



Statewide Access Management and Transportation Site Impact

W E B I N A R S E R I E S

Agenda



Credits and Webinar
Material



Florida's Uniqueness and
the Challenges at
Interchanges and the
Surrounding Areas



Contact Info

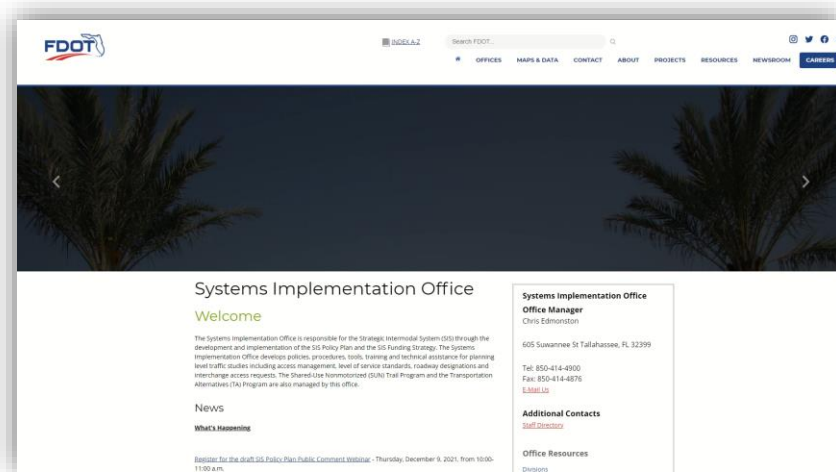
Credits Information

- Certificates will be distributed through email.
- Your participation will be recorded by GoToWebinar.
 - You will need to attend to the entire webinar with the unique link provided by GoToWebinar.



Webinar Material

- Recorded webinars and presentation material will be posted on the Systems Implementation Office website:
 - Training & Webinars
 - Access Management





Statewide Access Management and Transportation Site Impact

W E B I N A R S E R I E S

The FDOT Access Management and Transportation Site Impact Webinar Series 2022-2023 have been scheduled for the following dates:

Tue, Aug 16, 2022 | 2:00PM - 3:30PM EDT

Tue, Nov 15, 2022 | 2:00PM - 3:30PM EST

Next! Tue, Feb 14, 2023 | 2:00PM - 3:30PM EST

Tue, May 16, 2023 | 2:00PM - 3:30PM EDT

What organization do you represent?

FDOT

Local Government

Private Firm

Other

How familiar are you with Today's Topics?

Very Familiar

Somewhat Familiar

Not Familiar



Statewide Access Management and Transportation Site Impact

W E B I N A R S E R I E S

Today's Webinar

Florida's Uniqueness and the Challenges at Interchanges and the Surrounding Areas

Tuesday, November 15, 2022

2:00PM – 3:30 PM

Credits: 1.5



Webinar Staff



Gina Bonyani



Jenna Bowman



Bikram Wadhawan



Florida's Uniqueness and Challenges at Interchanges and the Surrounding Areas

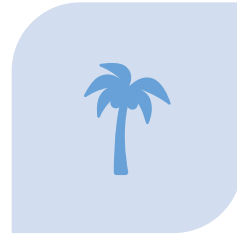


November 15, 2022



Strategic
development

Agenda



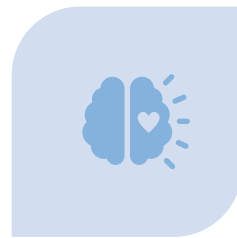
FLORIDA'S
UNIQUENESS –
STATISTICS



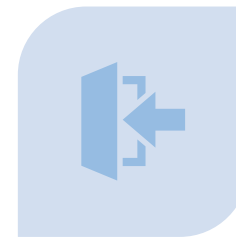
FLORIDA'S HIGH
GROWTH
REGIONS



INTERCHANGE
ACCESS
REQUESTS (IARS)



INNOVATIVE
INTERCHANGE
DESIGNS



ACCESS
MANAGEMENT
FOR IARS

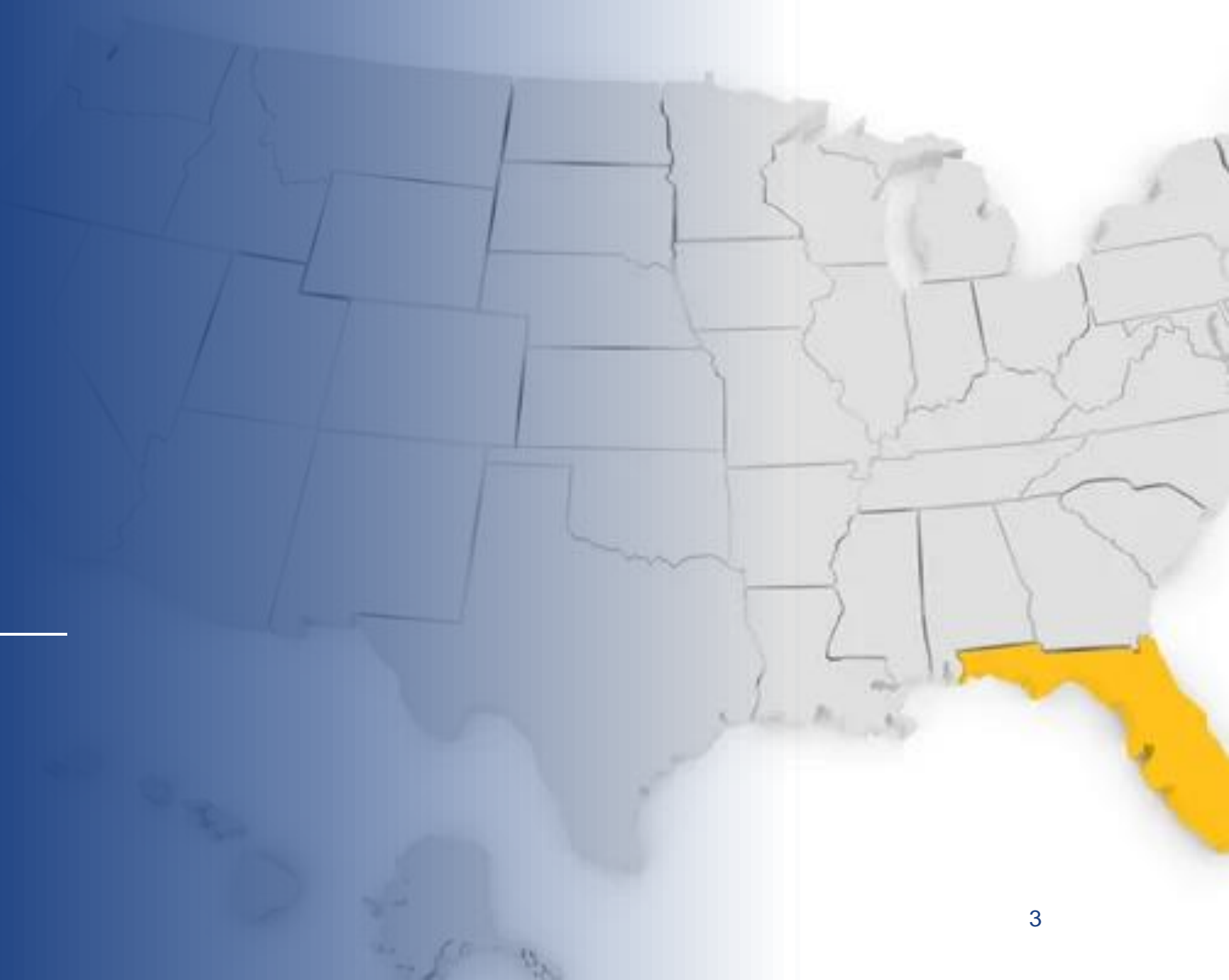


NEXT STEPS FOR
INTERCHANGES



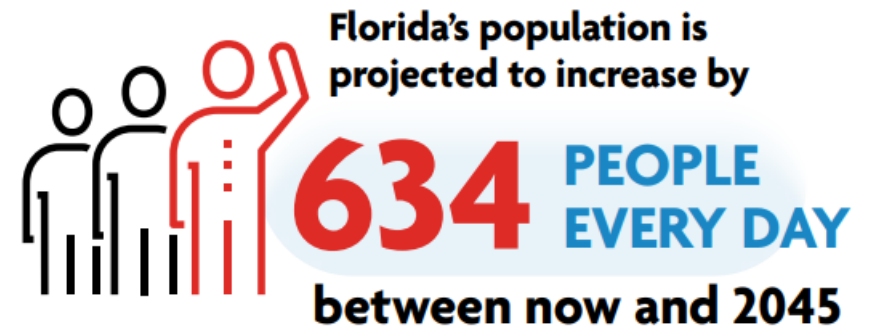
Florida's Uniqueness

Unique Statistics



Statistics

- 2021 Population (U.S. Census Bureau)
 - 21.5 million
 - 15.9% population growth between 2010 and 2021
 - Number three in the nation
- Majority of the population growth in large urban areas
 - Southeast (Palm Beach, Ft. Lauderdale, Miami)
 - Central (Orlando)
 - Northeast (Jacksonville)
 - Tampa Bay



Between 2020 and 2045,

60% of Florida's population growth

is projected to be concentrated in **10 COUNTIES**

Miami-Dade, Orange, Hillsborough, Broward, Palm Beach, Lee, Osceola, Polk, Duval, and Pasco

Statistics

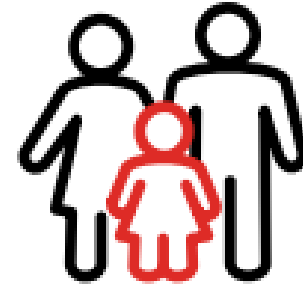
- Tourism

- Number two most visited state
- Means of travel
 - 64% non-air
 - 36% air
- Top Destinations


- Walt Disney World
- Kennedy Space Center
- Universal Studios
- Miami Beach

- Everglades National Park
- Daytona
- Busch Gardens
- Florida Keys
- St. Augustine

**Total
Annual
Visitors**



133 **MILLION**
by 2022

and increase to 

193 **MILLION**
by 2030

Source: FDOT Strategic Intermodal System (SIS) Policy Plan March 2022

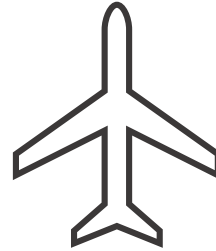
Statistics



15 Publicly Owned Seaports
9.7M Annual Cruise Passengers



2,746 Miles of Railroad
4.3M Rail Passengers (Tri-Rail, Amtrak, SunRail)



20 Commercial Airports
43.1M Aviation Passenger Boardings



31 Space Launches
8 Active Space Launch Sites



123,488 Miles of Public Roads
312.8M Daily Vehicle Traveled on the SHS



7,079 Bridges Maintained by FDOT



47 Transit Systems
155.8M Transit Passenger Trips

Florida's High Growth Regions

And Their Unique Characteristics and Projects





Jacksonville

- Most populous city in the State
- Largest city in land area in the contiguous US
- Port of Jacksonville
- Home to three US Naval facilities
 - Naval Air Station Jacksonville
 - Naval Station Mayport
 - Blount Island Command
- US military is the largest employer
- Jacksonville Jaguars



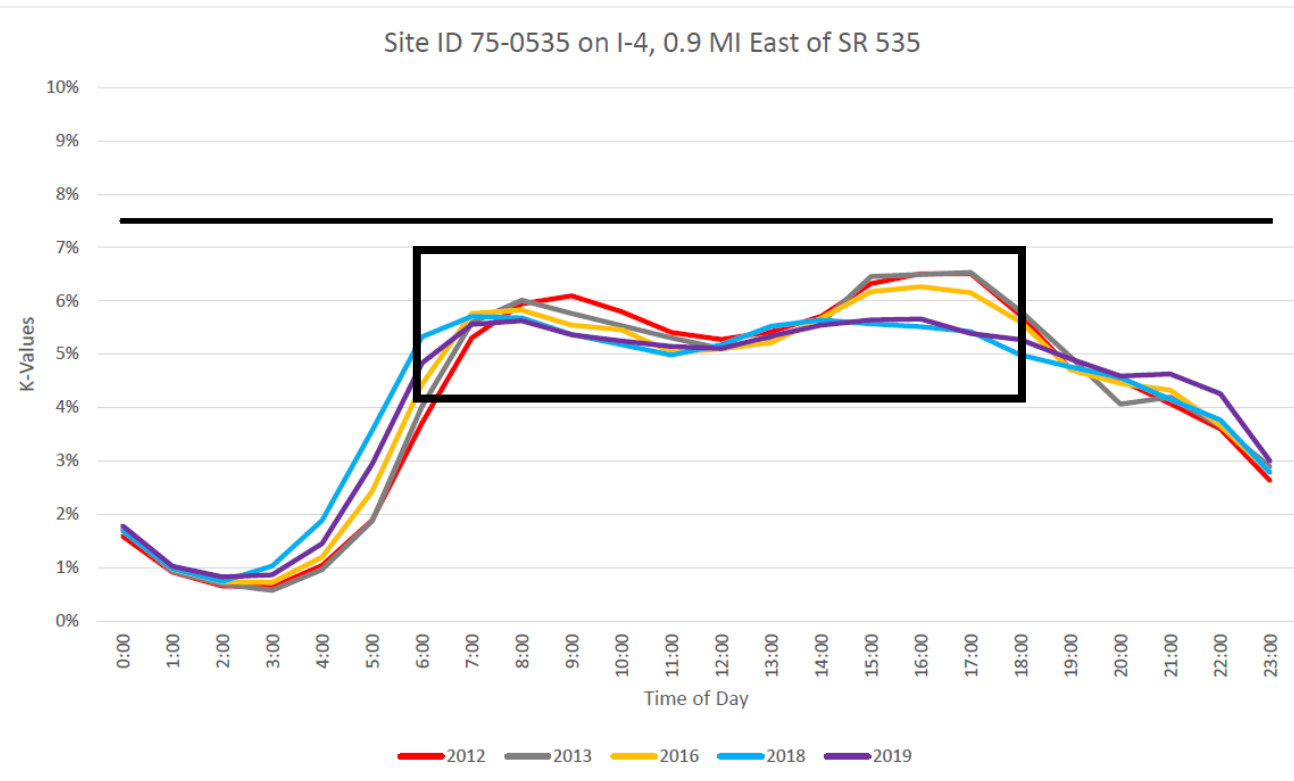
Orlando

- Disney World, Universal, SeaWorld, Legoland
- Convention Centers
- Peak Spread
- Central Florida Expressway
- Major Projects
 - I-4 Ultimate
 - I-4 Beyond the Ultimate (BtU)
 - Turnpike
 - SunRail



Orlando Peak Spreading

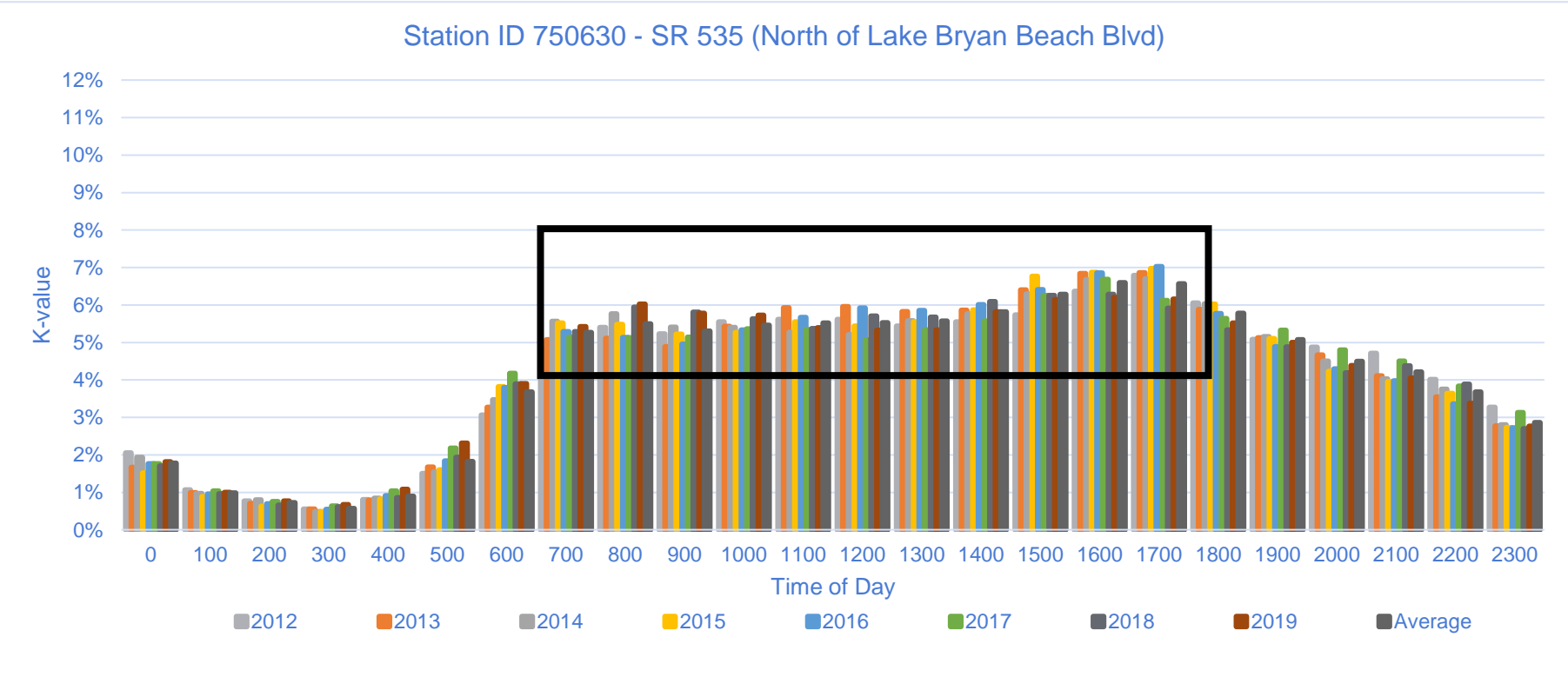
I-4 in Orlando shows peak spreading for up to 10 to 12 hours



Note: Historical data requested from FDOT District 5 ranging between 2012 and 2019; however, data is available for select years only based on data collection schedules.

Orlando Peak Spreading

SR 535 in Orlando shows peak spreading for up to 10 hours





Tampa

- Historical properties and constraints for adding capacity
 - Ybor City
- City of Champions
 - Tampa Bay Rays
 - Tampa Bay Bucs
 - Tampa Bay Lightning
- Attractions
 - Busch Gardens
 - Florida Aquarium
- TBNext Project – Ongoing
- Tampa Hillsborough Expressway Authority



TAMPA
BAY
FLORIDA

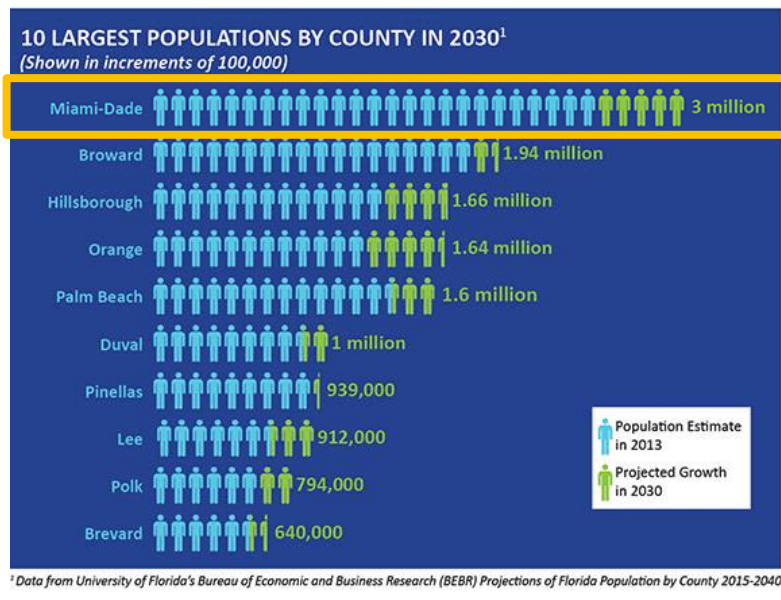


Southeast Florida

- Attractions
 - Pro Sports Teams
 - Miami Dolphins
 - Miami Marlins
 - Miami Heat
 - Miami Beach
 - Fort Lauderdale's Arts and Entertainment District
- Seven Mile Bridge
- Port Everglades, Port Miami
- Population and traffic
- Miami-Dade Expressway Authority
- Tri-Rail



Miami Population and Traffic



Population

- 2.8 million (2020)
- >3 million (2030 Projected)

Traffic

- Existing AADT greater than 250,000 on various major roadways



Source: Population: US Census; Traffic: Florida Traffic Online, 2021



Go car free. Carefree.

Brightline is a high-speed passenger rail system that is redefining train travel in America. Launched in 2018 in Florida, the service was designed to take cars off the road and offer millions of travelers an eco-friendly way to move between the nation's most visited city pairs.



PHASE 1 Launched 2018

- Express, intercity passenger rail service between downtown **Miami, Ft. Lauderdale & West Palm Beach**
- Accessing approximately 8 million residents. Expected ridership of 3 million annual passengers
- Currently running 16 daily roundtrips

PHASE 2 Expected 2022

- Extends service to **Orlando International Airport**, accessing 68 million annual visitors
- Total system ridership projected to 6 million annual riders
- Connecting Florida's most populated and visited regions

PHASE 3 Future Connections

- Additional stations planned for **Aventura (2022), Boca Raton (2022), PortMiami, Disney and Tampa**

Brightline

- High-speed passenger rail system
- Open
 - Downtown Miami
 - Ft. Lauderdale
 - West Palm Beach
- Coming Soon
 - Orlando International Airport
- Future
 - Aventura
 - Boca Raton
 - Port Miami
 - Disney World
 - Tampa



Florida's Interchange Access Request (IAR)

Poll Slide

Can the Interchange Access Request and NEPA be done at the same time?

- A. Yes
- B. No
- C. Only in special circumstances
- D. I don't know

Introduction to Interchanges

- IAR Types
- Programmatic Agreement
- NEPA Assignment
- FDOT completes \approx 25-30 IARs per year
- Area of Influence





Interchange Access Requests – Types

- Interchange Justification Report (IJR)
- Interchange Modification Report (IMR)
- Systems Interchange Modification Report (SIMR)
- Interchange Operational Analysis Report (IOAR)

Programmatic Agreement

- Streamlines and expedites the review and approval of IARs
- The FDOT Chief Engineer has the authority to determine SO&E acceptability of certain IARs
- PA eligible IARs: FHWA has 5 business days to object to SO&E determination
 - Lack of objection constitutes FHWA's concurrence and official approval
- FHWA provides final approval (affirmative determination) after completion of PD&E



U.S. Department of Transportation
Federal Highway Administration

Programmatic Agreement- Eligibility

Programmatic

- New service interchange outside of Transportation Management Areas (TMAs)
- Modifications to existing service interchanges
- Completion of basic movements at existing partial interchanges
- All IOARs

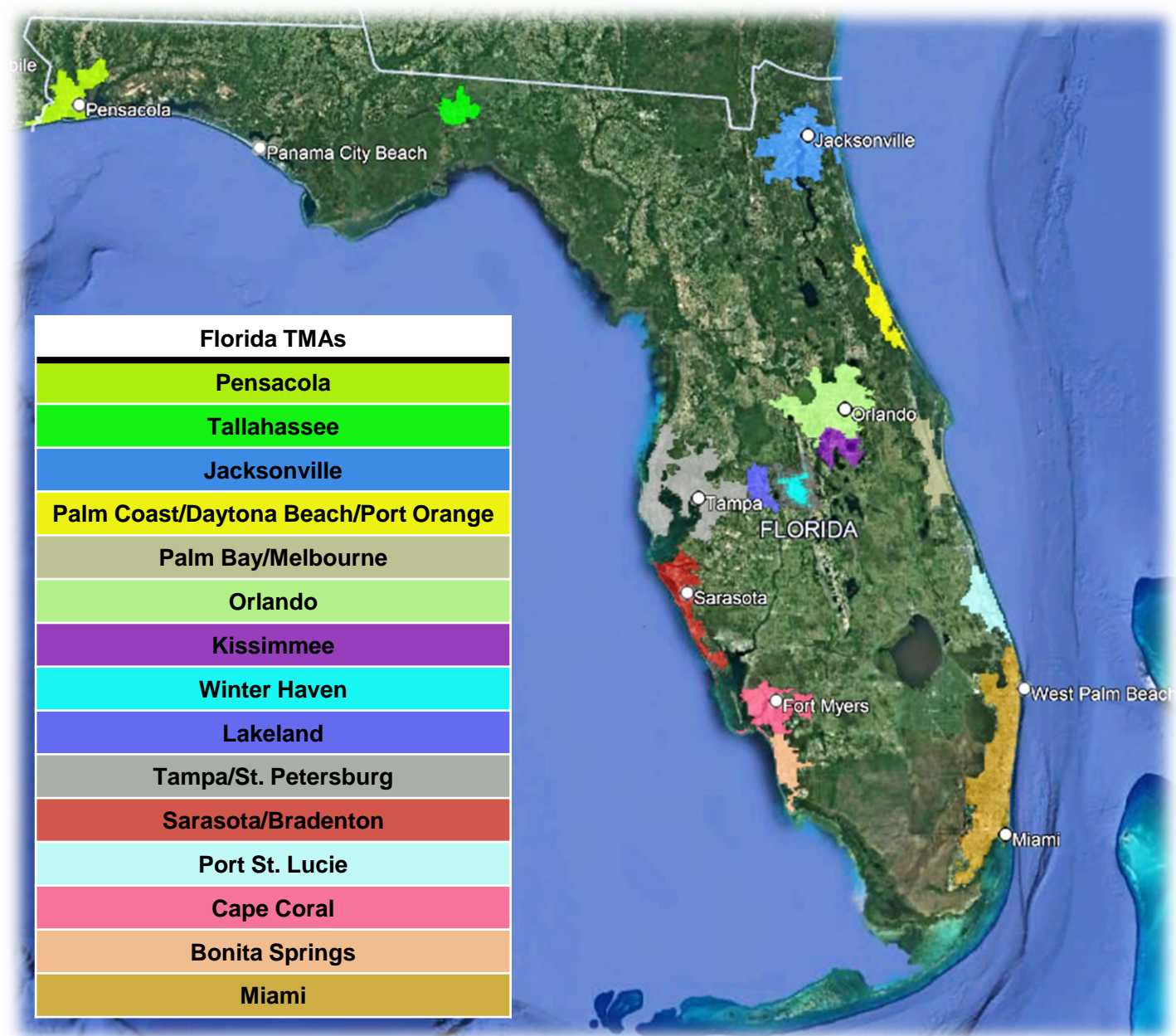
Non-Programmatic

- New or modified freeway-to-freeway (system) interchanges
- New service interchanges inside of TMAs
- New partial interchanges
- Closure of individual access points that result in partial interchanges or closure of entire interchanges
- Locked gate access

Programmatic Agreement - TMAs

TMA - Urbanized
Population > 200,000

- 15 TMAs
- 27 MPOs/TPOs



NEPA Assignment

NEPA Assignment includes:

- All NEPA classes of action: Categorical Exclusions (CE), Environmental Assessments (EA) and Environmental Impact Statements (EIS)
- All environmental laws, rules and orders
- FDOT is deemed to be FHWA on all projects for environmental matters.

FDOT's Assignment does not change any current legal requirements

2-Step IAR Approval

SO&E process

- Compliance with FHWA's two policy points and FDOT's Procedure 525-030-160
- Indicates access proposal is a viable alternative to include in the environmental analysis stage

PD&E process

- Can be performed concurrently or following SO&E acceptance
- However, approval can only occur following SO&E acceptance
- NEPA documents are prepared per guidelines and requirements outlined in the PD&E Manual

Safety, Operational and Engineering (SO&E) Acceptability

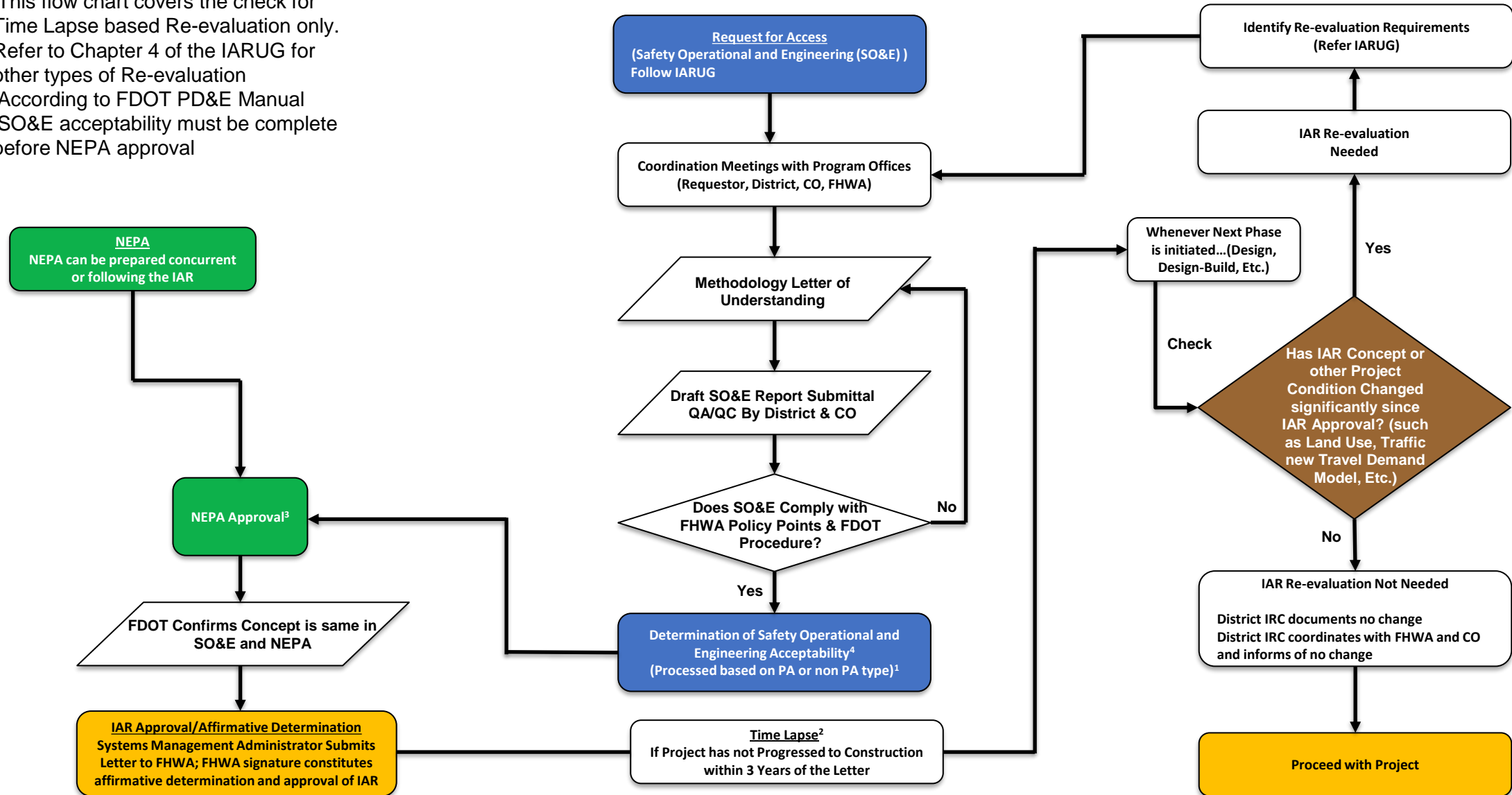
NEPA Document (PD&E Study) Approval

Interchange Access Request Approval

Notes

- ¹ Refer to Section 1.7 of the IARUG
- ² This flow chart covers the check for Time Lapse based Re-evaluation only. Refer to Chapter 4 of the IARUG for other types of Re-evaluation
- ³ According to FDOT PD&E Manual
- ⁴ SO&E acceptability must be complete before NEPA approval

IAR Approval Process Safety, Operational & Engineering (SO&E) Process



NEPA
NEPA can be prepared concurrent
or following the IAR

NEPA Approval³

FDOT Confirms Concept is same in
SO&E and NEPA

IAR Approval/Affirmative Determination
Systems Management Administrator Submits
Letter to FHWA; FHWA signature constitutes
affirmative determination and approval of IAR

Request for Access
(Safety Operational and Engineering (SO&E))
Follow IARUG

Coordination Meetings with Program Offices
(Requestor, District, CO, FHWA)

Methodology Letter of
Understanding

Draft SO&E Report Submittal
QA/QC By District & CO

Does SO&E Comply with
FHWA Policy Points & FDOT
Procedure?

**Determination of Safety Operational and
Engineering Acceptability⁴**
(Processed based on PA or non PA type)¹

Time Lapse²
If Project has not Progressed to Construction
within 3 Years of the Letter

Identify Re-evaluation Requirements
(Refer IARUG)

IAR Re-evaluation
Needed

Whenever Next Phase
is initiated...(Design,
Design-Build, Etc.)

Has IAR Concept or
other Project
Condition Changed
significantly since
IAR Approval? (such
as Land Use, Traffic
new Travel Demand
Model, Etc.)

IAR Re-evaluation Not Needed
District IRC documents no change
District IRC coordinates with FHWA and CO
and informs of no change

Proceed with Project

Poll Slide

What facilities are required to complete an Interchange Access Request?

- A. Interstates
- B. State Highways
- C. Turnpike
- D. Expressway Authorities (CFX, MDX, THEA)
- E. Limited Access Facilities



IARs in Florida Not Just for Interstates

- Florida's Turnpike Enterprise
- State Roads that are Limited Access
- Florida's Expressway Authorities



IOARs

Why Do We Do Them?

- Minor modifications
- Typically, low-cost fixes
- Originate from traffic operations and safety offices
- Requires less level of effort

Interim vs. Ultimate Design

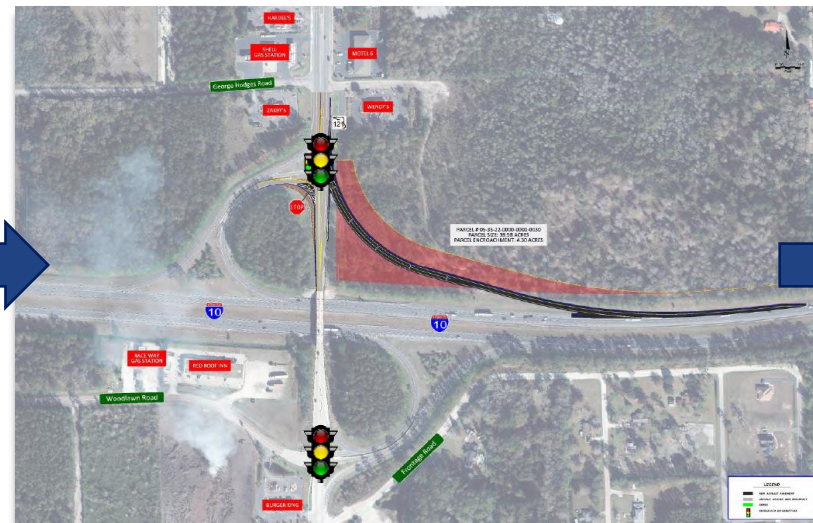
- If a project is interim or constructed in phases, the IAR document includes a detailed description of the ultimate design and future planned projects

Existing



Study Interchange: I-10 at SR 121

Interim



Ultimate



Area of Influence (AOI)

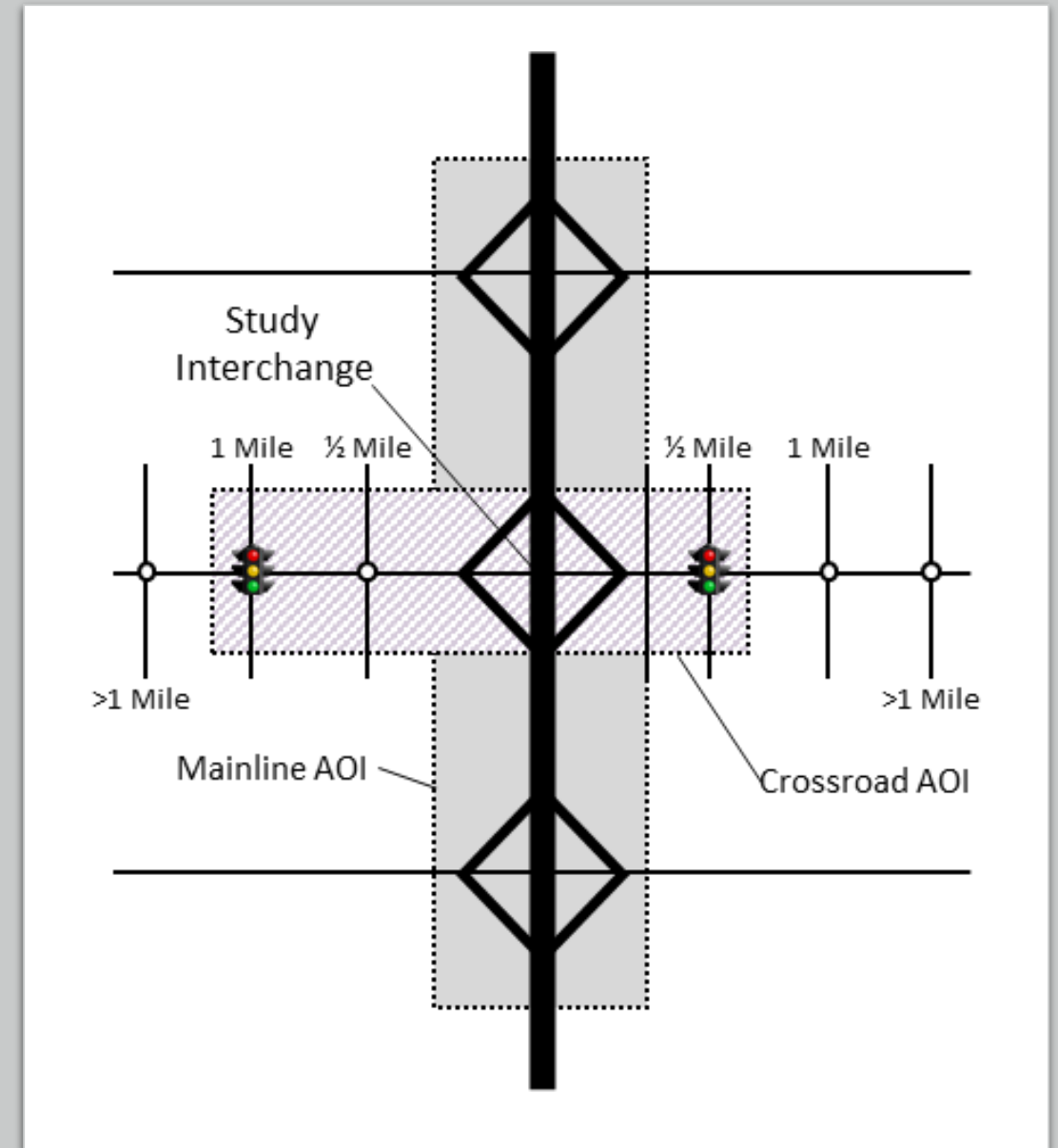
Area that is anticipated to experience significant changes in traffic operating characteristics

AOI reflects current and anticipated operational and safety conditions

AOI is determined by the IRC during the Methodology Letter of Understanding (MLOU)

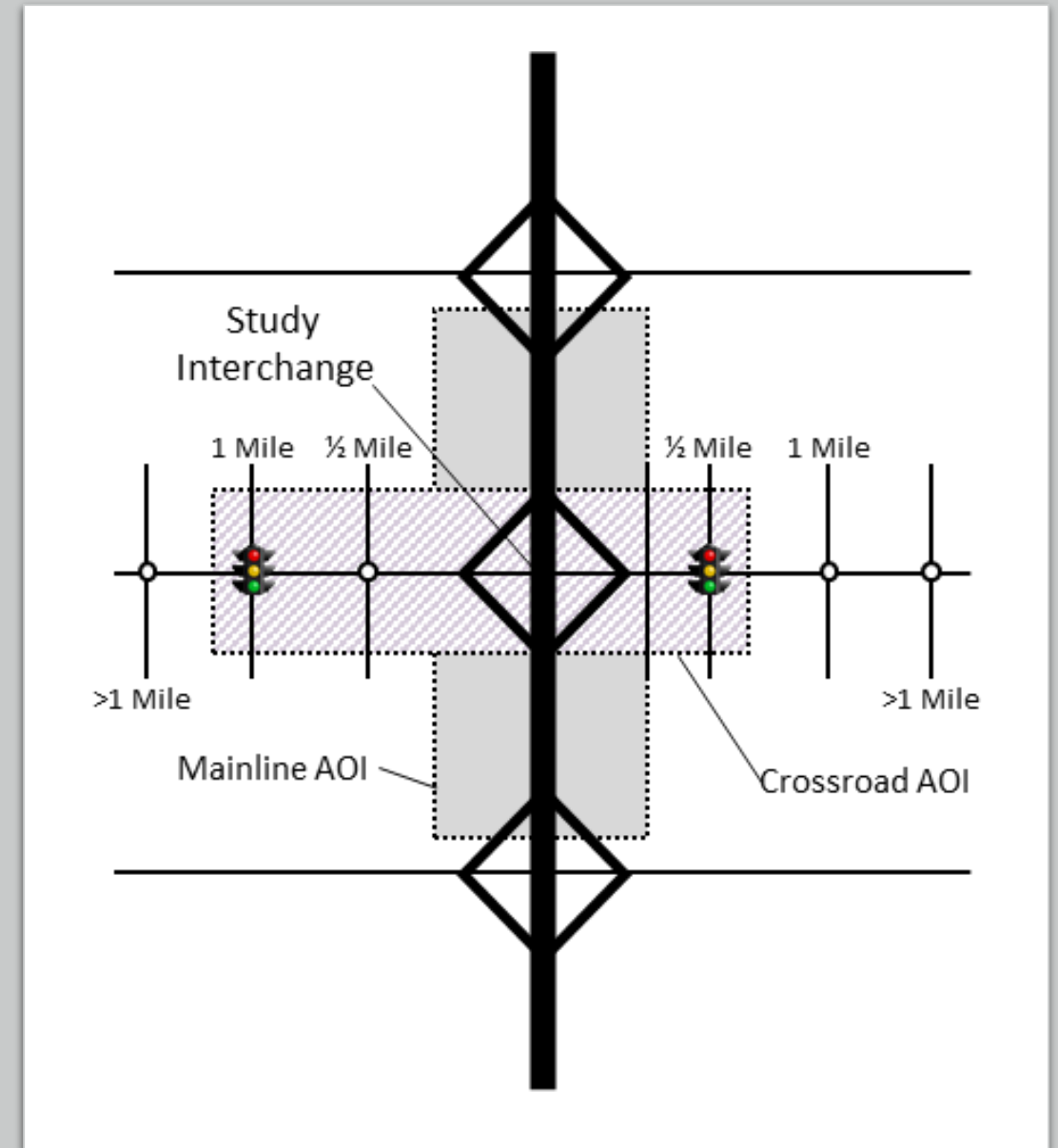
AOI for IJR

- Urban:
 - At least, first adjacent interchange on either side of proposed access (see figure)
- Rural:
 - If the proposed access is isolated, adjacent interchanges may not be necessary



AOI for IMRs

- Extends to the on and off-ramp gore points of the adjacent interchanges
 - Full adjacent interchanges are not generally required
 - However, the AOI can extend beyond these limits based on the operational and safety impacts of the proposed change

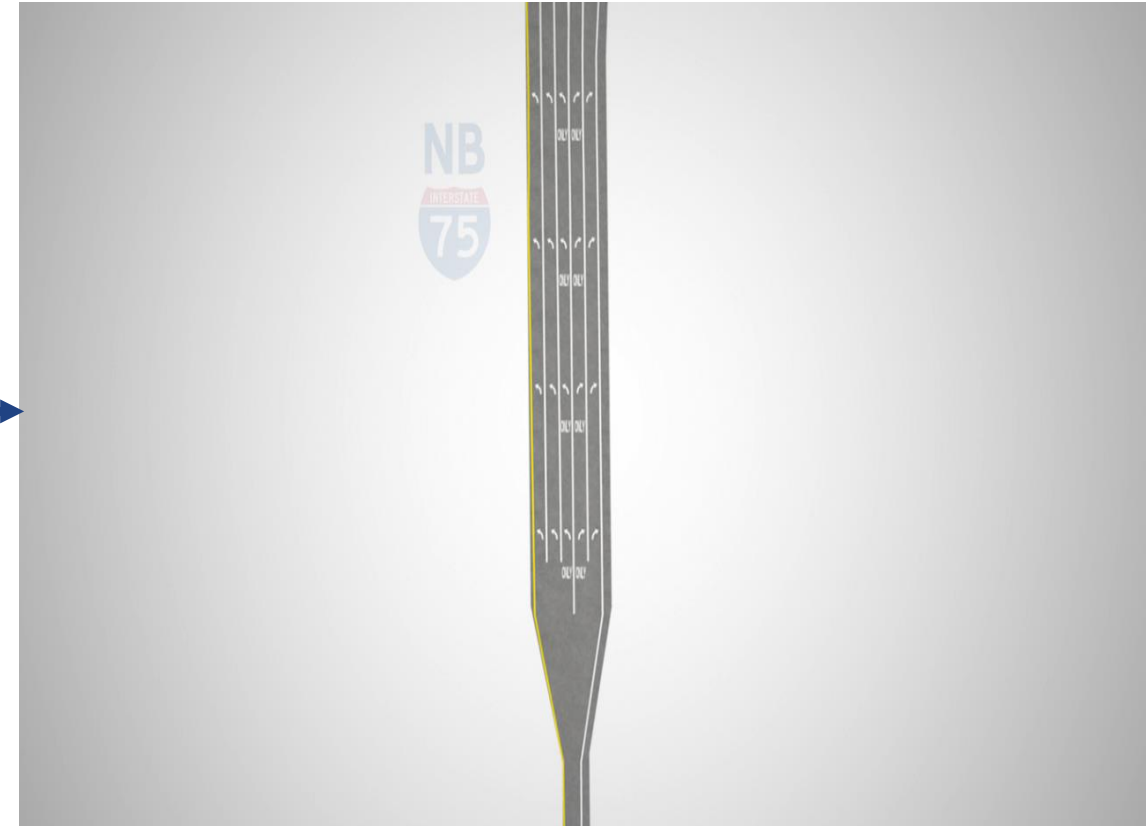


AOI for IOARs

- The mainline and interchange ramps are not required
- If modifications to the interchange ramp or gore points are made, adjust AOI accordingly
- Crossroad AOI shall extend at a minimum of ½ mile in either direction of the proposed access change

Innovative Interchange Designs

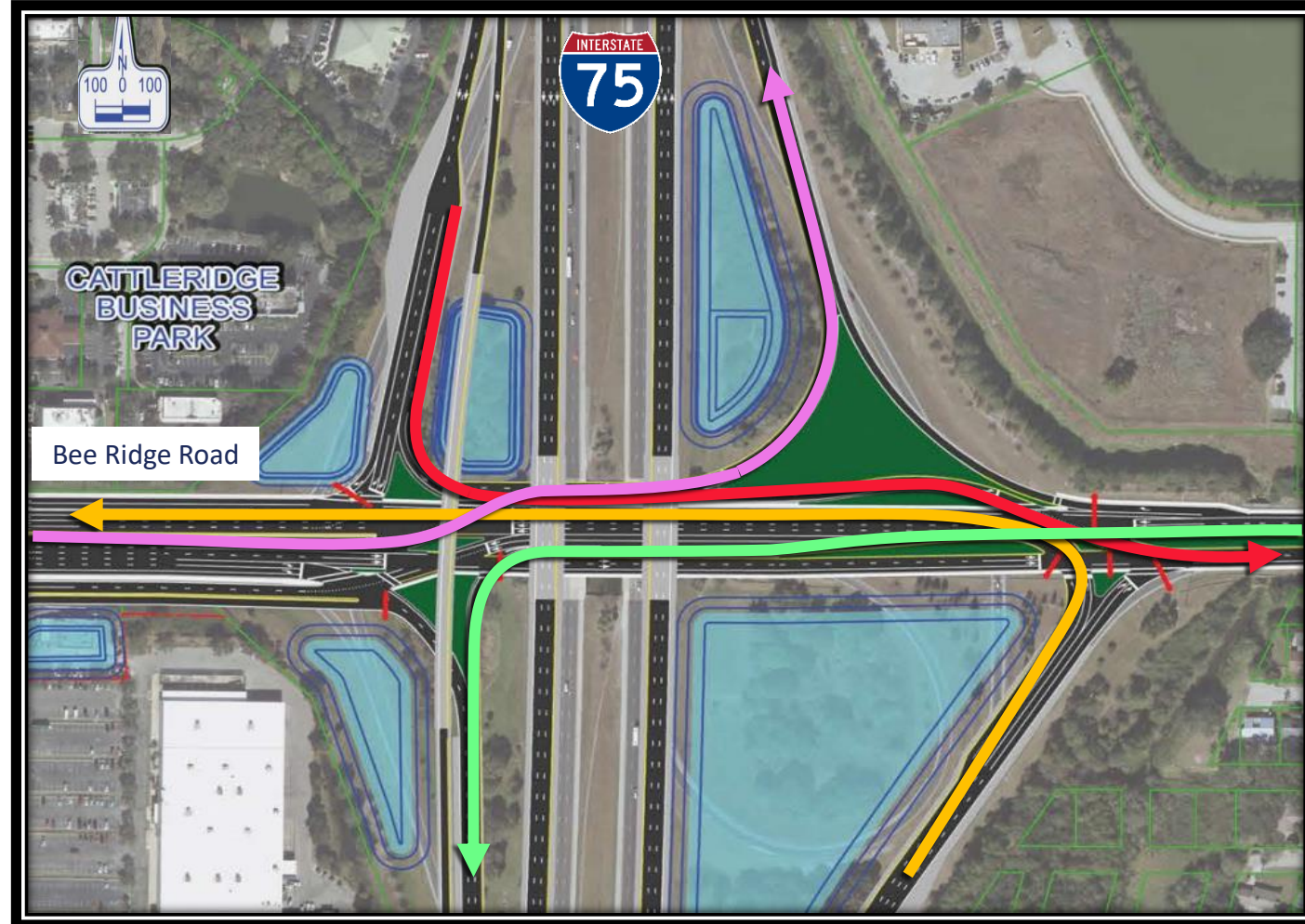
- Innovative designs are becoming more common in Florida
 - Hybrid Diverging Diamond Interchanges (DDI)
 - Embedded video 
 - U-turns at interchanges
 - Roundabouts at ramp terminals
 - Displaced left turn interchanges
 - Park & Ride facility at interchanges



Hybrid DDI – I-75 at Colonial Parkway

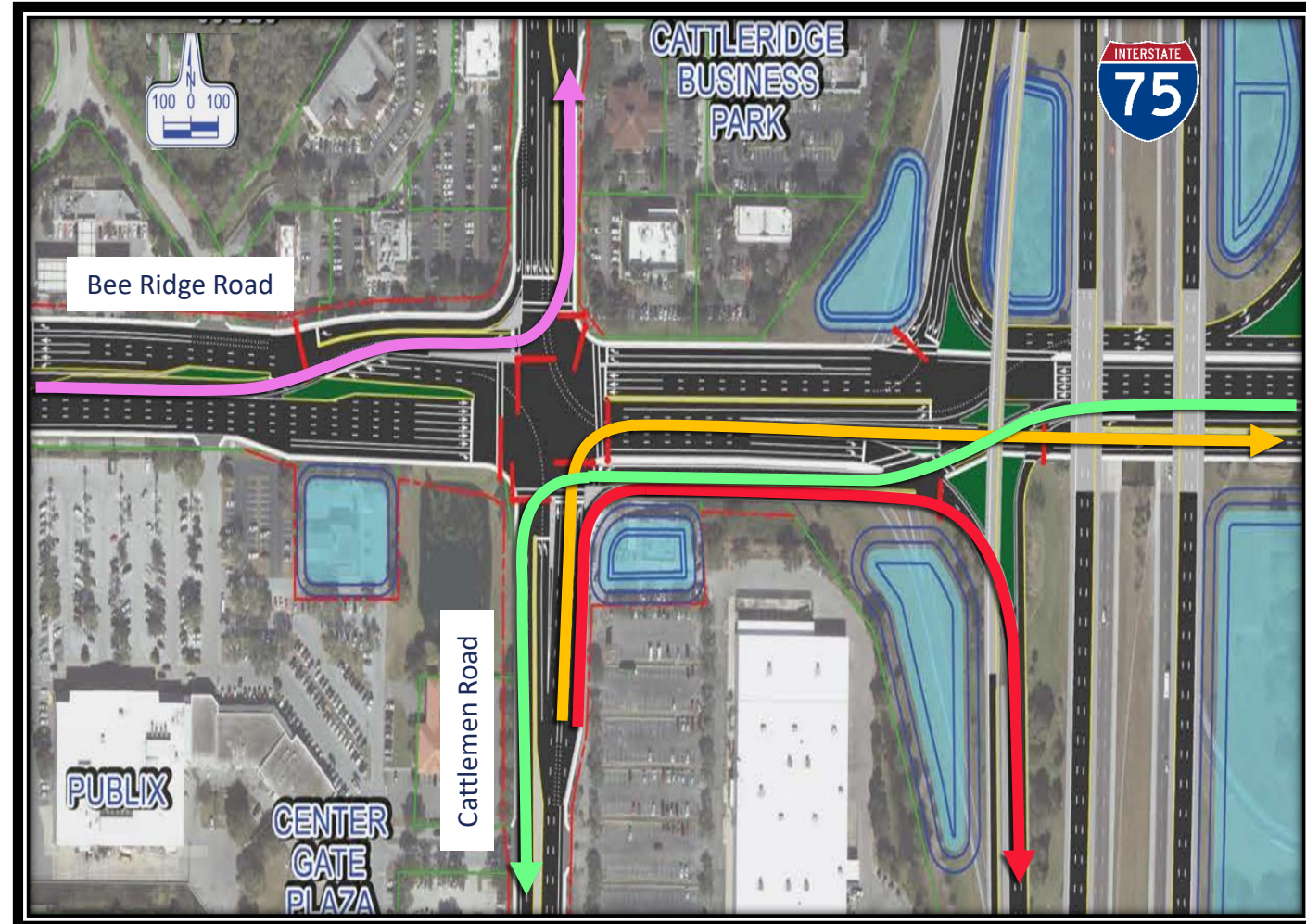
Innovative Interchange Designs

- Hybrid DDI with Continuous Flow Intersection
 - Hybrid DDI Movements
 - I-75 Southbound to Bee Ridge Road Eastbound
 - I-75 Northbound to Bee Ridge Road Westbound
 - Bee Ridge Road Eastbound to I-75 Northbound
 - Bee Ridge Road Westbound to I-75 Southbound



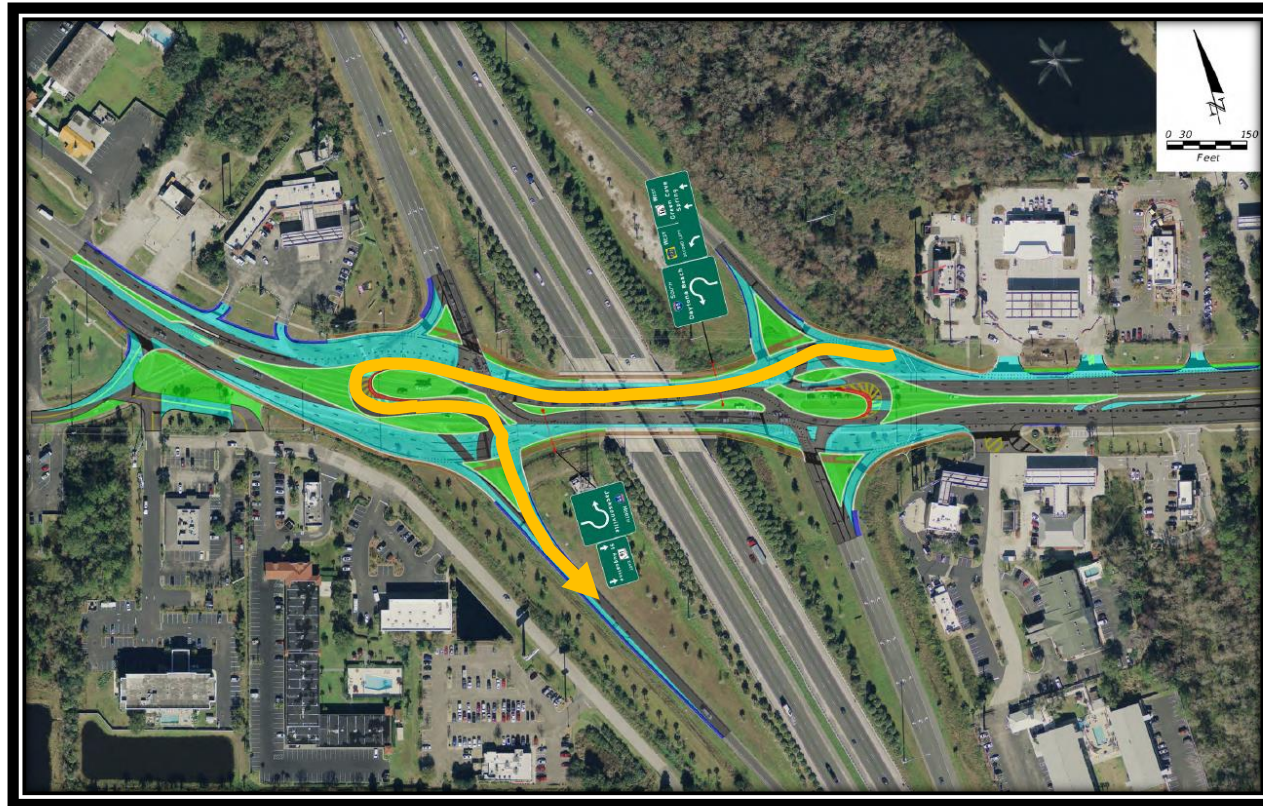
Innovative Interchange Designs

- Hybrid DDI with Continuous Flow Intersection
 - Continuous Flow Intersection Movements
 - Cattlemen Road Northbound to I-75 Southbound
 - Cattlemen Road Northbound to Bee Ridge Road Eastbound
 - Bee Ridge Road Eastbound to Cattlemen Road Northbound
 - Bee Ridge Road Westbound to Cattlemen Road Southbound



Innovative Interchange Designs

U-Turns at the Interchange (I-95 at SR 16)

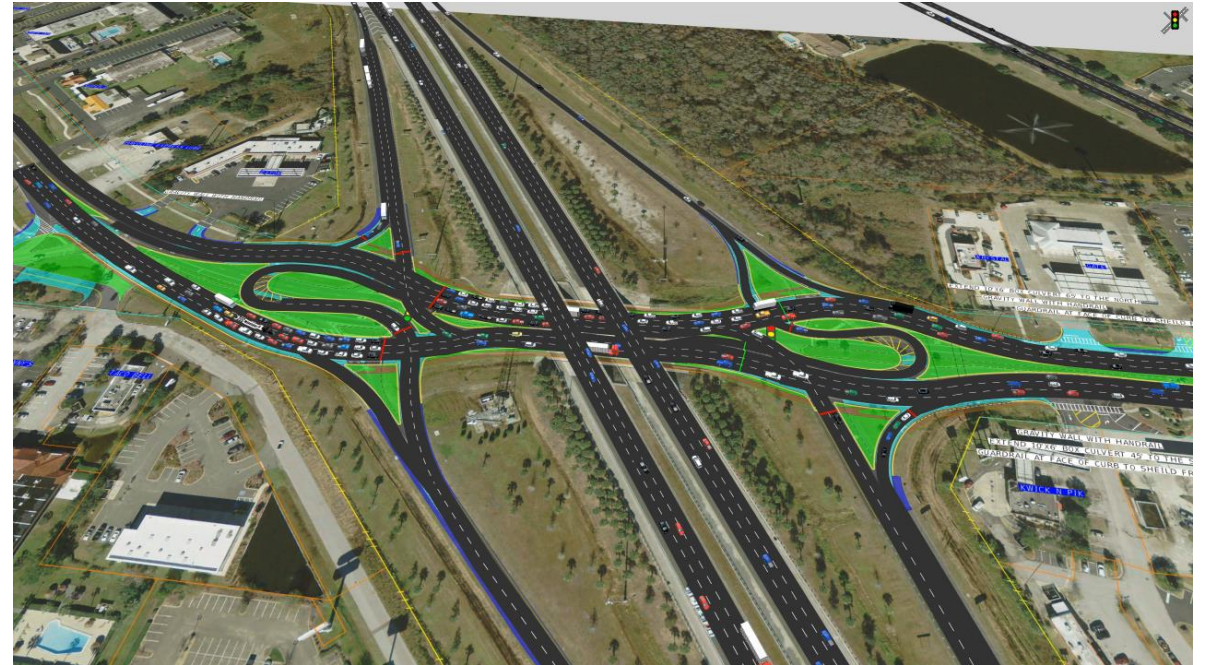


Innovative Interchange Designs

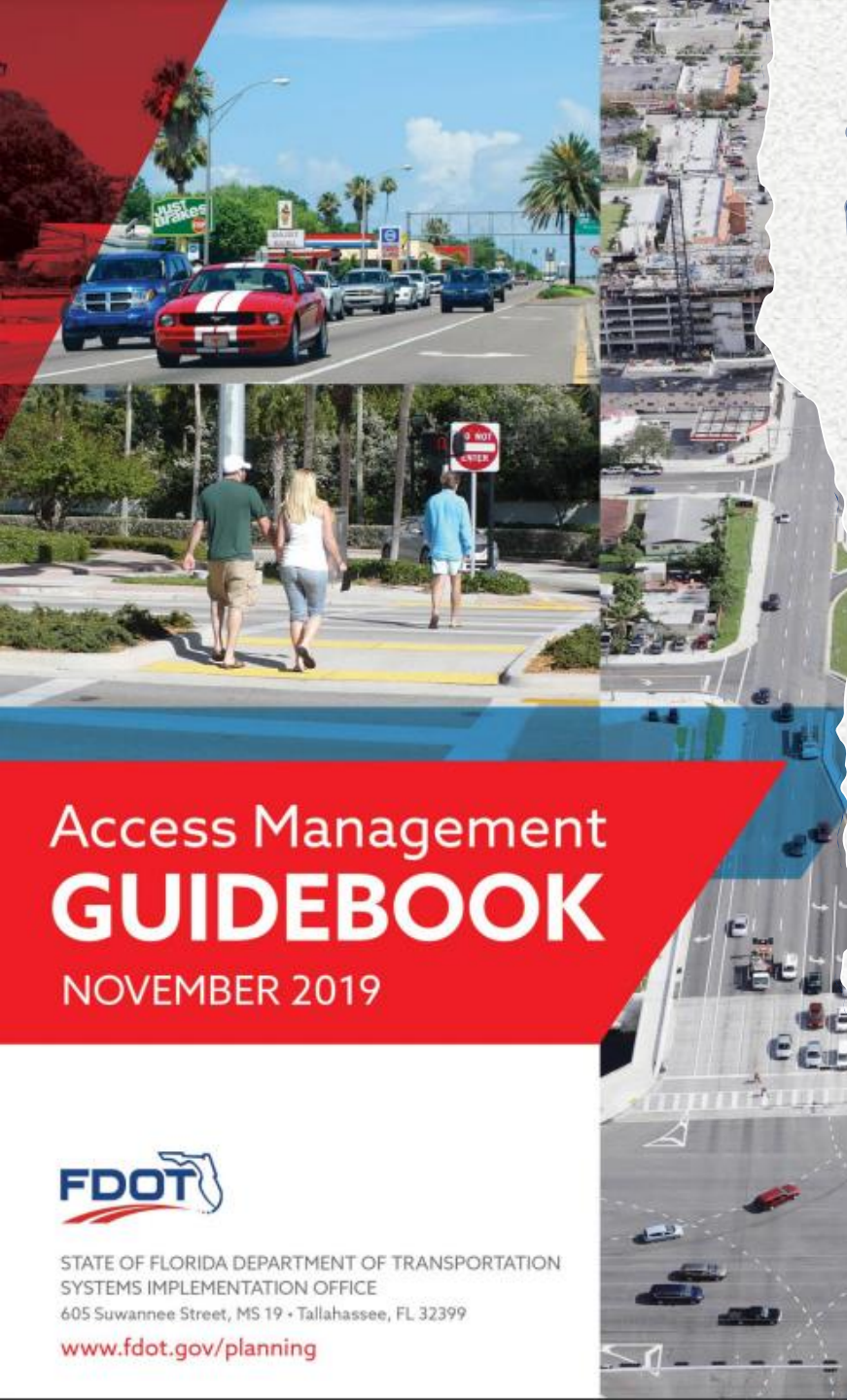
U-Turns at the Interchange (I-95 at SR 16)



No-Build



U-Turn



Access Management **GUIDEBOOK**

NOVEMBER 2019



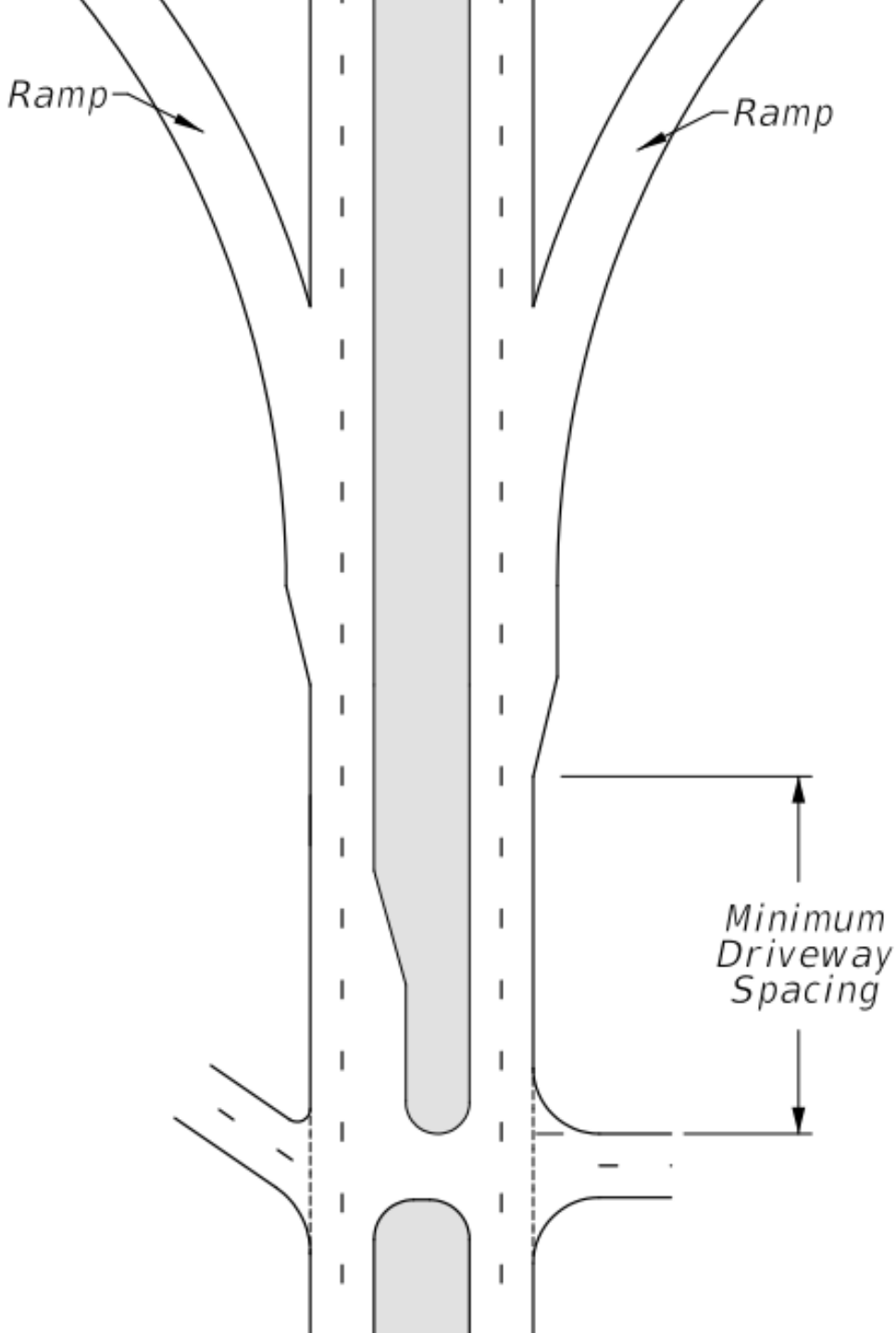
STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION
SYSTEMS IMPLEMENTATION OFFICE
605 Suwannee Street, MS 19 • Tallahassee, FL 32399

www.fdot.gov/planning

Access Management for IARs

Access shall conform to Rules 14-96 F.A.C., 14-97 F.A.C. and FDOT Access Management Guidebook

Failure to execute the agreement may result in delays or denying of an IAR document



Access Management for IARs



Access management spacing should be a project goal



Access management agreement may be required for an IAR



Access management plan shall maintain the safety and operation of the interchange



I-95 at University Boulevard (SR 109)

Road Type	Posted Speed	Driveway Spacing
Arterial	≤ 45 mph	440 feet
Arterial	≥ 50 mph	660 feet
Access Class 2 Facility	≥ 50 mph	1,320 feet

Source: FDOT Design Manual – Section 214.3.6.1

Access Management for IARs

- Driveway or median opening close to a ramp impacts safety and operations.
- Acquire sufficient ROW during construction Per FDOT Access Management Standards (FAC 14-97 F.A.C.)

Access Management for IARs

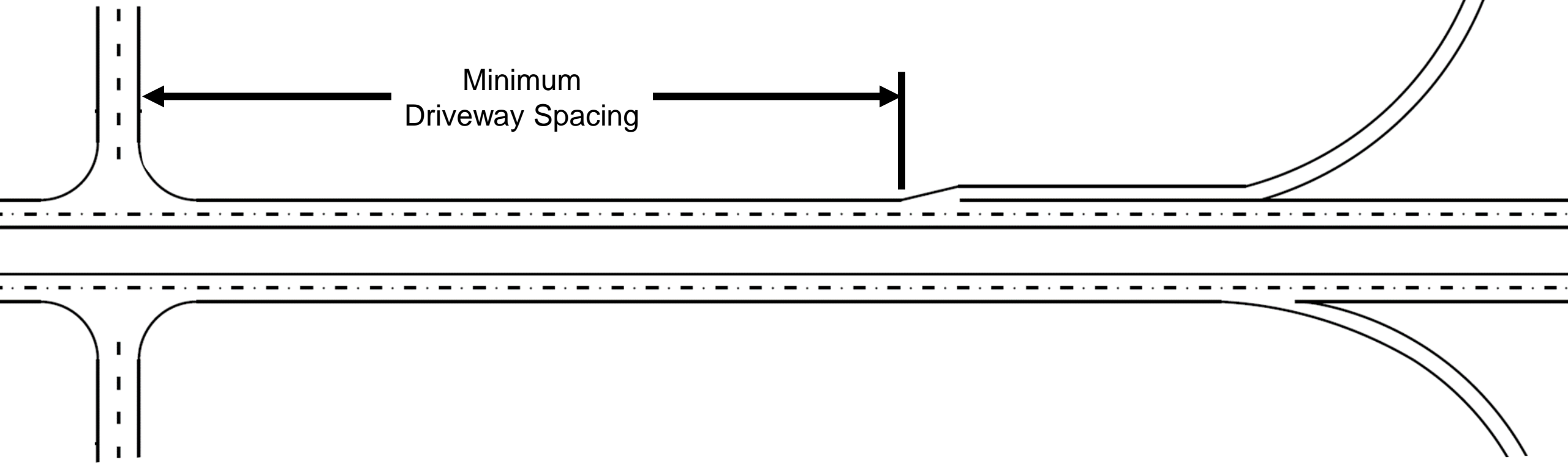
No-Build



Build



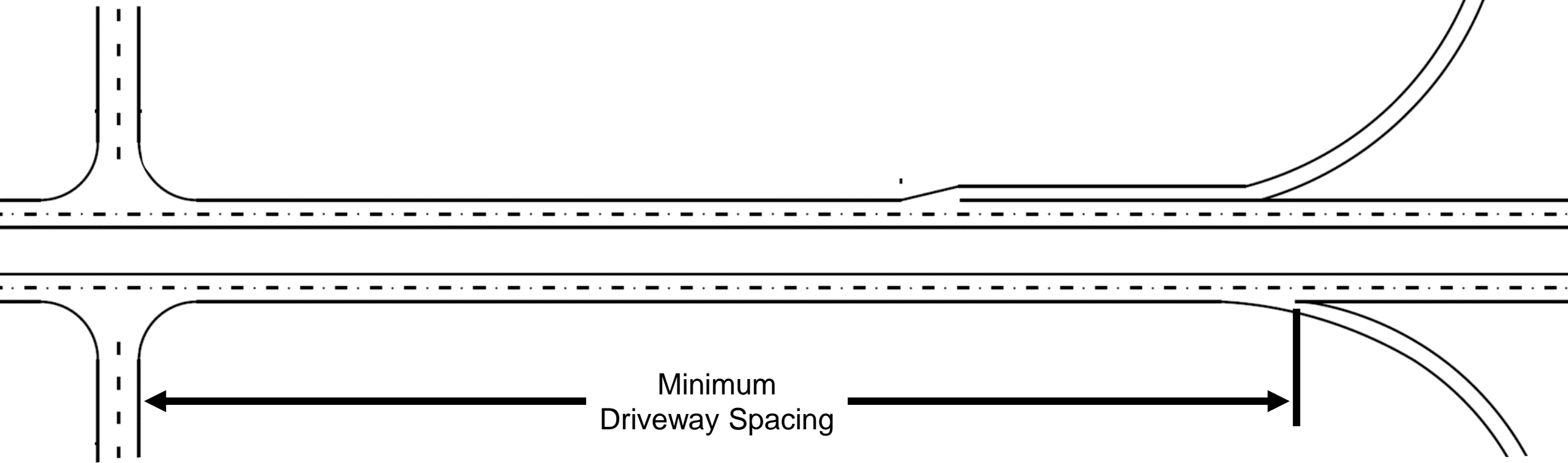
I-75 at Williston Road (SR 331/121)



Driveway Spacing with Ramp Taper

Road Type	Posted Speed	Driveway Spacing
Arterial	≤ 45 mph	440 feet
Arterial	≥ 50 mph	660 feet
Access Class 2 Facility	≥ 50 mph	1,320 feet

Source: FDOT Design Manual – Section 214.3.6.1



Driveway Spacing without Ramp Taper

Road Type	Posted Speed	Driveway Spacing
Arterial	≤ 45 mph	440 feet
Arterial	≥ 50 mph	660 feet
Access Class 2 Facility	≥ 50 mph	1,320 feet

Source: FDOT Design Manual – Section 214.3.6.1

Access Management for Interchange Areas

Access Management at an interchange is critical for:

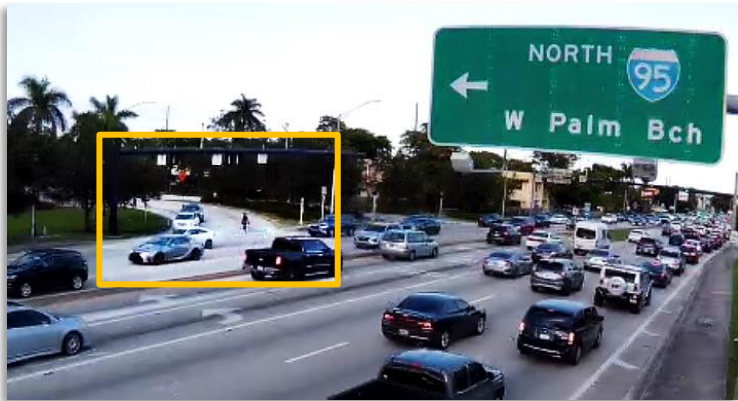
- Efficient operations
- Minimizing spillback
- Providing adequate weaving distance
- Providing space for merging maneuvers, and
- Providing space for storage of turning vehicles

Next Steps for Interchanges

Bicycle and Pedestrian Accommodations in Interchange Areas



Bike/Ped Accommodations in Interchange Areas



I-95 at Okeechobee Boulevard (SR 704)



Bike/Ped Accommodations in Interchange Areas

Safe accommodations in interchange areas include the following aspects to consider:

- Operations and design
- Forecasting bike/ped activity for design year
- Developing levels of analysis
 - Measures of effectiveness



Questions

Contact Info

- Gina.Bonyani@dot.state.fl.us
- Jenna.Bowman@dot.state.fl.us
- Karla.Matos@dot.state.fl.us

Thank you!