



# SR 7/US 441

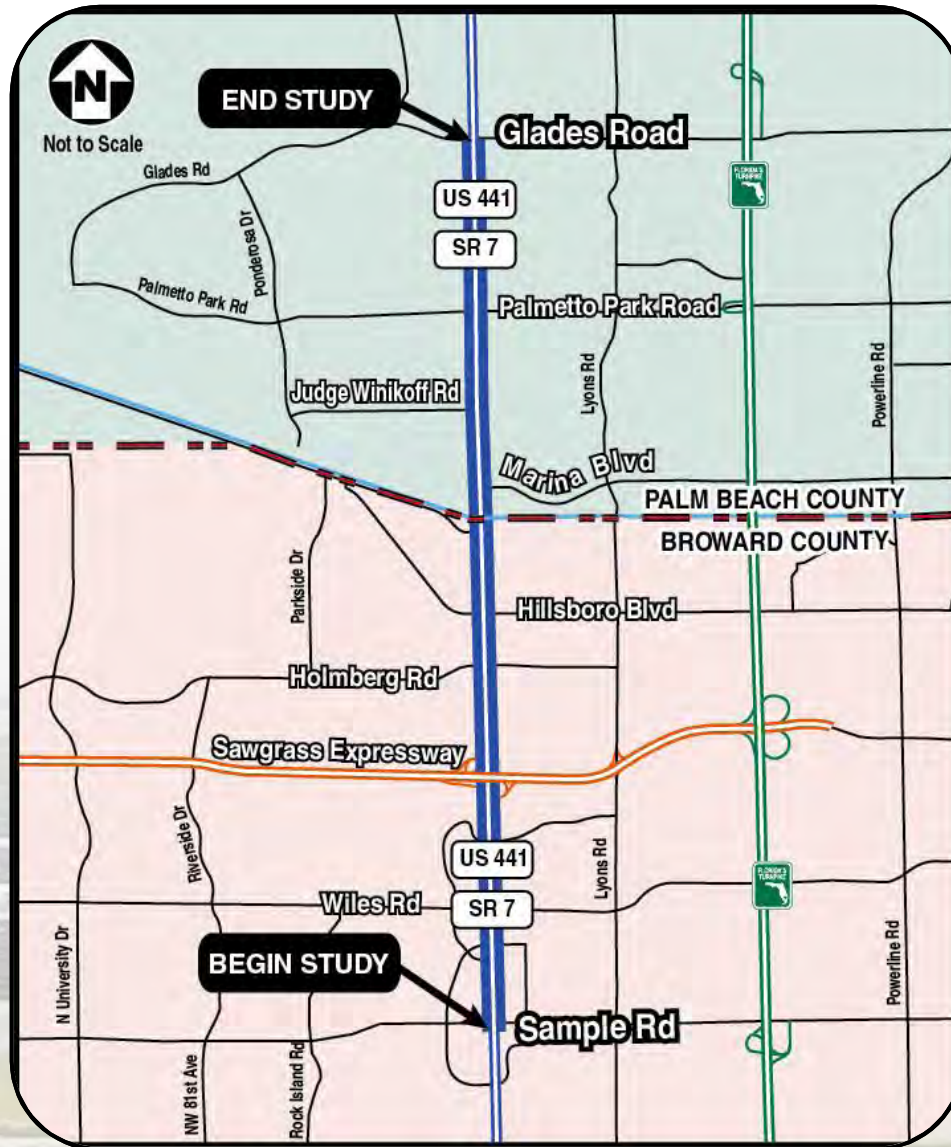
## Project Development and Environment (PD&E) Study from SR 834/Sample Road to SR 808/Glades Road

FPID # 427937-1 / 427938-1

Palm Beach MPO Board  
June 19, 2014



# PD&E Study Limits



# PD&E Purpose and Need

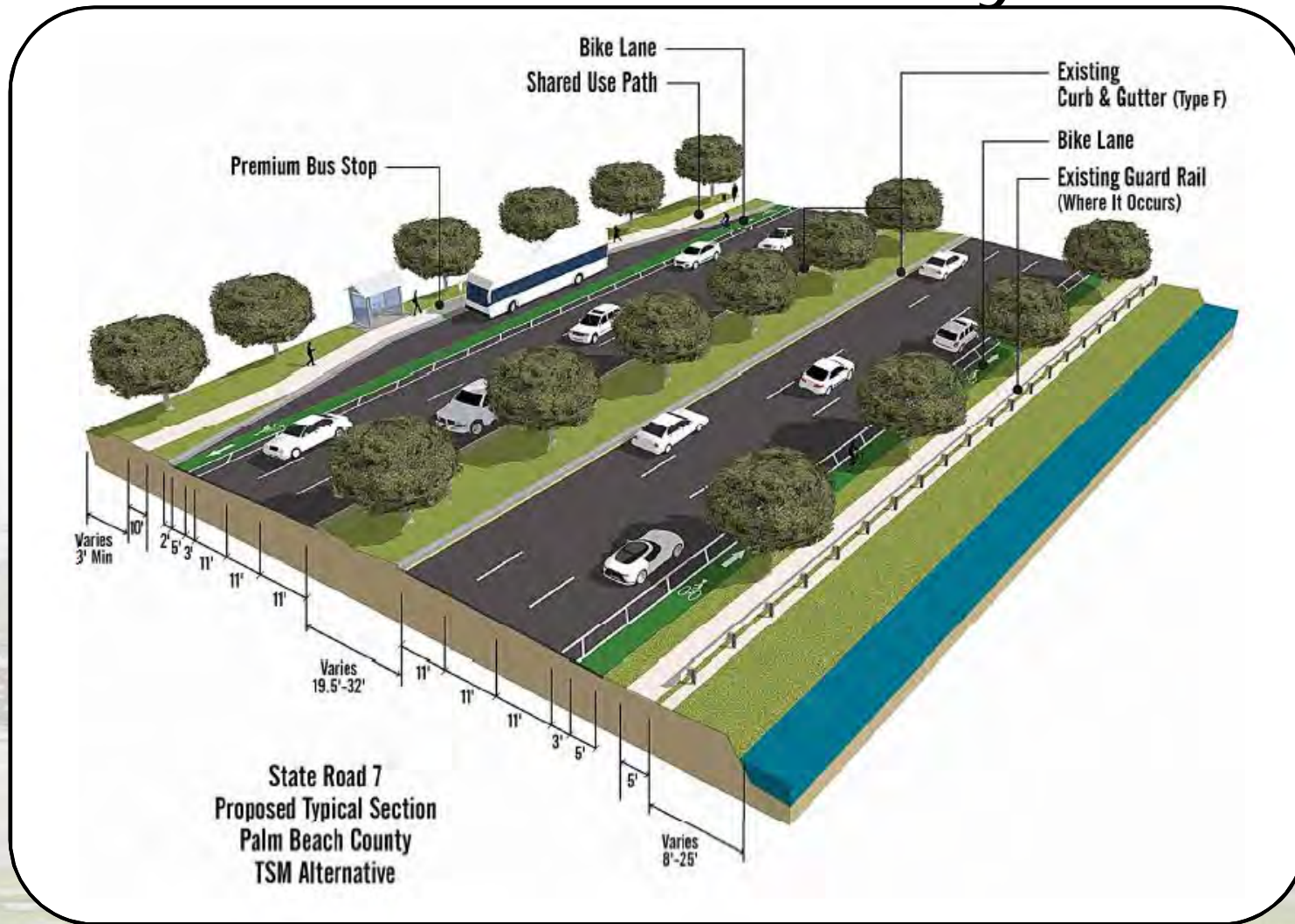
- Address operational and capacity needs
- Evaluate premium transit on SR 7/US 441
- Connect and improve north-south transit services
- Address gaps in bicycle and pedestrian facilities
- Improve safety



# PD&E Recommendations

- Context Sensitive Alternative with multimodal solutions
  - Bicycle and pedestrian facilities
  - Transit stop infrastructure and access improvements
  - Intersection improvements to improve traffic flow
- Transportation systems management and operations (TSM&O) initiatives
  - Traffic signal system operations
  - Traveler information and incident management
  - Transit service and operations

# Context Sensitive SR 7 Improvements Palm Beach County



# Intersection Improvements

- Turtle Creek Drive
  - Add an eastbound to northbound left-turn lane
- Marina Boulevard
  - Improve westbound left-turn storage
  - Add an exclusive northbound right-turn lane
- Sandalfoot Boulevard
  - Add a westbound left-turn lane
- Judge Winikoff Road
  - Add an eastbound left-turn lane
- Palmetto Park Road
  - Add a westbound right-turn lane
- Boca Woods Lane
  - Add a westbound left-turn lane
- Glades Road
  - Increase capacity of southbound left-turn storage bay



# TSM&O Strategies

## Traffic Signal System Operation

- Signal coordination through jurisdictional boundaries
- Adaptive signal timing
- Peak period arterial progression
- Dynamic signal timing

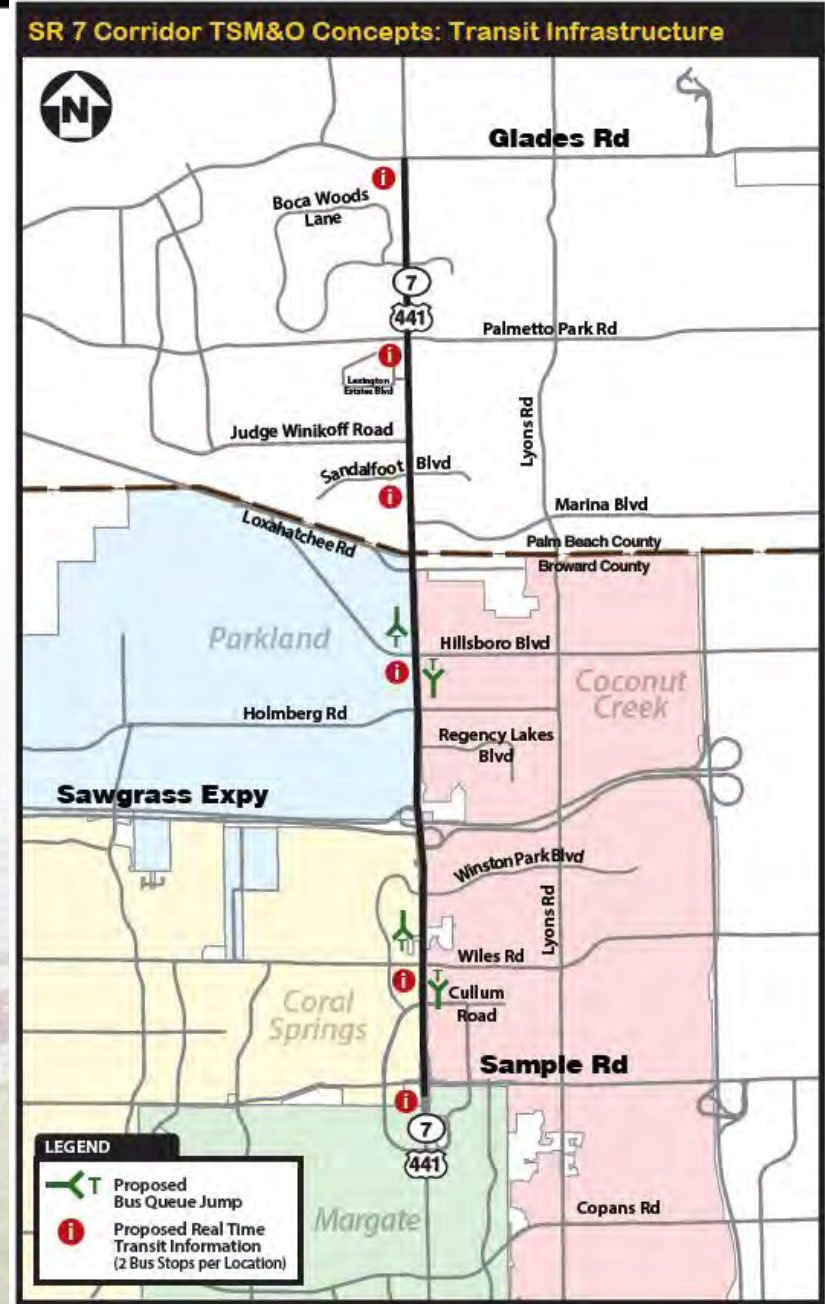
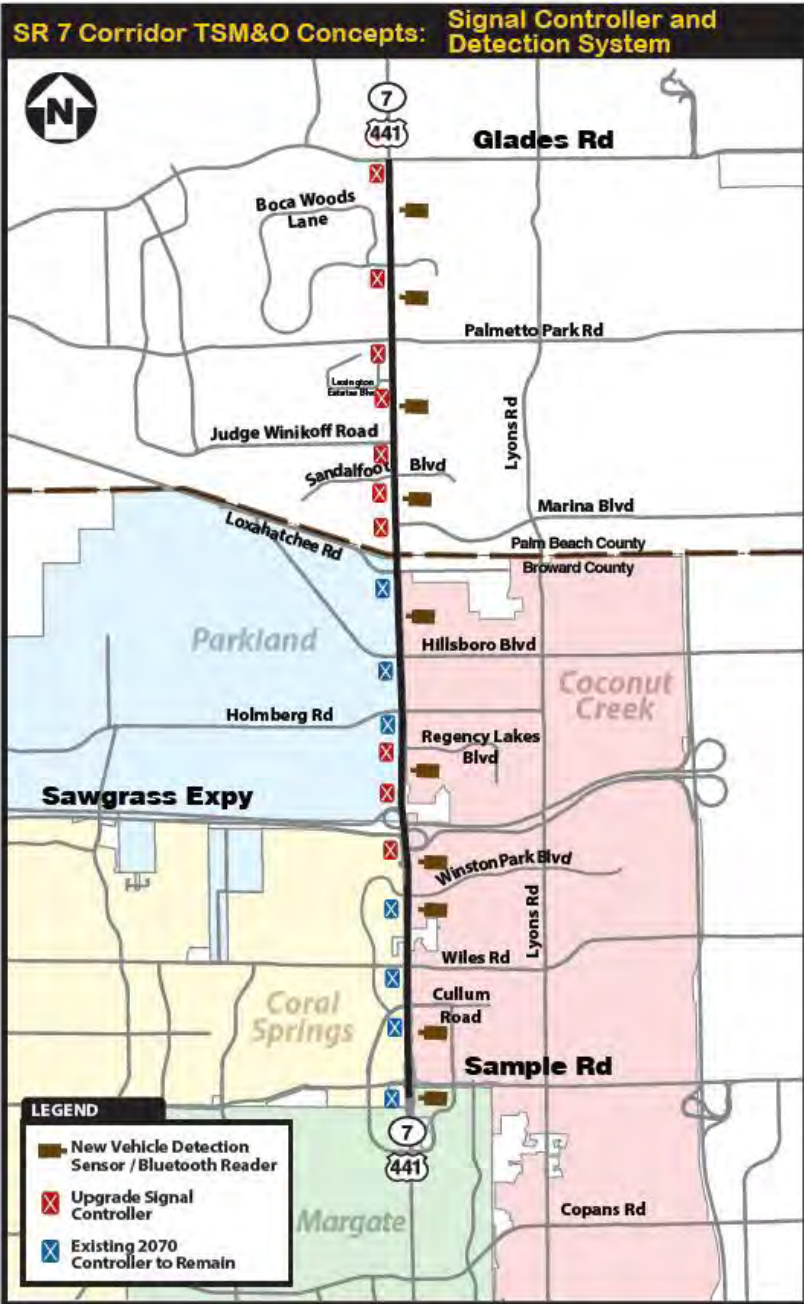
A combination of strategies is needed to address varying traffic conditions

## Information and Incident Management

- Incident and emergency management
- Traveler information systems

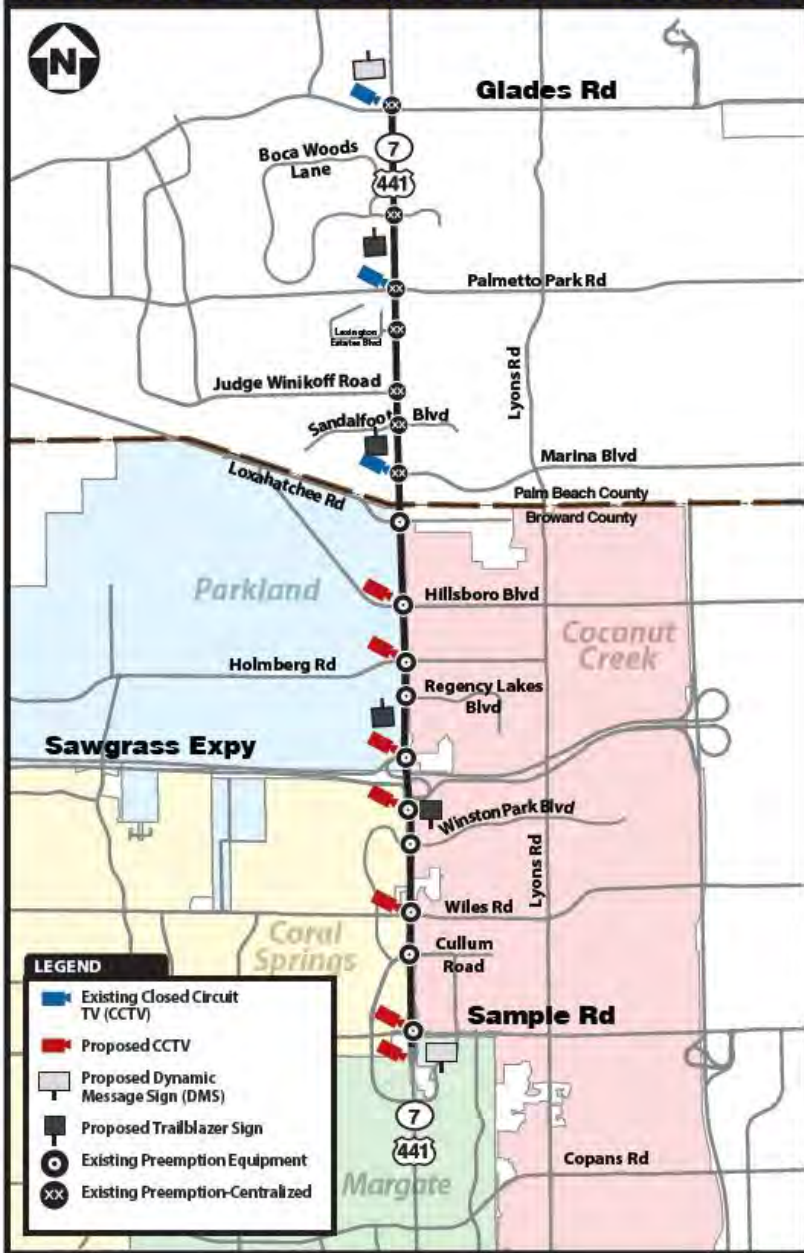
## Transit

- Transit information system
- Transit signal priority/Queue jump

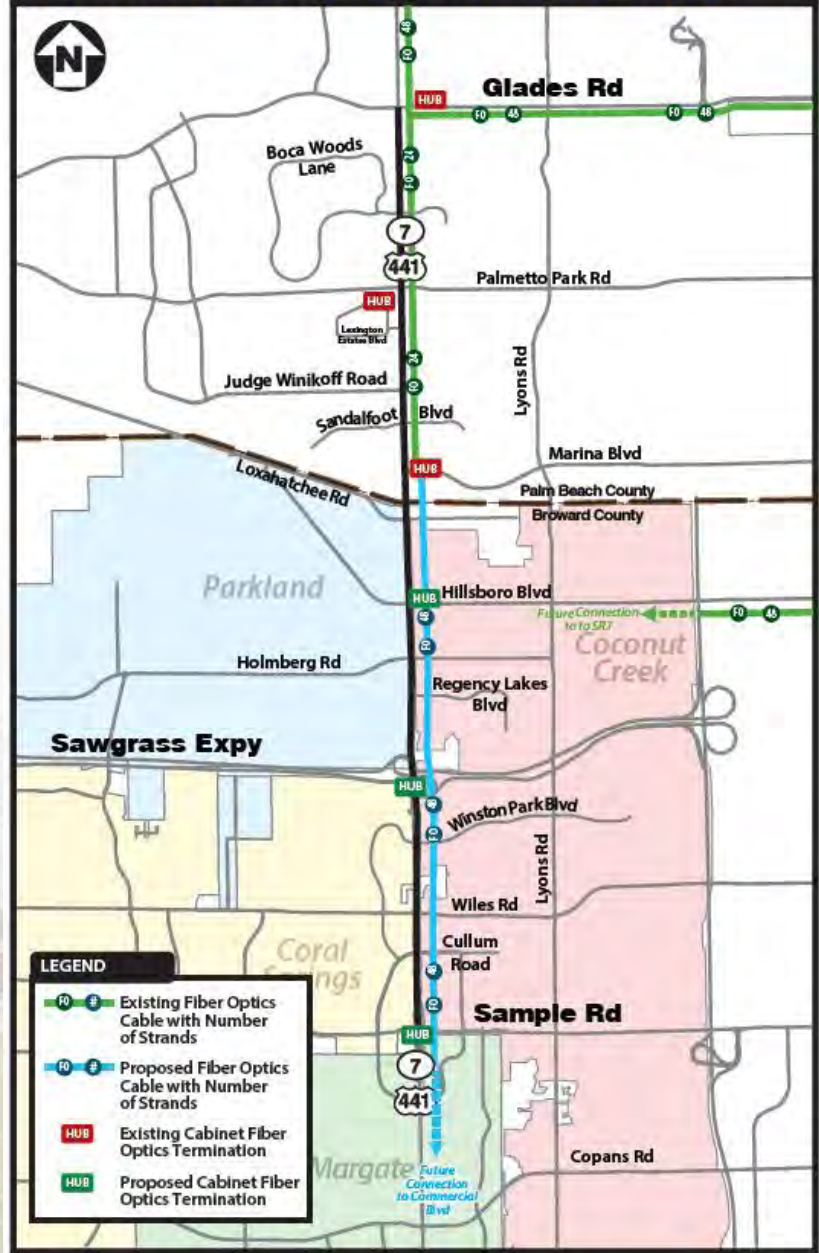




SR 7 Corridor TSM&O Concepts: Incident Management System



SR 7 Corridor TSM&O Concepts: Communication System



# Phased TSM&O Implementation

## ■ Short-term (next 5 years)

- Signal coordination and new traffic signal control sections
- Upgrade seven existing signal controllers between Marina Blvd and Glades Road
- Install real-time transit information systems at six proposed premium transit stations

*Approximate capital cost \$100K*

## ■ Mid-term (6-10 years)

- Adaptive traffic control, dynamic signal timing and peak period arterial progression
- Vehicle detection sensors and Bluetooth readers within the corridor
- Transit signal priority/queue jump (potential locations - Marina Blvd and Palmetto Park Road)
- Decision support systems and information exchange network

*Approximate capital cost \$1.1 million*

## ■ Long-term (10-25 years)

- Arterial dynamic message and trailblazer signs at key locations
- Incident and emergency management systems

*Approximate capital cost \$400 K*



# Existing Transit Service

## ■ Palm Tran Route 91

- Runs along SR 7 from Sandalfoot to Glades Road
- Connects to East Boca Raton via Glades Road
- 60 minute weekday headways along SR 7



## ■ Palm Tran Route 92

- Route terminates at SR 7 and Sandalfoot
- Connects to East Boca Raton via Palmetto Park Rd
- 60 minute weekday headways



## ■ BCT Route 19

- Serves Sandalfoot to Golden Glades
- 20 minute weekday headways

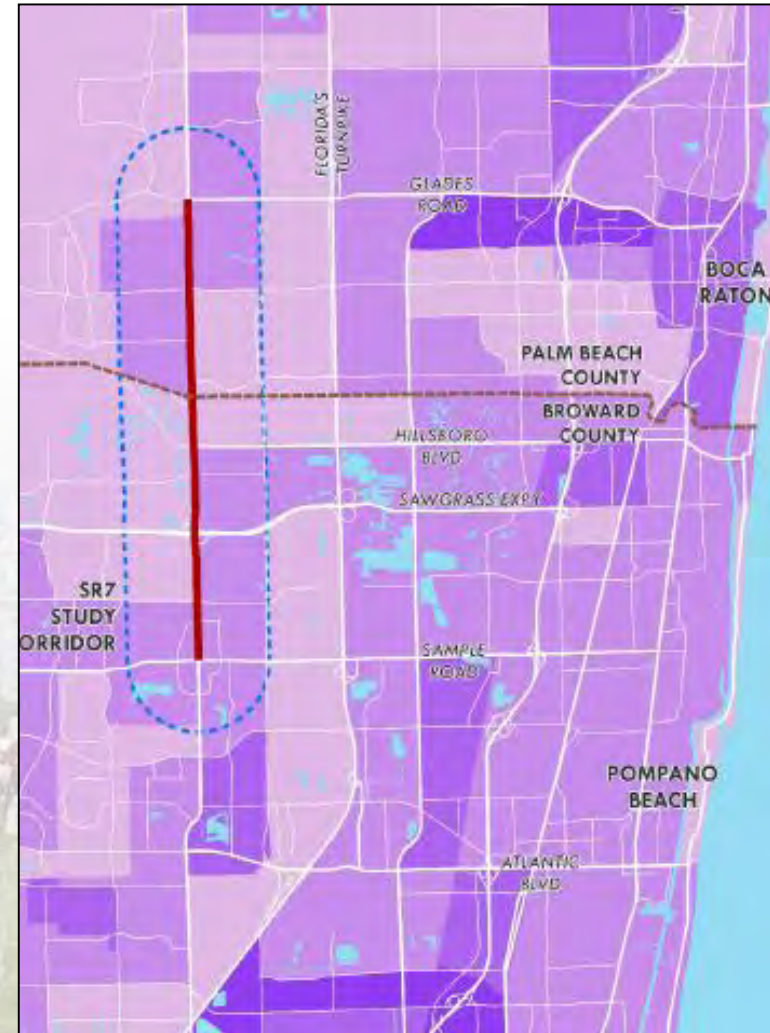
## ■ BCT Route 441 Breeze

- Serves Turtle Creek Drive to Golden Glades
- 20 minute weekday headways



# Transit Market in NW Broward/ SW Palm Beach Counties

- Strong SR 7 ridership pattern to the south
- Transit market between NW Broward/SW Palm Beach County and Boca Raton identified in ridership model
- Projected 2.6% annual growth in corridor transit ridership to year 2040



# Phased Transit Improvement Strategies

- Short-term, lower cost projects
  - Serves current riders and promotes transit usage
- Mid-term, transit demand-driven projects with higher cost
  - Supports increased transit ridership, reduces transit travel times, improves trip reliability
  - Cost effectiveness will be warranted with higher ridership and corridor travel conditions
- Long-term transit service improvements
  - Implement Rapid Bus with preferential treatments

# Short-Term Transit Improvements

1. Provide station infrastructure and amenities
  - Upgrade existing SB stop at SW Sandalfoot Blvd for local and future rapid service
  - Upgrade existing NB stop with bus bay at SW Sandalfoot Blvd for local and future rapid service
  - Upgrade existing SB and NB stops at N Central Park Blvd for local and future rapid service
  - Upgrade existing SB and create new NB stop at Glades Road for local and future rapid service
2. Improve bicycle and pedestrian access to transit stations
3. Consolidate or eliminate closely spaced bus stops
  - Consolidate NB stops at Palmetto Park Road (remove additional stop to the north)
4. Develop mobility hub at West Boca Medical Center to connect Palm Tran and BCT routes
5. Coordinate bus service schedules to improve connections
6. CAD/AVL
  - Real-time passenger info
  - Text alerts

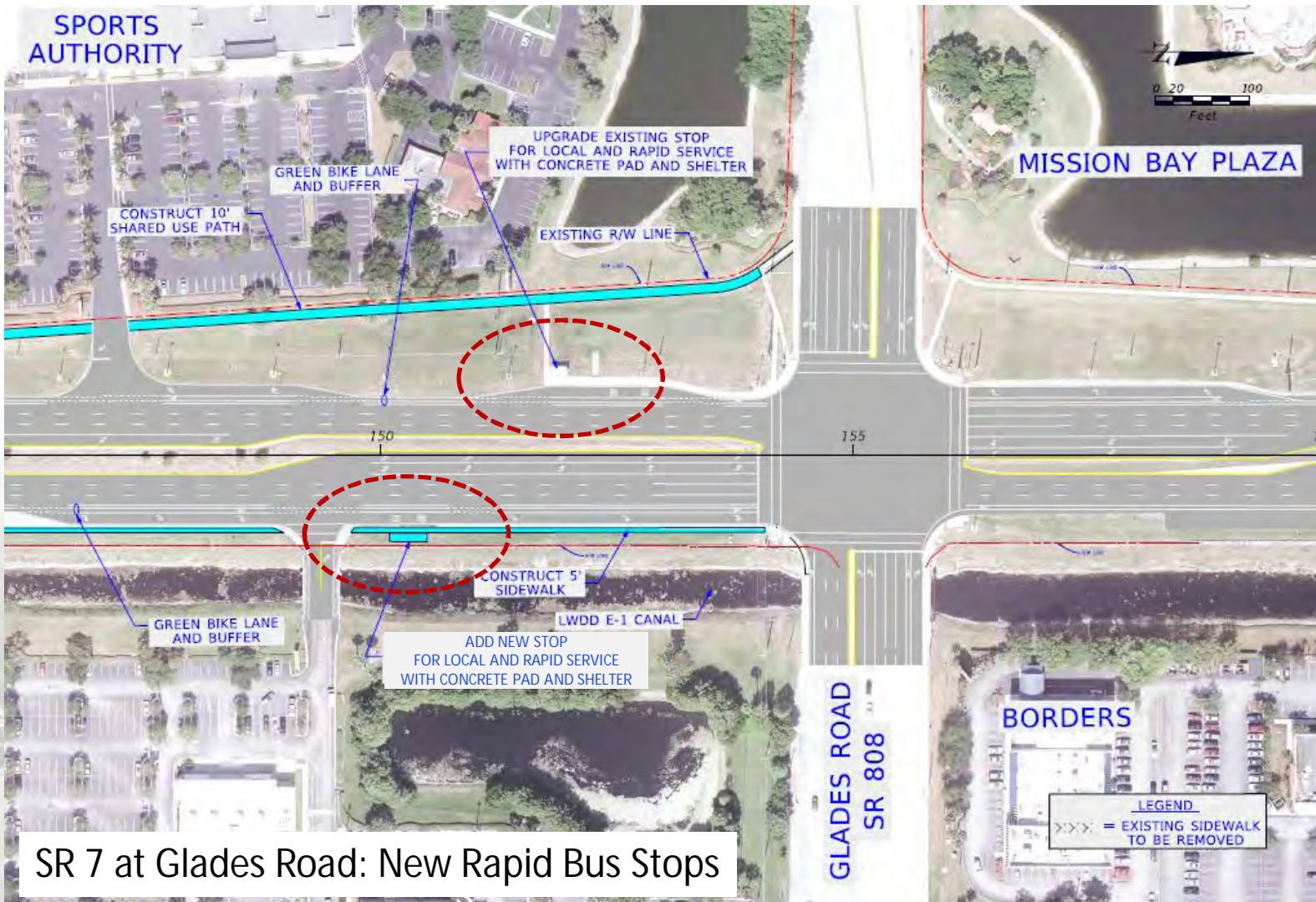


# Short-Term Transit Improvements



SR 7 at Palmetto Park Road – Bus Stop Consolidation

# Short-Term Transit Improvements



SR 7 at Glades Road: New Rapid Bus Stops





# Mid-Term Transit Service Improvements Strategies

- Transit service improvements requiring increased O&M budget allocations
  - Improve headway on Palm Tran Route 91 west of Century Village
  - Split Palm Tran Route 91 at Century Village
- Adopt transit supportive land use plans and policies
- Identify funding sources for service improvements
  - Service Development Grant
  - Transit Block Grant Program

# Mid-Term Transit Infrastructure Improvements

- Technology improvements
  - Transit Signal Priority (TSP)
    - Signal coordination, arterial progression concept
    - Early green, extension of green (schedule based logic)
  - Queue Jump
    - Wiles Road, Hillsboro Blvd, Marina Blvd, Palmetto Park Road



# Long-Term Transit Improvements

- Provide Rapid Bus service north on SR 7 to Glades Road and east to Mizner Park
  - Limited stop service and seamless connection to/from south
  - Similar to high capacity “rail-like” bus service
  - Expansion of TSP/Queue Jumps
  - Articulated, low-floor transit vehicles
  - Unique branding
  - O&M costs shared between Broward and Palm Beach Counties
- Improve local service
  - Frequency/reduced headway
  - Time/span of service

*(Dependent on Transit Operators Securing Increased O&M Funds)*



# Programmed Funding

## ■ Programmed TIP Funds

### Palm Beach County

- Draft FY 15-19 TIP, Recommended \$10.769 Million
  - FY 2015 – \$1.4 Million for Preliminary Engineering
  - *FY 2019 – \$9.369 Million for Construction*

## ■ Funded Project Improvements

- Typical 6-Lane Section with Green Buffer Separated Bike Lanes
- Continuous Sidewalk and Multipurpose Paths
- Intersection Improvements
- Transit Stop Infrastructure
- Traffic Signal Controllers and Real-Time Passenger Information



# Future Funding Required

## ■ Unfunded TSM&O Improvements

- Adaptive Traffic Control, Dynamic Signal Timing and Peak Period Arterial Progression
- Vehicle Detection Sensors and Bluetooth Readers
- Decision Support Systems and Information Exchange Network
- Arterial Dynamic Message and Trailblazer Signs
- Incident and Emergency Management Systems

# Future Funding Required

- Unfunded Transit Project Improvements
  - Rapid Bus Implementation for SR 7 / Glades Road
    - Articulated, low floor, and branded vehicles
  - Transit Signal Priority
  - Queue Jumps
  - Operating Funds for Rapid Bus and Increased Span of Service and Frequency for Local Routes

Note: Refinement of transit recommendations in process.



# Contact Information

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