Georgia Department of Transportation

CAVs in Georgia

Justin Hatch, PE
Assistant State Traffic Engineer

About GDOT

- 1,244 miles of interstate
- 18,000 miles of state routes
- 4,011 employees
- 500 miles of rail
- 7 Districts
- Headquarters in Atlanta

GDOT Operations and ITS

- Interstates, Incident Management, and ITS
- Arterials and Traffic Signals
- Safety, Operational Improvement, and Permitting
- Connected and Autonomous Vehicles
- And a little bit of everything else…

GDOT
Georgia Department of Transportation

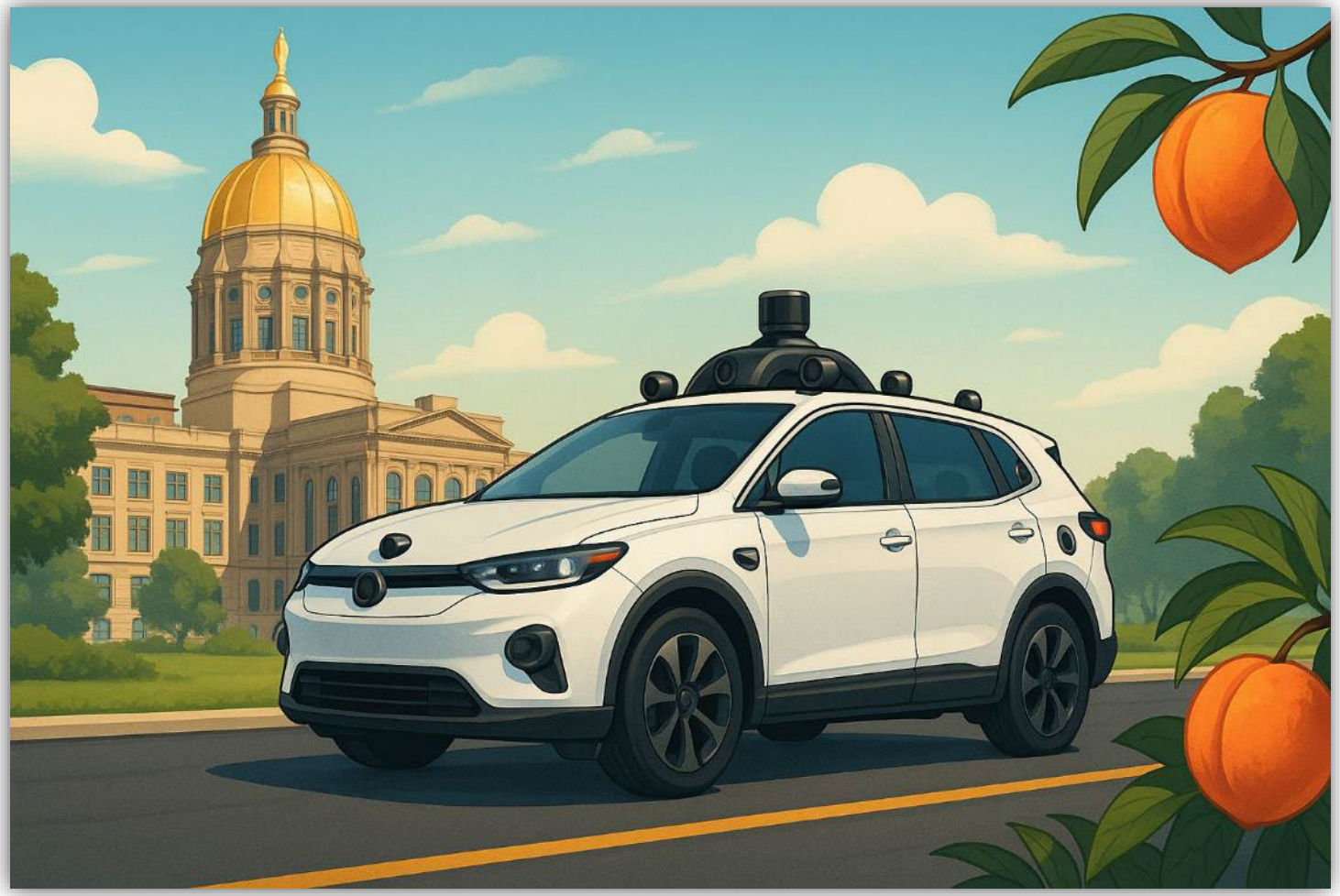
GDOT's Transportation Management Center

511GA

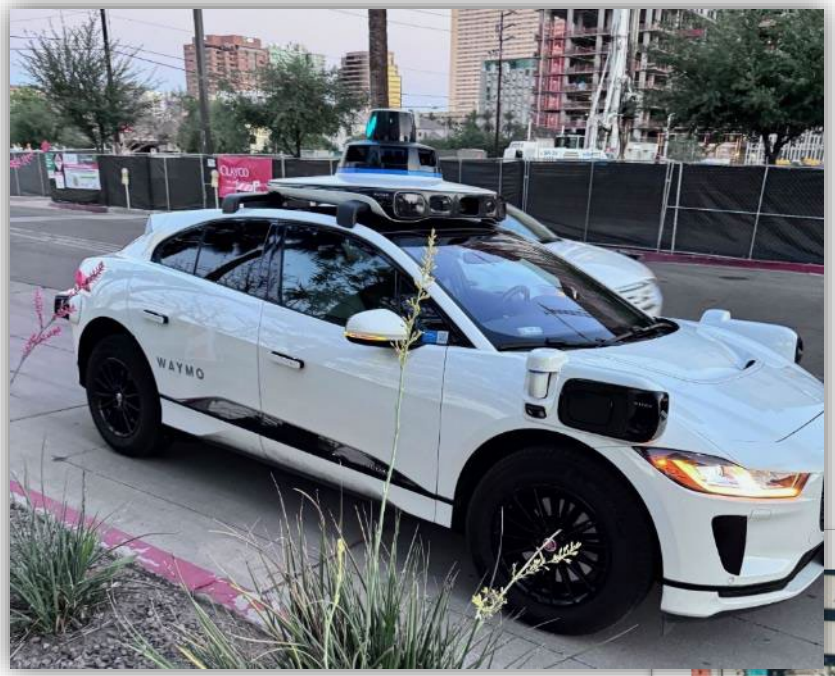
NaviGAtor
Powered by GDOT

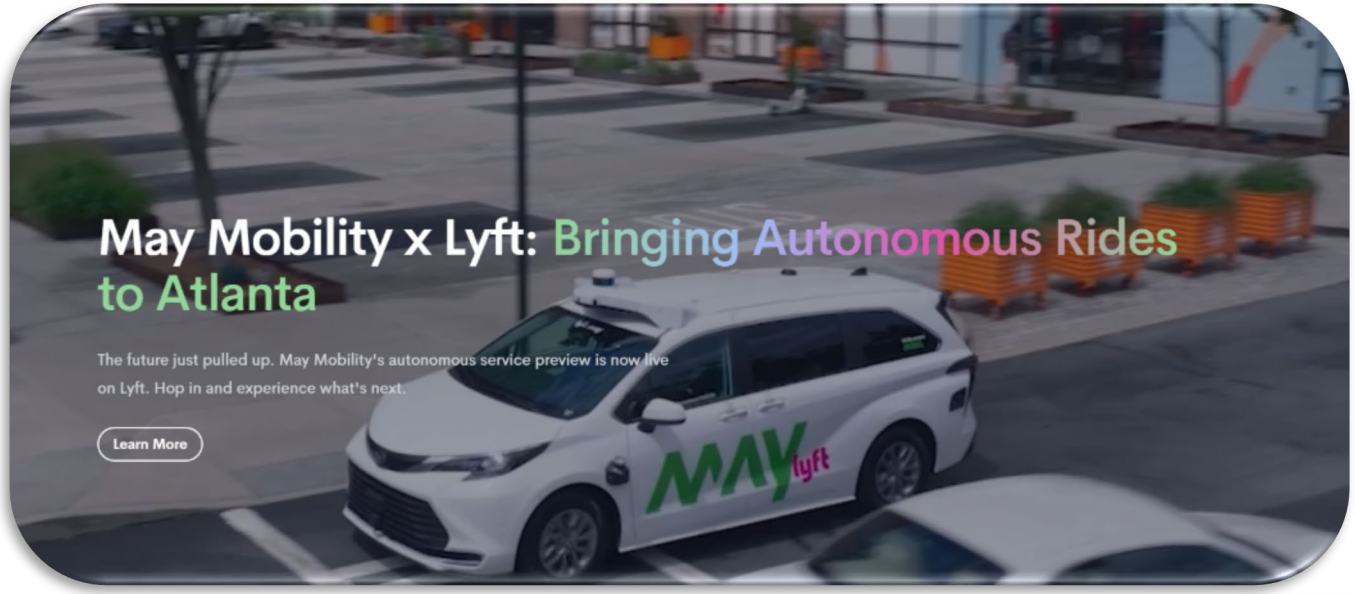
AVs in Georgia

- SB 219 (2017): Broadly Enabling Legislation
  - Legal Recognition of Autonomous Vehicles
  - Driver's License Exemption
  - Accident and Law Enforcement Procedures
  - Operational and Insurance Requirements
  - Federal safety certification standards
  - Enhanced insurance coverage requirements
  - Regulatory Limitation and Applicability



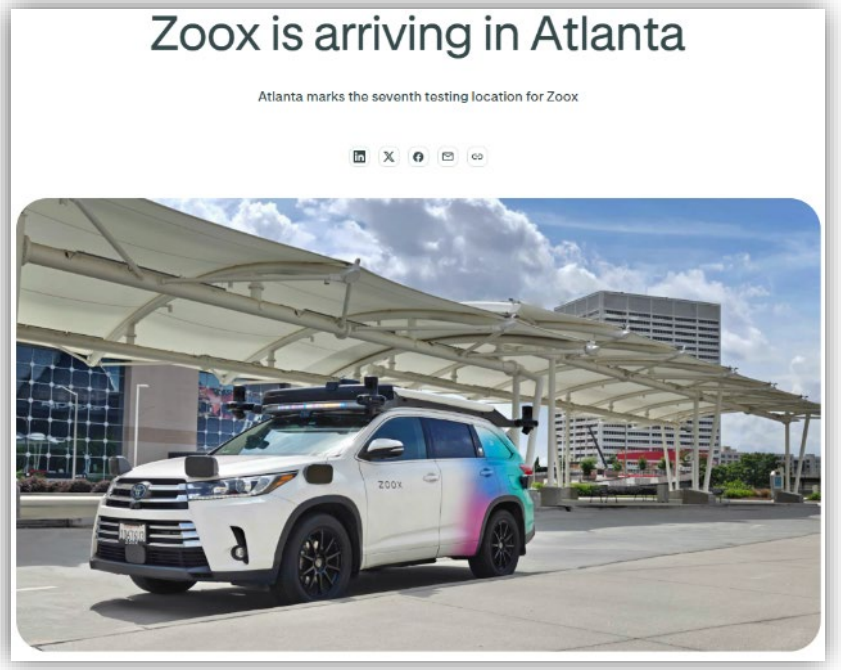
AVs in Georgia





Source: maymobility.com

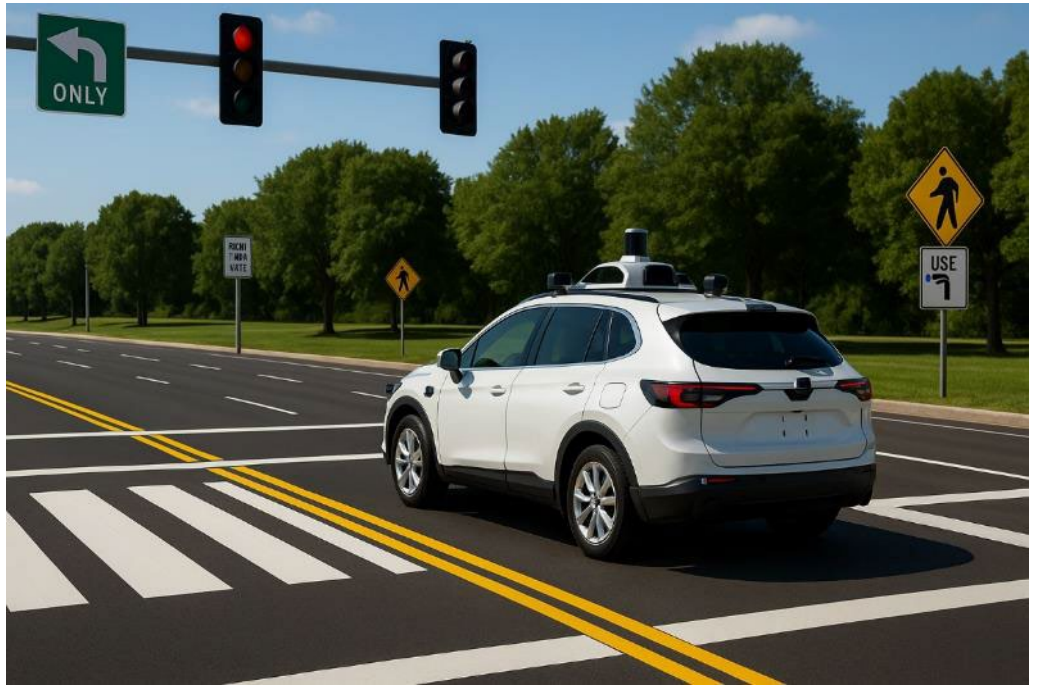
Source: https://ridebeep.com/locations/atlanta-ga-2



Source: https://zoox.com/journal/atlanta-expansion-2025/

AVs in Georgia

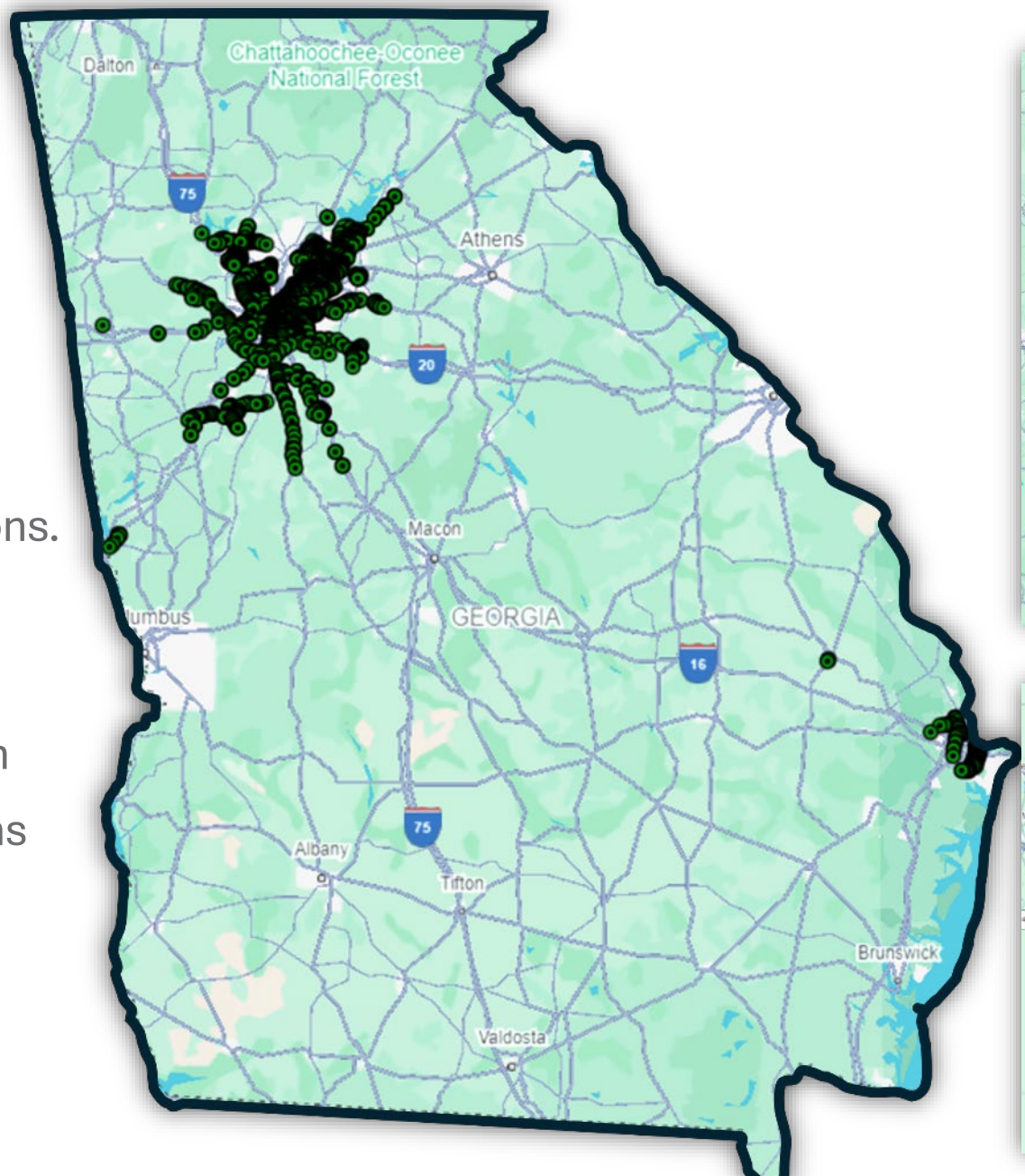
- Assets for the Autonomous Driver
  - Pavement markings
  - Traffic signals
  - Signs
- Uniformity and consistency
  - More important than ever
- Digital Assets
  - V2X messages
  - Work zones

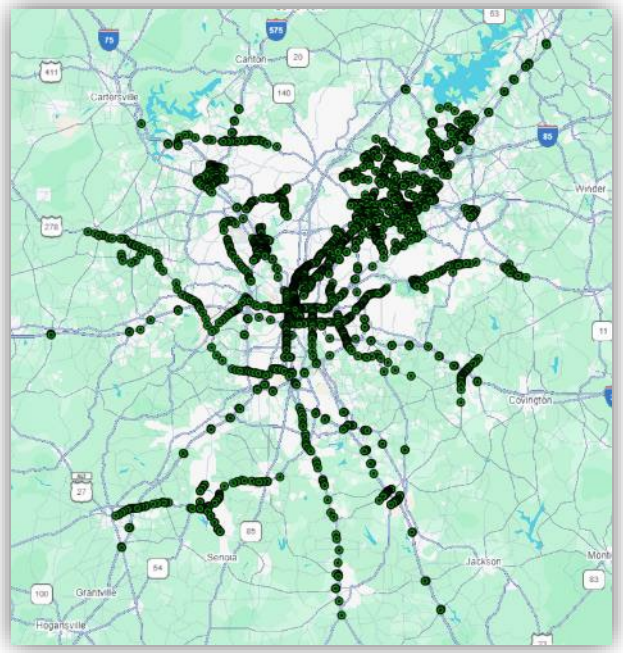


Source: UDOT

V2X Infrastructure

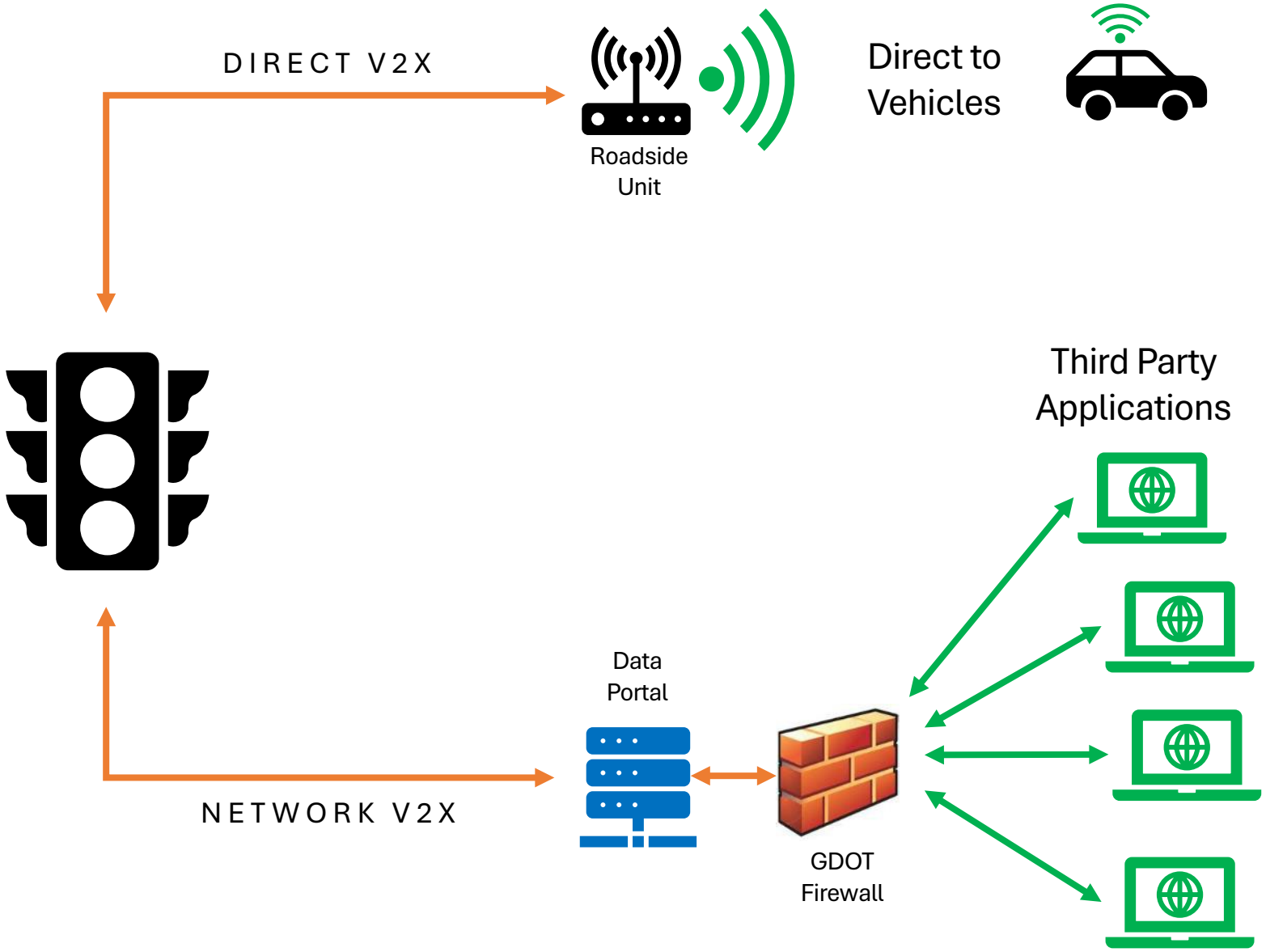
- Over 2,300 RSUs deployed throughout the state.
- Focusing on public sector fleets and intersection-based applications.
  - Freight Signal Priority
  - Transit Signal Priority
  - Emergency Vehicle Preemption
- Application of safety applications for equipped vehicles.





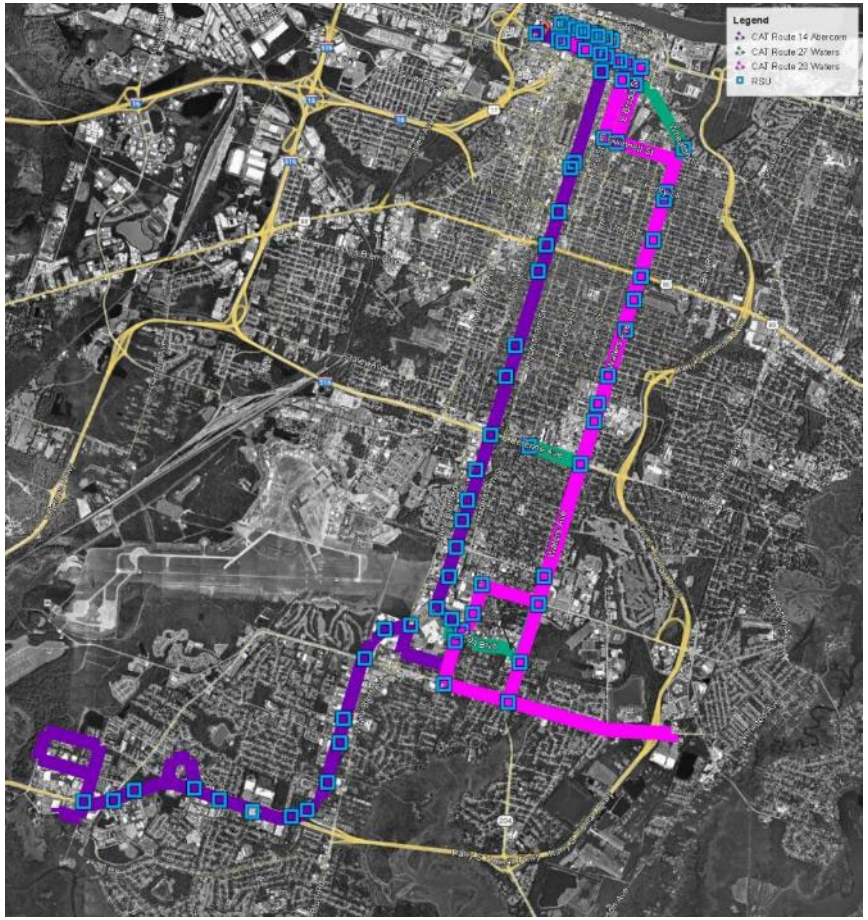
GDOT V2X Framework

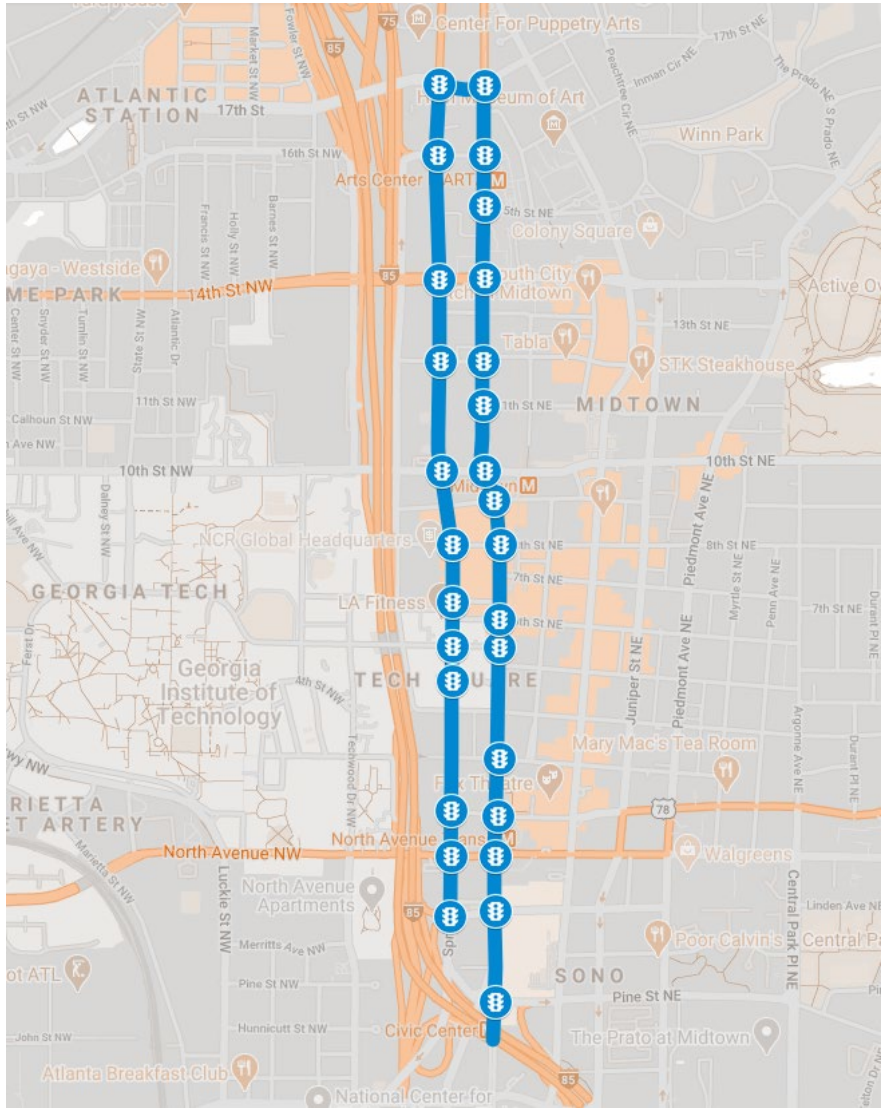
- Safety and mobility applications achieved through multiple means.
- The application drives the method the data arrives to a user.
- Consistency, accuracy, reliability, and security of all messages and applications.



GDOT V2X Applications

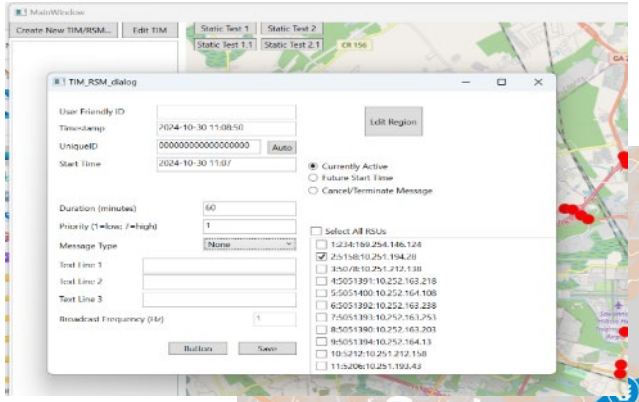
Transit Signal Priority



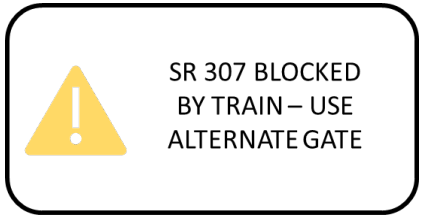


GDOT V2X Applications

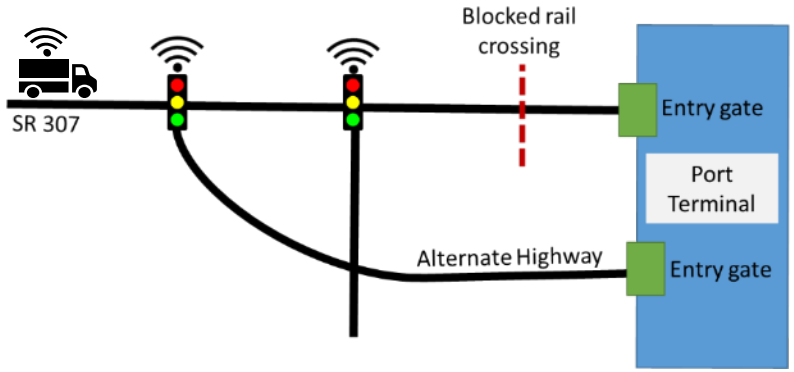
Freight TIM & Signal Priority



- Installation of RSUs at signalized intersections around port ingress/egress routes
- Broadcasting SPaT and MAP, traveler information messages for road conditions
- Demonstration of freight signal priority
- Outfitting fleet vehicles



Example in-cab message



Freight and Transit Priority – Measured Benefits

Freight

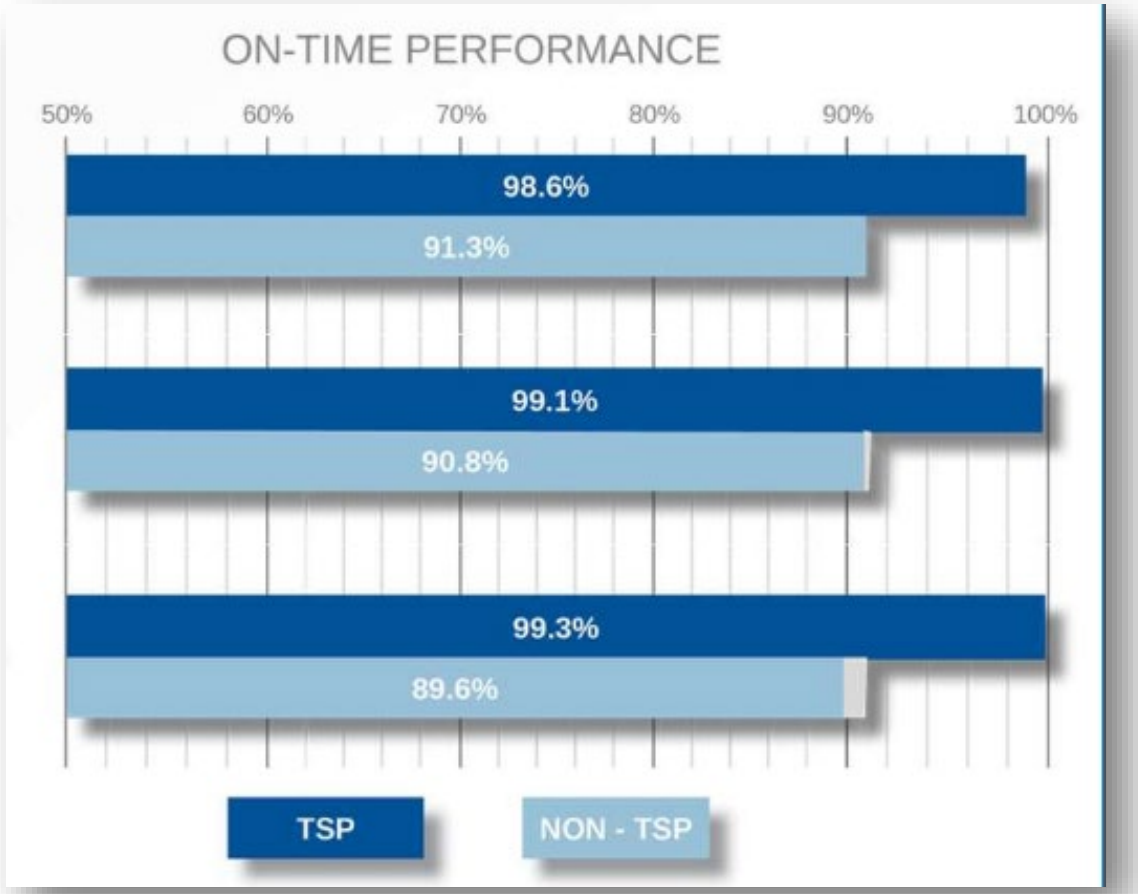
15 – 20%
reduction in emissions

5 – 10%
reduction in fuel consumption

10 – 15%
reduction in number of stops

5%
reduction in travel time

Transit



Building the Digital Interstates

- Five (5) Design-Build Projects:
  - Design-Build #1: Under construction
  - Design-Build #2: Under construction
  - Design-Build #3: Awarded
  - Design-Build #4: Project Programmed
  - Design-Build #5: Project Programmed
- Project Scope:
  - Communication infrastructure: Seven (7) Conduit and Two (2) 288-Count Fiber Optic Cables
  - ITS devices: C-V2X RSUs, CCTVs and other ITS devices
- Project Goals:
  - Provide infrastructure necessary to support CV and broadband initiatives
  - Provide additional ITS coverage to support Interstate safety and operations

Data as an Asset

Building the Digital Interstates

- Infrastructure generates data
  - ITS devices
  - Traffic signals
  - Connected vehicle infrastructure
  - AVs

- Agency processes and external partners rely on that data

- Data governance
- Data maintenance
- Data quality

THANK

YOU

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