SYMPOSIUM SUMMARY | JUNE 2026

AUTONOMOUS VEHICLES & URBAN MOBILITY INTEGRATION

Insights from the Atlanta Regional Commission/
Center for Urban Research
Autonomous Vehicle Symposium

CONNECTED INTEGRATED EQUITABLE SUSTAINABLE SAFE

JUNE 2026

ARC Atlanta Regional Commission

Center for Urban Research
Georgia Tech

EXECUTIVE SUMMARY

The Atlanta Regional Commission (ARC) and the Center for Urban Research at the Georgia Institute of Technology are co-hosting a series of symposia on the topic of transportation policy. The goal of these sessions is to surface insights from researchers and practitioners that can inform the transportation policy development efforts of the ARC, the City of Atlanta and other governments within the region.

The Autonomous Vehicle Symposium convened leaders from public agencies, academia, and industry to examine how autonomous vehicles (AVs) can be effectively integrated into urban mobility systems. Presenters included:

- Justin Hatch, Assistant State Traffic Engineer for the Georgia Department of Transportation Clayton Tino, Beep
- Emily Heintz, Executive Director of Curiosity Lab
- Cary Bearn, Senior Manager, Multimodal Design and Programs at the National Association of City Transportation Officials
- Ellen Dunham-Jones, Professor in the College of Design at the Georgia Institute of Technology
- Rounaq Basu, Assistant Professor in the School of City and Regional Planning at the Georgia Institute of Technology
- Hans Klein, Associate Professor in the School of Public Policy at the Georgia Institute of Technology facilitated the speaker panel

The consensus that emerged was clear and consequential: AVs must not operate as standalone technological innovations, but as integrated components of a broader, multimodal transportation ecosystem.

The central challenge is not technological capability—it is system integration. Aligning vehicles, infrastructure, policy, and user experience into a cohesive mobility network will determine whether AVs deliver on their promise or create new challenges. This paper synthesizes the symposium's key findings and recommendations, enriched with current research.

1 Introduction

Autonomous vehicles represent one of the most consequential transportation innovations in generations. Proponents envision a future of dramatically safer roads, expanded mobility for underserved populations, and more efficient use of urban infrastructure. Yet the path from technological possibility to public benefit is neither automatic nor guaranteed.

The symposium brought together practitioners and researchers to confront a fundamental question: how do cities harness the potential of AVs while avoiding the risks of fragmented deployment, induced congestion, inequitable access, and eroded public transit? The answer, repeated across both the presentations and the panel, was that the future of mobility depends on integration—not automation alone.

This paper presents the symposium's major findings, draws on supporting research published between 2024 and 2026, and closes with a prioritized set of policy and practice recommendations.

2 From Vehicles to Systems: The Orchestration Imperative

The symposium's most persistent theme was the distinction between vehicle-level autonomy and system-level orchestration. AVs can navigate autonomously, but they do not inherently function as transit services. Bridging that gap requires active orchestration—the coordination of fleets, routes, and demand across an entire transportation network.

Service orchestration platforms perform three essential functions:

- Managing fleets in real time, matching vehicles to demand dynamically
- Integrating AVs with buses, rail, and micro-transit to create seamless multimodal journeys
- Optimizing for network-wide efficiency rather than individual vehicle performance

This represents a fundamental shift from fleet optimization to system optimization. A single AV operating in isolation may reduce one trip's friction while increasing congestion for hundreds of others. Only system-level thinking—asking how each deployment affects the full network—can align AV innovation with public mobility goals.

KEY INSIGHT

The most important question for any AV deployment is not 'Can this vehicle operate autonomously?' but 'Does this vehicle improve the overall mobility system for all users?'

3 Integration Across Layers: Vertical and Horizontal

Symposium panelists identified two dimensions of integration that must advance in parallel for AVs to fulfill their potential:

Vertical Integration

Vertical integration refers to the coordination across technical layers: from individual vehicle to fleet management to city-wide system. Each layer must communicate with the others. A vehicle that cannot report its status to a fleet manager, or a fleet manager that cannot share demand data with a transit authority, creates blind spots that will undermine system-wide efficiency.

Horizontal Integration

Horizontal integration refers to coordination across transportation modes—transit, AVs, shared bikes, pedestrian infrastructure, and physical infrastructure. In practice, this means ensuring that an AV drop-off location is adjacent to a high-quality transit stop, that scheduling data flows between ride-hail and rail operators, and that urban design accommodates the physical needs of multimodal transfer.

Achieving both forms of integration raises unresolved governance questions:

- Who owns and manages the shared mobility data layer?
- Who operates the 'mobility dashboard' that city planners and transit agencies need?
- What technical standards enable interoperability across operators and modes?

The emerging consensus among symposium participants favors public-sector-led orchestration platforms supported by open data standards, with private operators providing services within that structure—rather than allowing private actors to build proprietary silos that cities cannot access or easily regulate.

4 Safety, Data, and Public Trust

Safety is the most consequential and least resolved dimension of AV deployment. The technical debate about whether AVs are safer than human drivers cannot be settled without standardized, independently verified data—and that data does not yet adequately exist.

The Data Gap

Between 2021 and mid-2025, NHTSA recorded over 3,000 crashes involving AVs and Level 2 Advanced Driver Assistance Systems, resulting in 53 fatalities and 303 injuries. Yet comparative analysis is limited by fragmented reporting requirements, operator-controlled data, and the absence of standardized methodologies for comparing AV and human-driver safety performance across similar conditions and mileages.

Proposed solutions include:

- A unified federal AV reporting standard with a public-facing dashboard for comparing crash rates across manufacturers
- Mandatory reporting of unplanned stoppages and any impacts to law enforcement, first responders, or public transit operations
- Independent third-party safety assessments, as proposed under NHTSA's AV STEP framework (January 2025)

Public Trust

The trust deficit is stark. A 2026 survey by the Progressive Policy Institute found that just 13% of U.S. drivers would trust riding in a self-driving vehicle, while 61% reported they would be afraid to do so. Research published in Nature Scientific Reports (2024) found a strong positive relationship between factual knowledge about AVs and public support—suggesting that transparency and public education are not merely good communications strategy, but functional prerequisites for adoption.

High-profile incidents—stalled vehicles blocking intersections, AVs impeding emergency responders—have outsized effects on public perception. In the absence of authoritative comparative safety data, anecdote dominates discourse. This dynamic can only be corrected by robust, accessible, independent safety reporting.

> **RESEARCH FINDING**
> *A 2024 study of 4,112 individuals found that both scientific literacy and self-assessed knowledge of AVs positively predicted public support. Transparency is not just good practice — it is a prerequisite for adoption. (Tan et al., Nature Scientific Reports, 2024)*

5 Sustainability and the Induced Demand Problem

AVs are frequently described as a sustainability solution. The reality is more conditional. Research consistently shows that without deliberate policy constraints, AVs are likely to increase vehicle miles traveled (VMT) and worsen congestion rather than reduce it.

The Evidence on VMT

A 2026 meta-analysis of 26 studies by researchers at the University of Texas–Arlington found that widespread AV adoption would increase average VMT by approximately 6%—and that shift to shared autonomous taxis would still produce a 5% increase. A separate 2025 systematic review of 48 studies (Virginia Tech) quantified the range more precisely: conditional automation (SAE Level 3) is associated with approximately 10–20% VMT increases, while full automation without policy intervention could produce VMT growth exceeding 50%.

The primary mechanism is reduced perceived travel time cost. When a passenger can work, read, or rest during a trip, the psychological barrier to longer commutes disappears. Research published in 2025 found that time-cost elasticity of VMT is significantly higher than fuel-cost elasticity—meaning that the productivity gains of AVs, not just their fuel efficiency, will be the primary driver of induced demand.

The Sustainability Conditions

The symposium's finding—that AVs can be sustainable only if they are shared, electric, and integrated with transit—is well-supported by the research. Transportation modeling studies by Fehr & Peers found that VMT increased in all nine modeled scenarios when there was no regulatory requirement for ridesharing, with increases ranging from 8% to 68%. When 50% of AV trips were shared, the VMT increase was mitigated but not fully offset.

Sustainability also requires addressing 'deadheading'—empty vehicle repositioning miles. In high-demand urban markets, deadheading can represent 30–40% of total AV fleet miles if not actively managed through pricing and routing incentives.

> **POLICY IMPERATIVE**
> *Without proactive VMT pricing, ridesharing mandates, and transit integration requirements, AVs will increase congestion and emissions. The technology is neutral—policy determines the outcome.*

6 Urban Design and Multimodal Access

The symposium identified a counterintuitive constraint: in many cities, the binding limitation on AV integration is not the technology—it is the physical urban environment. AVs need places to pick up and drop off passengers, and those places need to connect seamlessly to pedestrian networks, transit stops, and bike infrastructure.

Infrastructure as the Limiting Factor

Effective AV integration requires:

- High-quality, protected sidewalks and pedestrian crossings within walking distance of AV stops
- Bike lanes and micromobility infrastructure connecting AV drop zones to final destinations
- Transit hubs designed for multimodal transfer, with weather protection, real-time information, and safety lighting
- Mobility hubs that integrate AV pick-up/drop-off, transit access, micromobility parking, and mixed-use amenities in a single location

AVs as First/Last-Mile Connectors

The highest-value AV use case in urban environments is not replacing transit—it is extending transit's reach. AVs operating as on-demand first/last-mile connectors can dramatically expand the effective service area of rail and bus rapid transit, enabling people in lower-density neighborhoods to access high-frequency transit without personal vehicle ownership. This is particular applicable to the Atlanta metro region that is characterized by low density residential areas.

This positioning has a corollary: it requires that transit be maintained and enhanced, not replaced. An AV deployment strategy that cannibalizes bus ridership without providing equivalent service breadth may leave mobility gaps—particularly for low-income and transit-dependent residents.

7 Policy and Governance: Proactive Leadership Required

Perhaps the most forceful message from the symposium was that policy—not technology—will determine whether AVs improve or degrade urban mobility. Cities that wait for technology to mature before establishing governance frameworks will find themselves regulating facts on the ground set by private actors.

Critical Policy Levers

- Mandatory data sharing requirements for trip volumes, routes, safety events, and operational incidents
- Incentive structures rewarding shared, electric, and transit-integrated AV deployments

- Interoperability standards requiring that AV platforms share data with public transit agencies and planning departments
- VMT-based pricing or congestion pricing to counteract induced demand
- Equity provisions ensuring AV service is not concentrated in high-income, high-density corridors
- Public-private partnership frameworks that preserve public accountability over mobility infrastructure

The Risk of Reactive Governance

Cities that adopt reactive rather than proactive governance face three specific risks identified at the symposium:

- Private-sector dominance—operators setting de facto service standards, pricing structures, and data governance norms that cities must then regulate after the fact
- Inequitable service distribution—AV services clustering in high-margin corridors while underserved communities receive degraded or unchanged service
- Infrastructure misalignment—physical investments in roads, curbs, and parking structures that serve AV operators rather than broader urban mobility goals

Proactive governance does not mean slowing innovation. It means establishing the conditions—open data, clear standards, defined public interests—under which innovation can happen equitably and efficiently.

8 Innovation Ecosystems and Public-Private Testbeds

The symposium highlighted a promising model for bridging public goals and private innovation: the purpose-built urban testbed. Programs such as Curiosity Labs in Peachtree Corners demonstrate how cities can serve as living laboratories—providing real-world operating environments, regulatory flexibility, and public-sector partnerships that startups and established operators cannot easily replicate.

These ecosystems deliver several benefits:

- Accelerated real-world testing under conditions that simulate actual deployment challenges
- Direct feedback loops between operators, regulators, and the communities experiencing the technology
- Shared infrastructure investment that reduces barriers for smaller innovators
- Visible public engagement that builds familiarity and measured trust among residents

The testbed model is not a substitute for citywide governance frameworks, but it provides an evidence base that informs them. Cities that establish testbeds with clear data-sharing requirements and public reporting obligations can build the empirical foundation for effective AV policy — while other jurisdictions wait for studies that may take years to produce.

> **MODEL TO WATCH**
> *Curiosity Labs (Peachtree Corners, GA) has demonstrated that municipalities can serve as innovation partners rather than passive regulators — aligning startup development cycles with public mobility goals through structured real-world testing environments.*

9 Risks and Tradeoffs

The symposium did not treat AVs as an unambiguous good. Participants identified a set of risks that require explicit mitigation—risks that will not resolve themselves through technological maturation alone.

Risk	Nature and Mitigation
Induced Demand & Congestion	Reduced travel time cost drives more and longer trips. Mitigation: VMT pricing, ridesharing requirements, transit integration incentives.
Data Privacy & Surveillance	Continuous operational data creates persistent location records. Mitigation: Data minimization requirements, anonymization standards, purpose-limitation rules.
Inequitable Access	High-margin urban corridors attract disproportionate service. Mitigation: Equity service standards, cross-subsidization requirements, fare integration.
Transit Cannibalization	Ride-hail AVs draw riders from public transit, reducing fare revenue and political support for transit investment. Mitigation: Mode-integrated pricing, route coordination.
Regulatory Gaps	Patchwork of state and local rules creates inconsistent safety and service standards. Mitigation: Federal baseline framework, interstate coordination.
Fragmented System Ownership	Private data silos prevent cities from managing their own mobility networks. Mitigation: Open data mandates, public orchestration platforms.

10 Key Conclusions

- **AVs should enhance, not replace, public transit**: The highest-value AV use cases—first/last-mile connectors, demand-responsive extensions of fixed-route transit—depend on a strong public transit foundation. AVs are not likely to substitute for the scale of public transit systems.
- **System orchestration is the defining challenge**: Vehicle autonomy is a necessary but insufficient condition for beneficial AV deployment. Cities must invest in the orchestration layer—the platforms, standards, and structures—that align AV operations with public mobility goals.
- **Data transparency is critical**: Safety claims, sustainability claims, and equity claims can only be effectively evaluated with robust, independent, and publicly accessible data.
- **Policy decisions made today will shape long-term outcomes**: Urban form, infrastructure investment, service patterns, and equity trajectories are shaped by decisions made during the deployment window.
- **The future of mobility depends on integration**: Not automation alone. The symposium's central finding is that AVs are a component of a system, not a system unto themselves. Their benefit depends entirely on how well they are integrated with the physical, institutional, and policy environment of urban mobility.

11 Recommended Actions

Based on the symposium findings and supporting research, the following actions are recommended for city governments, regional transit agencies, and state and federal policymakers:

1	**Seek AV Data Sharing—**Create a process whereby operators can share trip volumes, routes, safety events, unplanned stoppages, and operational data with public agencies in standardized, machine-readable formats.
2	**Prioritize Shared, Electric, Transit-Integrated Deployments—**Use permitting, incentive structures, and service standards to concentrate AV deployments in configurations that reduce VMT and complement—rather than compete with—public transit.

3	**Invest in Multimodal Infrastructure—**Prioritize sidewalks, protected bike lanes, transit hubs, and mobility hub development in AV deployment corridors. Physical infrastructure is the enabling layer for AV integration.
4	**Consider Interoperability and Data Governance Standards—**Open data standards where AV platforms share scheduling, capacity, and demand data with public transit agencies and city planning departments.
5	**Pilot First/Last-Mile AV Transit Use Cases—**Fund pilots connecting AVs to rail and bus rapid transit stations, with rigorous evaluation of ridership effects, equity impacts, and cost-effectiveness.
6	**Develop VMT Pricing and Congestion Management Policies—**Prepare to implement mileage-based fees, congestion pricing, and deadheading charges that internalize the full costs of induced AV demand.
7	**Establish Independent Safety Evaluation Bodies—**Support creation of federal or regional bodies capable of conducting third-party AV safety evaluations against standardized methodologies, reducing reliance on operator-reported data.
8	**Build Public AV Innovation Ecosystems—**Establish testbed programs that provide operators with real-world deployment environments in exchange for data-sharing commitments and alignment with public mobility goals.

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For questions and feedback, please reach out to:

David Edwards
Founding Director, Center for Urban Research
And Professor of Practice
Jimmy and Rosalyn Carter School of Public Policy
Ivan Allen College of Liberal Arts
Georgia Institute of Technology
Dedwards96@gatech.edu
404-502-6842