FDOT District
CAV Program Overview
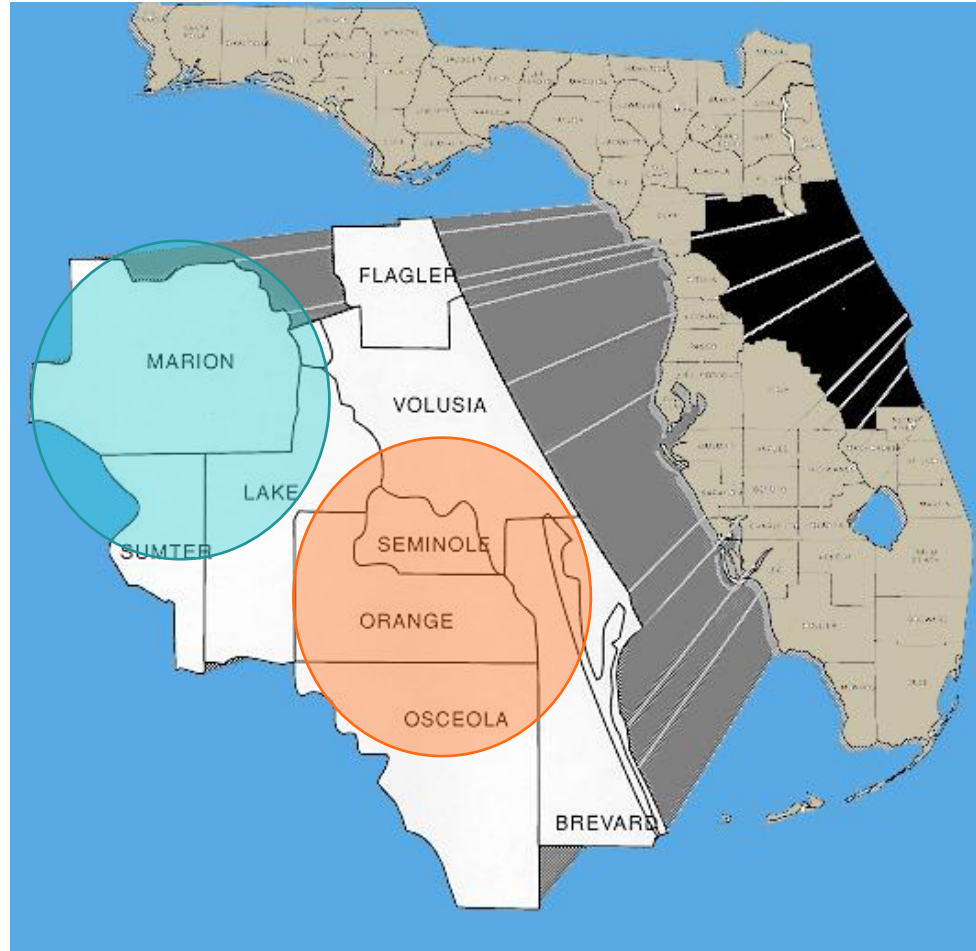
Jeremy Dilmore
D5 TSMO Program Engineer

Two Main Efforts

I-75 FRAME

ATTAIN
ATCMTD Grant Award

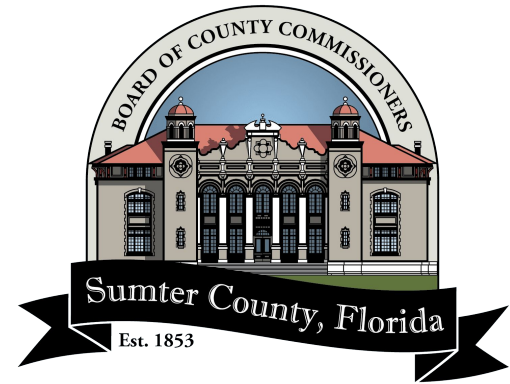District V I-75 FRAME

I-75 FRAME

Challenge:

I-75 has reoccurring all lane blocked events (once every 8 days).

Solution:

Leverage existing 301 and US 27 capacity to handle diversion routing

I-75 FRAME Partners

Partners

Technology Stack

Integrated Corridor Management:

Leverage Sunguide ICM Implementations

Develop plan using operations consultant

Back Office connection Marion County, Ocala, and FDOT

Automated Traffic Signal Performance Metrics

CAV:

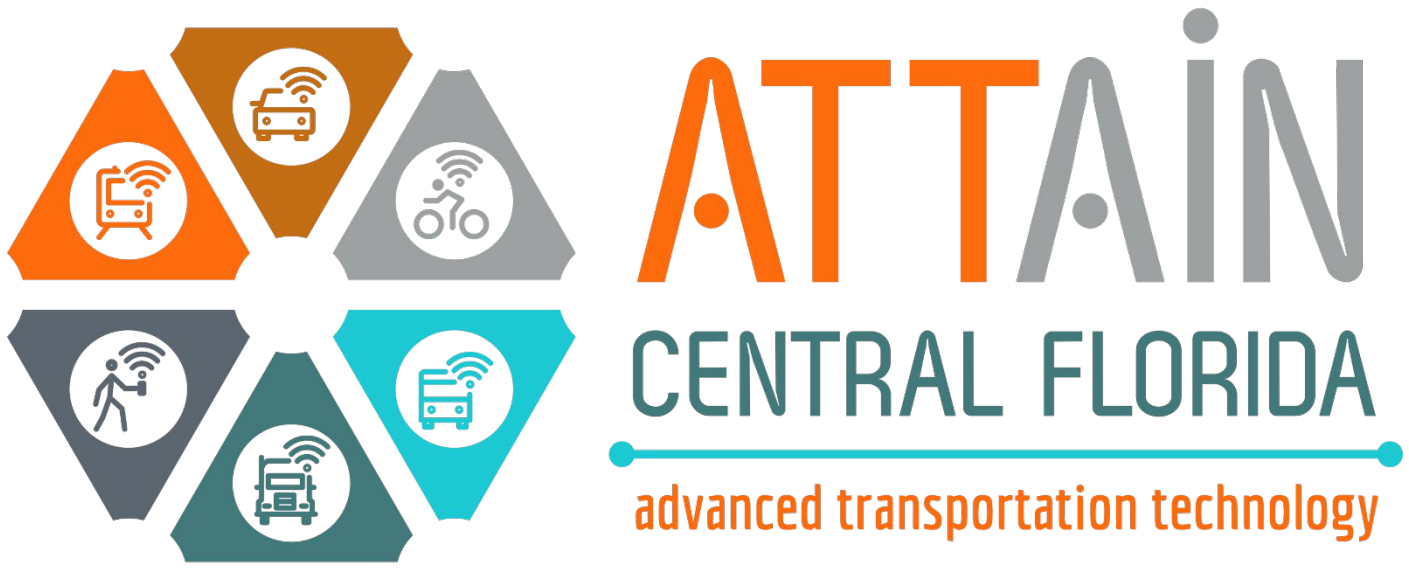Road Side Units – I-75, US-301, SR 326, US 27, SR 40, SR 200

Status

I-75 Project Status:

Leverage Sunguide ICM Implementations

Construction underway

Re-addressing Marion County

Program Overview

Connecting Central Florida

Challenge:

Demand on the transportation system in Central Florida and the need to support underserved communities with safe options are both growing

Solution:

Leverage innovative technologies to connect people, especially those struggling with mobility issues, with places where they need to go and services they need

ATTAIN Central Florida

Partners

FDOT

Manages all programs

Oversees funding

Responsible for deliverables

metroplan orlando
A REGIONAL TRANSPORTATION PARTNERSHIP

Facilitates collaboration

Maintains agency support

Ensures projects meet intended purposes

UCF
UNIVERSITY OF CENTRAL FLORIDA

Research capabilities

Data analysis expertise

Multiple deployment locations on main campus

28

LOCAL GOVERNMENTS AND REGIONAL AGENCIES

Total number that have approved resolutions in support of the ATTAIN Central Florida

Technology Stack

PedSafe

Pedestrian and bicycle collision avoidance system

GreenWay

Six advanced transportation management projects

SmartCommunity

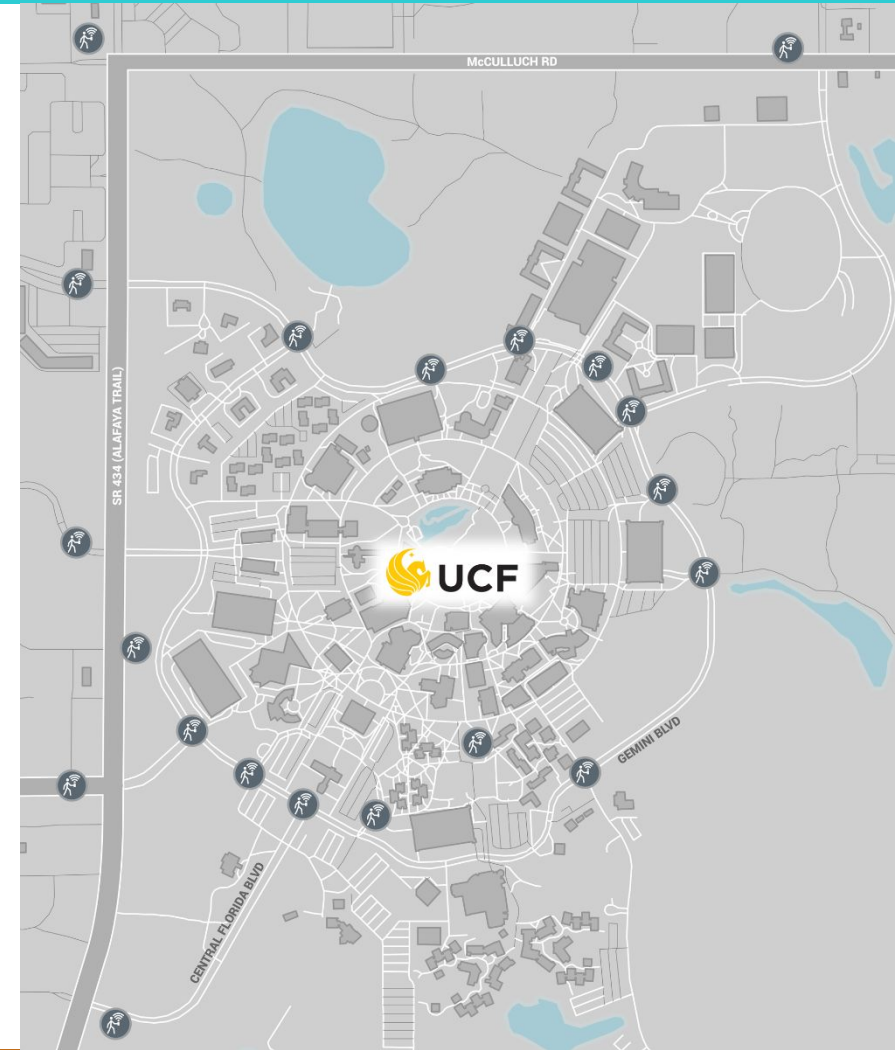Three projects connecting people with places they want to go

SunStore

Stores data from FDOT and partner agencies for planning and research purposes

ATTAIN CENTRAL FLORIDA
advanced transportation technology

PedSafe

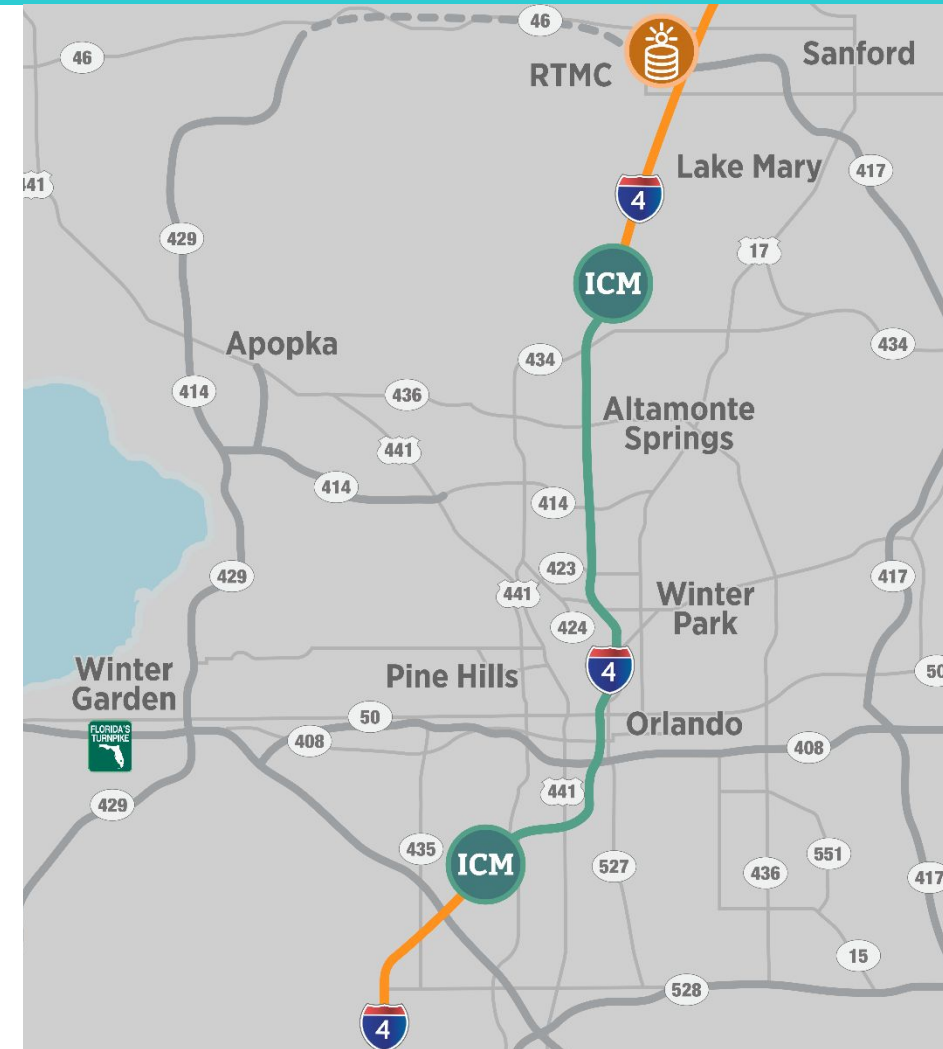## Pedestrians and Bicycle Collision Avoidance System

- Reduces vehicle conflicts with walkers and cyclists

- Utilizes connected vehicle technologies

- On-board unit (OBU) emulator in mobile app
  - Transmits pedestrian location to vehicles
  - Pedestrian receives safety message

SOURCE: FDOT

Greenway

Regional Integrated Corridor Management System (R-ICMS)

- Keeps traffic moving during incidents

- Real-time analysis predicts traffic behavior, suggests changing timings, Dynamic Message Sign (DMS) updates, and other strategies on alternate route

- RTMC manages incident and shares action with local agencies to act together

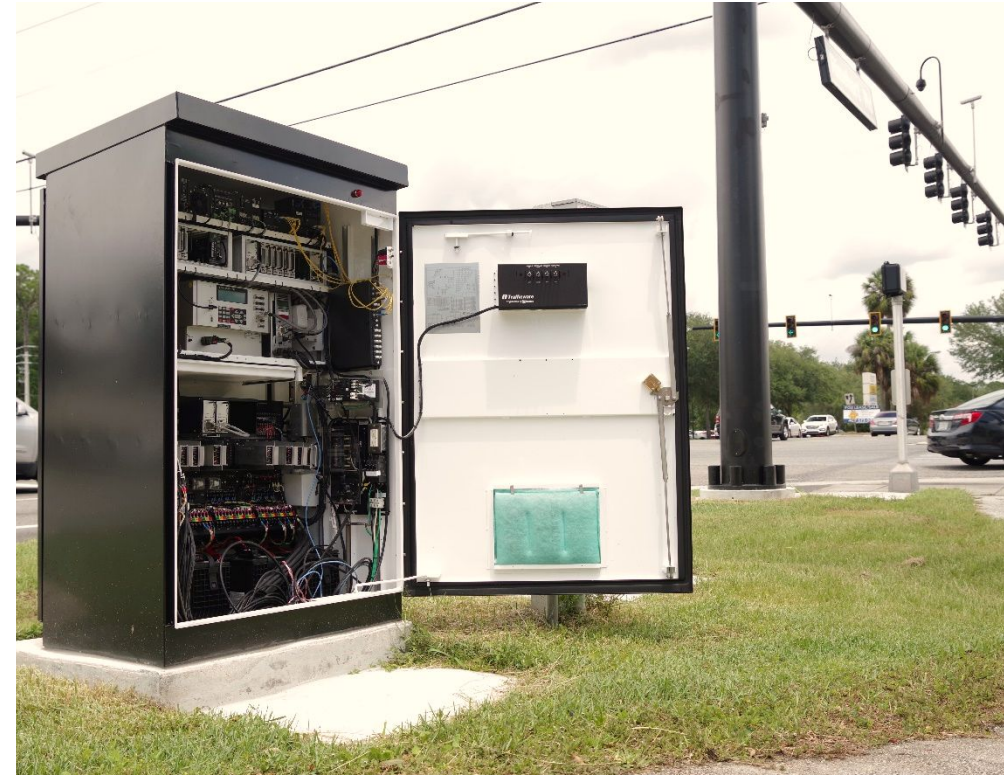- Local agencies manage traffic lights to maintain constant flow
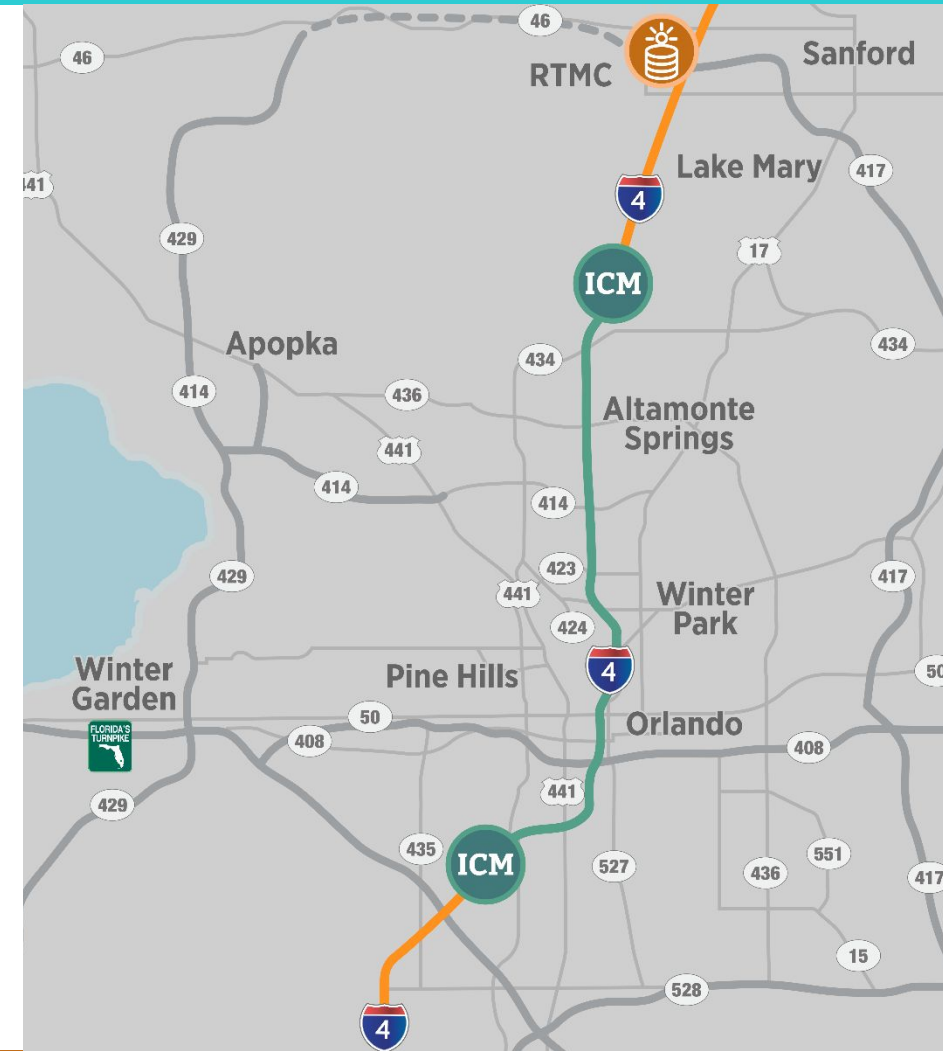
Greenway

Smart Signals

- Collects data to adjust traffic signal timing in real-time

- Reduces manual collection

- Optimizes intersection traffic flow, reduces delays, improves safety and lowers emissions

- Hardware and firmware to be installed in 250 intersections

SOURCE: FDOT

Greenway

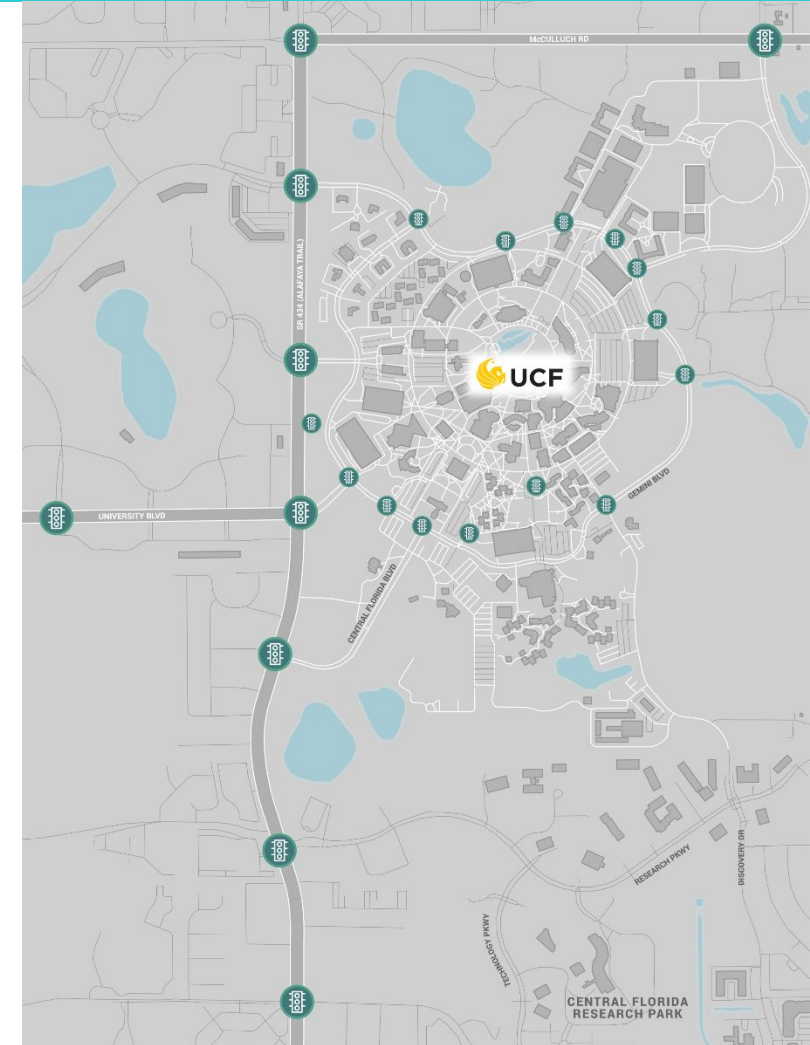## Regional Integrated Corridor Management Software (R-ICMS)

- **Predictive Model** predicts traffic up to 30 minutes in the future for best detour route

- **Signal Optimization Tools** determines which signals are farthest from being optimized and allows for their optimization

- **Smart Signals** needs upgraded signals to be fully integrated

SOURCE: FDOT

Greenway

Connected Vehicle Infrastructure

- Designed to improve safety and mobility

- Transmits alerts to
    - OBU in Connected vehicles
    - OBU emulators in UCF smart phone app

- CV infrastructure technologies will be used by
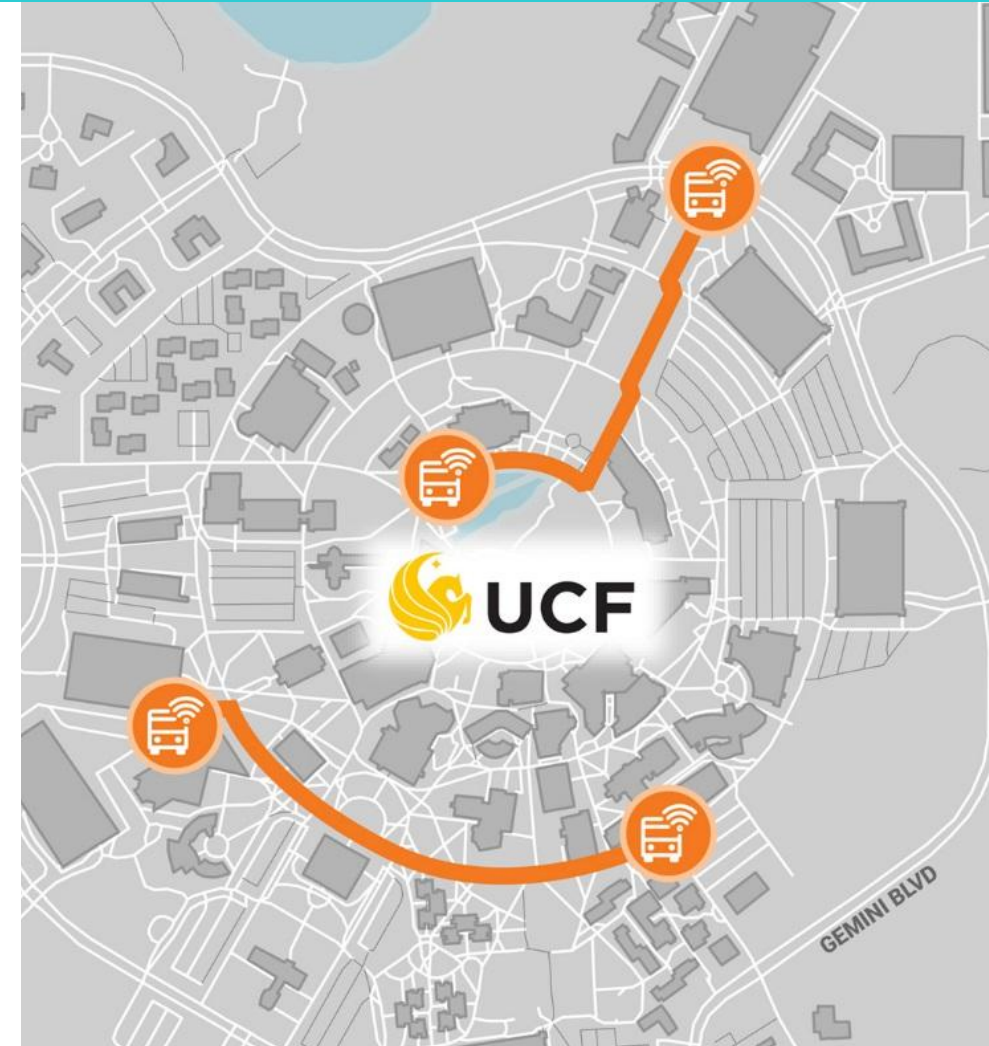   - UCF transit
    - First response vehicles

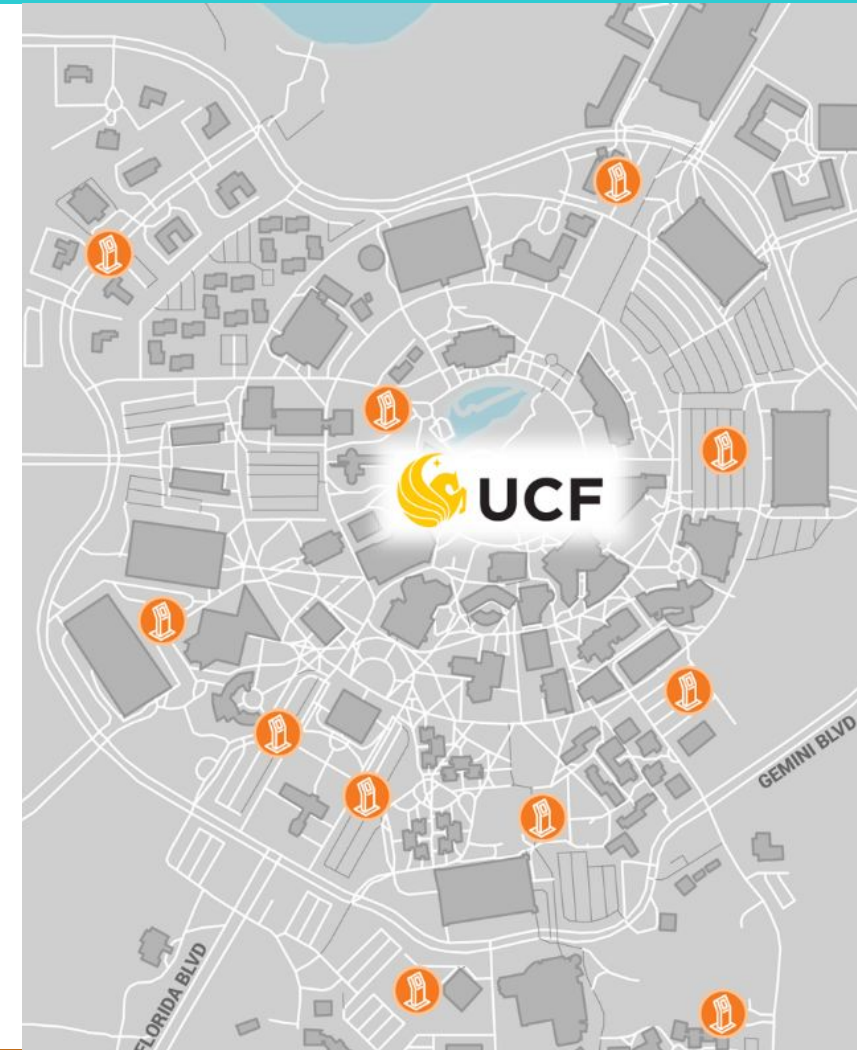SOURCE: FDOT

SmartCommunity

Autonomous Vehicle Shuttles

- Self-driving, electric autonomous vehicle shuttles will operate on UCF main campus

- Shuttles will travel at maximum 15 mph on two routes closed to regular vehicle traffic

- Up to 12 students, faculty, staff and visitors will be transported in each vehicle

- Service begins in 2020 and will be provided for three years by COAST Autonomous

SOURCE: FDOT

SmartCommunity

Transit Kiosks

- Deployed on UCF main campus at existing transit vehicle stops

- Users can combine multiple modes of transit for a single trip

- Will determine optimal route and mode considering time, cost and exercise for best effective combination

- Provides mobility on demand to underserved users who do not own a car or smartphone

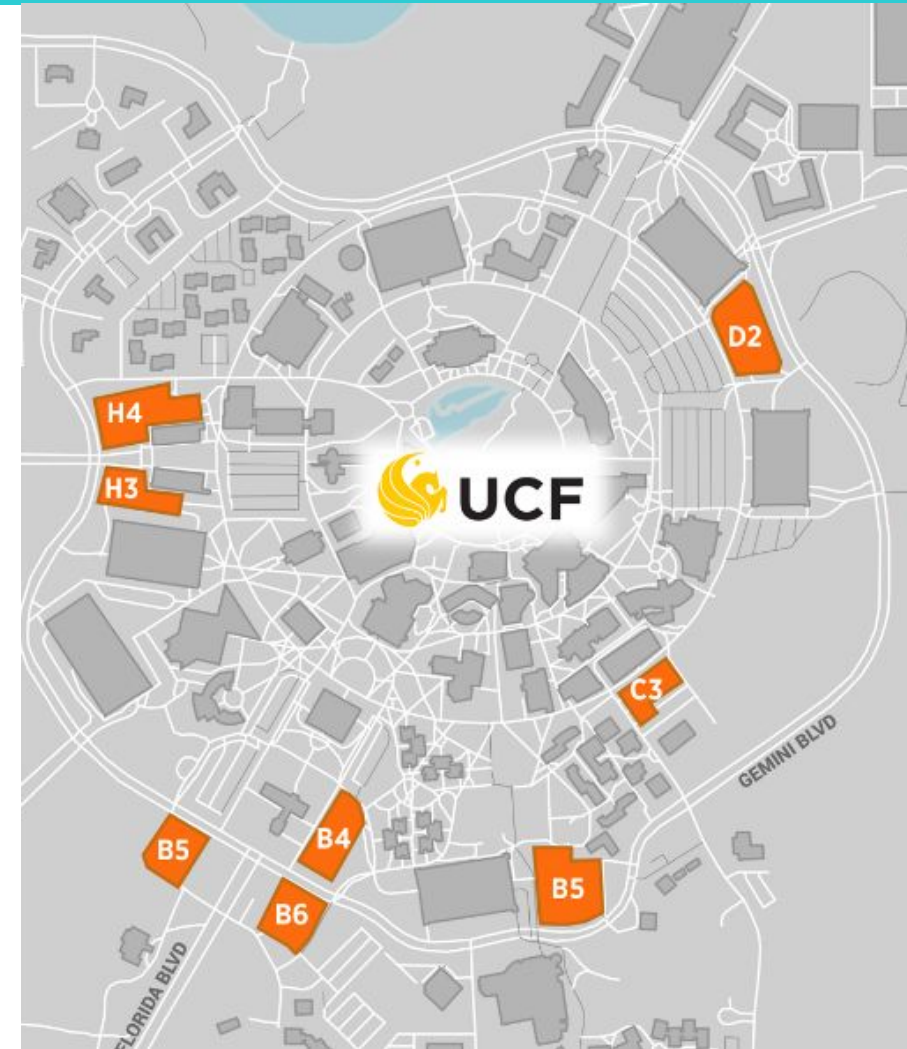- Meant to be scalable solution for Central Florida

SmartCommunity

Surface Parking Management

- Quick and easy method for students and employees to find a parking space

- Deployed in nine lots on UCF main campus

- UCF mobile app will show real-time parking availability

- Identifies space availability by video, microwave and in-pavement wireless magnetometers

SunStore

FDOT's Data Storage and Research Sharing Initiative

- Connects and integrates transportation data sources created and utilized by FDOT

- Includes master data management, data fusion and sensor fusion for increased quality

- Data available for research by universities, institutions, planners and businesses

- Stores data from PedSafe, GreenWay and SmartCommunity deployments

Status

I-75 Project Status:

Leverage Sunguide ICM Implementations

Construction underway

Re-addressing Marion County

D5 CAV Projects

For more information, please visit:

www.CFLSmartRoads.com

Smart Signal Examples

CAV Testing Information

SunStore Access