

## *V2X SUMMIT SPEAKER*

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# Georgia Connected Vehicles

**SigOps | GDOT**

USDOT, August 24, 2022

# GDOT Program Timeline

## 2017: AASHTO SPaT Challenge

- 54 Intersection Pilot
- Systems Engineering
- First deployment live June 2018
- Traffic signal based application demonstration

## 2018: Regional Operations Expansion

- Not just a pilot: a programmatic deployment to equip infrastructure across the region
- Target of 1,600 intersections in the metro Atlanta region
- Expanded application implementation to first responder and transit vehicle priority/preemption

## 2019: USDOT ATCMTD

- Added funding to expand regional deployment
- Federal partnership for continued infrastructure build-out

## 2020: Atlanta Regional Commission (ARC) Partnership

- Local participation for additional infrastructure deployment
- Additional 1,000+ intersections across the metro Atlanta region
- Public sector fleet vehicle application focus

## 2021: USDOT ATCMTD #2

- Additional USDOT award for emergency vehicle preemption project using connected vehicle technology
- Project focus in midtown Atlanta; solution scalable to any signalized intersection or system

# Applications Enabled: Safety, Mobility, Efficiency

## Emergency Vehicle Preemption

Demonstration in Gwinnett County of the use of V2X for emergency vehicle Preemption on a fire truck.

## Transit Signal Priority

Pilot of Transit Signal Priority on Xpress buses in Midtown Atlanta using V2X.

## Freight Priority and Information

Equipping freight vehicles in Savannah to request signal priority and receive information regarding blocked at-grade rail crossings.

## Signal Phasing and Timing

Demonstration of red-light running and optimal green speed applications to inform drivers for improved safety and mobility.

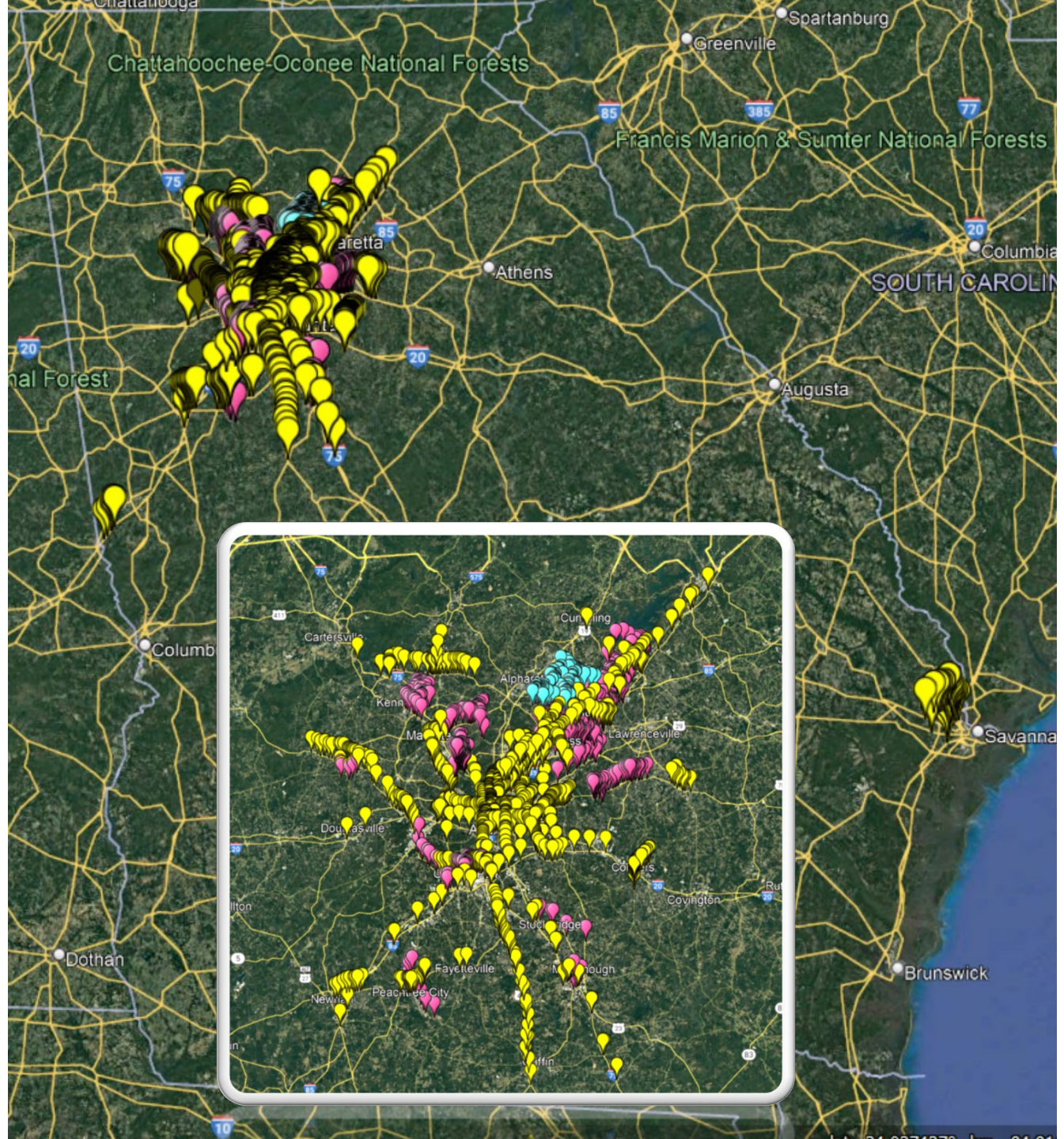
# CV Infrastructure

Over 1000 RSUs deployed throughout the state.

Focusing on public sector fleets and intersection-based applications.

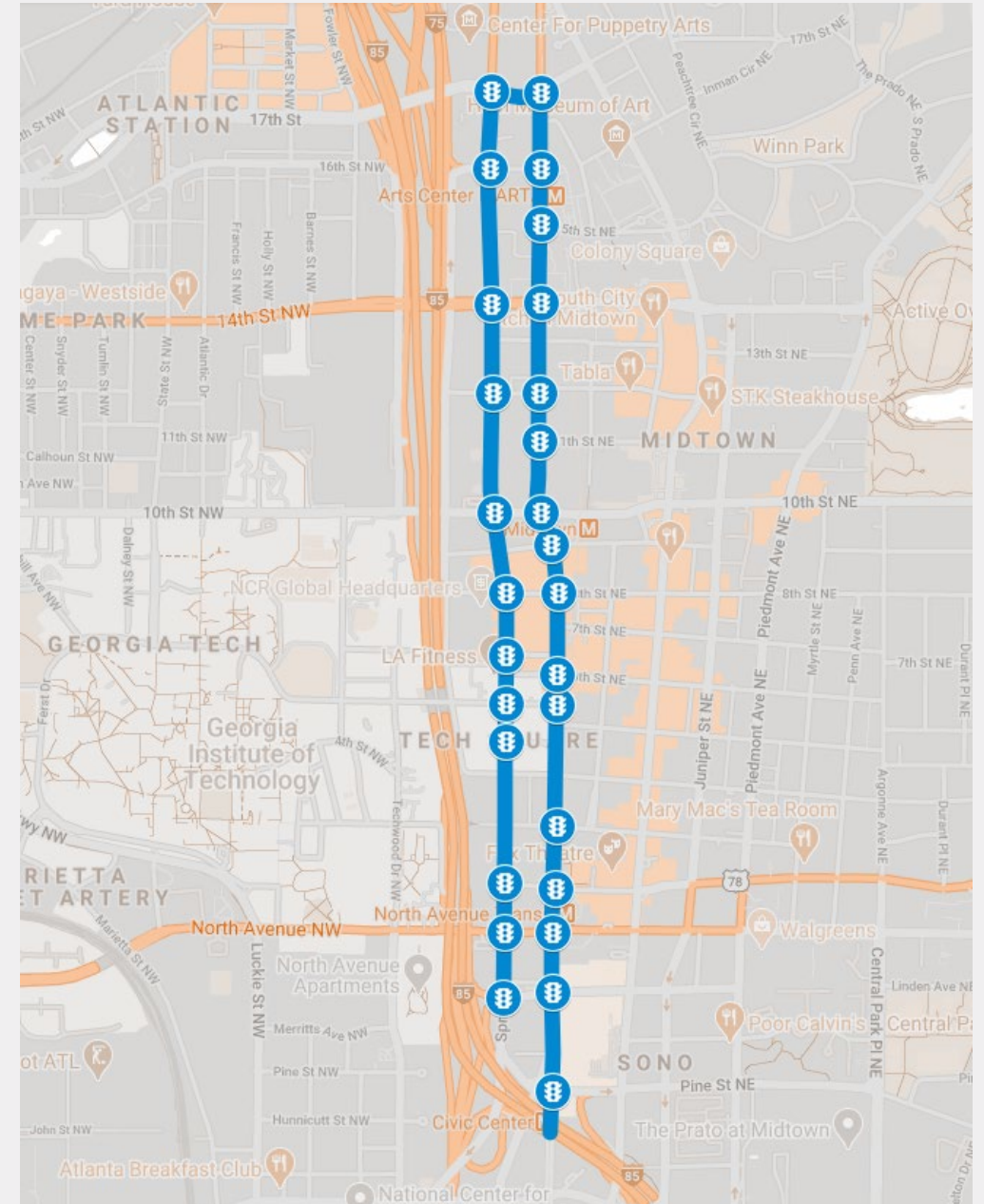
- Freight Signal Priority
- Transit Signal Priority
- Emergency Vehicle Preemption

Application of safety applications for equipped vehicles.



# ATL Transit Signal Priority Pilot

- Installation of RSUs at signalized intersections along part of route
- Broadcasting SPaT and MAP, traveler information messages for road conditions
- Demonstration and implementation of transit signal priority
- Outfitted transit vehicles to demonstrate applications and document benefit
- In operation as of March 2021

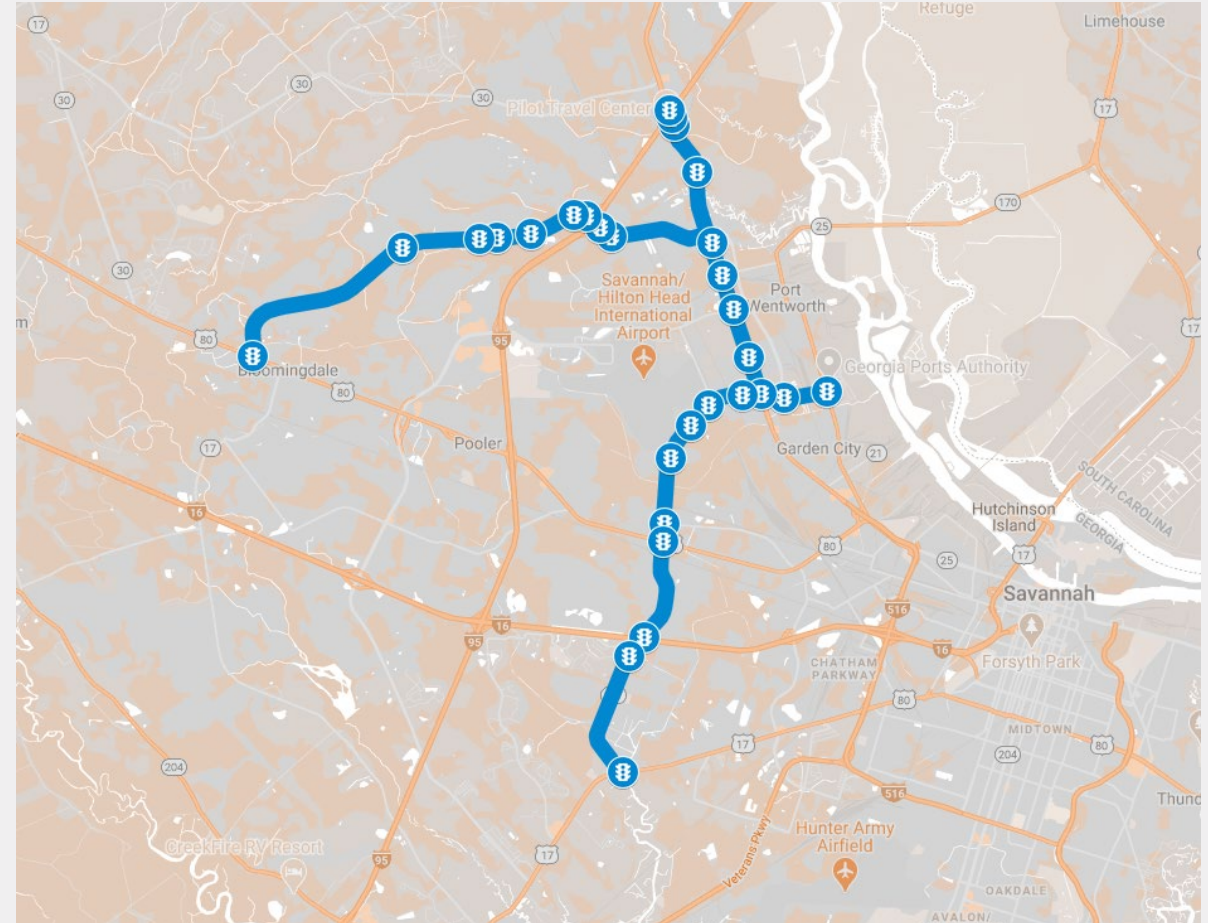
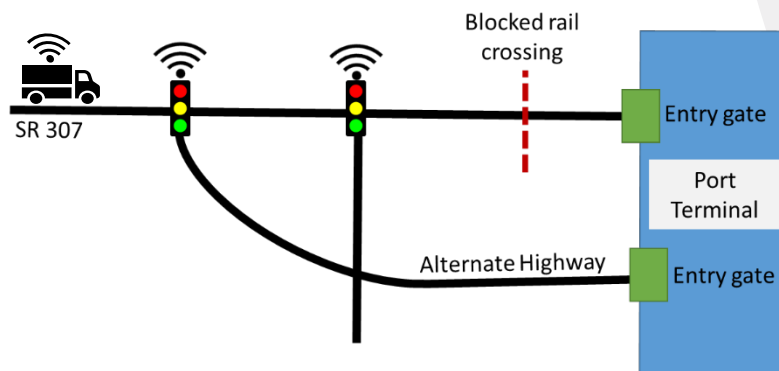


# Georgia Ports Freight Signal Priority Pilot

- 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 drayage fleet vehicles



Example in-cab message



# The Ray on I-85

- LTE-CV2X and DSRC RSUs deployed along 18 mile stretch of I-85
- Partnership with the Ray C. Anderson Foundation, Panasonic, and FHWA
- Demonstration of interstate safety applications
- Data platform (Cirrus) for BSM capture and analyzation
- 4 GDOT Vehicles equipped with LTE-CV2X OBUs
- 10 Kia Vehicles equipped with LTE-CV2X OBUs
- Future partnerships and intersection deployments





# Focus on our own

Leverage existing and planned deployments to facilitate public fleets, improved first responder and incident management operations, and targeted implementation.

**Framework for the future** – ATCMTD grant demonstrating the benefit to HEROs and ambulances in midtown Atlanta.

Built to scale to the entire state.



# GDOT V2X Roadmap

SigOps | Office of Traffic Operations

v1.0 - October 2021

- Funding through FY 23 – FY 33 to deploy, operate, maintain, and innovate a statewide V2X ecosystem.
  - \$75M over 10 years
- Equipping regional transit vehicles with on-board units to support transit signal priority.
  - Over 1200 vehicles in metro Atlanta
- Participating in national efforts to enhance and validate in-vehicle safety applications, including Connected Intersections.
- Deploying RSUs at every signalized intersection on state routes in Georgia (6,500 locations).
- Deploying RSUs along interstate corridors for full V2X coverage of every route.

# LTE C-V2X in Georgia

- Over 750 locations being deployed in metro Atlanta
- Waiver request submitted to FCC **September 2021**; awaiting action and decision from FCC.
- Current deployments include both DSRC and C-V2X until regulatory conditions dictate otherwise.



# The FCC.

# Finish the job.

- **The Recent Ruling by the D.C. District** doesn't finish things
- **How to use the remaining 30 MHz** The technical rules are still needed
- **How to get a license** to operate in the 30 MHz with LTE C-V2X The administrative rules are still needed
- **Regulatory certainty** is needed

## The OEM's role.

## The importance of the relationship.

- **For over 100 years** the two industries existed as if in parallel universes
- **Only recently** have the two industries had conversations this detailed
- **One thing has been made clear by both industries:** connectivity is essential
- **The conversation must continue**

# There are Lives to be Saved

Follow the Georgia Department of Transportation



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