



ARC CV Project Update

December 11, 2020



GDOT Connected Vehicles

A Brief 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 intersection in the metro Atlanta region
- Expanded application implementation to first responder and transit vehicle priority/preemption

2019: USDOT ATCMTD

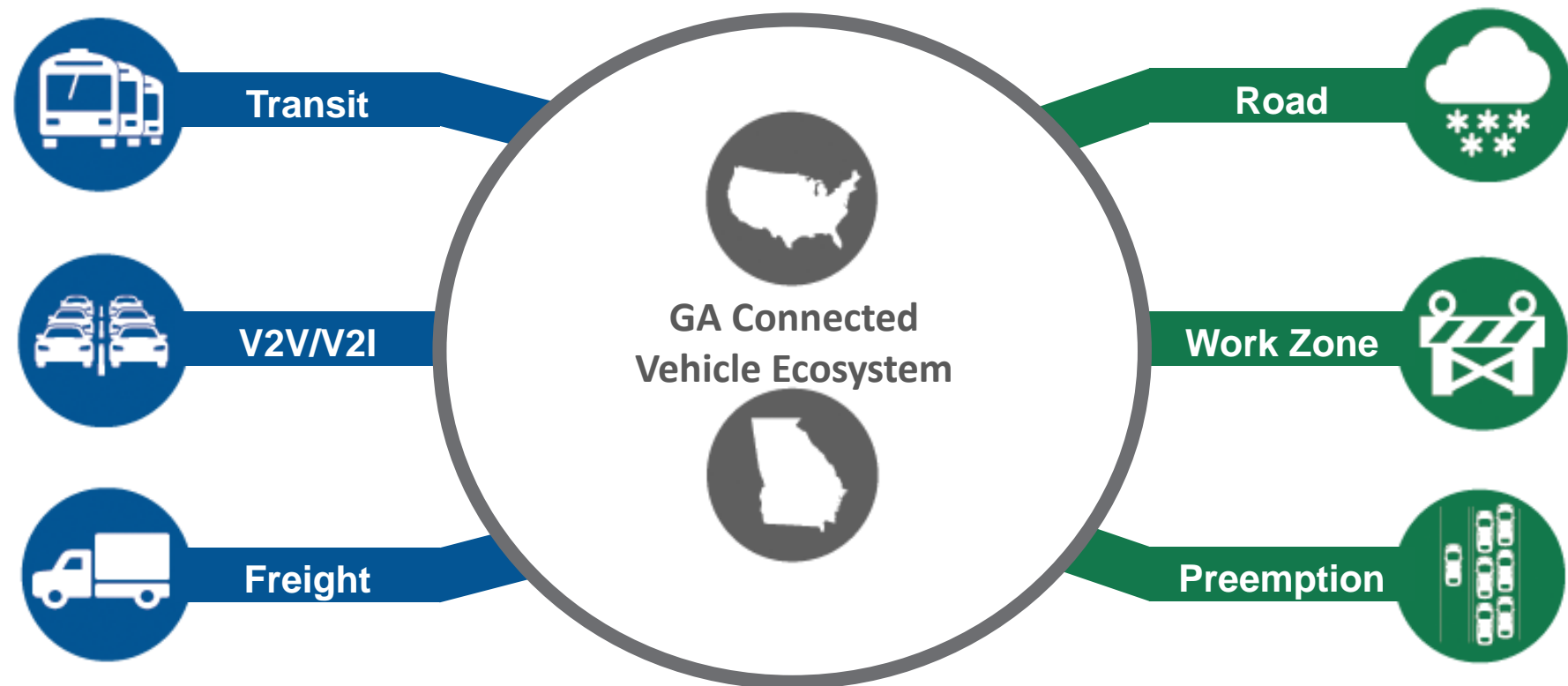
- Added funding to expand regional deployment
- Federal partnership for continued infrastructure build-out

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

Georgia Connected Vehicle Ecosystem

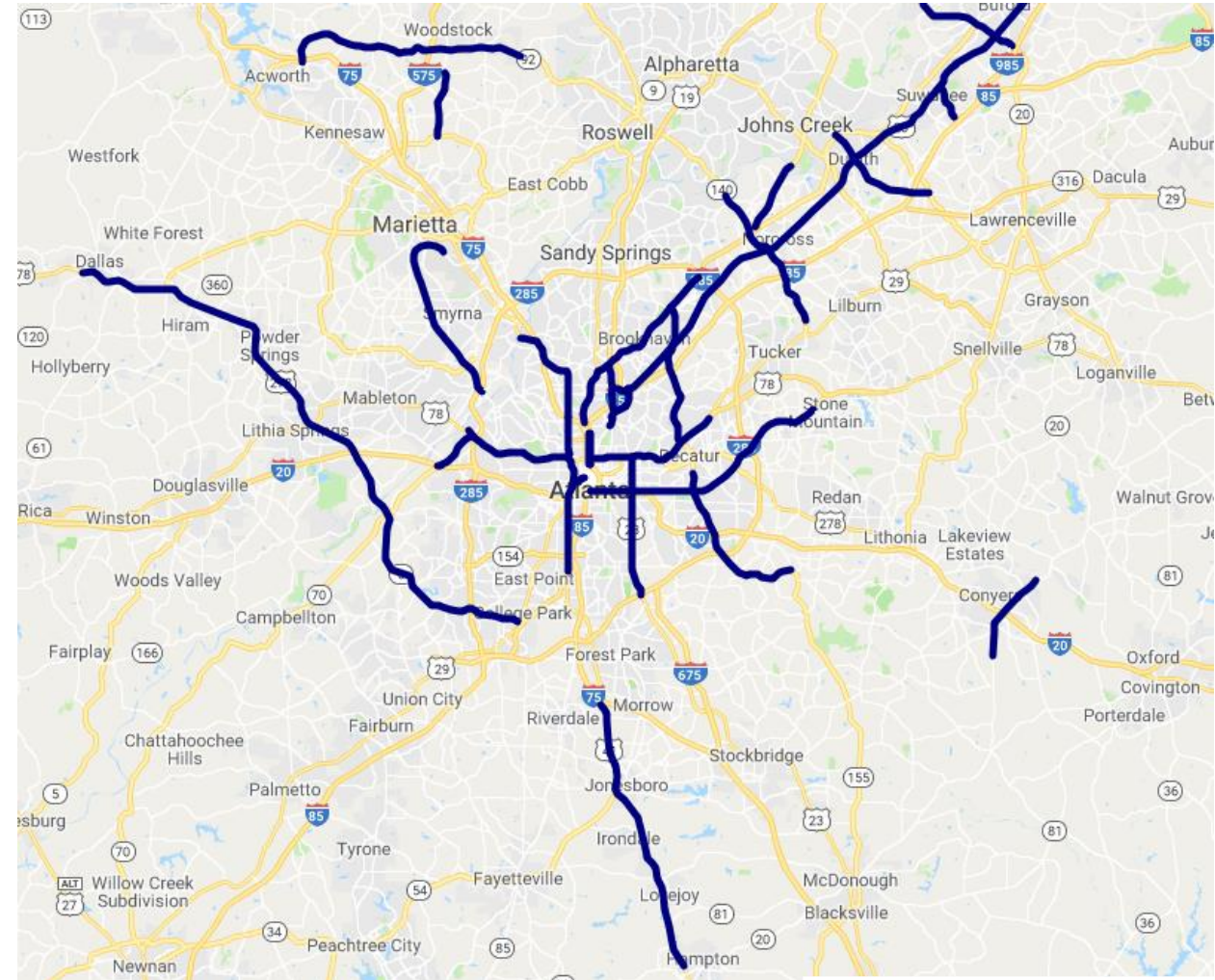
- Enabling infrastructure for broad applications
- Designed around interoperability
- GDOT funded and supported
- Conformity to national standards
- Open access through 5.9 GHz Safety Spectrum



GDOT Connected Vehicles

Current Deployments

- **As of 12/10/2020:**
 - 565 RSUs licensed and installed
 - DSRC - all channels and ch.180 only
 - DSRC + C-V2X – 6 locations (The Ray Highway)
 - 454 DSRC RSUs being installed and licensed now
 - Future deployments will be DSRC + C-V2X
- **Active Pilot Applications:**
 - Emergency Vehicle Preemption Pilot: Gwinnett County
 - Transit Signal Priority Pilot: Midtown Atlanta with State Rail and Tollway Authority (SRTA) and Cisco/MARTA
 - In-progress: freight-centered pilots with Georgia Ports Authority in Savannah, GA
 - Incident Responder interchange preemption: Metro Atlanta



GDOT Connected Vehicles

RTOP – March 2021

GDOT Investment + USDOT ATCMTD Grant

- 1,600 traffic signals in metro Atlanta
- **Regional deployment - Not a pilot program: a deliberate inter-agency deployment across the entire metro Atlanta region**

MOBILITY APPLICATIONS

Emergency vehicle
preemption



Preemption at select signals to
improve emergency vehicle
response time

Transit signal priority

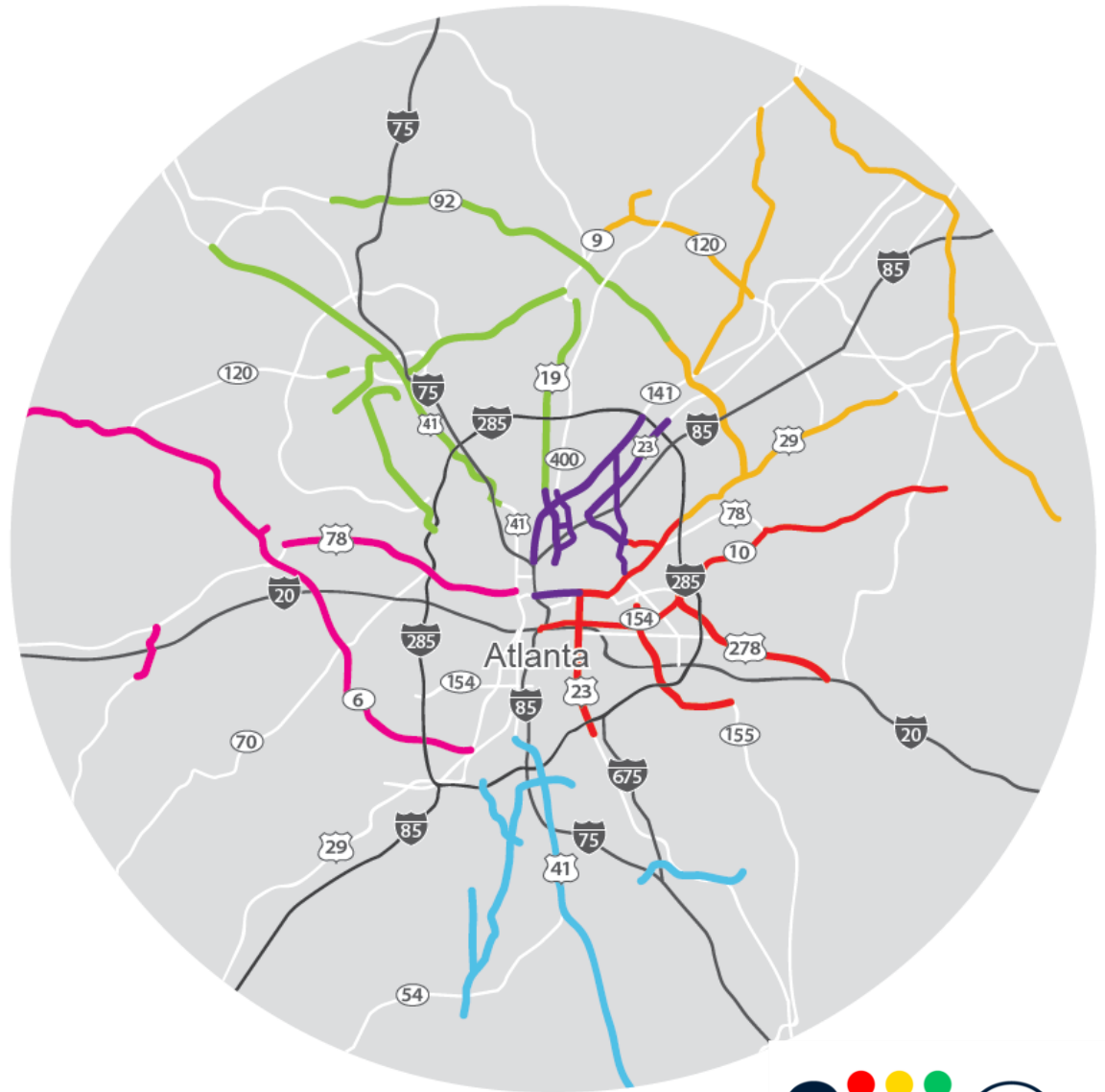


Priority requests to signal
controllers for specific transit
applications and routes

Freight signal priority



Signal priority for freight vehicles
that are operating in cooperative
platooning mode



Regional Connected Vehicles

ARC + Local Governments + GDOT Partnership

- Regional deployment of connected vehicle infrastructure operating in the 5.9 GHz Safety Spectrum
 - DRSC + C-V2X
- Will improve safety and mobility of the transportation system
- Multi-phase, multi-year program targeting 1,000 intersections
- Interoperability with GDOT and national deployments



Regional Connected Vehicles

Project Team, Status, and Current Partners

- Atkins team introduction
- Current Partners
 - Johns Creek
 - Cobb County
 - South Fulton
 - Hapeville



Regional Connected Vehicles

Project Overview

- Project Kick-off
- Device Procurement
- Field Surveys
- FCC Licensing
- Device Configuration
- MAP Message Creation
- Device Deployment
- Validation and Testing



Source: <https://www.its.dot.gov/infographs/index.htm> (edited)

Regional Connected Vehicles

Sample Schedule – 100 Intersection Agency

- 10 Month deployment: NTP to Final Acceptance

Turn Key Deployment in Local Jurisdictions		11-Jan-21	17-Dec-21
A1030	Device Procurement	11-Jan-21	28-May-21
A1040	FCC Licensing	11-Jan-21	10-Aug-21
A1050	Device Testing & Configuration	01-Jun-21	17-Nov-21
A1060	Map Message Creation	11-Jan-21	14-May-21
A1070	Device Deployment	22-Jun-21	03-Nov-21
A1080	Validation & Testing	04-Nov-21	17-Dec-21

- Implications for connected vehicles
- Implications for this project



The 5.9 GHz
band

