



**ITS WORLD CONGRESS 2017**

Montréal | OCTOBER 29 - NOVEMBER 2

[www.itsworldcongress2017.org](http://www.itsworldcongress2017.org)

# **Beth Kigel**

Florida Transportation Commissioner

**Florida's Smart Future:  
Innovation in Policy and Technology Planning**

# A perspective of Florida's growth

## Key Statistics:

- Additional 6 million residents by 2030
- 160 million visitors annually by 2025
- 69% increase in freight tonnage by 2040

~ 3,000 Florida road fatalities in 2016



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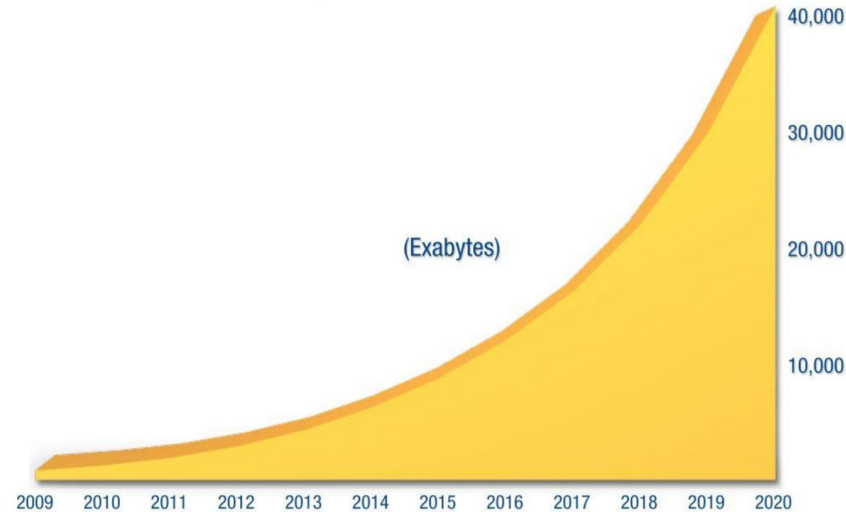
**Efficient and Safe Mobility A Must!**



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# What's Happening with Data?

The Digital Universe: 50-fold Growth from the Beginning of 2010 to the End of 2020



Source: IDC's Digital Universe Study, sponsored by EMC, December 2012



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# Achieving a Smart Florida

## EFFICIENCIES & ACCESS



Transportation / Mobility



Education / Training



Healthcare



Government



Other Services



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# Achieving a Smart Florida

EMBRACING  
TRANSPORTATION  
INNOVATIONS

**MOBILITY AS A SERVICE**



**Transportation / Mobility**



Education / Training



Healthcare



Government



Other Services



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# Government Fostering Innovation is a MUST

USDOT Secretary Elaine Chao:

*“there are also concerns about how they will  
continue to develop . . . We need to do it in a  
way that will not dampen the basic  
creativity and innovation in of our country.”*



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# Florida's Momentum: Legislation, Education, Innovation and Collaboration



## Key Legislation - 2012 to Present

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FAV Summits

Stakeholder Engagement

Pilot Projects and Research

Testing Facilities

Efficient Use and Sharing of FDOT Data

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Annual  
Transportation  
Summits



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**ROADS**  
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# Florida Legislation – Encouraging Innovation

*(some examples)*



- 2012 – **2<sup>nd</sup> state** to authorize AV testing / provided a framework for AVs
- 2014 – authorized Florida's OIR to **approve premium discounts** for vehicles equipped with specified autonomous driving technology
- 2016 – 1<sup>st</sup> state to authorize **AV without driver behind wheel**
- 2016 – **removed \$5 million** minimum insurance requirement
- 2016 – study to enable pilot of **Driver Assistive Platooning**



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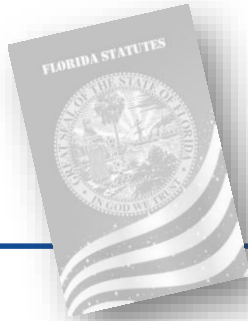


- 2017 – HB221 – established state-wide regulatory framework for **Transportation Network Companies**
- 2017 – HB 687 – pre-empts to the state the regulation of **5G telecommunications companies** for placement of small wireless facilities in ROW
- 2017 – HB 865 – proposed **Smart City Challenge Grant Program**; authorizing FDOT to **enroll in federal pilot programs for collection and study of data**
- 2017 - HB1027 – electric **Personal Delivery Devices** authorized on sidewalks and crosswalks



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**FLORIDA  
CHAMBER**  
*Foundation*

Annual  
Transportation  
Summits

**FLORIDA 2030**  
FLORIDA CHAMBER FOUNDATION



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# FDOT's Automated Vehicles Initiative



[www.automatedfl.com](http://www.automatedfl.com)

- Annual FAV Summits
  - 5<sup>th</sup> Summit: November 14-15 in Tampa, FL
- Stakeholder Working Groups / White Papers
  - 3 groups: Infrastructure/Technology, Modal Applications, and Policy
  - **Collaborative with transportation government and industry stakeholders, including legal and insurance experts**
- University Research Partnerships
- Pilot Project Initiatives



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# Florida's Legislature and FDOT: Paving the Way

## INNOVATION IN MOBILITY AND SMART CITY SOLUTIONS

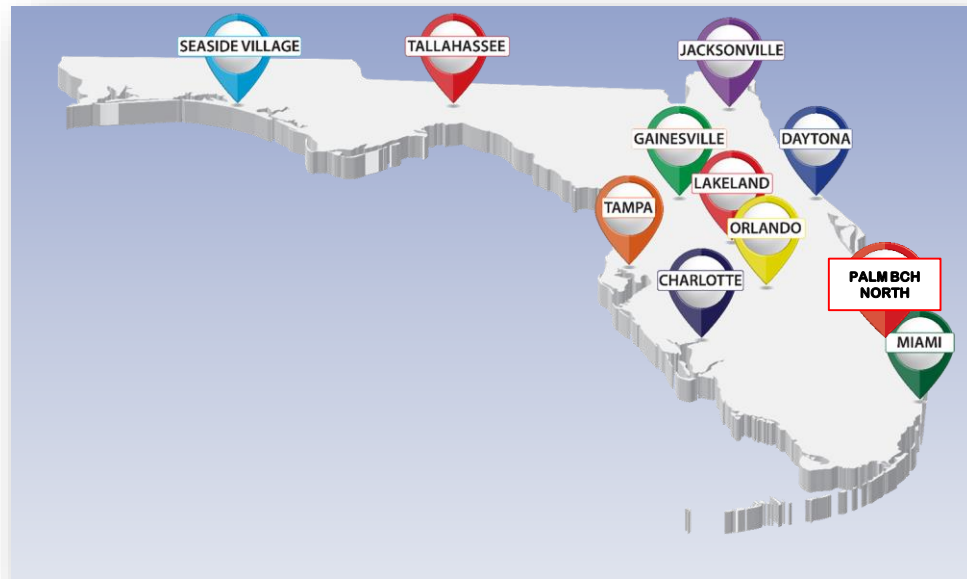
### Regional Examples:



#### NORTH FLORIDA



#### MIAMI MOBILITY



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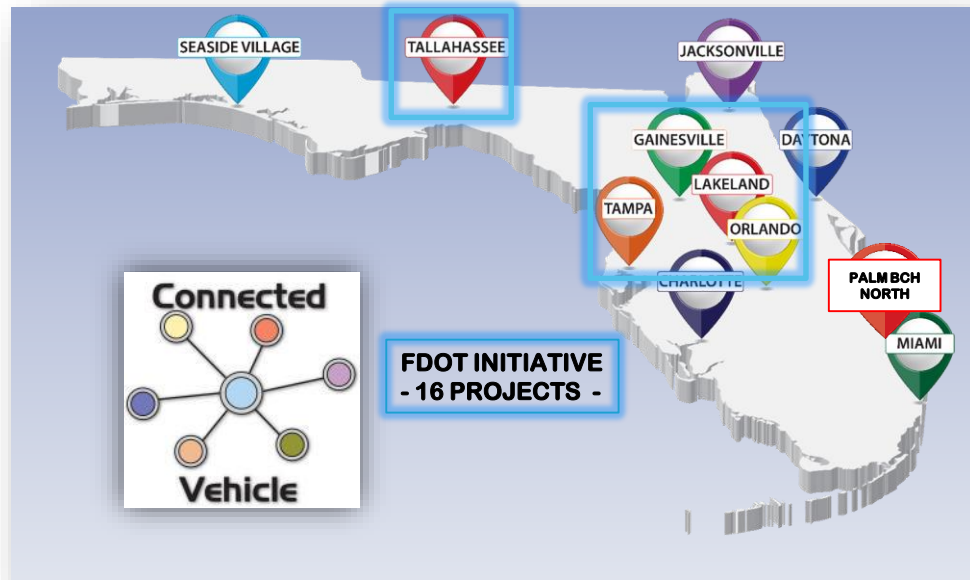


FASTRACKINSTITUTE



PALM BEACH NORTH  
*Florida's prosperity coast*

SMART AND  
CONNECTED  
REGION



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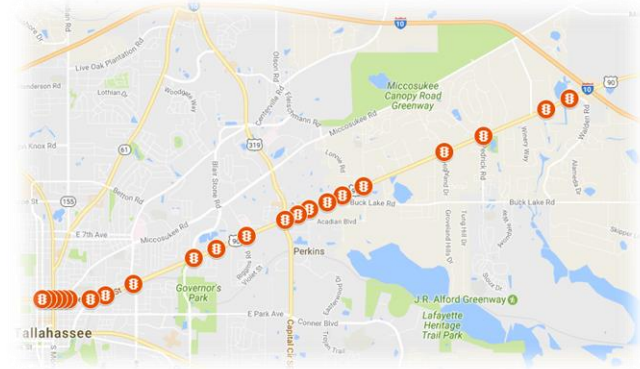
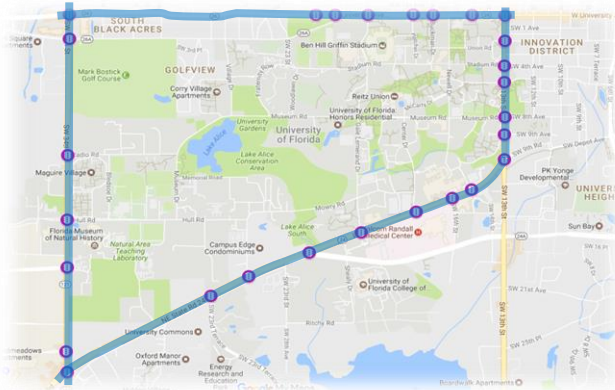




# Signal Phase and Timing (SPaT)

## US 90 - TALLAHASSEE

- 22 signalized intersections along US 90
- Partnership: FDOT, City of Tallahassee
- Pre-deployment testing and demonstrations at the Traffic Engineering Research Laboratory (TERL)
- First Road Side Units (RSU) deployment to begin by Dec 2017



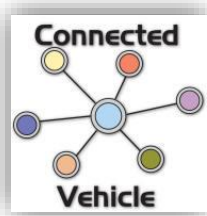
## GAINESVILLE TRAPEZIUM

- Partnership: FDOT, University of Florida (UF), City of Gainesville
- RFP in process: CV technology 27 signals along 4 corridors around UF campus
- Potential technologies to deploy/test:
  - ✓ Roadside Units
  - ✓ On-board Units
  - ✓ Web-based and/or smartphone application for pedestrian and bicyclist safety



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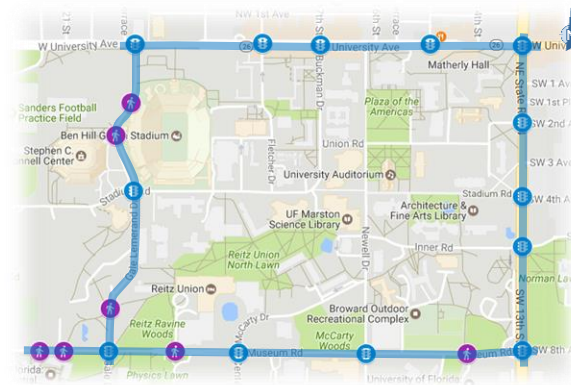




# UF AID and FRAME

## UNIVERSITY OF FLORIDA (UF) ACCELERATED INNOVATION DEPLOYMENT (AID)

- FDOT applied for 2017 AID Demonstration grant application in April
- UF and City of Gainesville connected vehicle pilot project
- AID application in review by Federal Highway Administration



## Overall Map

### Legend

- Traffic Signal
- Traffic Signal with Pedestrian Crossings
- Traffic Signal on Transit Route
- Traffic Signal on Transit Route with Pedestrian Crossings
- Railroad Crossing
- Mid-block Crossing
- Mid-block Crossing on Transit Route
- Weigh-in-motion
- Rest Areas
- University of Florida
- Paynes Prairie
- Detour Corridor
- I-75 with RSUs at every mile
- Detour Corridor need Fiber Optic Deployment



## I-75 FLORIDA'S REGIONAL ADVANCED MOBILITY ELEMENTS (FRAME)

- Project limit: I-75 and US 441/US 301 from Wildwood to Alachua
- Deploy Integrated Corridor Management (ICM) using CV technologies
- I-75 Roadside Units (RSU) every mile for incident management
- RSUs at signals on detour routes for SPaT, pedestrian safety, freight and transit priority
- Automated Traffic Signal Performance Measure (ATSPM) in Gainesville and Ocala
- Test using on-board units and other tools
- FDOT design process started

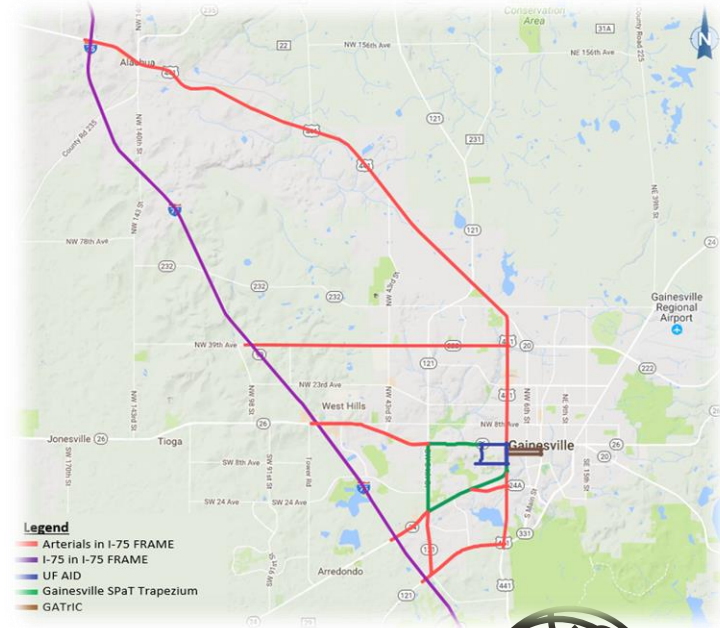


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# University of Florida (UF) Test Bed

- UF Test Bed Partners
  - Florida Department of Transportation
  - UF
  - City of Gainesville
- Intent
  - To provide real-world test bed facility
  - To collaborate with and assist developers to demonstrate and test a wide range of solutions
- Test bed facilities range from freeways to high volume arterials with bike/pedestrian/scooter/skateboard applications
- Request for Information (RFI) for desired technologies or applications to test for safety, mobility, and data management



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# FLORIDA'S NEW HUB for MOBILITY INNOVATION

## STATE OF THE ART TESTING FACILITY

- Florida Polytechnic University & Florida Turnpike Enterprise
- Test & research facility (tolling, ITS, and AV/CV technologies)







# FLORIDA'S NEW HUB for MOBILITY INNOVATION

- 1 Main Access & Building Facilities
- 2 High Speed Oval
- 3 Dynamic Test Pad
- 4 Pick-Up/Drop-Off
- 5 Urban
- 6 Complex Suburban
- 7 Roadway Geometry Track
- 8 Environmental Test Chamber
- 9 Loop Track
- 10 Ring Track





# FLORIDA'S NEW HUB for MOBILITY INNOVATION

## GOAL FOR FLORIDA: *Nucleus of AV/CV Technologies*

- 1 Main Access & Building Facilities
- 2 High Speed Oval
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# Central Florida Autonomous Vehicle Proving Ground



**DESIGNATED  
PROVING GROUND**  
*- 1 of 10 -*



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# Areas of Focus for Mobility

## Five Modes of Travel



Automobiles



Freight



Transit



Bike-Ped



Space




- Interaction of Modes
- Safety





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# Variety of Test Environments





## SIMULATION AND TESTING

	UCF
	Florida Poly
	FAMU-FSU

## CONTROLLED ENVIRONMENTS

	SunTrax
	Kennedy Space Center

## OPEN ENVIRONMENTS

	City of Orlando
	FDOT
	FTE
	LYNX

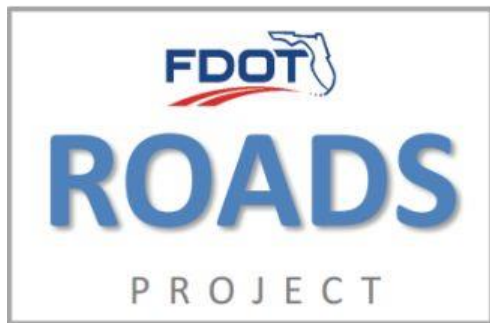


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# Reliable, Organized, Accurate Data Sharing



**A KEY STEP TOWARD  
- MOBILITY AS A SERVICE -**

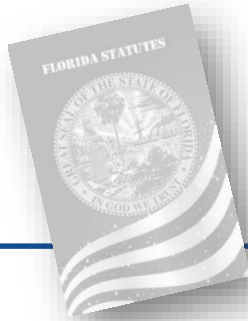
## Maximizing Mission Execution

- FDOT collects multimodal data for mobility and assets
- Completing a data inventory
- Defined and documented approach for effective information management, utilization, and analysis
- Integrated, accurate, and trustworthy information



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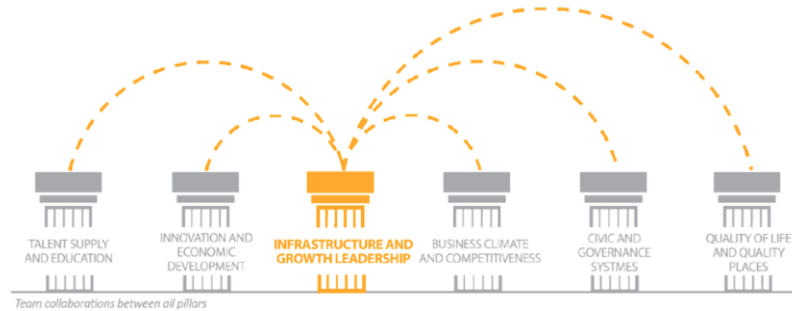


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# Strategic Planning for Florida's Future

## Transportation & Logistics

*By 2030, Florida is attractive to all generations by providing high-levels of transportation connectivity, premium passenger connectivity options within and between regions, and smart regional connected infrastructure that accommodates autonomous vehicles and shared-transportation services.*



## Communications & Technology

*By 2030, all Floridians and visitors will have access to high-speed internet, state of the art mobile technologies, and other communications advancements including Internet of Things (IoT) and Artificial Intelligence (AI) integration into public/private infrastructure systems.*

# **Thank You!**

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**Florida Transportation Commissioner**  
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