



Florida's Automated Vehicle Initiative

Creating the Framework for Implementation



PROGRAM BACKGROUND

Three Elements of the Florida Transportation Plan



Vision Element (August 2015)

Trends, uncertainties, and themes that will shape the future of transportation in Florida (50 years)



Policy Element (December 2015)

Goals and objectives to guide the Florida Department of Transportation and partners toward the vision (25 years)



Implementation Element (2016)

Emphasis areas with key actions (5-25 years)



Produced by the Florida Department of Transportation.
For more information, please contact:
Office of Policy Planning – 850.414.4800
FloridaTransportationPlan.com



PROGRAM BACKGROUND

FLORIDA TRANSPORTATION PLAN POLICY ELEMENT
DRAFT (10/14/15)
DECEMBER 2015
ftp.dot.com

Goal: Agile, Resilient, and Quality Infrastructure

Goal: Transportation Solutions that Support Florida's Global Economic Competitiveness

Goal: Safety and Security for Residents, Visitors, and Businesses

Goal: More Transportation Choices for People and Freight

FTP SIS

What Do We Want To Achieve?

Objectives	Numbers to Watch
Reduce delays related to bottlenecks, gaps, and crashes and other incidents for all modes of Florida's transportation system	Increase the efficiency of the supply chain for freight moving to, from, and through Florida
Increase the reliability of all modes of Florida's transportation system	Person- and Freight-Hours of Delay
Increase customer satisfaction with Florida's transportation system and regulatory processes for residents, visitors, and businesses	Percent of passenger rail project of commercial origin

Automated and Connected Vehicles

Florida is on the cusp of a technological revolution in the transportation industry. Automated and connected vehicle technologies hold unprecedented opportunities to help reduce congestion and eliminate transportation related fatalities. FDOT is planning for the deployment of automated and connected vehicle technologies on public roadways with the establishment of the Florida Automated Vehicles initiative. This initiative was created to help build the framework for automated and connected vehicle implementation by engaging stakeholders, developing research and pilot projects, and creating awareness of the technologies.

FLORIDA AUTOMATED VEHICLES

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PROGRAM BACKGROUND



Innovation Hub

The smartphone screen shows a text message conversation with Sarah. The messages are as follows:

- Sarah: How's Florida?
- Response: It's great! Thought I'd leave after graduation but there are so many jobs here.
- Sarah: Sounds awesome! I'd just hate all the traffic.
- Response: No more traffic for me. I gave up my car. I can walk everywhere and use transit or a shared vehicle when I need to. I don't miss it at all.
- Sarah: Wow! I had no idea. How are your parents?
- Response: They're good. I'm taking either the new air or rail service to see them at the end of the month. It sure beats the six hours of driving I've gotten used to.

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What If?

Younger, skilled workers choose to establish their careers in Florida because of the state's high quality of life and growing economy?

Florida becomes a global leader in life sciences, information technology, aerospace, and other innovation industries?

People choose to live in urban neighborhoods where they can live, learn, work, and play in close proximity?

Could We?

Expand transportation choices in urban centers: walking, bicycling, shared vehicles, streetcars, light rail, and more?

Create more options for high-speed travel between Florida's urban centers without using a car?

Ensure fast delivery to markets for innovation industries?

Test and deploy automated and connected vehicles and other new technologies to increase the efficiency and safety of the transportation system?

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FAV INITIATIVE OUTREACH

TRB UTC

TEAMFL/FTC

Broward MPO

AASHTO

SASHTO

FL. Unmanned Business Expo

AUVSI

FS ITE

ITS Annual Meeting

ACEC/ITS – North Carolina

Emerald Coast Transp. Symposium

ITS World Congress

UF WTS Student Chapter

APA FL

Automotive Testing Expo

FICE

ITE International Exhibit

FL Transportation Data Symposium

FDOT Transplex

IANA

ASHE

Polk TPO

FAV INITIATIVE RESEARCH

 UNIVERSITY OF FLORIDA	Policy Implications of Automated Vehicle Technology Development and Testing of Optimized Autonomous and Connected Vehicle Trajectories at Signalized Intersections
 FLORIDA STATE UNIVERSITY 1851	Enhanced Mobility for Aging Populations Using Automated Vehicles Envisioning Florida's Future: Transportation and Land Use in an Automated Vehicle World
 UNIVERSITY OF SOUTH FLORIDA	Evaluation of Automated Vehicle Technology for Transit
 UCF	Automated Vehicle Simulator to Enhance Connected Vehicle Message Delivery
 EMBRY-RIDDLE Aeronautical University	Identification of Autonomous Service Vehicle Requirements
 FAU	Unmanned Surface Vessels for Bridge Inspections
 BISHOP CONSULTING	Autonomous Vehicles for Drayage Operations

FAV INITIATIVE PILOT PROJECTS

Advanced Driver Assistance Systems

- Instrument 100 vehicles in FDOT District 7
- Vehicles from FDOT and local transit agencies
- 100 vehicles equipped with GeoTab devices
- 50 vehicles equipped with Mobileye devices
- Study duration is 2 years
- Installs completed in August 2014
- Data collection underway
- Survey drivers and fleet managers



STRATEGIC PLAN DEVELOPMENT PROCESS

STRATEGIC PLAN DEVELOPMENT PROCESS TIMELINE

First Annual
Florida Automated
Vehicles Summit

11.14.13



Second Annual
Florida Automated
Vehicles Summit

12.15.14

05.30.14

Working Groups
Established

03.19.15

Initial Steering Committee
meeting. Discussed Florida
Automated Vehicles
Initiative and the purpose
of the Steering Committee.

Automated and
Connected Vehicles
Strategic Planning
Workshop. Included all
steering committee
members and other
FDOT leaders.

06.24.15

08.20.15

Automated and
Connected Vehicle
Strategic Plan
initiated.



PROGRAMMATIC GOALS & ACTIONS

Main Issues:

- Safety
- Infrastructure
- Partnerships
- Policy

Each Issue had:

- Goals
- FDOT Champion Assigned
- Tactic



PROGRAMMATIC GOALS & ACTIONS

	GOAL	FDOT CHAMPION	TACTIC
SAFETY	Enhance Intersection Safety	Lora Hollingsworth	Review intersection crash rates and prioritize intersections that would benefit from technology applications
		Mark Wilson / TERL	Design prototypical fully CV-capable intersection
			Install fully CV-capable intersection technology at identified locations
	“Develop Communications Strategy on the Safety Benefits of AV/CV/ITS”	Lora Hollingsworth	Leverage FDOT Safety Campaign’s outreach program to educate on the safety benefits of technology
			Engage opportunities to partner in public awareness campaigns

PROGRAMMATIC GOALS & ACTIONS

	GOAL	FDOT CHAMPION	TACTIC
INFRASTRUCTURE	Create Design Standards	Fred Heery - ITS Tim Lattner - Design	<p>Create design assumptions to prepare and accommodate AV/CV/ITS on current major projects, specifically large scale bridges with a long design life, to maximize return on investment and minimize future reconstruction efforts</p> <p>Create flexible Florida Standards and Specifications to prepare and accommodate future AV/CV/ITS infrastructure.</p> <p>Effectively participate and lead in assisting with the development of national design standards and specifications</p> <p>“Update the Manual of Uniform Minimum Standards for Design, Construction and Maintenance for Streets and Highways (Greenbook) to accommodate AV/CV/ITS”</p>
	Construct a Test Track	Paul Satchfield	<p>Develop the business plan for a multi-functional, multi-modal emerging technology test track</p> <p>Establish partnerships to fund and drive collaboration within the test track environment*</p> <p>Phase I test track land acquisition</p> <p>Open Phase I of test track for toll operations and testing</p> <p>Phase II expansion to include AV/CV operations and testing</p>
	Implement Pilot Projects	Ed Hutchinson	<p>Determine minimum number of pilot projects to implement per year for the next three years</p> <p>Outline legislative action needed to implement automated attenuator trucks in active work zones</p> <p>Use Orlando International Airport and/or Tampa International Airport as a nationwide test bed for CV-equipped rental cars</p>
	Develop an Automated Vehicles Initiative Cost Feasible Plan	Chris Edmonston	<p>Develop horizon year</p> <p>Complete plan development</p>

*Subject to further discussion and collaboration.



PROGRAMMATIC GOALS & ACTIONS

	GOAL	FDOT CHAMPION	TACTIC
PARTNERSHIPS	Establish Partnerships with Vehicle Manufacturers and Suppliers	Ed Hutchinson	Engage industry partners for future research, testing and deployment needs *
			Create knowledge transfer from FDOT to other entities for collaboration
			Partner with fleet companies to develop strategies for connected fleet vehicle applications *
	Enhanced Mobility for the Transportation Disadvantaged	Ed Coven	Partner with planned and existing communities for AV/CV implementation *
Partner with local transit agencies to develop strategies for intermodal connectivity *			

*Subject to further discussion and collaboration.

PROGRAMMATIC GOALS & ACTIONS

	GOAL	FDOT CHAMPION	TACTIC
POLICY	Establish Guidelines for Roadway Testing	Dana Reiding	Create guidelines for on-road CV/AV testing with industry partners
	Define Governance	Dana Reiding	Define stakeholders and chain of command for decision making process
	Include AV/CV/ITS in Long-Range Plans	Dana Reiding	Include AV/CV/ITS in Strategic Highway Safety Plan Include AV/CV/ITS in Florida Transportation Plan

*Subject to further discussion and collaboration.

FAV INITIATIVE

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Thank you!