

The background of the slide is a photograph of the interior of a bus. The bus is empty, showing rows of blue seats with a colorful pattern. Yellow handrails are visible throughout the cabin. The lighting is bright, suggesting daylight coming through the windows.

Leveraging Driverless Buses/AV Shuttles for Healthy, Equitable, Sustainable Urbanism

Professor Ellen Dunham-Jones, Director of the MS in Urban Design, Georgia Institute of Technology
April 15, 2026

The Promise: Approximately 1/2 the operating cost of a bus goes to the driver's salary. Without a driver, on-demand publicly-operated AV Shuttles can increase convenience and frequency, expand transit access, increase ridership, and free-up surface parking lots for parks, mobility hubs, and walkable redevelopment.



\$\$\$ bus comes every 30 minutes

\$ shuttle comes every 10 minutes

Study Estimates 55 Percent Annual Cost Savings from Adopting Fully Automated Buses by 2040 Compared to No Action Scenario.

Quarles, Kockelman, Mohamed, (UT Austin, 2020)



Future of Suburbia, MIT Center for Urbanism.



Wall-E (Pixar, 2008)

The Nightmare: Unaccountable, privately-owned AVs and corporate-owned robotaxi fleets expand suburban sprawl, focus only on services to the wealthy, and double congestion with zero-passenger trips.

AV Shuttle Pilots and Operations 2016 - 2019

- Over 80 AV shuttle routes globally operated for more than 2 weeks. Less than half continued post pilot.
- Most were fixed route, four allowed on-demand to designated stops, (except Finland's Gacha's door to door rural svc)
- **2016-18, most were suburban and on private streets (mostly in office parks and campuses)**
- **2018-19 almost half were urban and on public streets – including 7 tourist loops and some first-last mile transit service**
- 62% were 6-15 passenger vans, at 15mph
- 30% were “golf carts” going 25mph
- 8% were 20-40 passenger buses
- Average route was 1.7 miles
- Almost all had a driver/steward



What's Changed Since 2019?

Many more public transit driverless buses on public streets.

Remote operators are slowly replacing drivers. Robotaxi operations have grown significantly but private AVs have not advanced to level 4 or 5 as had been expected.

10,000 autonomous electric shuttles in Hamburg by 2030? It's the goal of the government-backed project ALIKE



Self-driving night buses on streets of Seoul

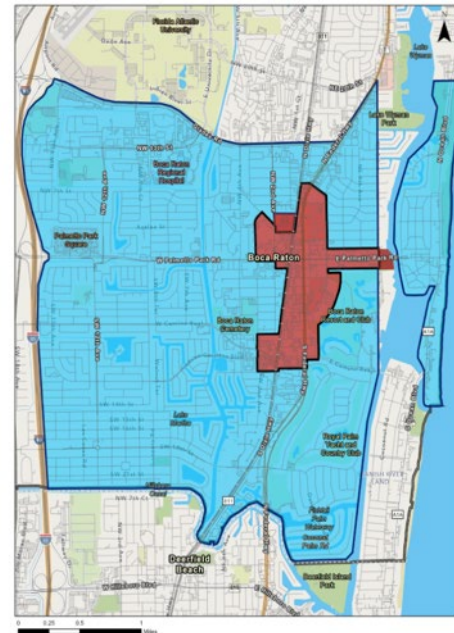
BBC NEWS



The Move Nona autonomous vehicle fleet is the largest and longest-running single-site fleet in the country.



Rides that **begin and end in the RED service area** on the Base Service Area Map are **FREE**.
Rides that **begin or end in the BLUE service area** on the Base Service Area Map will be \$2.00 per rider with \$1.00 for each additional rider, capped at \$5.00 per ride for a one-way trip.



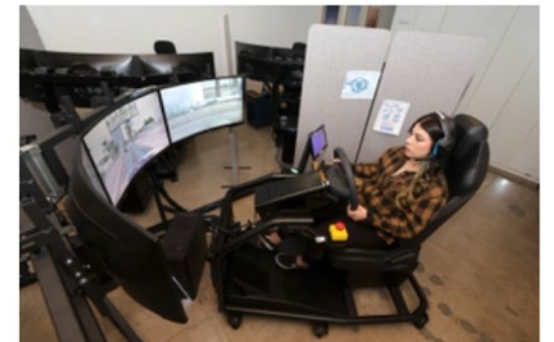
JTA LAUNCHES NATION'S FIRST PUBLIC TRANSPORTATION AUTONOMOUS VEHICLE REVENUE SERVICE

Friday, June 27, 2025 at 4:00 PM



Nevada aims to lead on autonomous vehicles but lags on regulation

April Corbin Girnus Nevada Current
March 31, 2026, 12:06 p.m. CT



Yulieanna Duran remotely drives a Vay electric car from the company headquarters in Downtown Las Vegas.. Photo by: Steve Marcus

WeRide autonomous bus is operating in Singapore, now without a safety officer. Enthusiasts of Autonomous Vehicles can go for a ride in Sentosa. It will be deployed in Punggol by year end.



STRAITSTIMES.COM
Driverless bus in Sentosa gets green light to run without safety officer in first for S'pore



Babcock Ranch, FL

What else has changed since 2019?

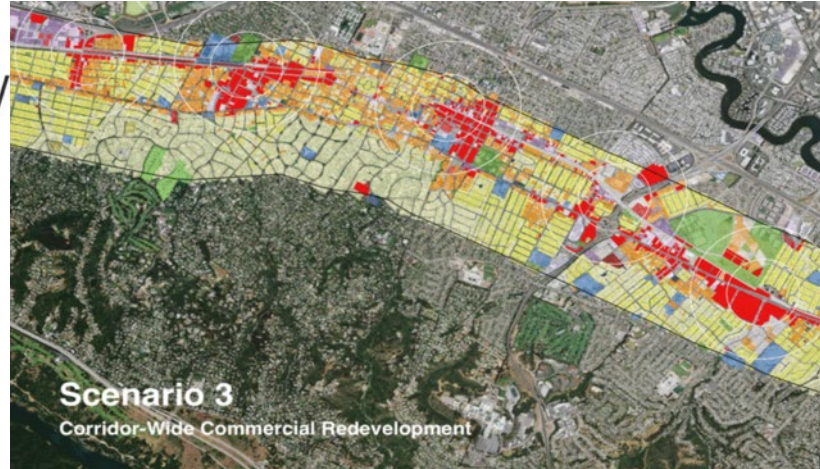
Market demand and regulatory changes for affordability and car-lite urbanism

California Legislature Allows Housing Development on Commercial Property

October 26, 2022

AB2011 allows housing by-right if it includes 15% affordable units.

Activist planner Peter Calthorpe lobbied for the law and is pushing for Autonomous Rapid Transit on the corridors so that housing can be carfree.



Culdesac Tempe: A Car-Free Neighborhood

Tempe, AZ

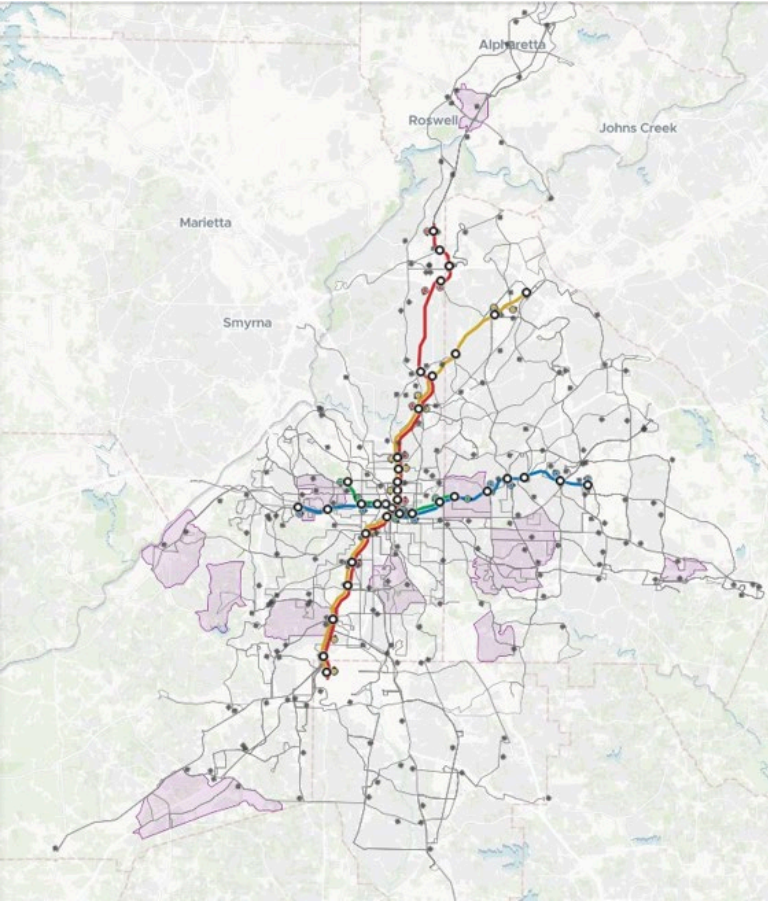
First from-scratch car-free neighborhood in the US. 16' wide cross-ventilated apartments cluster around shared, shaded courtyards along a comfortable and engaging walkway to the adjacent rail station.



Getting To Transit: As MARTA is increasing frequency on high-ridership routes, it is replacing lower-ridership routes with on-demand curb-to-curb shuttles for local trips and to connect to the high-frequency buses. While not autonomous now – they could/should become so.

MARTA introduces 'MARTA Reach' ahead of bus network overhaul

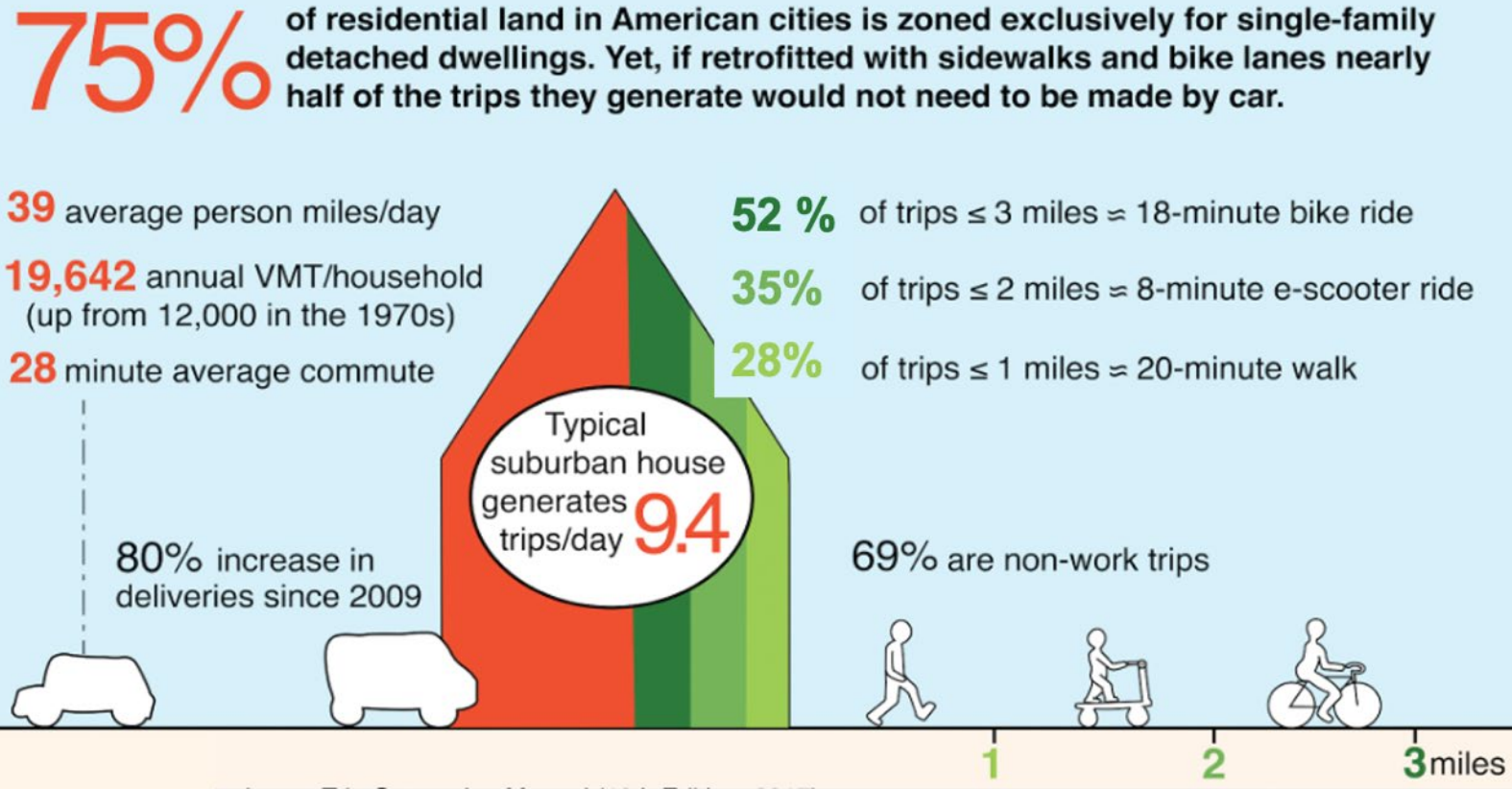
By Rey Llerena | Published March 22, 2026 7:11pm EDT | Atlanta | FOX 5 Atlanta | [↗](#)



AV Shuttles as First/Last Mile Connectivity to Rail and High Frequency Bus

More Ways of Getting To Transit:

Curb-to-curb makes sense in low-density areas without sidewalks but expansion of access and frequency will likely require prior investment in sidewalks, bike lanes, and good bus stops to enable faster, more frequent service on fixed routes with fixed, bus stops.



Waiting For Transit: Better bus stops and integrated mobility hubs that make waiting a pleasure and transferring modes a breeze.



Q-Line bus stop, Austin, TX



Figure 35.

Big Blue bus stop, Santa Monica, CA



Marabela Mobility Hub, Spain

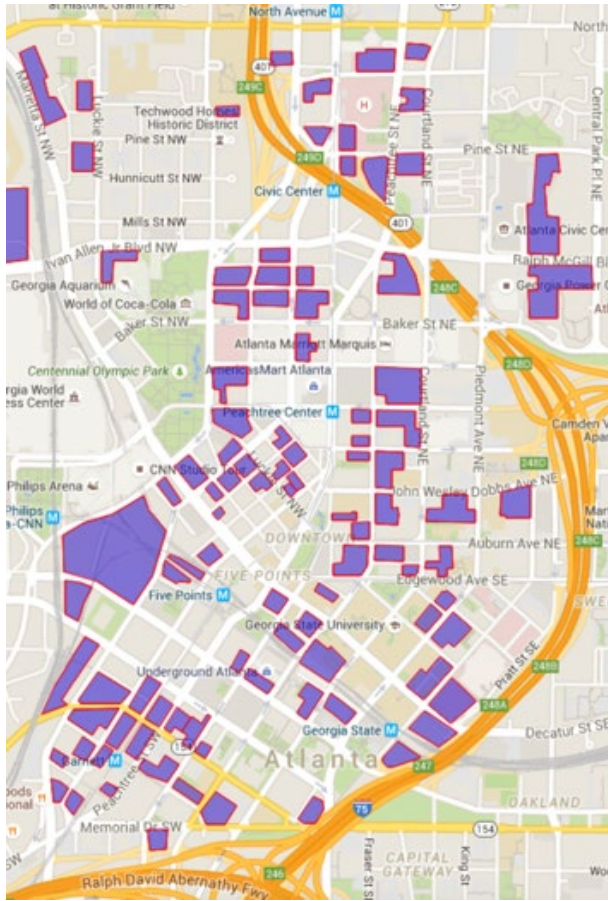


Conceptual Mobility Hub by Buro Happold

Being There!

More transit and ride-hail users frees up more parking lots for redevelopment and greening making cities more walkable, healthy, equitable and sustainable.

Downtown Atlanta 2041: 2016 Studio class commissioned by the City of Atlanta Planning Department



95,000 parking spaces,
110,000 jobs and 5,000
residents in downtown core

- Students designed new neighborhoods on $\frac{1}{2}$ of downtown's parking lots.
 - Instead of providing parking, the new neighborhoods provide: bike-oriented development, eco-district services, urban forests, and art-focused amenities – along with quieter, safer, streets
- Proposed 21.4M sq ft. If 70% of that is residential: ~60,000 new residents by 2041 without any new parking



The hurdle to better transit and a better city isn't about better technology alone. We have to start by providing a better user experience getting to, waiting for, and riding on transit.