

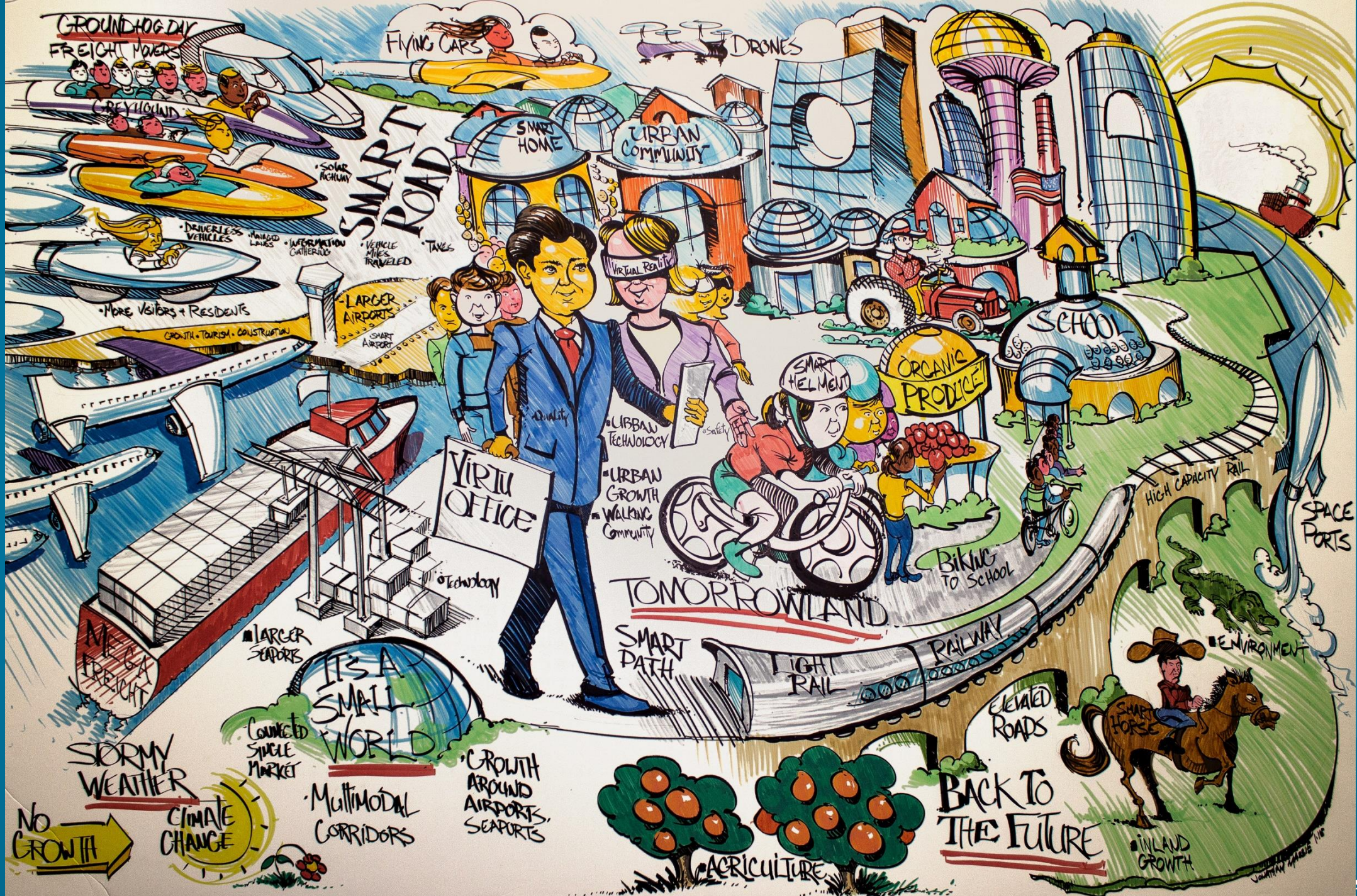
TRANSPORTATION RESILIENCE INITIATIVES

presented to
Resilient Florida Workshop

presented by
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August 9, 2019





GROUNDHOG DAY
FREIGHT MOVERS

FLYING CARS

DRONES

SMART ROAD

SMART HOME

URBAN COMMUNITY

SCHOOL

SPACE PORTS

VIRTU OFFICE

TOMORROWLAND

RAILWAY

SMART PATH

LIGHT RAIL

IT'S A SMALL WORLD

BACK TO THE FUTURE

AGRICULTURE

NO GROWTH

CLIMATE CHANGE

MULTIMODAL CORRIDORS

GROWTH AROUND AIRPORTS, SEAPORTS

INLAND GROWTH

STORMY WEATHER

CONNECTED SINGLE MARKET

LARGER SEAPORTS

TECHNOLOGY

URBAN GROWTH
WALKING COMMUNITY

URBAN TECHNOLOGY

QUALITY

SAFETY

BIKING TO SCHOOL

ORGANIC PRODUCE

SMART HELMET

MORE VISITORS + RESIDENTS

GROWTH + TOURISM + CONSTRUCTION

LARGER AIRPORTS

SMART AIRPORT

INFORMATION CATHERING

MANAGED LANES

DRIVERLESS VEHICLES

TAXES

VEHICLE MILES TRAVELED

SOLAR HIGHWAY

GREYHOUND



WHAT IS THE FLORIDA TRANSPORTATION PLAN?

- ▶ Florida's long range transportation plan
- ▶ A plan for all of Florida
- ▶ Provides policy guidance for all transportation partners
- ▶ Establishes a policy framework for expenditure of state and federal transportation funds
- ▶ Floridatransportationplan.com



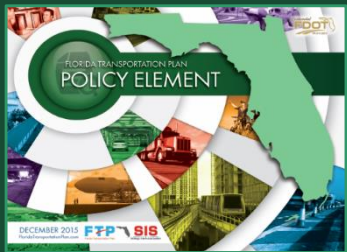
FTPs HAVE RESHAPED FLORIDA



- ▶ **2020 FTP (2000)**
 - » Creation of Strategic Intermodal System



- ▶ **2025 FTP (2005)**
 - » Emphasis on regional visioning and collaboration



- ▶ **Current FTP (2015)**
 - » Added 'Choices' as a new Goal
 - » Added '**Resilient**' to the Goals
 - » Renewed emphasis on Safety



- ▶ **2060 FTP (2010)**
 - » Alignment with Florida Strategic Plan for Economic Development
 - » Investments in trade and logistics; FMTP
 - » Maximizing use of existing facilities (e.g. managed lanes)
 - » Future Corridor Planning Process
- » Greater emphasis on Workforce
- » Greater focus on implementation

FTP GOALS & CROSS-CUTTING TOPICS

Technology

Resilience

Statewide and
Interregional

Regional and
Local



Safety and security



Agile, resilient, and quality transportation infrastructure



Efficient and reliable mobility



More transportation choices



Economic competitiveness



Quality places to live, learn, work, and play



Florida's environment and energy conservation

FTP GOALS & CROSS-CUTTING TOPICS

Technology

- » Automated, connected, electric & shared vehicles
- » Transportation system management & operations
- » Big data
- » New materials & processes

Resilience

- » Extreme weather events
- » Emergency evacuation & emergency response
- » Sea level rise, flooding
- » Economic or societal changes

Statewide and Interregional

- » SIS, including modal facilities
- » Trade & logistics
- » Multi-use/ multi-modal facilities
- » Global, statewide, interregional connectivity

Regional and Local

- » Urbanized, non-urbanized, rural
- » Congestion relief
- » Land use/ community planning
- » Regional visions

FTP SUBCOMMITTEES

▶ Automated, Connected, Electric, and Shared (ACES)

▶ Resilience

» Members and Friends

» Become a friend of the subcommittees and stay engaged



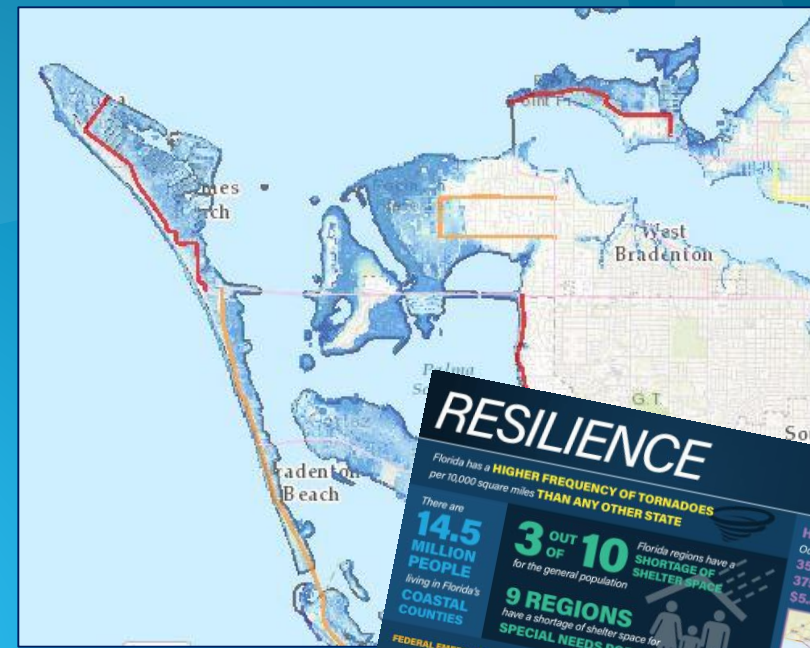
FEDERAL AND STATE GUIDANCE

- ▶ **Fixing America's Surface Transportation (FAST) Act:**
 - » Improve the **resiliency and reliability** of the transportation system and reduce or mitigate stormwater impacts
 - » Reduce vulnerability of existing infrastructure
- ▶ **Florida Transportation Plan (FTP):**
 - » Agile, Resilient, and Quality infrastructure
- ▶ **Resilience (FTP):**
 - » The ability for the transportation system to absorb the consequences of disruptions, to reduce the impacts of disruptions and maintain mobility.
- ▶ **Transportation Asset Management Plan (TAMP)**
 - » Risk assessment includes sea level rise and other hazards



RESILIENCE INITIATIVES

- ▶ Florida Transportation Plan Update
- ▶ Research
- ▶ Sea Level Scenario Sketch Planning Tool
- ▶ Strategic Intermodal System Risk Assessment
- ▶ Interagency Coordination
- ▶ National/statewide scan
- ▶ Guidance for MPOs



Risk Event	Likelihood	Consequence	Vulnerability	Overall Risk	Timeframe	Risk Level	Consequence Management
	Threats						
Hacking and cybersecurity threats to public and private transportation	4	4	5	80	E	Extreme Risk	Avoid
New technology causes investment to be prematurely obsolete	4	4	5	80	E	Extreme Risk	Avoid
Intensification of development in high hazard areas	5	4	4	80	C	Extreme Risk	Avoid
Aging population causes surge in demand for safe mobility options	5	4	3	60	E	High Risk	Coordinate
Wildfires disrupt major transportation routes and reduce visibility	4	3	4	48	U	Moderate Risk	Mitigate
New technology systems perform unsafely or increase liability	3	5	3	45	U	Moderate Risk	Avoid
Failure to evacuate vulnerable populations due to evacuation routes in high hazard areas	2	5	4	40	U	Moderate Risk	Coordinate
Arterial flooding disrupts major transportation routes and systems	4	3	3	36	C	Moderate Risk	Mitigate

security for residents, visitors, and businesses



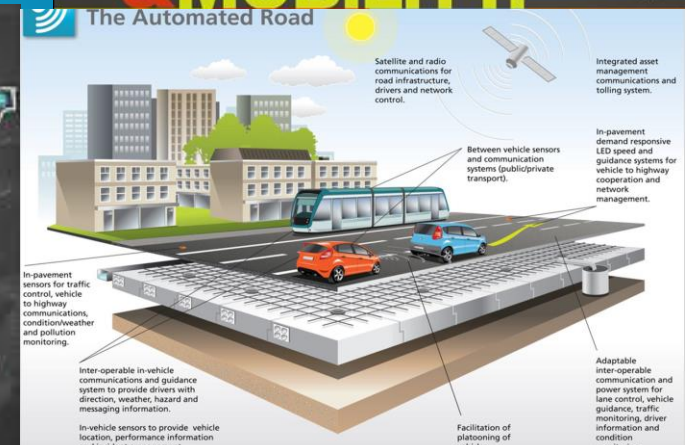
RESILIENCE – TRENDS & RISK AREAS

► Risk in Transportation Planning

- » Population
- » Economics
- » Environment
- » Technology
- » Global Issues

► Implications for FTP and Project Planning

► Upcoming Research

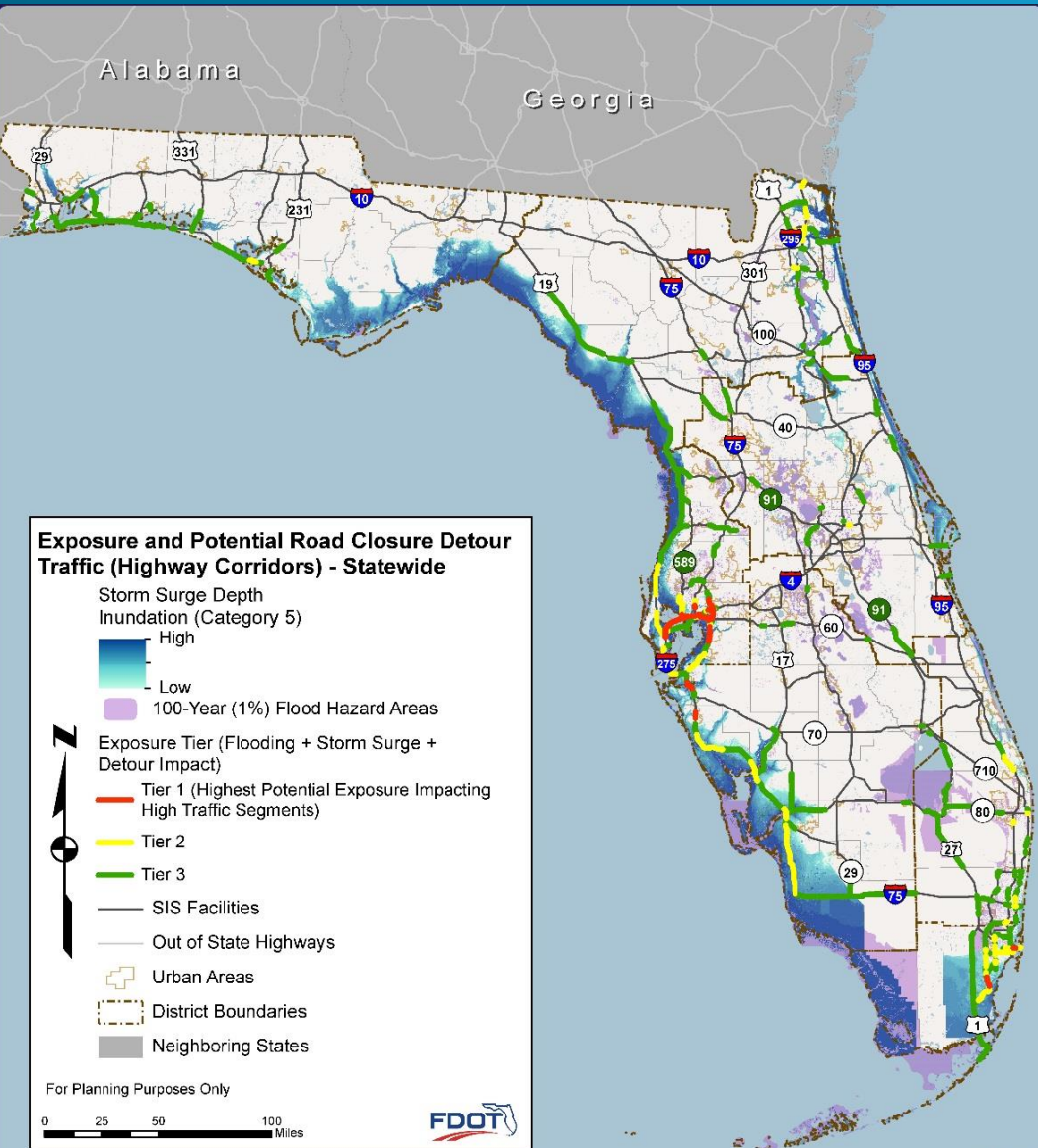


SEA LEVEL SCENARIO SKETCH PLANNING TOOL

- ▶ Assess potential impacts of sea level rise on transportation system
- ▶ On-line map viewer and ArcGIS sea level rise calculator
- ▶ Used by FDOT, MPOs, regional planning councils, local governments
- ▶ Next steps: update tool to reflect newer sea level rise projections and update training materials



STRATEGIC INTERMODAL SYSTEM (SIS) RISK ASSESSMENT



April 2018

Data Source: Florida Department of Transportation, Florida Division of Emergency Management, Federal Emergency Management Agency



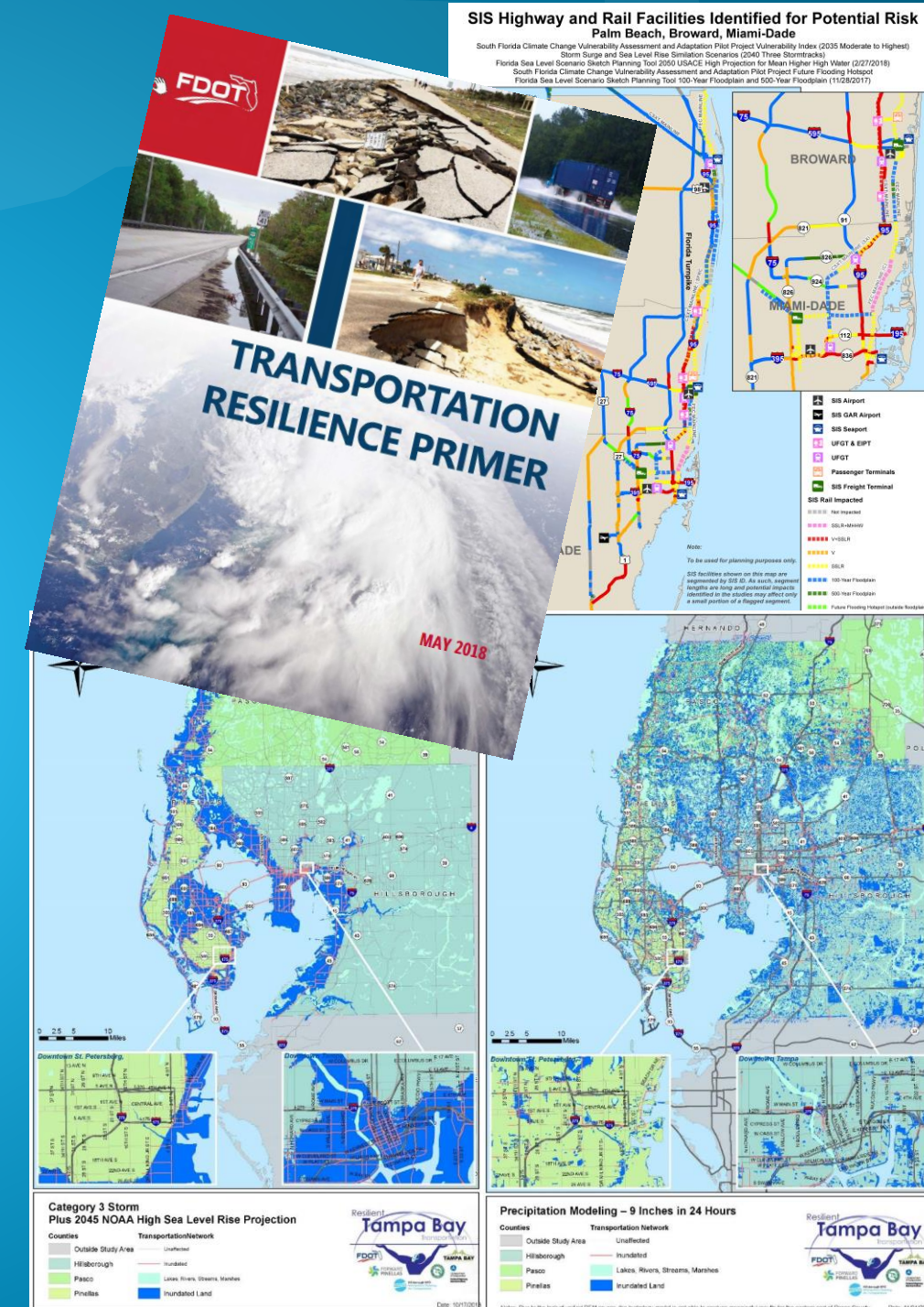
FDOT DISTRICTS

- ▶ District 4 (Indian River to Broward)**
 - » Partnerships
 - » Tools and Data
 - » Transportation Planning: SIS Priorities and MPO Long Range Transportation Plans

- ▶ District 7 (Citrus to Hillsborough/Pinellas)**
 - » Partnerships: Resilient Tampa Bay, FHWA Pilot Project

- ▶ District 5 (Central Florida)**
 - » Transportation Resilience Primer

- ▶ District 6 (Miami-Dade and Monroe)**
 - » Coastal Storm Risk Management Study for Florida Keys (Army Corps of Engineers)

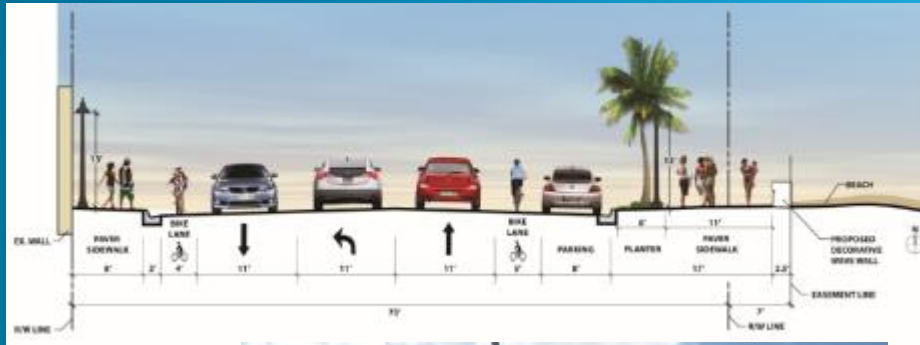


STORMS AND SEA LEVEL RISE



Hurricane Sandy - SR A1A in Fort Lauderdale

STORMS AND SEA LEVEL RISE



Permanent Project Reflecting Resiliency and Community: SR A1A in Fort Lauderdale

STORMS AND SEA LEVEL RISE



And later.... Road survived Hurricane Irma

POLLEVERYWHERE SURVEY

3 ways to access the poll:

1. Use www.pollev.com/FTP2045 or
2. Text FTP2045 to 22333 or
3. Scan the QR code:



What are effective strategies to make Florida's transportation system more resilient?

Start the presentation to see live content. Still no live content? Install the app or get help at PollEv.com/app