



MEMORANDUM

To: Council Members

AGENDA ITEM 11

From: Staff

Date: October 18, 2019

Subject: Florida Transportation Plan 2020 Update – Presentation by Ken Jeffries of FDOT District 6 and Lois Bush of FDOT District 4

Introduction

Staff from the Florida Department of Transportation (FDOT), representing District 4 and District 6, will provide an overview of the process underway to update the Florida Transportation Plan as well as more detailed information concerning the “Resiliency” topic area. Input will be solicited from Council Members at the meeting concerning a range of resiliency issues.

Background

The Florida Transportation Plan (FTP) is the single overarching statewide plan guiding Florida’s transportation future. It is a plan for all of Florida created by, and providing direction to, the FDOT and all organizations that are involved in planning and managing Florida’s transportation system, including statewide, regional, and local partners.

The FTP provides policy guidance and establishes the policy framework for allocating the state and federal transportation funds which flow through FDOT’s 5-year Work Program.

The FTP is important because it not only sets a long-range vision for the future but it guides transportation decision making today. It considers how we will:

- Attain Florida’s goal of zero fatalities on Florida’s transportation system.
- Provide a more efficient and mobile transportation system.
- Meet the needs of a growing and changing population.
- Make Florida’s economy more competitive.
- Enhance the quality of life and environment of Florida’s communities.
- Increase opportunities for access to transit and other modes of transportation.
- Address emerging issues such as the rapid changes in technology.

The FTP update is being led by a diverse steering committee with over 30 members from the public, private, and civic sectors (<http://www.floridatransportationplan.com/committee.htm>). Pat Steed from the Central Florida Regional Planning Council is representing the Florida Regional Councils Association on the steering committee.

The FTP update is focusing on four cross-cutting topics:



FDOT's presentation will cover the purpose of the FTP and why it matters and then focus on resilience. To help shape the plan, comments will be sought from Council members using an online polling tool. Among the questions that will be asked are:

- What are the benefits of planning for a resilient transportation system?
- What are some of the challenges for Florida to overcome to increase the resilience of the transportation system?
- What are effective strategies that could be implemented as part of the Florida Transportation Plan to make Florida's transportation system more resilient?

Recommendation

For informational purposes only.

Joint Council Action – October 25, 2019

Attachments

1. Flyer with information on how to become involved in the FTP update
2. Summary from the FTP visioning session held in May 2019
(http://www.floridatransportationplan.com/pdf/FTPFL%20Summary_190617.pdf)
3. Technology Emerging Trends
(http://floridatransportationplan.com/pdf/FDOT%20Vision_Technology_web.pdf)
4. Resilience Emerging Trends
(http://floridatransportationplan.com/pdf/FDOT%20Vision_Resilience_web.pdf)

GET INVOLVED!

WHAT IS IT?

The **Florida Transportation Plan (FTP)** is the state’s long-range plan guiding Florida’s transportation future. The FTP is a plan for all of Florida—and affects every resident, business, and visitor. The FTP goals impact our quality of life and economic prosperity.

The Florida Department of Transportation (FDOT) and its partners are updating the FTP. Share your thoughts with us so we can ensure the FTP reflects the needs of Florida’s communities.

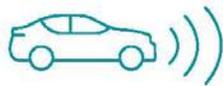
GOALS

- 
SAFETY and SECURITY
for residents, visitors, and businesses
- 
 Transportation solutions that
STRENGTHEN FLORIDA’S ECONOMY
- 
AGILE, RESILIENT, and QUALITY
Transportation **INFRASTRUCTURE**
- 
 Transportation systems that
ENHANCE FLORIDA’S COMMUNITIES
- 
CONNECTED, EFFICIENT, and
RELIABLE MOBILITY for people and freight
- 
 Transportation solutions that
PROTECT FLORIDA’S ENVIRONMENT
- 
TRANSPORTATION CHOICES
that improve accessibility and equity

CROSS-CUTTING TOPICS

TECHNOLOGY

Will technology change how and when we travel?



RESILIENCE

How do we prepare our transportation system for, and recover from, weather, environmental, economic, and operational disruptions?



STATE/ INTERREGIONAL

How do we improve the state’s most strategic transportation systems?



REGIONAL/ LOCAL

What regional or local needs should we consider?



**YOUR NEIGHBORS ARE SHARING
THEIR TRANSPORTATION STORIES**



TELL US YOUR VISION FOR TRANSPORTATION IN FLORIDA.
Help FDOT and its partners update the **Florida Transportation Plan**. Go to:

<http://www.floridatransportationplan.com/>

- ✓ Take the **10-MINUTE** Values and Preference **SURVEY**
- ✓ **SIGN UP** for Mailing Lists
- ✓ **JOIN** a **SUBCOMMITTEE**
- ✓ **LEARN MORE** by listening to **PODCASTS**, watching **WEBINARS**, or **READING**
- ✓ Provide **YOUR IDEAS** online
- ✓ **REQUEST** a **PRESENTATION** to your organization or group
- ✓ Be on the lookout for **REGIONAL WORKSHOPS COMING IN 2020**

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Future of Transportation in Florida

Vision Zero Workshop and Long-Range Visioning Session, May 6th-7th, 2019

Omni Jacksonville Hotel

Jacksonville, Florida

245 Water St, Jacksonville, FL 32202

Introduction

To launch the Florida Transportation Plan (FTP) and Strategic Highway Safety Plan (SHSP) update, the Florida Department of Transportation (FDOT) welcomed approximately 225 attendees including representatives from state agencies, regional organizations, municipalities, industries, universities, associations, and nonprofits, as well as consultants and other stakeholders to the Future of Transportation in Florida event at the Omni Jacksonville Hotel in Jacksonville, Florida on May 6th and 7th, 2019.

The Future of Transportation event had two focuses, a Vision Zero Workshop and Long-Range Visioning Session. The former, hosted by both FDOT and the Federal Highway Administration, was an opportunity to coordinate and align Vision Zero initiatives throughout the state to support the goal of a fatality-free transportation system. The Vision Zero Workshop included presentations and interactive group activities that challenged participants to consider strategies to improve the safety on all of Florida's roadways. The following day, FDOT hosted the Long-Range Visioning Session to kick-off the 5-year update of the FTP, the long-range transportation plan for all of Florida. The Long-Range Visioning Session included presentations and interactive group activities to consider trends and disruptors that may affect Florida's transportation future and identify the unique needs and demands of the various regions of Florida. The Steering Committee may use the resulting information to review and evaluate the performance of the existing seven goals of the current FTP.

Activities

As previously stated, both the Vision Zero Workshop and Long-Range Visioning Session included interactive break-out activities that tables of up to ten participants completed as a group. The Vision Zero Workshop included two group activities: The Connecting Effective Strategies activity challenged tables to identify strategies that will improve safety on all of Florida's roadways, and the Identifying New and Innovative Strategies activity challenged tables to think of new and innovative strategies and how the strategies can be implemented to improve safety on Florida's roadways. The Long-Range Visioning Session also included two group activities: The Trends and Disruptors activity asked tables to identify the most important trends and disruptors that may affect our vision for Florida's transportation future, and the Regional Perspectives activity asked tables to draw the different regions of Florida on a map, list the needs and demands of each region, and consider how these needs and demands alter our vision for Florida's transportation future. The following subsections summarize the outcomes and takeaways resulting from the Vision Zero Workshop and Long-Range Visioning Session activities.

Activity 1: Vision Zero Workshop – Connecting Effective Strategies

For this activity, table participants were asked to provide round table input on the following:

- What are other effective strategies to improve safety on all of Florida's roadways?
- How can you use these strategies in your own jurisdiction?
- Can these strategies be adapted for other applications?

The purpose of this activity was to identify and link strategies that increase transportation safety. The following subsection summarizes the themes and takeaways of Activity One.

Themes and Takeaways

There was considerable discussion from the participants regarding "the E's" of traffic safety, which strongly suggested that FDOT embraces and integrates these principles into its everyday business activities (these include Engineering, Enforcement, Education and Emergency Response). Through table discussions, it was also suggested that the Four E's of traffic safety be expanded to include other factors such as **Equity** and **Evaluation**. The key takeaways from these discussions were that the E's be strongly emphasized and funded by FDOT and its partners. It can also be said that most of the following key takeaways from the Vision Zero Workshop can be organized under these E's as shown below.

The following is the summary of Activity One.

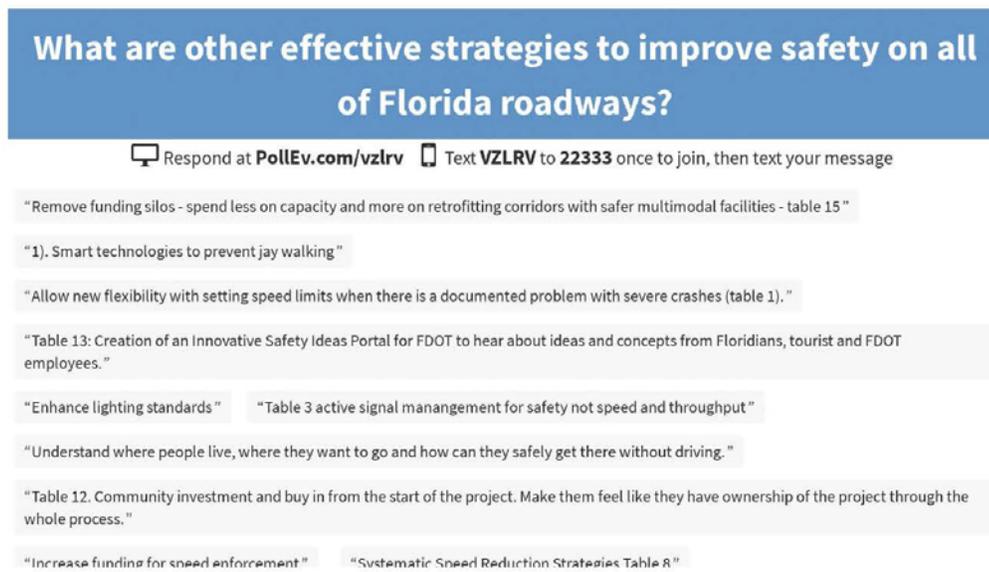
- **Move people and goods instead of cars and trucks – Change the paradigm (Engineering, Enforcement, Evaluation, and Education)**
 - This will require a constant evaluation of the tradeoffs associated with mobility and safety (i.e. pedestrian scale = reduced speeds)
 - Speed management will reduce fatalities significantly
 - The culture of behavior must be modified through outreach and education
 - Our youth is key to this change, strategies should start there
 - More transit
- **Improve coordination and outreach (Education and Evaluation)**
 - Internal to FDOT between Central Office and the Districts
 - Between FDOT and partnering agencies and law enforcement
 - Between FDOT, local governments and MPOs

- Enhanced methods for engaging stakeholders and the public in projects
- This would lead to improved land use and transportation coordination
- Use the media to effect change (i.e. distracted driving)
- Include the private sector in discussions – A safe state is good for business
- **Develop policy changes that move the bar (Engineering and Education)**
 - This will require champions at leadership levels
 - Changes in Florida Statutes that better align with the goal of Vision Zero
 - Examine and improve the project delivery process to allow for the introduction of safety improvements and modify the right of way acquisition process
 - Allow funding sources to be more flexible and to better address safety. This flexibility should allow for the combining of funding types to make safety happen
- **Technology can be a game changer for all aspects of improving safety (Engineering and Enforcement)**
 - Autonomous, connected, electric, and shared vehicles may offer significant improvements
 - In the nearer term, ITS and operational upgrades can also lead to more immediate gains
 - Apply advanced technology to the E's
 - Security of these systems is an important consideration
- **(Big) Data (Enforcement, Education, and Evaluation)**
 - Baseline data must be collected as an ongoing standard practice
 - Data should be used to research trends, identify hot spots, areas in need of enforcement, and to assist with problem identification
 - The use of performance metrics will provide valuable information that informs policy changes and funding allocations
 - Base performance metrics on mode and overall system
- **Strategies for implementation (Engineering, Education, and Equity)**
 - Brand the goal of Vision Zero as a public health need

- Focus on the big gains first: Arterials, speed reductions, 3R projects, lane departures, etc.
- Apply funding to the things that matter most
- Direct resources to nearer-term ITS, TSM&O, and operational improvements and solutions
- Assess the types of crashes that are occurring, then focus solutions that will address them (i.e. rural, lane departures, lack of guardrail on interstates, etc.)
- Accelerate the implementation of complete streets

Figure 1 shows some of table’s effective strategies that are summarized in the categories above. **Figure 2** displays participants takeaways following day one; of note: technology, big data, collaboration, moving people over cars, and cultural shifts.

Figure 1. Connecting Effective Strategies Polling Slide



Activity 2: Vision Zero Workshop – Identifying New and Innovative Strategies

During this activity, participants were asked to provide round table input on the following:

- Identify 3 actionable strategies for the topic your table chose. (Safe speeds, vehicles, whatever they were officially)
- What is the timeframe within which these strategies should be implemented?
- Who is responsible for implementing these strategies?

The purpose of Activity Two was to challenge table participants to brainstorm new approaches to achieve a fatality-free transportation system. Table's new and innovative ideas are summarized below.

Themes and Takeaways

Table One provides a summary of the participants strategies. In some cases, strategies were merged or combined because of similarity.



Table 1. Actionable Strategies, Implementation Timeframe, and Responsible Entities

Actionable Strategies	Implementation Timeframe	Responsible Entities
Most Popular Strategies - Selected Three or More Times		
Provide safe travel for all users	Near-Term	All
Establish target speeds for all modes and provide training and outreach that supports this	Near-Term	All
Coordinate land uses with transportation	Near-Term	All
Communication and collaboration between all stakeholders, public & private	Near-Term	All
Technology in all aspects of transportation, ACES, ITS, TSM&O, etc.	Near-Term	All
Policy changes, including funding, that supports implementation and a streamlined and better coordinated project delivery process	Mid-term	Elected Officials
MPO's should take the leadership role in informing elected officials on the VZ message	Near-Term	MPOs
Use a system-wide approach to planning for transportation	Near-Term	All
Less Popular Strategies - Selected Two or Less Times		
Develop a clearinghouse of existing resources	Mid-term	All
Focus enforcement based on data that is provided by the MPOs	Mid-term	All
Provide FDOT more flexibility to partner and complete projects off the state system	Mid-term	FDOT
Employ engineering design strategies to reduce speeds	Mid-term	All
Use technology to enforce speeds	Mid-term	All
Collaborate data collection and resources between all entities	Near-Term	All
Align FDOT's Complete Streets Program and Policies with the SHSP	Mid-term	FDOT
Establish performance metrics based on safety goals and publicize the progress	Mid-term	FDOT
Focus on small projects and allow them to implement safety enhancements	Near-Term	All
Provide more training and education	Near-Term	All
Reevaluate regulations for truck sizes	Mid-term	All
Collect and provide data for all modes	Near-Term	All



Actionable Strategies	Implementation Timeframe	Responsible Entities
Use creative public outreach methods to inform the public and to be inclusive of disadvantaged populations	Near-Term	All
Safely accommodate freight into the transportation system	Near-Term	All
Improve transit options to better support the transportation dependent and the elderly populations	Near-Term	All
Partnership to address safety as a public health issue	Near-Term	All
Use a proactive and forward-looking approach to safety, how data is used, and how funding is applied	Mid-term	All





Figure 3 shows some of the actionable strategies reported by tables. When completing the group activity, tables chose either safe streets, safe people, safe speeds, or safe vehicles as the framework to brainstorm new and innovative strategies. Tables most often selected safe streets and safe people.

Figure 3. Identifying New and Innovative Strategies Polling Slide

What Actionable Strategies Should We Consider?

When poll is active, respond at [PollEv.com/vzlrw](https://www.poll-ev.com/vzlrw) Text **VZLRV** to **22333** once to join

"Table 9- addressing future freight operations to improving safe streets."

"#15-Streets context first!"

"Safe people"

"Table 3 Safe Streets. Make Safe Streets a focus area of SHSP"

"Table 11 - Safe People - Adapting warrants based on context class."

"Table 14 Safe Streets"

"Table 22: Safe speeds. Master plan for all modes of transportation"

"People"

"Visual cues"

"Table 19 - Speed: 1)Trees/buffers/visual cues 2)Question the 85th percentile and revision process 3)Speed cameras"

"#15- Streets: FDM should state it is Guidlnes"

"Table 20 Safe Streets - Proactively address safety with land use changes"

"Table 8 - Safe Speeds"

"Educate local chambers of commerce and encourage them to promote safety to local businesses to help facilitate the development of local safety plans/programs. - Table 16 -"

"14-Safe Streets - Challenge F.S to provide greater flexibility for funding on and off the state system, eliminating roadblocks."

"Table 5-Streets"

"Table 2: #SafesSpeed=SafePeople"

"Table 21 - Safe Speeds - Automated Speed Enforcement in selected zones"

Activity 3: Long-Range Visioning Session – Trends and Disruptors

During the Trends and Disruptors activity, tables identified Trends and Disruptors that may impact long-range transportation needs and goals. Tables chose between six to eight Trends and Disruptors to score for consequences related to safety, mobility, infrastructure, or other (environment, economic, quality of life, etc.) and for likelihood of occurrence. Tables added the individual consequence scores together in a subtotal column, which they then multiplied by the likelihood score to generate a total score. Total scores generated a range from one to 100, with 100 being the highest risk. The goal of this exercise was to forecast anticipated changes or concerns that may impact the Florida transportation network. Tables then discussed how those concerns may impact the vision for Florida's transportation future and the FTP goals. Recurring themes that emerged during these discussions are summarized herein.

Themes and Takeaways

Table 2 identifies the top 21 most frequently selected Trends and Disruptors. The most prevalent topics involve climate-based concerns, new technology, and growth of populations and needs. Please note that other Trends and Disruptors were also identified but did not get selected more than three times. Some of these include increasing fuel costs, loss of international tourists, fossil fuel scarcity, multimodal integration, terrorism threat impacting trade and/or tourism, and disruptive legislation session/decision making.

During this activity, tables submitted Risk Registers as a group, individually, or a mixture of both. Further, not all Trends and Disruptors submitted were allocated a score. In order to capture all input and normalize these submissions, all Risk Registers were assigned the same weighting and counted equally. Nearly 400 Trends and Disruptors were submitted on a Risk Register, then agglomerated into approximately 80 unique categories. Of these, 21 stood out due to the total score or the number of times selected.

Table 2. Top 21 Trends and Disruptors by Number of Times Selected

Trend / Disruptor	Number of Times Selected	Sum of Total Score
Sea Level Rise and Increased Storm Surges	37	1,310
Rate of Deployment/Adoption of New Technology	30	972
Growing Freight Demand	24	680
Rapid Growth in Elderly Population	23	1,054
Rapid Population Growth	22	1,088
Further Suburbanization	17	684
Availability of Infrastructure for Autonomous and Connected Vehicles	14	392
Changes in Travel Behavior	14	309
Impact of Other Emerging Transportation Technologies and Communications such as 3-D Printing, Flying Cars	14	532
Increased Threat of Cybersecurity	14	410
Outdated Government Regulations	14	606
Funding/Economic	12	395
Changes in Urban/Rural Living	10	388
Growing Household Income Inequality	10	416
Loss of Skilled Workers Due to Globalization	10	247
Climate Change and Resiliency	9	345
Rapid Rate of Expansion of Ridesourcing and Ridesharing	9	134
Extreme Weather/Temperature	8	306
Rate of Adoption of Non-Fossil Fuel Sources	8	286
An Economic Recession	7	228
Rising Housing and Transport Costs	4	320

Following individual table discussions, a participant from each table reported the highest-ranking Trend or Disruptor for their table, as shown in **Figure 4**. Tables most commonly reported rapid population growth, new technology, cyber security, and climate impacts as the highest-ranking Trend and Disruptor.

Figure 4. Trends and Disruptors Polling Slide

What is your table's highest ranking trend and disruptor? Be prepared to discuss how this may change the FTP goals.

When poll is active, respond at [PollEv.com/vzlrw](https://www.poll-ev.com/vzlrw) or Text **VZLRV** to **22333** once to join

"Table 20 skilled workers" "Table 6 - reduced funding" "Table 19: Rise in construction costs and av/cv."

"Table 8 - Rapid Population Growth" "Rate of deployment / new technology" "Table 1 Growing Freight Demand"

"Table #15 - Aging population" "Table 9- Rapid population growth and Outdated government regulations"

"Table 2 - Rapid population growth" "Table 5 revenue for funding" "Table 14 - Climate Change" "Table 13: Micro Mobility"

"Increased threat of cybersecurity" "Sea Level Rise (90). - Table 16 -" "Table 4: rate of deployment/adoption of new technology"

"Sea level rise" "Table 22- Increasing threat of Cybersecurity" "Table3 Climate change disruption"

"Table 18 - Rate of deployment/adoption of new technology" "Table 23 - population growth and sea level rise"

"Table 21 - Lack of revenue" "Table 20 - Skilled Workers" "Table 11 changing population growth"



Activity 4: Long-Range Visioning Session – Regional Perspectives

During the Regional Perspective activity, tables drew the regions of Florida on a map and discussed the unique Needs and Demands of each region. The tables then discussed how the identified regional needs and demands may alter the vision for Florida's transportation future and the goals of the FTP.

Themes and Takeaways

Regions with similar boundaries appeared consistently in many of the maps created by the tables. These regions included the Panhandle, Northeast, I-4 Corridor, Treasure Coast, Southeast, Southwest, and Heartland, among others. **Figure 5** illustrates all of the table's regions drawn on a composite map. Here, the similarly drawn regions are somewhat discernible.

Tables reported over 60 unique Needs and Demands for the regions of Florida. These Needs and Demands were assigned to a corresponding FTP goal; sometimes more than one FTP goal was applicable, as illustrated in **Table 3**. Some of the most prevalent Needs and Demands include Hurricane Evacuation / Recovery, Tourism, Jobs, and Transit, among others. In addition to identifying Needs and Demands, several tables expressed an understanding that the FTP may need to be flexible in order to address the high diversity and volume of regional needs and demands.

Figure 5. Regions of Florida



Table 3. Needs and Demands Related to FTP Goals

Need / Demand	Primary FTP Goal	Secondary FTP Goal
SLR / Resilient Infrastructure	Agile, resilient, and quality transportation infrastructure	Global economic competitiveness
Storm Resilience		Global economic competitiveness
SLR		Global economic competitiveness
Hurricane Evacuation / Recovery		Global economic competitiveness
Climate Migrants		Global economic competitiveness
College Population		More transportation choices
Aging Population		More transportation choices
Funding		Quality places to live, learn, work, and play
Infrastructure		Global economic competitiveness
Population Growth		Efficient and reliable mobility
Rural	More transportation choices	
Work Commute	Quality places to live, learn, work, and play	
Congestion	Quality places to live, learn, work, and play	
Travel Time Reliability	Quality places to live, learn, work, and play	
Truck Parking	Quality places to live, learn, work, and play	
Development Pressure	Quality places to live, learn, work, and play	
Better Coordinated Transportation and Land Use	More transportation choices	
AVCV	Safety and security	
Corridor	N/A	
Environment / Environmental Protection	Environment and energy conservation	Quality places to live, learn, work, and play
Water Quality and Availability		Quality places to live, learn, work, and play
Tourism	Global economic competitiveness	Safety and security
Military		N/A
Agriculture		N/A
Timber		N/A
Commercial Seafood		N/A
International Commerce		N/A
Space		N/A
STEM		N/A
Economic Development		N/A
Trade		N/A
Jobs	N/A	



Need / Demand	Primary FTP Goal	Secondary FTP Goal
Rail		Efficient and reliable mobility
Ports		Efficient and reliable mobility
Freight/Shipping		Efficient and reliable mobility
Regional Distribution / Logistics Center		Efficient and reliable mobility
Regional Connections		Efficient and reliable mobility
Connectivity		Efficient and reliable mobility
International Hub / Gateway		Efficient and reliable mobility
Gateway		N/A
Urban		Efficient and reliable mobility
Transportation Choices / Multi-Modal / Mobility Options	More transportation choices	Quality places to live, learn, work, and play
Mobility Hub		Efficient and reliable mobility
Rural Mobility		Efficient and reliable mobility
TOD		Efficient and reliable mobility
Inter-Modal		Efficient and reliable mobility
Bike / Ped		Quality places to live, learn, work, and play
Trail Networks		Quality places to live, learn, work, and play
Special Transportation Support		N/A
Transit		Efficient and reliable mobility
Air Service		Efficient and reliable mobility
Income Disparity	Quality places to live, learn, work, and play	Global economic competitiveness
Affordable Housing		More transportation choices
Low Income Populations		More transportation choices
Limited English Proficiency		More transportation choices
Suburban		Efficient and reliable mobility
Recreation		Environment and energy conservation
Growth Management		Efficient and reliable mobility
Access to Employment		Efficient and reliable mobility
Access to Health Care		Efficient and reliable mobility
Road Improvements		Safety and security
Technology	Safety and security	Efficient and reliable mobility
Internet		Efficient and reliable mobility
Alternative Capacity		Efficient and reliable mobility
Technology Enhanced Mobility		Efficient and reliable mobility
Safety		Quality places to live, learn, work, and play



Figure 6 shows how each table thought that regional needs and demands may alter our vision for Florida's transportation future. Most notably, tables recognized that the FTP needs to be cognizant of varying conditions in different regions and present strategies that work for a variety regions.

Figure 6. Regional Perspectives - Needs and Demands Polling Slide

How do your table's regional needs and demands alter our vision for Florida's transportation future (including the FTP goals)?

When poll is active, respond at [PollEv.com/vzlr](https://www.poll-ev.com/vzlr) or Text **VZLRV** to **22333** once to join

- "15 - to maximize equitable access to first amendment right (petition government for redress of grievance), relocate state capital to Orlando area."
- "Table 9- change the planning methods to meet contextual needs versus a regional planning/approach."
- "Table 20 - Solutions need to be flexible and tailored to meet the needs of different regions with unique needs"
- "Table 2 - Critical to plan for the unique dimensions/characteristics of each region" "Table #15 connected regions of prosperity"
- "Table 17 - need sets of strategies for 1) people and 2) habitat" "Table 5 need to keep goals same focus on implementation"
- "Table 14 Needs vary by regions, use lessons learned from more populated areas to less such as planning early for intermodal connectivity"
- "Table 6 - not really alter. More like fulfilling the current vision"

Figure 7 through **Figure 10** show how the participants ranked subtopics for the four Emerging Trends. Access to jobs, schools, and health care was the most important regional / local topic, and more interregional travel choices was the most important state / interregional topic. Participants felt that transportation designed to adapt to future changes was the most important topic for resilience, and improving safety through early adoption of technology was the most important topic for technology.



Figure 7. Regional Perspectives - Regional/Local Polling Slide



Figure 8. Regional Perspectives - State/Interregional Polling Slide

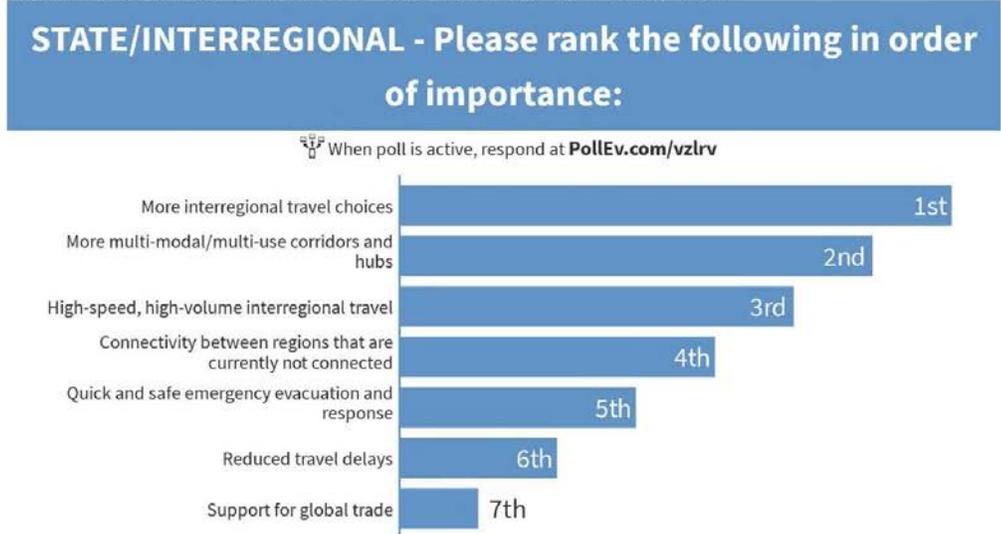


Figure 9. Regional Perspectives - Resilience Polling Slide

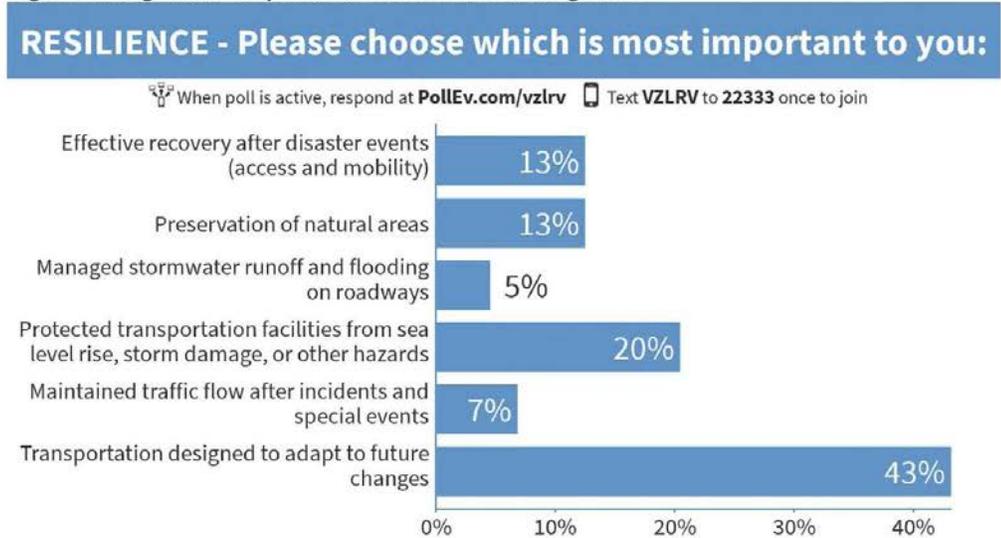
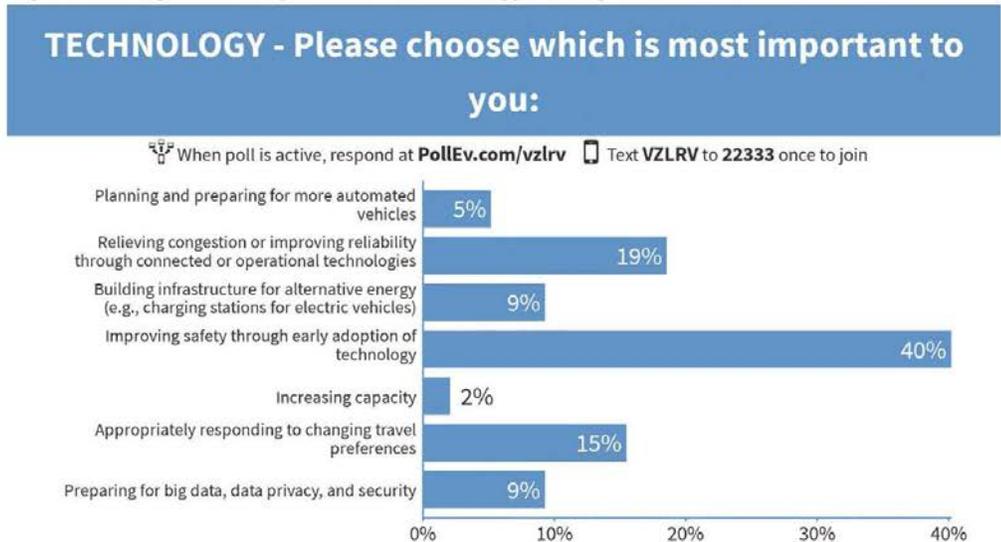


Figure 10. Regional Perspectives - Technology Polling Slide



Conclusion

Vision Zero Workshop summary:

- The Four E's of safety are well integrated into FDOT business. FDOT may want to consider adding Encouragement, Evaluation, and Equity to the Four E's.
- The five major categories of effective strategies to reduce fatalities include:
 - Move people and goods instead of cars and trucks – Change the paradigm
 - Improve coordination and outreach
 - Develop policy changes that move the bar
 - Technology can be a game changer for all aspects of improving safety
 - Strategies for implementation
- The most popular new and innovative strategies to reduce fatalities include:
 - Provide safe travel for all users
 - Establish target speeds for all modes and provide training and outreach that supports this
 - Coordinate land uses with transportation
 - Communication and collaboration between all stakeholders, public & private
 - Technology in all aspects of transportation, ACES, ITS, TSM&O, etc.
 - Policy changes, including funding, that supports implementation and a streamlined and better coordinated project delivery process
 - MPO's should take the leadership role in informing elected officials on the VZ message
 - Use a system-wide approach to planning for transportation

Long Range Visioning summary:

- Based on the activities, and resulting input that was received, the current FTP goals are still relevant and are performing well. Future examination by the Steering Committee may be well suited to further discuss the supporting objectives and strategies to ensure proper alignment.
- There are some new Trends and Disruptors that need closer examination, although many appear to be addressed by either an existing FTP goal or cross-cutting topic. Sea Level Rise and Increased

Storm Surge and New Technology are two Trends and Disruptors that are addressed by the resilience cross-cutting topic.

- Further consideration and analysis of all the Trends and Disruptors may be necessary because there are similarities between many of the Trends and Disruptors. The Trends and Disruptors may be combined to more accurately represent the overall importance of each.
- Safety and accessibility are some of the overall highest priorities, as seen in the survey results related to regional perspectives.
- Florida's transportation system is continuing to evolve based on changes in technology, climate, and population. The FTP update will be challenged to address these changes in an ever-evolving world.

EMERGING TRENDS: TECHNOLOGY



As technology continues to evolve it changes the way we interact with one another, work, do business, travel, and even how we buy groceries. New and emerging technologies offer the potential for a safer, more efficient transportation system that, more than ever, connects people globally and locally. However, increased reliance on technology brings other challenges to the forefront like a dependence on broadband and electronic infrastructure, cybersecurity, and data privacy.

JUNE 2019



Technology is Offering New Ways of Traveling

The cumulative number of **SHARED VEHICLE TRIPS** has **INCREASED 10X** in the last **5 YEARS**



In 2018, there were **84.5 MILLION TOTAL TRIPS TAKEN** with **SHARED MICRO-MOBILITY OPTIONS**

- 39.5 M pedal bicycle trips
- 38.5 M e-scooter trips
- 6.5 M e-bike trips



Florida's **TOTAL VEHICLE MILES TRAVELED (VMT)** **+10.5%** since 2008

Florida's **PUBLIC TRANSIT RIDERSHIP** **-12.1%** since 2008

Nationally, **FULLY ELECTRIC VEHICLES** are projected to represent **8%** of total automobiles sold by 2025



The global market for **CONNECTED CARS** is expected to grow

270% by 2022



AUTONOMOUS TRANSIT SHUTTLES are currently operating in at least **5 CITIES THROUGHOUT FLORIDA**



SHARED AIR TRANSPORTATION, AIR TAXIS, or FLYING CARS may launch by the year **2023**



MULTIPLE URBAN AREAS in Florida already have **ELECTRIC BUSES** in their fleets and many plan to transition to **ALL-ELECTRIC FLEETS** by 2035



The **HYPERLOOP CONCEPT** could be capable of traveling at speeds up to **700 MPH**, reducing a 6 hour drive to 35 minutes



Technology is Changing the Way We are Moving Freight

The implementation of **FULL AUTONOMY** throughout the motor carrier freight system could **REDUCE TOTAL OPERATING COSTS** by up to **45%**, an estimated savings of at least **\$85 BILLION**



Advances in **3D PRINTING** could disrupt freight by as much as

- 41%** of Air Cargo
- 37%** of Ocean Freight
- 25%** of Truck Freight

(Loss in Annual Value)



Florida is home to **2 SPACEPORTS** that enabled **21 SPACE LAUNCHES** in 2018, with plans for more than **48 SPACE LAUNCHES** per year in the future



Amazon's Prime **AIR SERVICE** will use **DRONES** to deliver packages to addresses within a **10 MILE RADIUS** of an Amazon fulfillment center in **30 MINUTES OR LESS**

Airships stocked with products could act as **AIRBORNE WAREHOUSES** to streamline **DRONE DELIVERY**



UPS is testing **DRONES DEPLOYED FROM THE TOPS OF DELIVERY VEHICLES** to navigate the "first-mile/last-mile" between their vehicles and a customer's door; the company estimates this will save up to **\$50 MILLION/YEAR**



Technology is Changing Behaviors

More than
75%
of the
**WORLD'S
POPULATION**
owns a
SMARTPHONE



More Floridians
WORK FROM THEIR HOMES
than **USE PUBLIC TRANSIT**
for their commute to work

More than
1/2 **OF ALL JOBS COULD
BE AUTOMATED TODAY**
using current technologies
Up to **85% OF ALL JOBS** in 2030 could be in
industries or occupations that
DO NOT EXIST TODAY

Globally, there are
20X the number of
**TELEMEDICINE
PATIENTS**
than just five years ago

33%
of college students
take at least
**ONE COURSE
ONLINE**

In 2017,
**8.4 MILLION
HOUSEHOLDS** in the United States
DID NOT HAVE A BANK ACCOUNT
CREATING BARRIERS for them to access many
**EMERGING TECHNOLOGIES &
MOBILITY SOLUTIONS**

E-COMMERCE accounts for

64% of all
**MANUFACTURING
SHIPMENTS**



Technology is Changing How We Use, Share, and Manage Data

**2,500,000,000,
000,000,000**
(2.5 QUINTILLION)
BYTES OF DATA
are created each day,
and the pace is **accelerating**



By 2020, it is estimated that more than
**40 TRILLION
GIGABYTES
OF DATA** will be
generated annually

5G NETWORKS
will provide **10X FASTER SPEEDS**
than 4G with more supported devices per square mile and
**10X GREATER
NETWORK EFFICIENCY**

78% of Florida households
have access to
BROADBAND INTERNET
80% of households in
urbanized areas
64% of households in
rural areas

It is estimated that
BY THE YEAR 2030
there will be between
**30-75 BILLION
CONNECTED DEVICES**



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Safety and security

Will new technology introduce new safety and security gaps, placing a greater importance on cybersecurity and data security?



Agile, resilient, and quality transportation infrastructure

How do we adapt our infrastructure to support new technology?



Efficient and reliable mobility

Can technology improve transportation system efficiency and increase mobility?



More transportation choices

How will people without bank accounts access shared vehicles or emerging micromobility options like shared scooters and e-bikes?



Global economic competitiveness

How will technology help Florida's market share for global trade?



Quality places to live, learn, work, and play

How can technology improve access to education and health care?



Environment and energy conservation

How do we prepare for electric vehicles and other alternative fuel sources?

Data sources available at <http://floridatransportationplan.com/trends-techsources.pdf>



EMERGING TRENDS: RESILIENCE

Natural hazards, cyberattacks, and other events can have significant and unexpected impacts on Florida. Simultaneously, trends such as sea level rise and global economic shifts can lead to progressive challenges. These events and trends can result in unanticipated transportation system disruptions and increasing constraints on infrastructure, impeding access to reliable mobility. The impact on the lives of residents and visitors and the flow of business and trade can be extensive. It is critical to prepare Florida's transportation system to be adaptive in the face of these events and trends. Planning for resilience leverages our understanding of potential hazards to mitigate risk, make wiser investment decisions, and provide more reliable transportation. Many partners play an important role in shaping the collective efforts to make Florida's transportation system resilient.

**OCTOBER
2019**



Florida is the 3rd most populated U.S. state, and our population is expected to increase nearly 30% to 27 million by 2045. To plan for a resilient transportation future, we need to understand important trends and conditions today.

What Natural Hazards Impact Our Transportation System?

<p>Nearly 170 COASTAL COMMUNITIES in the U.S. are projected to experience FLOODING more than 26 TIMES PER YEAR by 2035</p> 	<p>In 2018, GLOBAL MEAN SEA LEVEL was 3.2 INCHES ABOVE the 1993 average</p> 	<p>Since 2000, TIDAL FLOODING across Florida has INCREASED BY 352%</p> <p>Florida is among the TOP 10 STATES MOST IMPACTED BY WILDFIRES</p> 
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What Types Of Extreme Weather Can Affect The Mobility Of Floridians?

<p>The amount of PRECIPITATION during heavy rainstorms has INCREASED BY 27% in the Southeast over the last 60 years</p> 	<p>By mid-century, the Southeast is expected to experience up to 50 MORE DAYS per year of temperatures exceeding 90 DEGREES</p> 	<p>Florida has been impacted by 40% OF ALL U.S. HURRICANES</p> 
<p>Approximately 6 MILLION PEOPLE EVACUATED during Hurricane Irma, THE LARGEST EVACUATION IN U.S. HISTORY</p> 		

How Can Florida's Transportation System Be Resilient To Evolving Economic Trends?

<p>The increasing GLOBAL INTEGRATION of Florida's economy means our TRADE, TOURISM, & OTHER INDUSTRIES can be impacted by recessions, instability, and supply chain disruptions around the world</p> 	<p>LONG-HAUL FREIGHT is expected to INCREASE 40% by 2040</p> 
<p>According to the Florida Chamber Foundation, the likelihood of a RECESSION WITHIN 9 MONTHS has been INCREASING since May of 2019</p> 	<p>There is an estimated \$1.2 TRILLION NATIONAL GAP in TRANSPORTATION INFRASTRUCTURE NEEDS through 2050, even before considering climate impacts</p> 

How Is Transportation Infrastructure Vulnerable To Hazards & Threats?

<p>Nationally, the TOTAL ANNUAL DAMAGES from TEMPERATURE & PRECIPITATION-RELATED damages to paved roads are estimated at up to \$20 BILLION</p> 	<p>In 2017, a CYBERATTACK at CSX's Jacksonville headquarters SHUT DOWN RAILROAD SIGNALING, DISPATCHING, & OTHER SYSTEMS across 23 states</p> 
<p>INLAND FLOODING threatens as many as 4,600 BRIDGES ACROSS THE U.S. and is anticipated to result in average annual DAMAGES OF UP TO \$1.4 BILLION by 2050</p> 	<p>3 MAJOR FLORIDA AIRPORTS have at least one runway that is vulnerable to MODERATE TO HIGH STORM SURGE</p> 



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Safety and security

How can we plan and prepare for hurricanes, wildfires, and other disasters to ensure the safety of Florida's residents?



Agile, resilient, and quality transportation infrastructure

Can we design and build transportation facilities that withstand and quickly recover from flooding and winds?



Efficient and reliable mobility

How will unexpected changes in fuel costs, construction costs, and transportation funding affect our ability to travel?



More transportation choices

Can we improve emergency evacuation if we have more options for travel?



Global economic competitiveness

What role can Florida's transportation system play in strengthening our state during times of unexpected economic change?



Quality places to live, learn, work, and play

How can we plan transportation that helps Florida communities be more resilient in the face of hazards and threats?



Environment and energy conservation

How will the growing use of electric vehicles change the way we prepare for evacuations in the future?

Data sources available at <http://floridatransportationplan.com/trends-resilienceources.pdf>