the collaboration and workforce development elements.
- Commended the team for pioneering AV yard operations in a real-world setting.
- Suggested clarifying how battery performance and fleet operations will be evaluated in Phase 2.
- Asked how insights from yard automation could inform facility design and broader fleet transition.

Team Bryan-College Station

Presenter: Uday Kari **Project Lead:** City of Bryan

Project Abstract: The City of Bryan developed a proof-of-concept system that addresses cybersecurity and communications gaps to deliver real-time signal performance insights. This project aims to move from proof-of-concept to a fully automated deployment that ingests signal data and processes real-time information to reveal performance insights, all through a cybersecure framework. The vendor-agnostic approach is designed to scale statewide regardless of controller type or communications infrastructure.

FEEDBACK FROM JUDGES

- Solving a widespread and difficult problem.
- Strong emphasis on cybersecurity
- Recommended stating the problem clearly upfront and quantifying throughput impacts.
- Encouraged aligning with national standards and clarifying how proprietary data challenges will be addressed.

Team Fort Worth

Presenter: Gadimi Hilton

Project Lead: City of Fort Worth Transportation & Public Works

Project Abstract: Fort Worth is deploying a weather sensing network designed to close critical micro-weather data gaps for transportation safety and efficiency. Using an array of advanced sensors from multiple vendors, the project will support safer routing for freight, advanced air mobility, and AVs, particularly during severe or highly localized weather events.

FEEDBACK FROM JUDGES







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- Good use of sensors and potential for integration with other systems.
- Share how data will be used by different partners, including freight and public users
- Recommended clarifying system redundancy and data outputs

Team Frisco

Presenter: Kerin Smith **Project Lead:** City of Frisco

Project Abstract: The City of Frisco is launching a new public transit system, beginning with on-demand microtransit and a future circulator service. A dedicated Mobility Hub will serve as the long-term anchor, connecting these modes and enhancing user access to multiple transportation options. This integrated approach offers a valuable opportunity to study rider behavior, mode-shift preferences, and regional coordination in a fast-growing, car-centric community.

FEEDBACK FROM JUDGES

- Suburban mobility is very challenging and important great challenge to solve.
- Suggested leaning further into the digital integration and data-sharing components.

Team Permian Basin

Presenter: Gabriel McLelland **Project Lead:** City of Midland

Project Abstract: The Permian Basin region faces rising congestion, freight demands, and safety concerns along SH 191, its most heavily trafficked corridor. This project proposes to deploy adaptive traffic signal technologies and integrated data systems to improve commuter efficiency, emergency response, and multimodal safety, laying the foundation for coordinated, regional-scale traffic management.

FEEDBACK FROM JUDGES

- Strong collaboration and regional participation
- Clearly defined problem.
- Recommended clarifying why that vendor was chosen and how hardware/software ownership is managed.

Team East Texas

Presenter: Baylea Evans

Project Lead: GoBus (East Texas Council of Governments Rural Transit)

Project Abstract: GoBus proposes a pilot to implement Digital Twin technology to modernize fleet maintenance operations. Through IoT-enabled vehicle monitoring and AI-based analytics, the project aims to improve reliability, reduce



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downtime, and transition from reactive to predictive maintenance. This effort supports GoBus's shift to in-house maintenance and sets the foundation for a data-informed, scalable strategy tailored to rural operations.

FEEDBACK FROM JUDGES

- Proactive shift from reactive to predictive maintenance using digital twin technology.
- Judges appreciated the scalability of the pilot design.
- Recommended coordination with OEMs and other agencies collecting similar data.