ACES MOBILITY COALITION

AUTOMATED · CONNECTED · ELECTRIC · SHARED

Shared Autonomous Mobility

Expanding the Reach of Public Transportation

IN PARTNERSHIP WITH

JACKSONVILLE TRANSPORTATION AUTHORITY

“I have arrived!”

Lloyd, a 99-year-old resident of Altamonte Springs, FL, beams while experiencing his first ride in a CraneRIDES autonomous shuttle. Inspired by local news coverage, he and fellow residents from a nearby assisted living facility were eager to experience this cutting-edge technology. His excitement is a powerful reminder of how innovative, reliable transportation can empower seniors and many others, with renewed independence, connection, and access to their communities.

Automated. Connected. Electric. Shared. (ACES) Technology

The Case for ACES

Autonomous. Connected. Electric. Shared. (ACES) technology is a solution born out of a need.

Less than two years ago, public sector agencies joined together with private industry to form the **ACES Mobility Coalition,** a public sector led organization created to advocate for shared, autonomous vehicles. They did it to ensure the potential of this new technology to extend the reach and capability of transit systems across the nation. They also did it to help solve a major mobility issue. For decades, transit has reduced the number of single occupancy vehicles, provided mobility access and lowered emissions, but for as long as there's been transit, there's also been a missing piece: the first and last mile problem.

Conventional transit requires people to get from home to the bus stop or the light rail station, and at the end of their trip, from the stop or the station to their destination.

ACES technology finally solves that issue.

Driverless shared vehicles are not just getting people there, they're getting people **ALL** the way there.

- **Near San Francisco in Contra Costa County,** residents in the 55-plus Rossmoor community, many of whom no longer hold driver's licenses, have embraced driverless, shared vehicles to travel around their neighborhood.
- **In Altamonte Springs, Florida,** driverless shuttles are connected to conventional transit, providing people with access to shopping and the entire downtown area.
- **In Ann Arbor, Michigan,** University of Michigan students are going to class, the library, and football games in autonomous vehicles.
- **In Jacksonville, Florida,** residents and visitors can experience the most comprehensive ACES downtown driverless vehicle circulator program in the nation.
- **At Daniel K. Inouye International Airport in Honolulu,** four autonomous, electric shuttles are extending and augmenting the airport transport experience. The pilot program aims to provide efficient, safe, and sustainable mobility solutions for passengers, showcasing the future of airport transportation.

But that's not all. An entire industry with American manufacturing, providing American jobs is evolving with every new deployment. The hard work is being done by innovators, communities, and agencies across the nation.

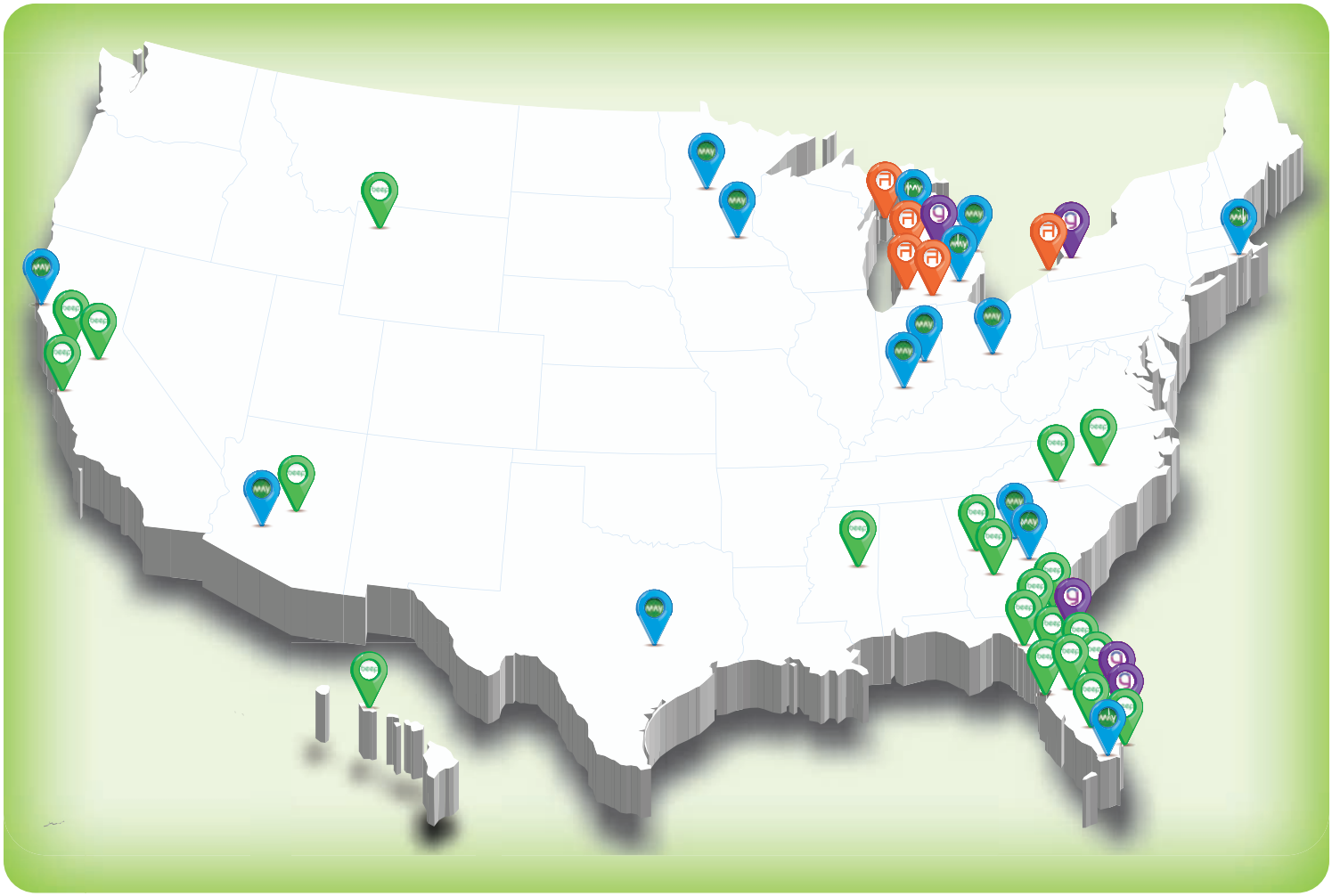
ACES is here, ACES is growing, and ACES is solving the first and last mile problem in communities across America every day.

ACES MOBILITY COALITION
AUTOMATED - CONNECTED - ELECTRIC - SHARED

What is Automated. Connected. Electric. Shared. (ACES) Technology?

ACES technology is an efficient, safe, and cost-effective mobility solution. Driverless shuttles, buses, and vans are utilizing dramatic advances in autonomous vehicle (AV) capability, putting them to work for the benefit of residents in communities across America.

ACES Technology: Closer Than You Think



ADASTEC Beep Guident May Mobility

ACES is an important part of the growing autonomous vehicle ecosystem.

According to the Autonomous Vehicle Industry Association:

Autonomous vehicles have logged more than **145,000,000** miles.

In approximately one year, the **DISTANCE TRAVELED** by autonomous vehicles to date, has doubled.

The distance traveled is **EQUIVALENT** to the distance between

While ACES technology represents the future of shared mobility, it is fully rooted in the present.

Beep

Major agencies and organizations in every part of the nation, including the Jacksonville Transportation Authority (JTA) on the East Coast, the Contra Costa Transportation Authority (CCTA) in the West, goMARTI (Grand Rapids, MN) in the North, and Mississippi State University in the South, are embracing ACES technology and collaborating with innovators, manufacturers, and fleet managers and funders including Beep, HOLON, May Mobility, ADASTEC, and BENTELER Mobility to ensure successful operations.

With deployments in downtown areas and business districts, around airports and across university campuses, adjacent to medical centers and connected to transit hubs, ACES vehicles are providing new levels of mobility and improving lives in all corners of the country.

ADASTEC

May Mobility

HOLON

Where the Rubber Meets the Road

Deployment Use Cases

Around the 55-Plus Community

Contra Costa Transportation Authority (CCTA)
Walnut Creek, California

The Contra Costa Transportation Authority (CCTA) and Beep have launched PRESTO, an autonomous shuttle that safely and efficiently carries Rossmoor's 55-plus residents along a fixed route inside their gated community. And countywide, CCTA is also piloting self-driving shuttles with Beep at Bishop Ranch in San Ramon and running an on-demand autonomous vehicel (AV) service with May Mobility in downtown Martinez. Much of this technology is tested at CCTA's GoMentum Station — one of the nation's largest, oldest AV testbeds — before rolling out to the public.

And Rossmoor riders are already sold: "They can't get enough of this," said CCTA Executive Director Tim Haile. "They keep asking, 'When can we bring in more vehicles? When can we expand the service?'"

Around Town

City of Altamonte Springs, Florida

As one of the most innovative cities in the U.S., Altamonte Springs is redefining how residents and visitors move through the city with CraneRIDES, an autonomous shuttle service designed to make transportation more accessible and efficient. As the city evolves, so do the ways people get around. By prioritizing innovative transit solutions, Altamonte Springs is building a future where convenience and connectivity go hand in hand.

Now in Phase 2, the CraneRIDES route directly links the city's business and employment centers, including AdventHealth Altamonte Springs. This expansion provides thousands of hospital staff, patients, and visitors with easy access to nearby resources and recreational areas. Integrating CraneRIDES with one of the area's largest employers supports transportation efficiency and community well-being.

The long-term vision will connect CraneRIDES to the Altamonte Springs SunRail station, linking more than two million square feet of economic development and over 3,000 residential and hotel units along the route. This essential link will offer residents and visitors a convenient transition between local and regional transit, supporting lifestyle journey planning and reducing reliance on personal vehicles for a multimodal community both now and in the future.

Around Yellowstone National Park

National Park Service – Canyon Village
TEDDY: Electric Driverless Shuttles in Yellowstone

Yellowstone National Park partnered with Beep to launch TEDDY, the first autonomous shuttle pilot in a national park. During peak summer months, visitors were able to ride two free, electric shuttles in Canyon Village:

- **Lodge Route (1.5 miles):** Connected visitor services, the eatery, Moran Lodge and Washburn Lodge.
- **Campground Route (2 miles):** Linked the campground area with visitor services and the eatery, with four stops.

The pilot tested the feasibility of autonomous transit in remote, high-traffic areas. Insights will guide future transportation planning across the National Park Service.

In announcing the program, Cam Sholly, Superintendent of Yellowstone National Park said, ***"As visitation continues increasing in Yellowstone, we are looking at a range of visitor management actions that focus on protecting resources, improving the visitor experience, and reducing congestion, noise and pollution. Shuttles will unquestionably play a key role in helping achieve these goals in many of the busiest areas of the park."***

Around a Planned Development Community

Lake Nona – Orlando, Florida
Move Nona: Building the Nation's Largest Autonomous Shuttle Network

Move Nona operates the largest and longest-running autonomous vehicle network at a single location in the U.S., with eight shuttles serving five routes across nearly 10 key destinations in Lake Nona, Florida.

Developed by Tavistock Development Company, Lake Nona is a 17-square-mile, fast-growing community designed around innovation and sustainability. Supported by a $20 million BUILD grant from the U.S. Department of Transportation, the autonomous shuttle program was launched to provide residents, employees, and visitors with efficient, alternative mobility options.

Integrated into Lake Nona's broader multimodal strategy, the network is expanding to support 25 shuttles and 15+ miles of dedicated paths. To date, Move Nona has transported nearly 65,000 riders.

Around Campus

City of Arlington, Texas and the University of Texas at Arlington

In Texas, May Mobility pioneered and has operated service using five Toyota Sienna Autono-MaaS minivans around the University of Texas at Arlington since March 2021. In partnership with the university and the City of Arlington, the on-demand program has delivered more than 100,000 rides to date.

Fully integrated into Arlington's micro-transit offerings, May Mobility's service uses an app that allows riders to choose between autonomous or human driven vehicles.

- 80% choose autonomous vehicles
- Each rider has taken an average of 13 rides using the service to date
- The program moves 1,000 riders per week using five Toyota Sienna Autono-MaaS minivans
- Ridership includes students, faculty, residents, and tourists

Around the Medical Center

Niagara Frontier Transportation Authority and the University at Buffalo – Buffalo, New York

This summer, autonomous transit software developer ADASTEC, in partnership with the Niagara Frontier Transportation Authority (NFTA), the Buffalo Niagara Medical Campus (BNMC), and the University at Buffalo (UB), deployed a full-sized autonomous bus on the Buffalo Niagara Medical Center Campus. The bus is operating on-demand, traveling on regular roads between the hospital and various medical facilities, altering its route to accommodate mobile app requests. The project is being funded by the U.S. Department of Transportation (USDOT) with a 20% local match from NFTA, BNMC, and UB, with a goal of creating a repeatable, scalable model to provide mobility access for underserved community applications across the country.

Around the Roadway

Guident – Remote Monitor and Control Center (RMCC)

Guident's patented Remote Monitor and Control Center (RMCC) enhances autonomous vehicle (AV) safety through a human-in-the-loop teleoperation approach, enabling real-time monitoring, assistance, and remote driving. The RMCC is platform-agnostic and integrates with various AV manufacturers to support various autonomous formats, including shuttles, robotaxis, buses, and inspection robots. With trained operators, AI-powered tools, and secure multi-network connectivity, Guident ensures scalable, reliable, and human-supported oversight of autonomous fleets across the U.S. and Europe.

Jacksonville Transportation Authority – A Model for the Future

Led by mobility visionary, Nat Ford who began his career 40 years ago as a train conductor in New York City and has since led the San Francisco Municipal Transportation Agency and the Metropolitan Atlanta Rapid Transit Authority, the Jacksonville Transportation Authority (JTA) is about to launch the most comprehensive, integrated autonomous shared mobility system in the U.S. to date. As a leader in first and last mile solutions, this summer, the JTA is launching the Ultimate Urban Circulator (U^2C), a program to introduce autonomous shared vehicles into its system. The program is centered around JTA's Bay Street Innovation Corridor, a critical artery connecting the urban business core and the downtown entertainment and sports venues. The system is beginning operations with 14 specially modified autonomous Ford Transit Vans and ultimately will expand to more than 10-miles of operational autonomous vehicle (AV) corridors within the city's neighborhoods. Nat Ford's influence in the AV space is continuing to grow. This year, he was selected to chair the American Public Transportation Association's (APTA) new AV Committee, partnering with the ACES community to advance shared autonomous mobility.

Economic Development in Northeast Florida

At Nat Ford's urging and after extensive discussions, German automotive OEM, HOLON (a BENTELER Group subsidiary) is locating America's first autonomous shuttle manufacturing facility right in Jacksonville. The company plans to begin production in 2027 building thousands of American vehicles for American agencies while others will ship directly from the Port of Jacksonville.

JTA's Path to Shared Autonomous Mobility

2015 JTA Creates Skyway Advisory Group (SAG).

2016 JTA staff recommends replacing the Skyway with autonomous vehicles traveling the existing route, ultimately connecting Riverside and the Downtown Sports Complex.

2017 JTA Board votes to support the autonomous vehicle (AV) future.

2018 JTA's AV program is branded "Ultimate Urban Circulator" (U^2C).

2019 USDOT Secretary Elaine Chao personally presents BUILD Grant check to JTA.

2020 During COVID, JTA deploys U^2C driverless vehicles to Florida's Mayo Clinic to deliver test samples across campus.

2021 Jacksonville City Council approves Local Option Gas Tax as a dedicated transportation infrastructure funding source, including the U^2C.

2022 JTA Board of Directors approves the MOVE2027 plan to keep JTA at the forefront of the changing region and mobility landscape.

2023 JTA CEO Nat Ford and JAXUSA CEO Aundra Wallace meet with AV manufacturers regarding building a facility in the U.S.

2024 JTA breaks ground on Autonomous Innovation Center, the command center and maintenance facility for the AV fleet. HOLON announces Jacksonville AV manufacturing facility.

2025 JTA opens its Autonomous Innovation Center and launches its AV service, branded as Neighborhood Autonomous Vehicle Innovation (NAVI), along the Bay Street Innovation Corridor.

"Establishing our first manufacturing plant in Jacksonville marks a defining step forward for both HOLON and the city—underscoring our shared role in advancing Florida, the United States, and the global autonomous vehicle industry."
Gregory Crandell
General Manager, HOLON

A New Industry – A New Economy

Creating Jobs and American Economic Impact

As the ACES technology industry matures, it is also creating a new economy, providing jobs, opportunity, and economic impact.

In Jacksonville, Florida, autonomous electric shuttle innovator HOLON, a subsidiary of the BENTELER Group, is building a 500,000 square foot manufacturing facility. Working in collaboration with the Jacksonville Transportation Authority (JTA), the facility will be a cornerstone in the community's position as a national ACES leader and hub for autonomous shared mobility vehicle production.

Every vehicle HOLON produces in the U.S. will satisfy all federal safety, Americans with Disabilities Act, and Build America, Buy America Act requirements.

The HOLON plant will:

- Produce around 5,000 purpose-built automotive grade vehicles annually, fast-tracking deployment
- Create approximately 150 jobs with hundreds more indirect positions
- Deliver nearly $300 million in local economic impact

A University of North Florida research study suggests the regional economic impact could be even greater with a direct and indirect employment impact of more than $153 million during the construction phase in 2026 alone. "HOLON's presence will contribute to economic diversification, providing stable employment opportunities and reinforcing Jacksonville's long-term economic resilience," the study notes. It estimates that by 2028, with the facility expected to be in full operation by the end of 2027, the project will generate more than 700 jobs.

"The JTA is more than a transportation agency, it's a catalyst for innovation, economic growth, and community connection. Every project we undertake is driven by a vision to improve lives, strengthen neighborhoods, and lead the future of mobility not just in Jacksonville, but nationwide."

Aundra Wallace
President, JAXUSA Partnership
Vice Chair, JTA Board of Directors

BENTELER Mobility, a partner company, has become the first organization in the United States to offer designated private financing for ACES technology, creating opportunities for public/private partnerships and catalyzing new autonomous shared mobility deployments.

Workforce Development

Educating for the Future

Driving to a Common Goal

Florida State College at Jacksonville - AV Mass Transit Curricula and Degree Program

Florida State College at Jacksonville (FSCJ) is leading the way, developing a two-year degree program to educate and train an entirely new workforce. Those workers will be armed with the skills and knowledge to manage autonomous shared mobility systems and maintain the vehicles and infrastructure, including essential connected vehicle (CV) technology. FSCJ is building a repeatable model so other colleges and universities across the nation can participate and expand the autonomous vehicle (AV) workforce of the future.

Working with the Jacksonville Transportation Authority (JTA), industry partners including Beep and Holon, as well as the local union, FSCJ is developing a program that straddles computer technology, AI, robotics, and automotive mechanic technician training. The AV degree program is being developed and implemented in conjunction with the Florida Department of Education.

The range of jobs within the ACES discipline is broad and the future is bright. Across the nation, major academic institutions including the University of Michigan, the University of Florida, the University of California, Irvine, and one of the nation's most respected transportation institutions, the Texas A&M Transportation Institute have deepened the autonomous shared mobility knowledge pool. Many have hosted on campus autonomous shuttle pilots, a clear sign of the industry's viability and its workforce needs.

Everyone Participates, Everyone Wins

SporTran – EMPOWER (Equitable Mobility, Public Outreach, Workforce Education, and Resilience) SMART Grant

As shared autonomous mobility evolves, Shreveport's Transit Operator, SportTran, under the leadership of CEO Dinero' Washington is building a model for collaborative workforce development. Signing agreements with the U.S. Department of Transportation (USDOT) and the Amalgamated Transit Union (ATU), SporTran is ensuring that everyone, including national level labor has a seat at the table. "We need a skilled labor force to be able to support the automation of these vehicles," Washington said. "We're identifying the positions that are needed throughout this process. If automation makes a specific job obsolete, our goal is to replace that with a better, higher paying job."

"We're looking for workforce readiness as we get ready to introduce this technology to the community. One of the major things we wanted was to have labor at the table."

Dinero' Washington
Chief Executive Officer, SporTran

SporTran is also working with academic institutions to develop training curricula to build a well-trained workforce.

More than 80% of SporTran's workers are union members and right now, in a true collaboration, SporTran, the ATU, and USDOT are working to produce a white paper on autonomous mobility workforce development, that will serve as a roadmap for other transit stakeholder organizations as they address their own future. "There's room for everyone," said Washington.

The Journey Has Only Begun

Driving to a Common Goal

Right now, public and private sector organizations are working with the federal government to establish permanent regulations to guide the innovation, deployment, and operation of shared autonomous vehicles in both rural and urban settings. That's important because as the industry continues to mature, it will continue to evolve, and efficient testing, validation, and market integration will ensure that riders have the best possible experience while communities reap the benefits of safe, convenient, reliable, flexible, and cost-effective mobility.

We Need Your Support

The math is simple. In a comparative study comparing human drivers to autonomous vehicles (AVs), AVs reduce collisions by 65%. AVs also reduce injuries and property damage claims by 76%. In a nation that experiences more than 40,000 traffic deaths annually, the case for driverless vehicles is clear, but as with virtually any new technology, policy, regulation, and adoption are lagging behind.

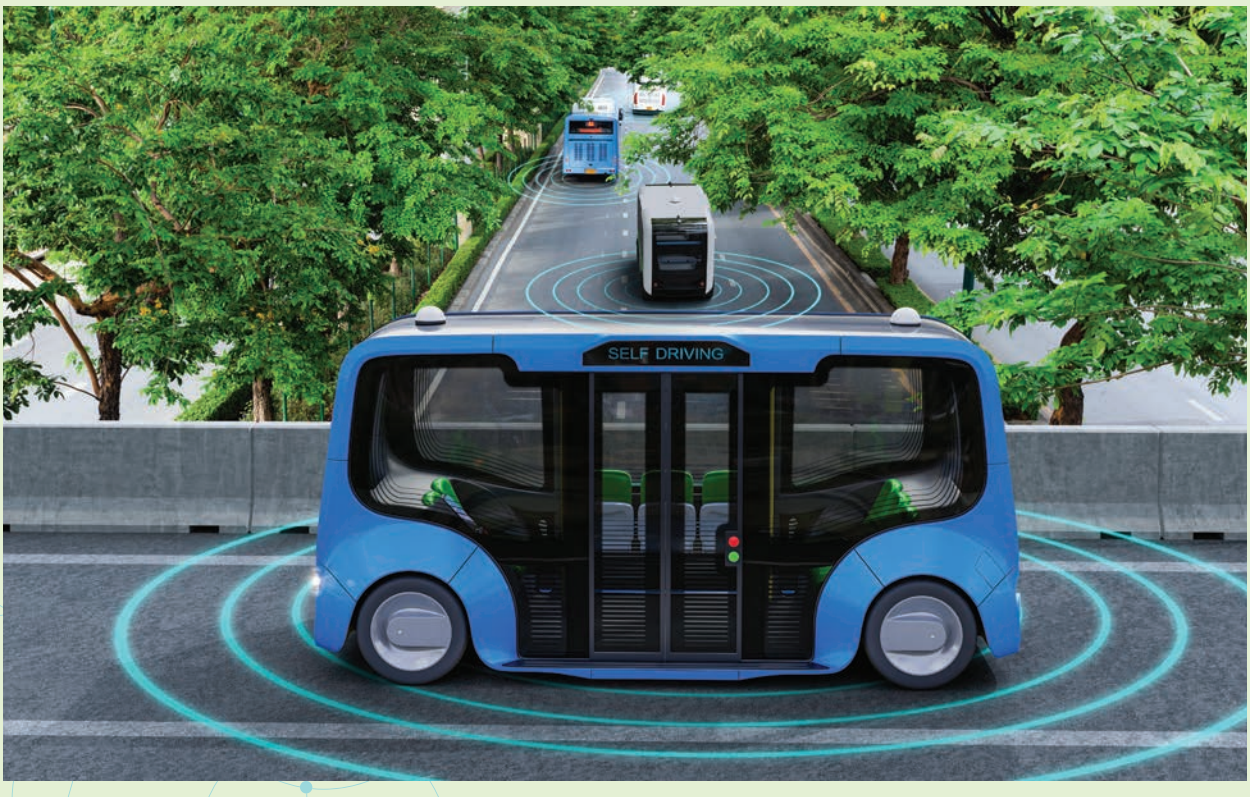
If you recognize the transformative power of shared autonomous mobility, we need your support.

Regulatory Hurdles and How the Industry is Overcoming Them

Innovation often outpaces regulation and ACES technology is no exception.

Since inception, autonomous vehicles and particularly autonomous shared mobility, has been governed by a loose patchwork of federal and state regulations. National Highway Transportation Safety Administration (NHTSA) Part 555 allows manufacturers to seek temporary exemption from certain Federal Motor Vehicle Safety Standards (FMVSS) during development, but the key word there is "temporary." Without regulatory certainty, vehicle manufacturers are reluctant to invest the capital required to establish domestic manufacturing capacity and create jobs.

The U.S. has an opportunity to lead the world in developing and manufacturing shared autonomous mobility technology and infrastructure. Through legislative support and ongoing advocacy, the Coalition's community plans to grow this new segment within the American transportation industry.



ACES Mobility Coalition's Policy Objectives

To fully experience the benefits of shared autonomous mobility, we must overcome hurdles to adoption and deployment. The Coalition is actively advocating for policies to lower barriers and clear the path to full deployment.

Among the priorities:

Ensure that Surface Transportation Reauthorization recognizes shared autonomous mobility as a part of a modern transportation network

Congress must ensure that vehicles over 10,001 pounds are not excluded from updates to the Federal Motor Vehicle Safety Standards (FMVSS) and autonomous vehicle (AV)-related reforms.

Congress should expand eligibility in federal formula programs to include transportation operations investments including software as a service (SaaS) and operations as a service (OaaS) to reduce costs, bolster competition, and reflect the unique requirements of shared autonomous mobility. In the interim, the U.S. Department of Transportation (USDOT) should apply this policy to funding programs to the maximum extent allowable under law.

Congress should clarify that software acquisition and licensing for automated driving systems are eligible expenses under existing transit and infrastructure grant programs. In the interim, USDOT should apply this policy to funding programs to the maximum extent allowable under law.

Modernize the regulatory framework to promote innovative U.S. manufacturing

The Federal Transit Administration (FTA) should allow transit entities to receive grants prior to and during Altoona bus testing, so long as successful testing concludes prior to delivery and acceptance of the vehicle.

USDOT should implement a two-year phase-in waiver for Buy America compliance, balancing short-term availability barriers with longer-term incentives to ensure beneficiaries of the narrow, temporary waiver have a documented path to sustain and grow domestic manufacturing capacity over the long term.

USDOT should establish a single repository for transportation products which have certified compliance with domestic content preference requirements (e.g., Buy America).

Expand transit's ability to leverage shared autonomous mobility to improve infrastructure and service

FTA should leverage Research and Innovation Program funding (49 U.S.C.§ 5312) to focus specifically on integrating automated driving systems (ADS)-equipped rolling stock and related automated technology and software into public transportation networks.

USDOT should build upon 2019's Automated Driving System Demonstration pilot program by establishing a $100 million grant program to fund fleet-scale deployments of shared autonomous mobility networks, recognizing the significant advances in readiness and capability over the last six years.

The ACES Mobility Coalition –
Your Voice in Autonomous Shared Mobility

The Aces Mobility Coalition is a public sector led group whose mission is to educate local agencies, federal and state legislators, and the public about the benefits of shared autonomous mobility.

ACES is an ecosystem. It's vehicles, infrastructure, charging and a host of other disciplines are driving an impactful mobility future. The Coalition works with all stakeholders to increase awareness and lower barriers to the successful deployment of autonomous, shared mobility solutions that address first and last mile transit issues.

Founded in 2024, the Coalition's members include transit and transportation agencies, technology innovators, and manufacturers and like-minded organizations, all committed to a future where autonomous shared mobility reduces emissions, contributes to the American workforce, and improves the lives of residents in every corner of the country.

Public Sector Board Members

ATN Anaheim Transportation Network · Contra Costa transportation authority · City of Altamonte Springs · GTA ride. connected. · JTA Jacksonville Transportation Authority · Metra · pace · SPARTAN · SMART

Private Sector Board Members

ADASTEC Automated. Shared. Connected · beep · BENTELER Mobility · guident · HOLON · MAYmobility · Michael Baker INTERNATIONAL · MILLER

Academic Members

FSCJ Florida State College at Jacksonville · NREL Transforming ENERGY · Texas A&M Transportation Institute · UCI Institute of Transportation Studies

Public Members

LYNX · PORT AUTHORITY NY NJ AIR LAND RAIL SEA · RTC TRANSIT

Advisory Members

AVIA Autonomous Vehicle Industry Association · Blinded Veterans Association Serving Blinded Veterans Since World War II · CTAA Community Transportation Association of America · feonix Mobility Rising · IATR International Association of Transportation Regulators · PAVE · Coalition for Reimagined Mobility · Shared-Use Mobility Center

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