City of Gainesville Transit Autonomous Vehicle (AV) Pilot Project







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Project Background

- Project in Partnership with University of Florida (UF) and Florida Department of Transportation (FDOT).
- RFP issued on August, 2017
- March 9, 2018 contract executed
- Vendor: Transdev Services, Inc.
- Vehicle Manufacturer: Easy Mile



Scope and Goals

- To safely introduce Autonomous Vehicle (AV) service on public roads
- Phased approach with duration of 3 years
- Shuttle between the University of Florida (UF) and Downtown
- 100% FDOT funding
- Test reliability and availability for a transit application
- Test Connected Vehicle Technology

Scope and Goals

Significant research and data collection:

- EV charging
- Data sharing
- Workforce training
- Pedestrian/Bike detection
- Comparison with existing fixed-route services
- Passenger acceptance
- Connected Vehicle Technology

Project Phase I – Initial Route

• City Parking Garage to Innovation Square



- 2 Vehicles
- 9 am to 3pm
- 20-minute frequency

Observations and Lessons Learned

- Vehicle Speed (10 to 15 mph), initially planned 20-25 mph
- Vehicle Sensors:
 - Does not work well in heavy rain, near tree branches, reflective materials, and bicyclists
 - Does not detect anything under 18"
- ADA:
 - Vehicle ADA complaint in Europe but not in the USA
 - No wheelchair restraints
 - No ADA announcement devices on vehicle
- Vehicle manually navigates Roundabouts
- EasyMile not recommending operating without an attendant in regular traffic conditions

Observations and Lessons Learned

- Significant service interruptions (debris, rain, wind, operator availability, etc.)
- Schedule was based on vehicle charging needs instead of operational needs
- Software upgrades disrupt service
- Data sharing issues that need to be corrected with vehicle manufacturer
- Service during Covid-19 restricted to only 4 passengers (including the attendant), mask requirements, and extra cleaning activities

Observations and Lessons Learned

• NHTSA (National Highway Transportation Safety Administration)

- March 2019 to January 2020: Waiver granted for demonstrations and research, but not to transport passengers
- February 26, 2020: Suspension instituted for EasyMile vehicles
- June 29, 2020 March 2021: Resume operations in August 2020 picking up passengers, under restricted conditions:
 - Operator on board
 - Do not operate in adverse weather conditions (heavy rain, fog or hail, winds greater than 31 mph and temperature below 0 degrees or above 95 degrees)
 - No more than 2 vehicles operate at any given time
 - Vehicles must be equipped with seatbelt at each position, audio alerts warning passengers
 - No passengers standing in vehicle
 - Training and monthly reports

Future Phases

• Phase 2: City Parking Garage to UF



- Vehicle to Infrastructure (V2I) Technology
- 3 Vehicles running every 10 minutes



Future Phases

• Phase 3 and 4: UF to Depot Park



- Expansion of V2I technology
- On-demand service

Questions?

