



**State Road 414 Expressway Extension  
Project Development and Environment Study**

**Alternatives Public Workshop**

**— February 10, 2021 —**


Will Hawthorne, PE, CFX

Kathy Putnam, Quest Corporation of America

Sunserea Dalton, PE, Jacobs

# SR 414 Expressway Extension

Slides



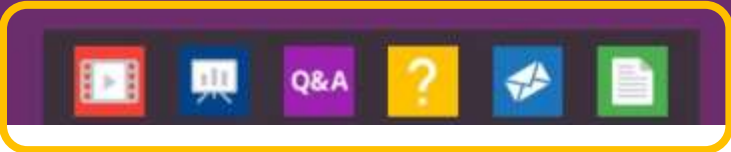
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Q&A

Enter your question \*





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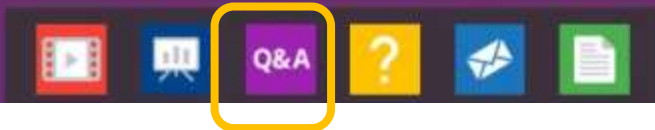
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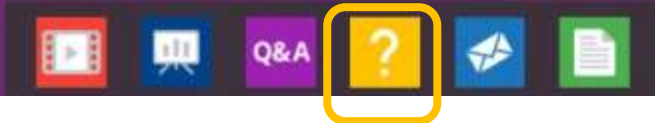
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Enter your question \*

Submit



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# Title VI Compliance

This meeting and study are being conducted without regard to race, color, national origin, age, sex, religion, disability or family status. Persons wishing to express their concerns relative to compliance by the Central Florida Expressway Authority (CFX) with Title VI may do so by contacting:

Kathy Putnam

Public Involvement Coordinator

4974 ORL Tower Road Orlando, FL 32807

407-802-3210

[ProjectStudies@CFXway.com](mailto:ProjectStudies@CFXway.com)

All inquiries or complaints will be handled according to CFX procedure and in a prompt and courteous manner.



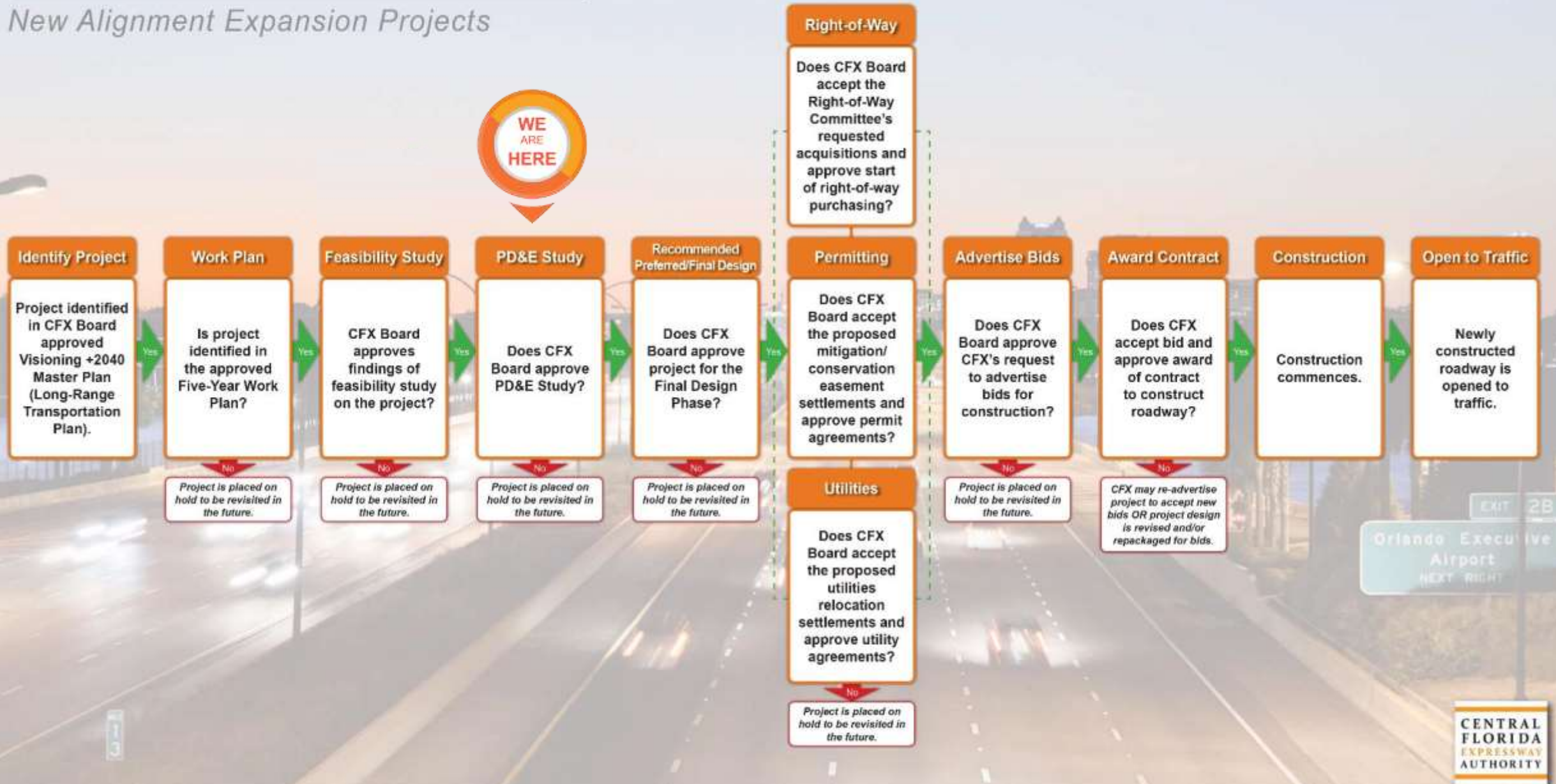
# Agenda

- CFX Project Development Process
- Project Background
- Public Involvement
- Study Information
- Schedule
- Next Steps



# PROJECT DEVELOPMENT PROCESS

## New Alignment Expansion Projects





# PD&E Study Purpose

Determine viability and cost feasibility of facility between US 441 and SR 434

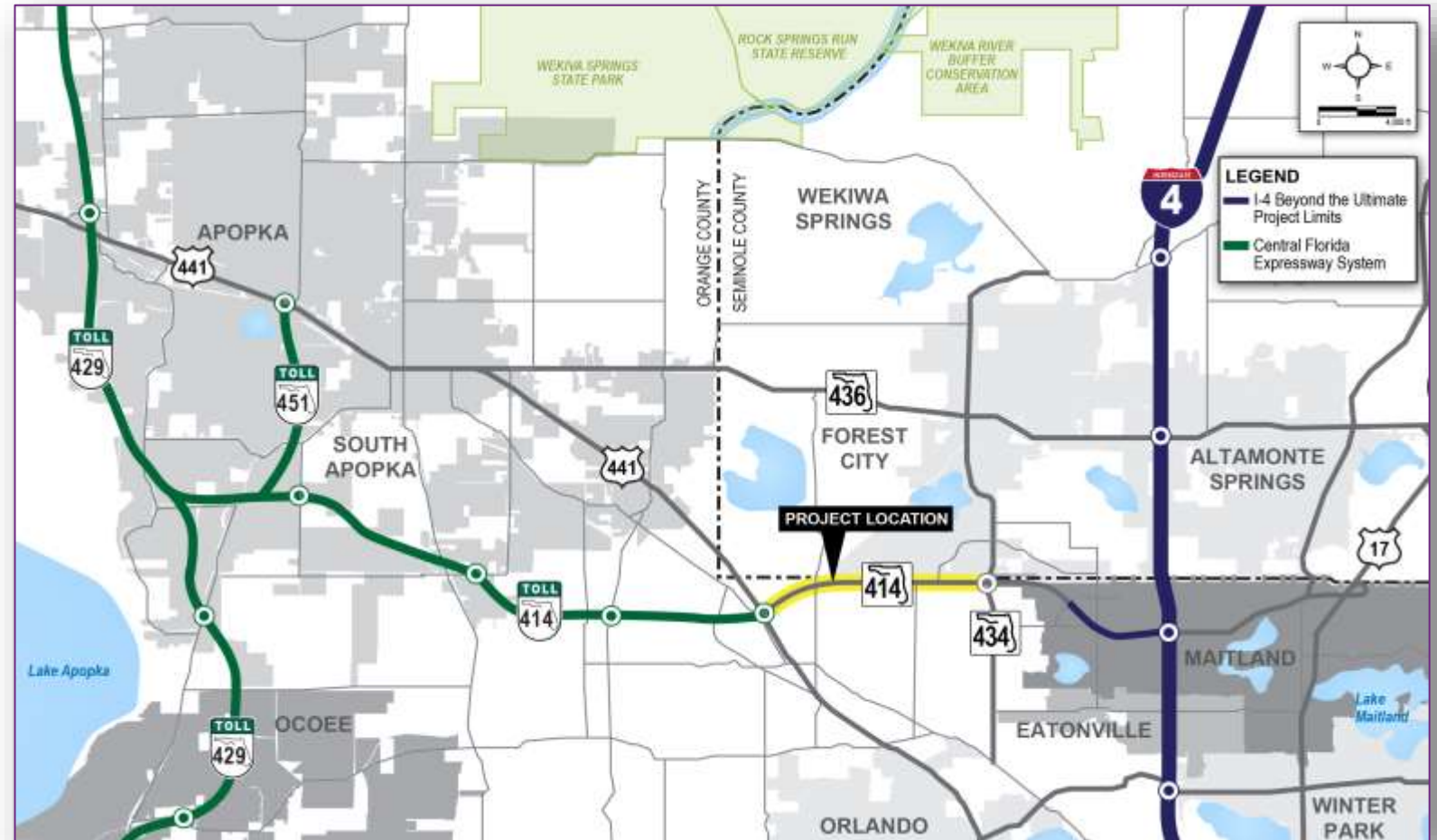


# Project Background

- SR 414 Reversible Express Lanes Schematic Technical Memorandum – Completed in 2019
- CFX Visioning + 2040 Master Plan – Adopted in 2016
- CFX Five-Year Work Plan FY2021-FY2025
- MetroPlan Orlando Transportation Improvement Program FY2020/21-FY2024/25

# Regional Location Map

- CFX
- FDOT District 5
- Municipalities:
  - City of Maitland
  - City of Altamonte Springs
  - Orange County
  - Seminole County



# Project Location Map

## Study Corridor

- From US 441 to SR 434
- 4-lane divided arterial
- Approximately 2.3 miles
- 3 existing signalized intersections
- 1 existing unsignalized intersection





# Purpose and Need



**Provide Capacity**



**Improve Regional  
Connectivity**



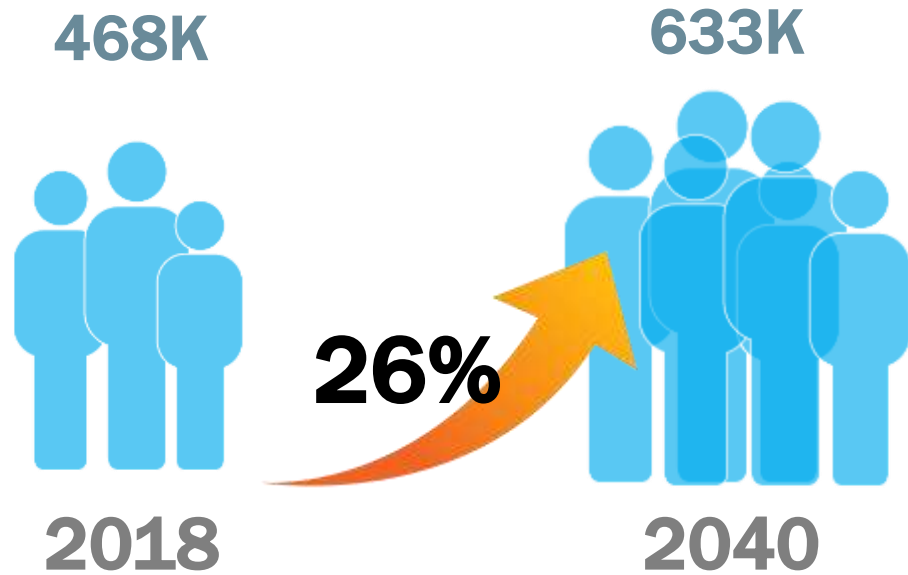
**Enhance Safety**



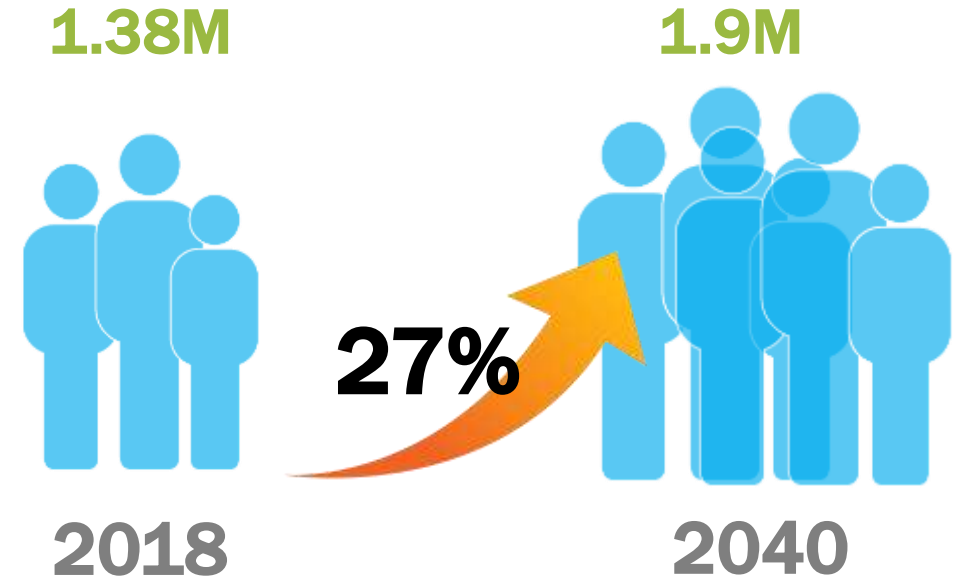
**Support Multimodal  
Opportunities**

# Purpose and Need

## SEMINOLE COUNTY POPULATION



## ORANGE COUNTY POPULATION

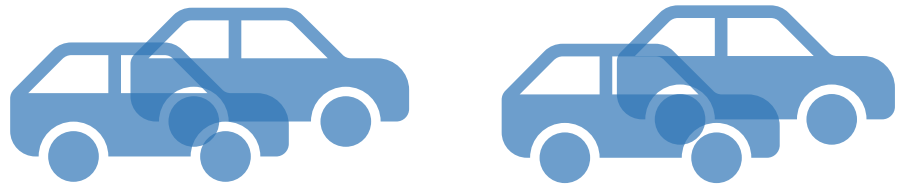


Source: CFX's General Traffic and Earnings Consultant's Annual Report , 2019

# Purpose and Need

Existing (2019)  
Average Annual Daily  
Traffic (AADT)

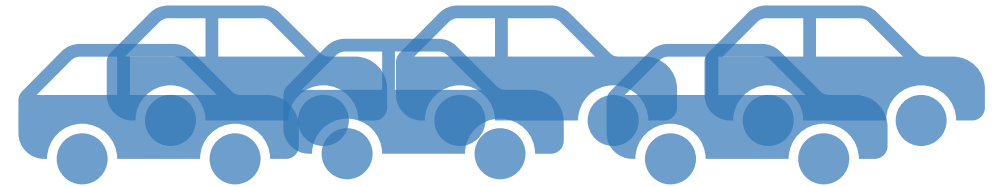
**59.9K**



**20%**

Future (2045)  
Average Annual Daily  
Traffic (AADT)

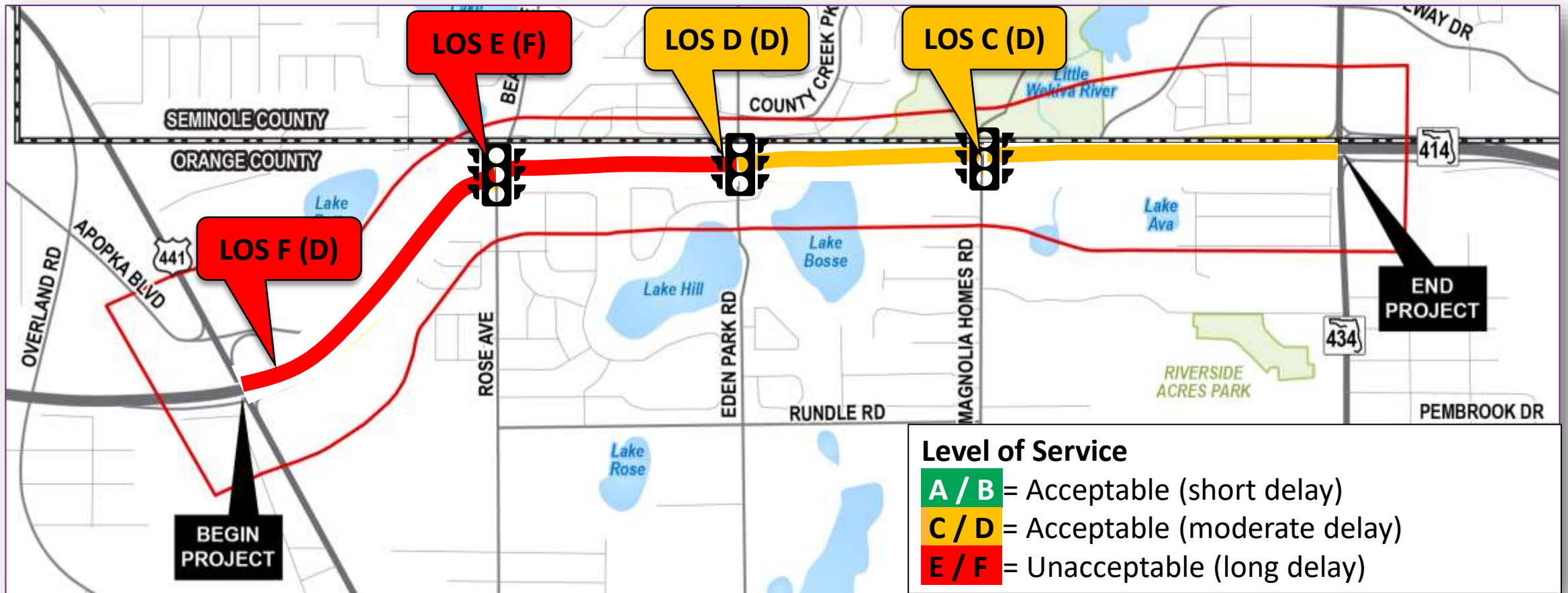
**75.3K**



Source: CFX Traffic Consultant (January 2021)

# Purpose and Need

Existing (2019) – Level of Service (LOS) – AM (PM) Peak

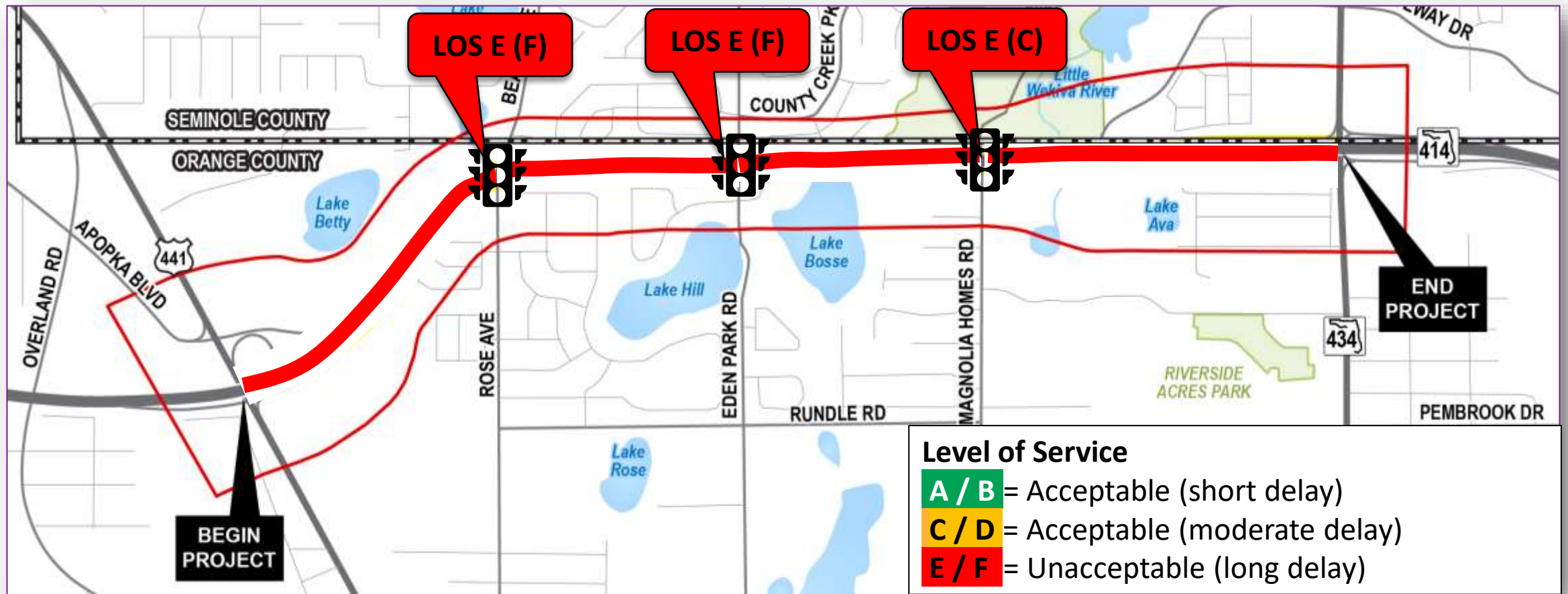


Source: CFX Traffic Consultant (January 2021)



# Purpose and Need

Future (2045) – Level of Service (LOS): No Build Scenario – AM (PM) Peak



Source: CFX Traffic Consultant (January 2021)

# Purpose and Need

## Crash Data

- 340 crashes (2014-2018)
  - 73% at intersections
  - 66% between Eden Park Road and west of US 441
- 2 fatalities
  - 1 bike
  - 1 pedestrian



Source: CFX Traffic Consultant (October 2020)

# PD&E Study Objectives

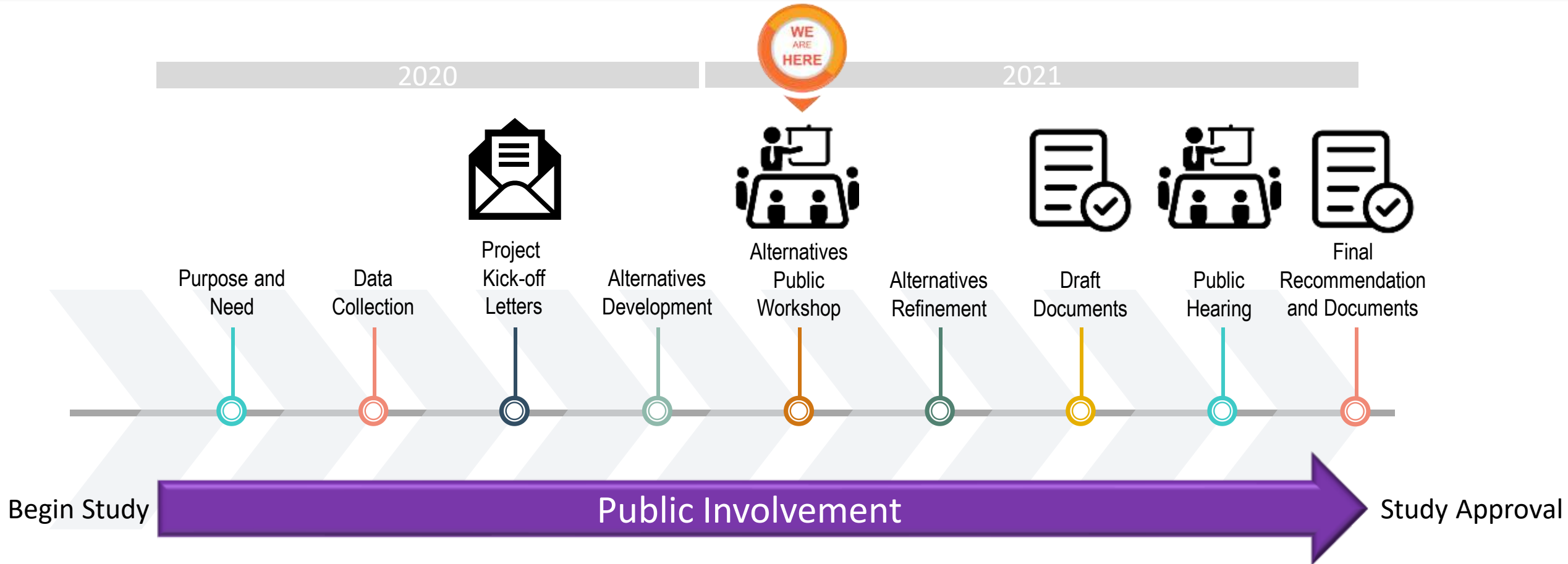
Evaluate Proposed Alternatives to provide a limited access connection within the study limits, including:

- ✓ Intersection Improvements
- ✓ Bridge modifications at Lake Bosse and Little Wekiva River
- ✓ Stormwater management facilities
- ✓ Pedestrian and bicycle needs
- ✓ Access management modifications

Analyze and document potential impacts to:

- ✓ Social, Cultural, Natural and Physical Resources

# Public Involvement





# Key Stakeholder Coordination & Input



- ✓ Lake Lotus Park access
- ✓ Erosion issues surrounding Little Wekiva Canal
- ✓ Continued coordination for Regional Stormwater Treatment Facility
- ✓ Trail connectivity and shared use path opportunities

- ✓ Wetlands and habitats associated with Lake Bosse and Lake Lotus
- ✓ Geotechnical and archaeological issues with Lake Bosse bridge
- ✓ Noise, aesthetic and environmental impacts to surrounding residents

# Environmental Stewardship Committee Input

- ✓ Updated Stakeholders list
- ✓ Erosion issues surrounding Little Wekiva Canal
- ✓ Trail connectivity opportunities
- ✓ Wetlands and habitats associated with Lake Bosse and Lake Lotus
- ✓ Geotechnical and archaeological issues with Lake Bosse bridge
- ✓ Noise and aesthetic impacts to surrounding residents



# Advisory Groups (EAG/PAG) Input

- ✓ Lake Lotus Park access
- ✓ Water quality impacts
- ✓ Expanded sidewalks or shared use path along Maitland Boulevard
- ✓ Geotechnical and archaeological issues at Lake Bosse bridge
- ✓ Minimize noise and environmental impacts
- ✓ Continue coordination with Orange County and FDOT for the proposed Regional Stormwater Treatment Facility
- ✓ Expanded signage for driver navigation
- ✓ Consideration for multimodal opportunities

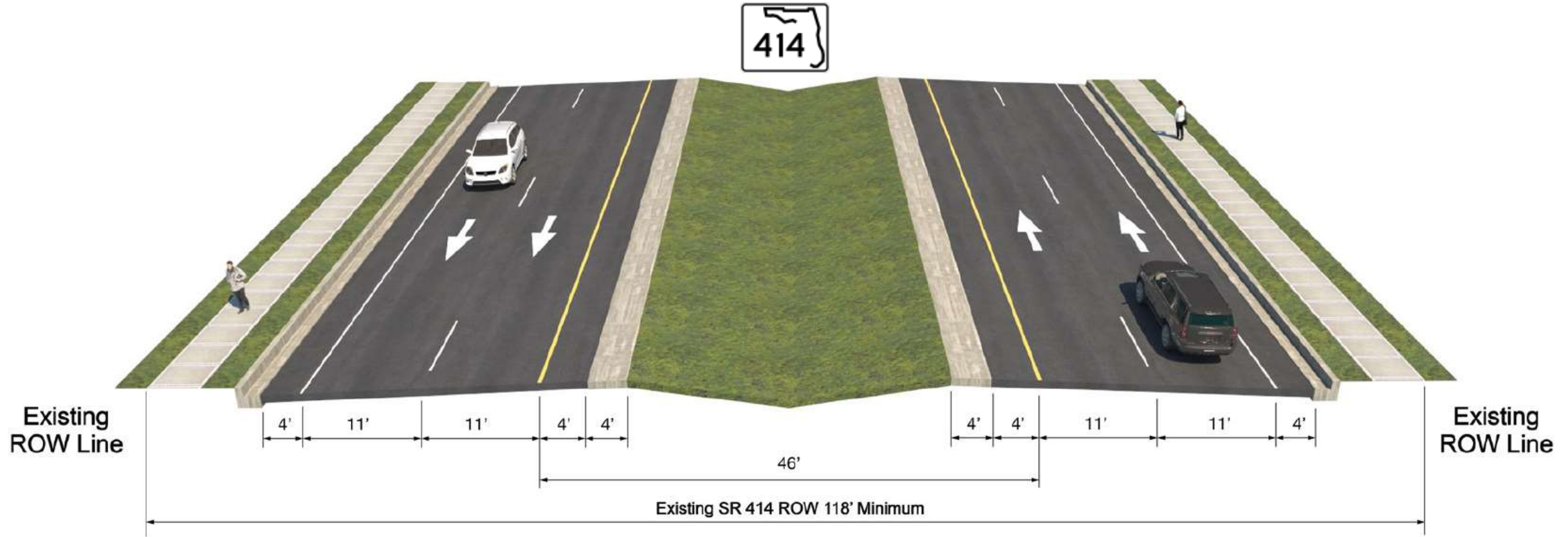
## Environmental Advisory Group



## Project Advisory Group



# Existing Typical Section - Maitland Blvd.



Posted Speed Limit 50-55 mph



# Typical Sections Considered

## Existing Condition

- **Option 1** – Existing Condition

## No Build Alternatives

- **Option 2** – Widen Maitland Boulevard to 3 lanes in Each Direction

## Build Alternatives

- **Option 3** – Expressway with 1 Lane in Each Direction
- **Option 4** – Expressway with 2 Lanes in Each Direction
- **Option 5** – Expressway with 2 Reversible Lanes for AM & PM Peak Times
- **Option 6** – Expressway with 3 Convertible Lanes (2 Lanes for AM & PM Peak Times)
- **Option 7** – Expressway with 1 Lane Each Direction and widen Maitland Boulevard to 3 lanes

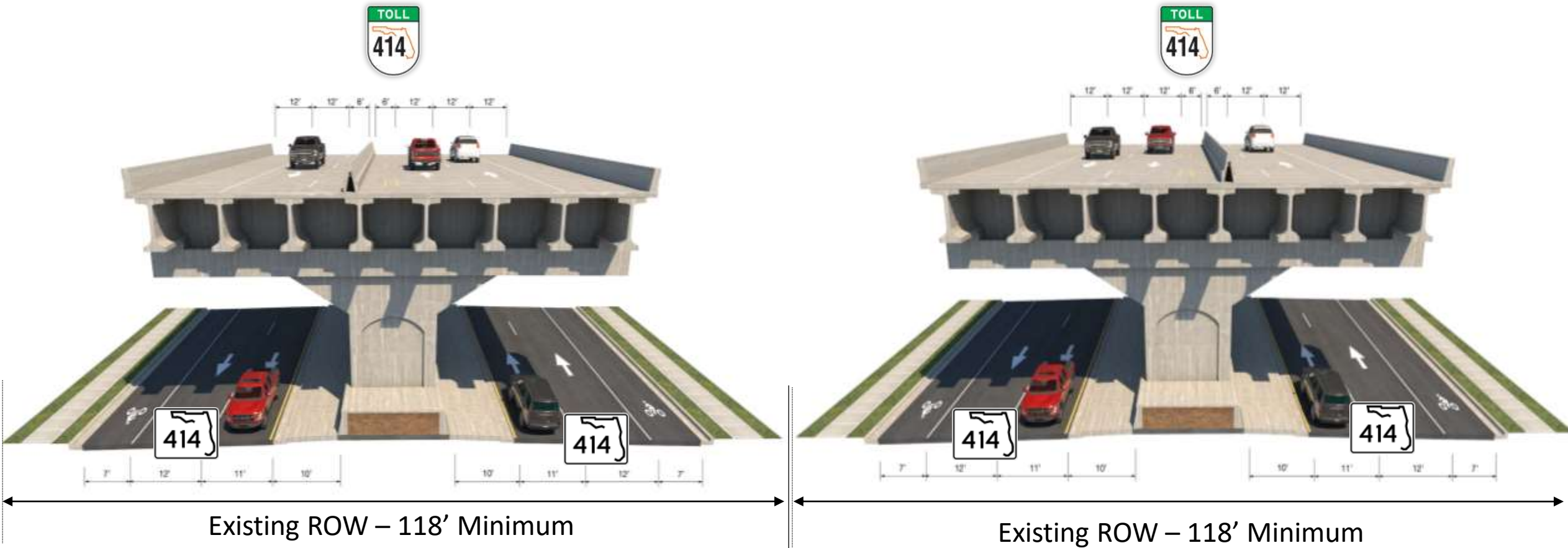
# Typical Sections Considered

Typical Section Option No.	No. of Lanes on Expressway 	Improves Congestion	No. of Lanes on Maitland Blvd. 	Within Existing ROW	Daily Volume/Capacity Ratio (SR 414)	Peak-Hour Peak Direction Volume /Capacity Ratio	Minimizes Cost per Mile	Potentially Feasible?
1	None	N/A	2 per direction	Yes	1.51	1.25	High	
2	None	N/A	3 per direction	Yes	1.26	1.35	High	
3	1 per direction	No	2 per direction	Yes	1.20	1.33	Medium	
4	<b>2 per direction</b>	<b>Yes</b>	<b>2 per direction</b>	<b>Yes</b>	<b>0.95</b>	<b>1.07</b>	<b>Low</b>	<b>✓</b>
5	2 lanes reversible	Yes	2 per direction	Yes	1.13	.91	Medium	
6	<b>3 lanes convertible</b>	<b>Yes</b>	<b>2 per direction</b>	<b>Yes</b>	<b>1.14</b>	<b>1.07</b>	<b>Low</b>	<b>✓</b>
7	1 per direction	Yes	3 per direction	No	1.06	1.17	Medium	

# Potential 3-Lane Expressway Typical Section

## Morning Peak Hours

## Afternoon Peak Hours



# Potential 4-Lane Expressway Typical Section

- Viable typical section
- Expressway: 2-lanes in each direction
- General Use: 2-lanes in each direction





# Bicycle and Pedestrian Improvements



5-Foot Sidewalks



5-Foot Sidewalks



7-Foot Buffered  
Bike Lanes



7-Foot Buffered  
Bike Lanes

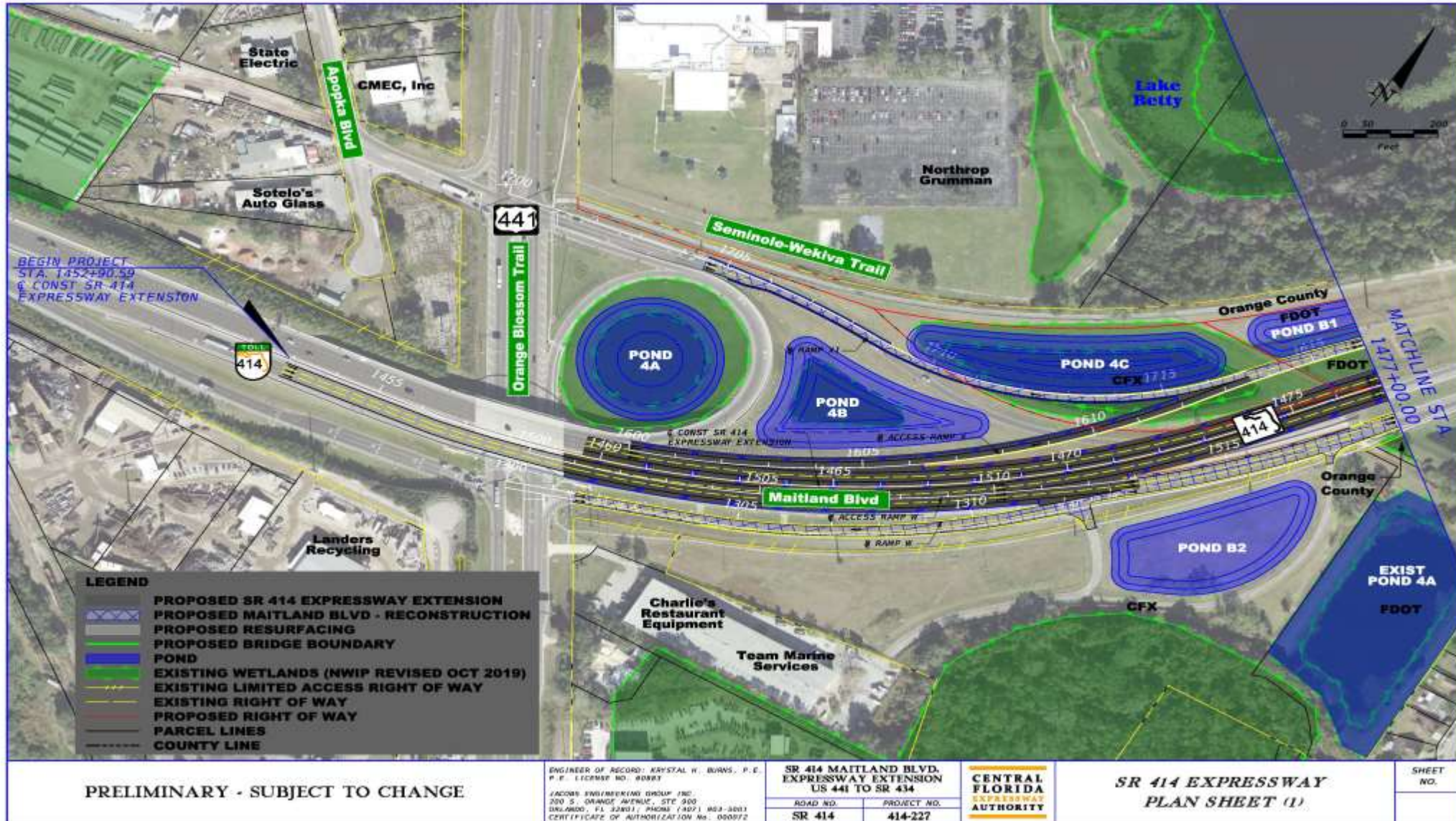


# Build vs. No-Build Preliminary Evaluation

Benefits	No-Build Alternative	Build Alternative
Reduce Congestion on Maitland Blvd.	No improvement	Decreased congestion
Improve Intersection Traffic Operations	No improvement	Improved operations
Enhance Mobility and Access	No improvement	Separated regional and local traffic
Improve Safety	No improvement	Reduced traffic at intersections
Enhance Emergency Response Time and Evacuation	No improvement	Reduced travel delay
<b>Overall Benefit</b>	<b>LOW</b>	<b>HIGH</b>



# Preliminary Concept Plans





# Preliminary Concept Plans



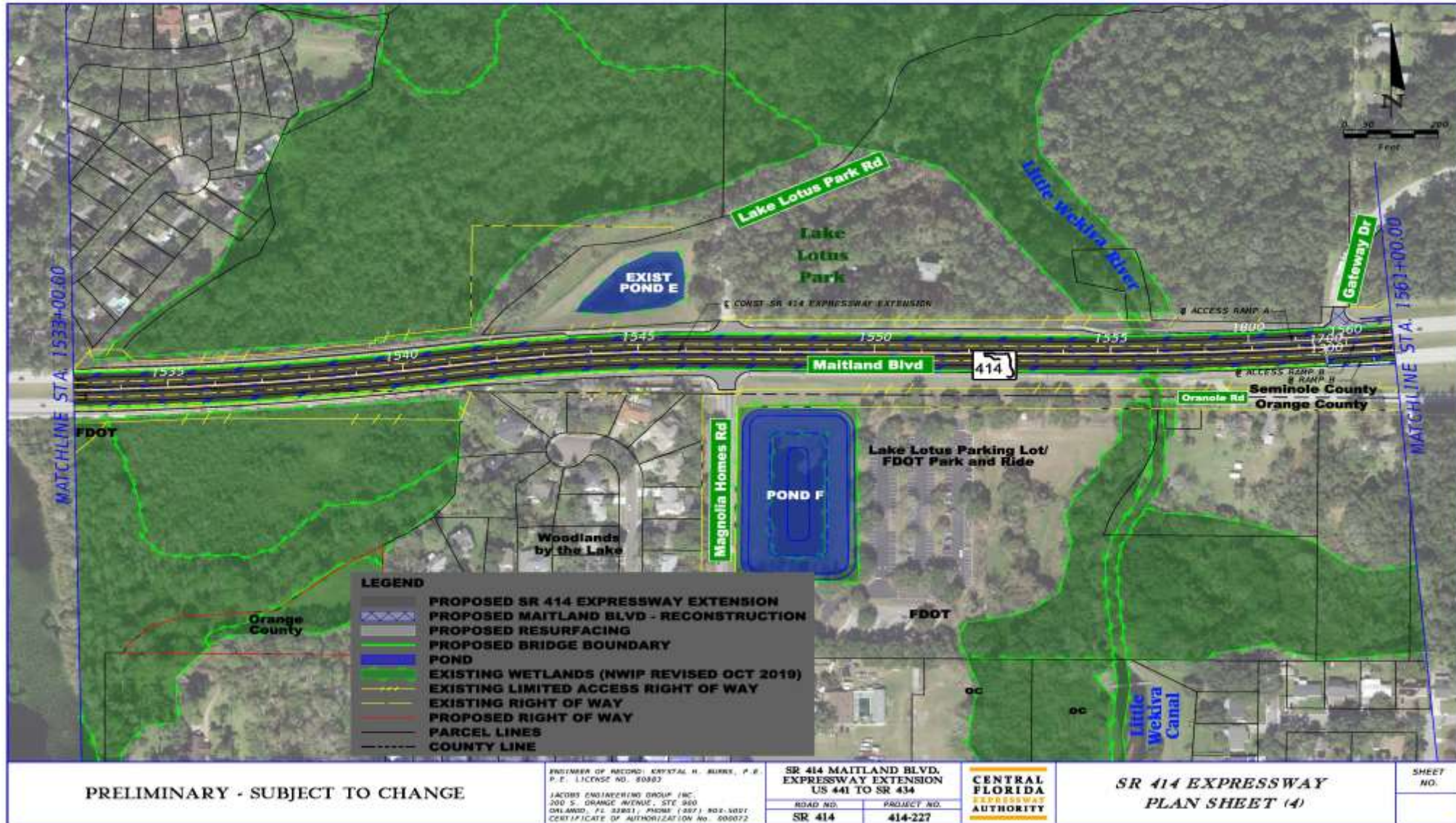


# Preliminary Concept Plans





# Preliminary Concept Plans

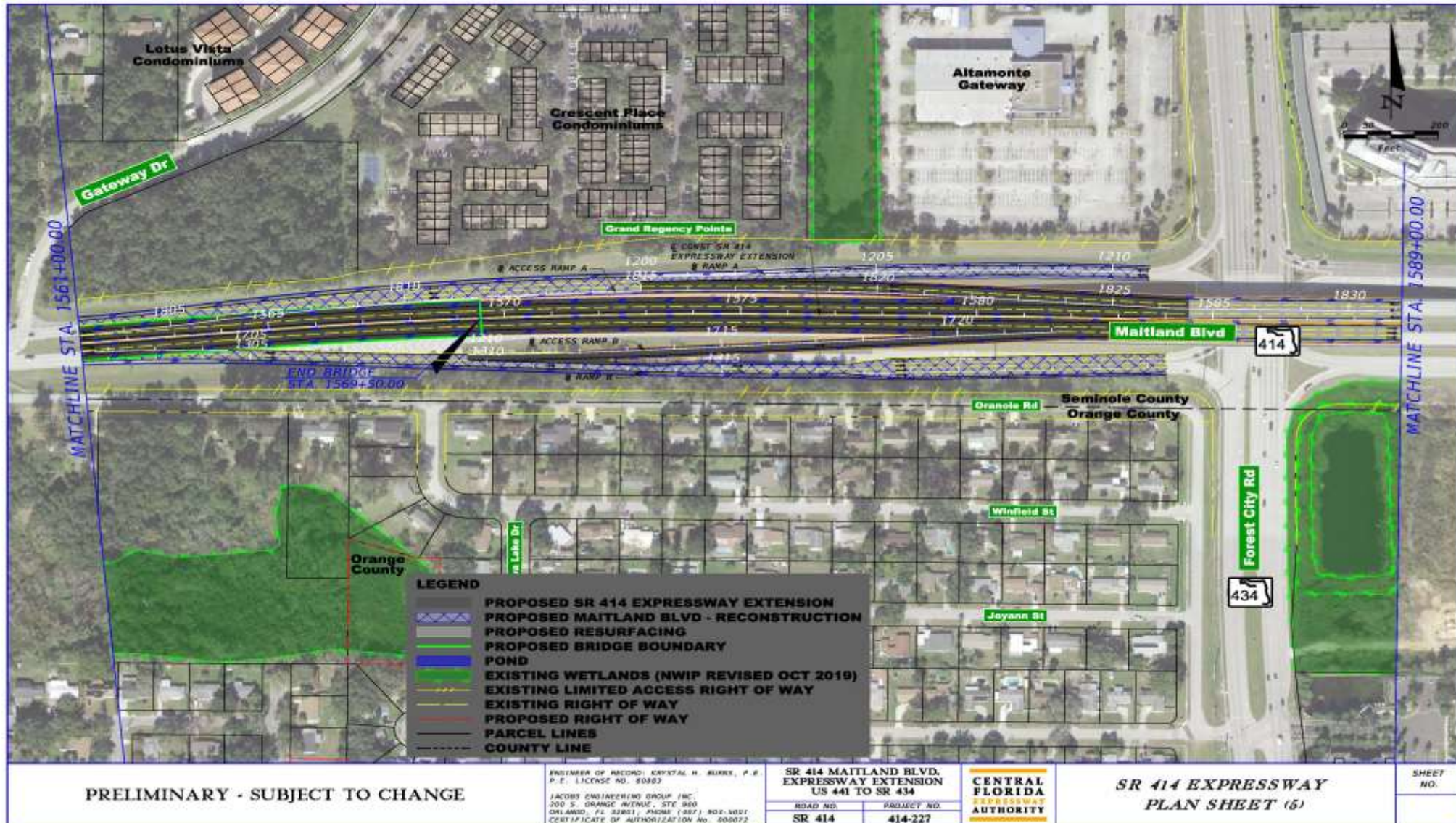


PRELIMINARY - SUBJECT TO CHANGE

ENGINEER OF RECORD: CRYSTAL H. BURRY, P.E.  
P.E. LICENSE NO. 80483  
JACOBS ENGINEERING GROUP, INC.  
300 S. ORANGE AVENUE, STE 900  
ORLANDO, FL 32801 | PHONE (407) 802-5000  
CERTIFICATE OF AUTHORIZATION No. 500072

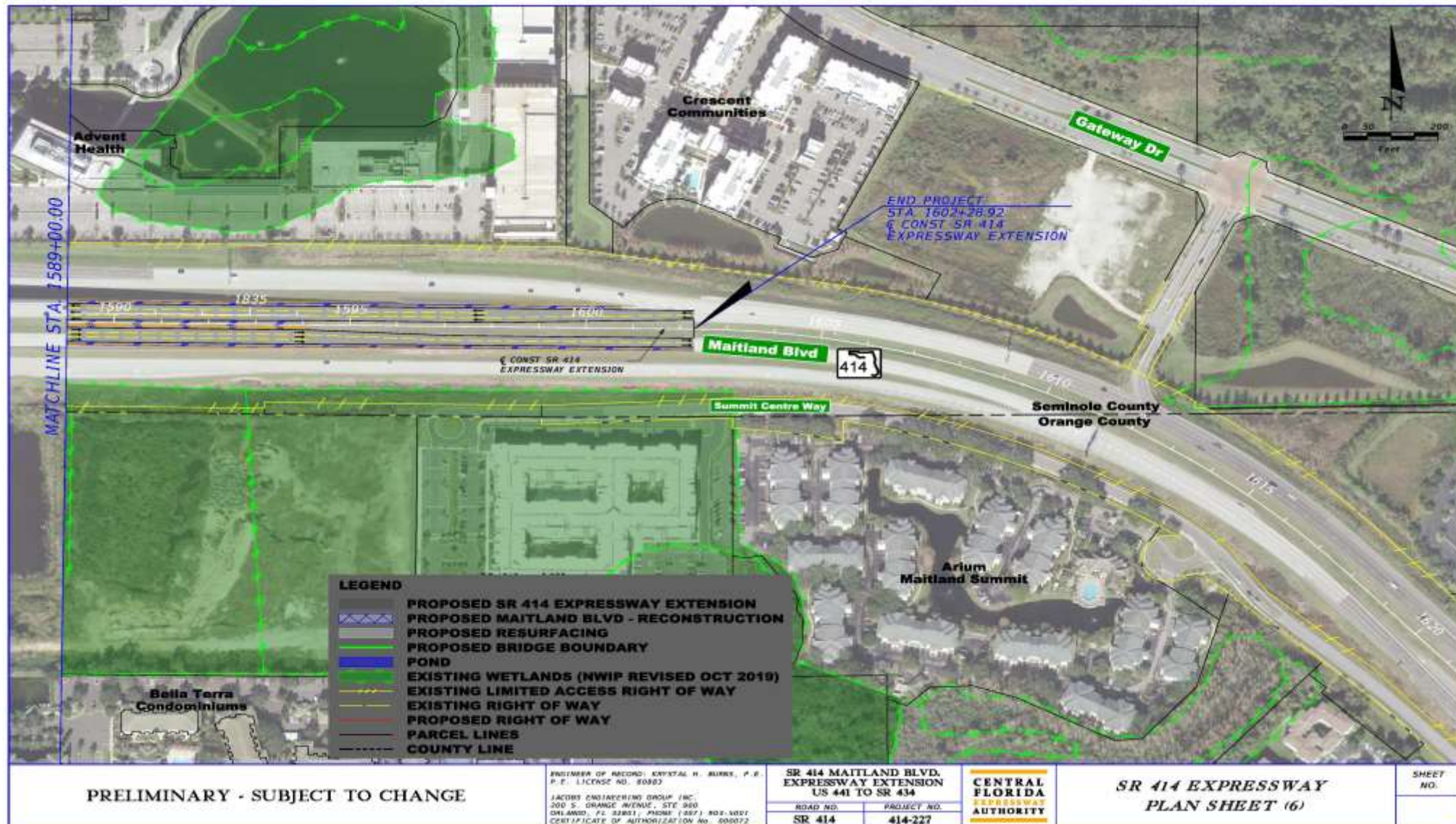


# Preliminary Concept Plans





# Preliminary Concept Plans





# Preliminary Concept Plans

- Intersection capacity evaluations underway
- Includes evaluation of potential enhancements to existing intersections



# PD&E Evaluation Criteria

## Social Environment

- ❖ Residential
- ❖ Business
- ❖ Schools
- ❖ Churches
- ❖ Fire Stations
- ❖ Law Enforcement Facilities
- ❖ Cemeteries
- ❖ Approved and Planned Developments
- ❖ Development(s) of Regional Impact (DRI)

## Physical Environment

- ❖ Noise Sensitive Areas
- ❖ Railroads
- ❖ Major Utilities
- ❖ Contamination Sites
- ❖ Hazardous Material Sites
- ❖ Industrial Sites
- ❖ Underground Fuel Tanks

## Natural Environment

- ❖ Wetlands
- ❖ Floodplains
- ❖ Protected Species
- ❖ Wildlife Habitat

## Cultural Environment

- ❖ Parks & Recreation
- ❖ Public Lands
- ❖ Proposed Parks
- ❖ Conservation Areas
- ❖ Trails & Greenways
- ❖ Potential Archaeological Sites
- ❖ Potential Historic Resources

# PD&E Evaluation Criteria

## Enhancements

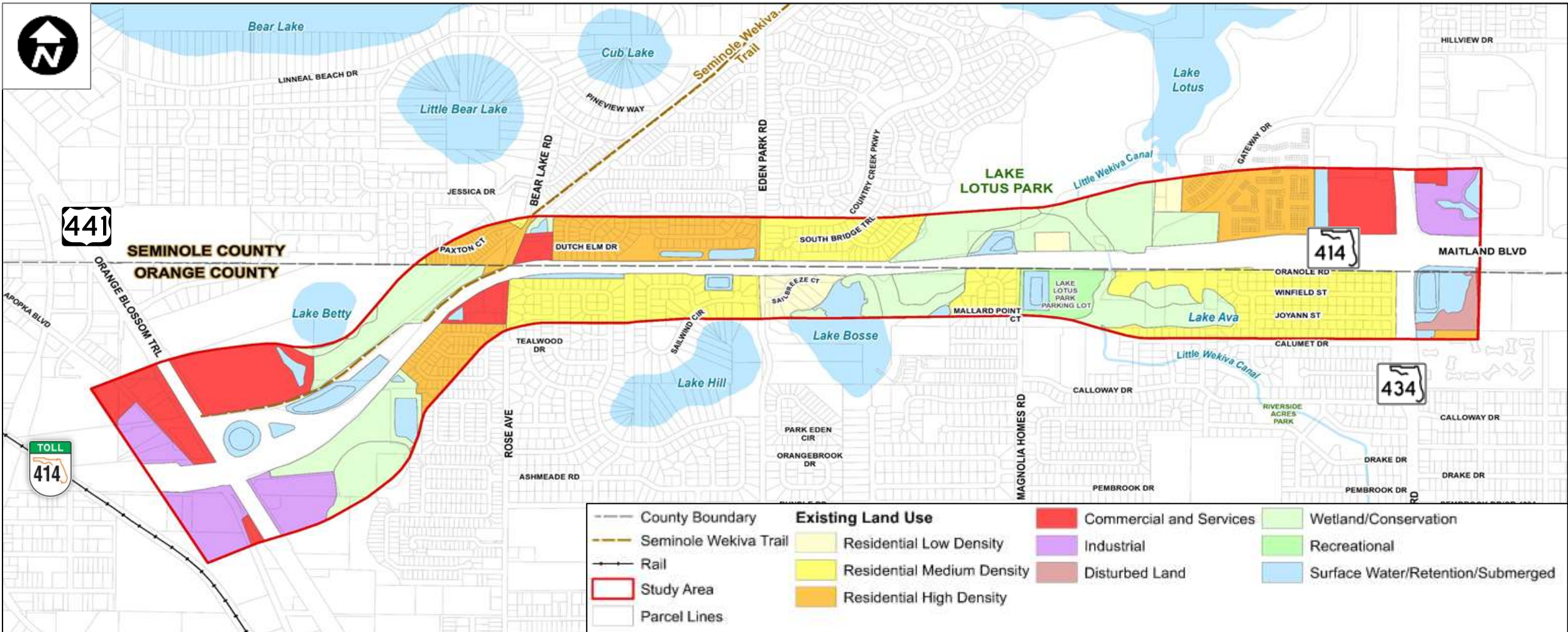
- Mobility
- Pedestrian/bicycle mobility
- Regional connectivity
- Economic benefit

## No Involvement

- Relocations
- Outstanding Florida Waters or aquatic preserves
- Wild Scenic Rivers
- Coastal barriers
- Essential Fish Habitat
- Navigation

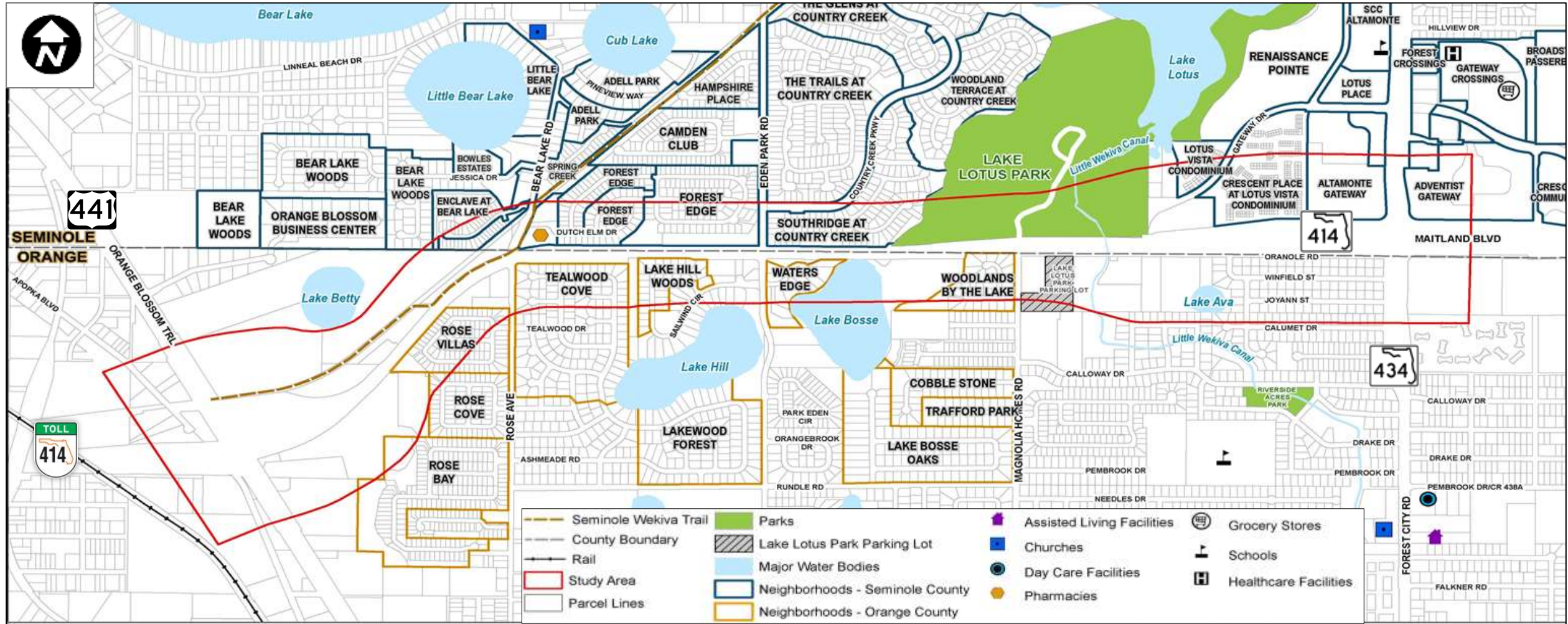


# Existing Land Use



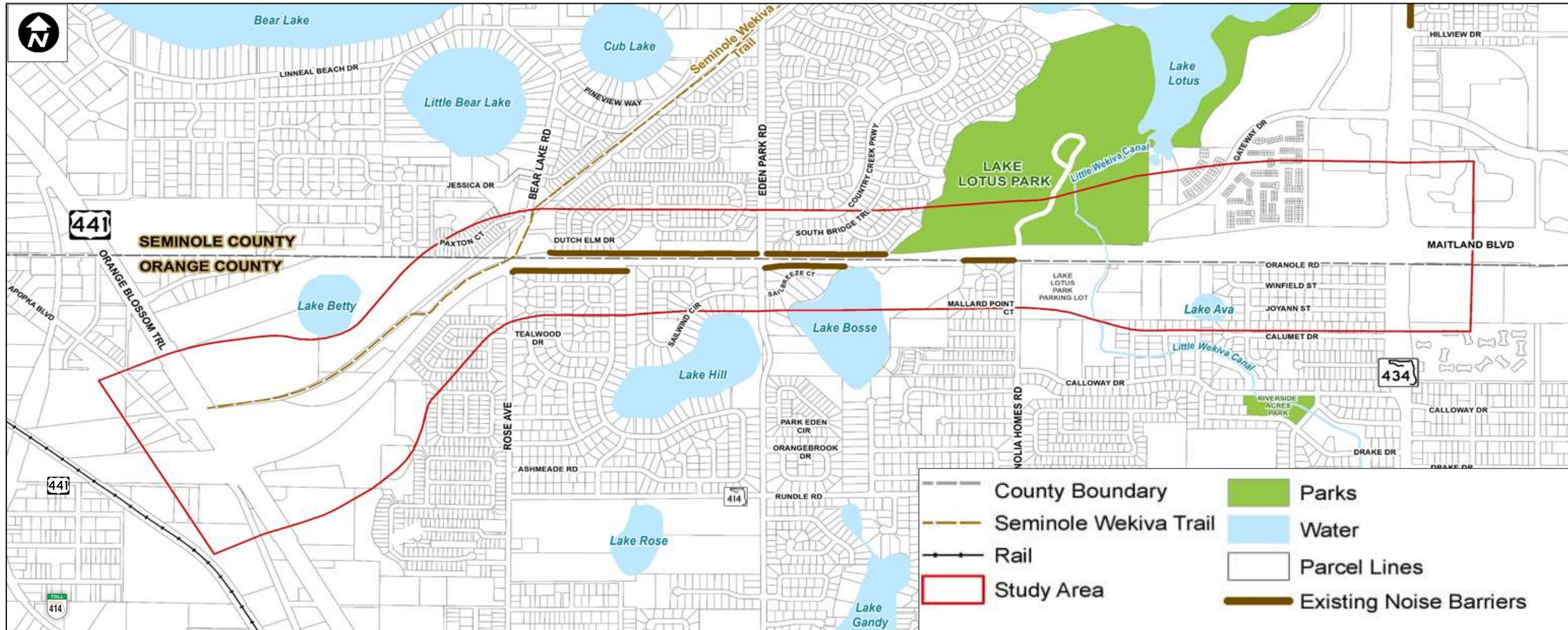


# Existing Conditions – Social



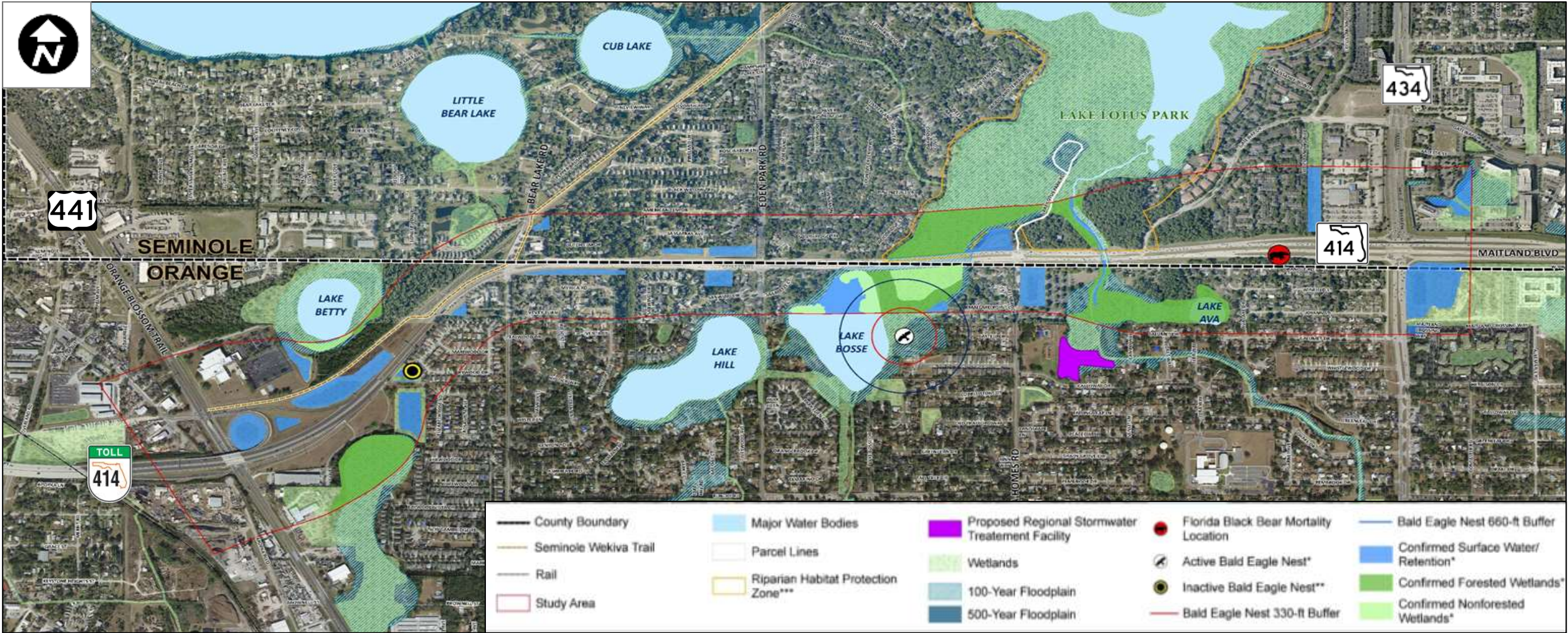


# Noise Study Analysis





# Existing Conditions – Natural





# Existing Conditions – Species

## Species with high potential to occur in study area:

- Bald eagle
- Florida black bear



*Initial field reviews indicate low quality habitat within the study area.*

## Study Area within USFWS Consultation Areas for:

- Everglade snail kite
- Florida scrub-jay
- Sand skink

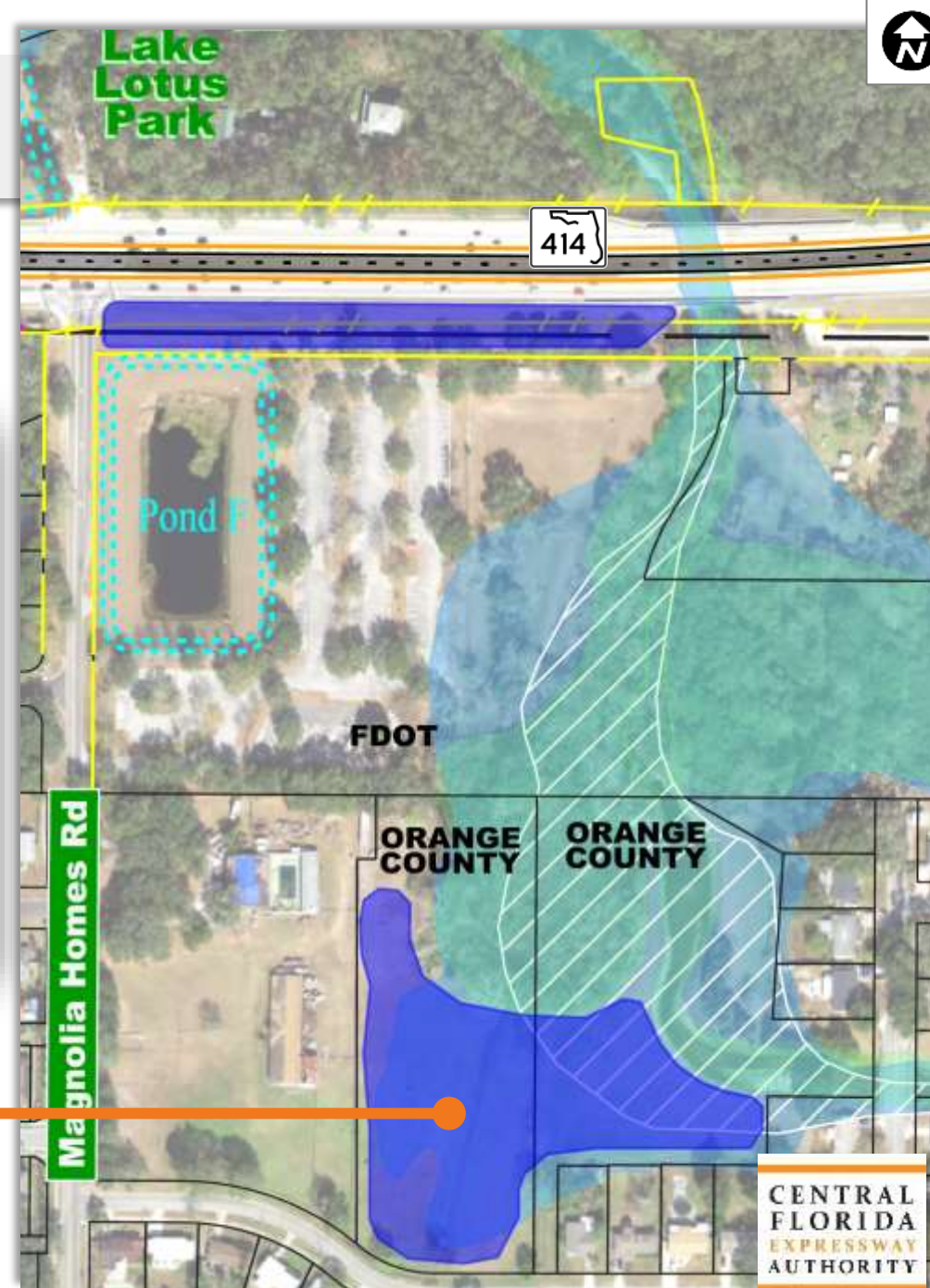


# Water Quality

- Lake Bosse and Little Wekiva Canal
- Wekiva River Basin Management Action Plan (BMAP)
- Wekiwa Spring impairment
- Stormwater management standards compliance
- Lake Lotus Stormwater Treatment Facility



Little Wekiva River –  
Lake Lotus Park  
Regional Stormwater  
Treatment Facility





# Geotechnical Evaluation

- Recently completed Geotechnical Report for Lake Bosse Bridge
- Soil borings conducted to identify soil and groundwater conditions
- Evaluation of feasible pier locations under analysis



# Trail Connectivity

## Existing Conditions:

- Seminole Wekiva Trail
- 5-foot sidewalks
- Designated bike lanes
- Lake Lotus Park pedestrian underpass

## Alternatives Evaluation includes:

- Wider sidewalks
- Buffered bike lanes
- Trail connectivity



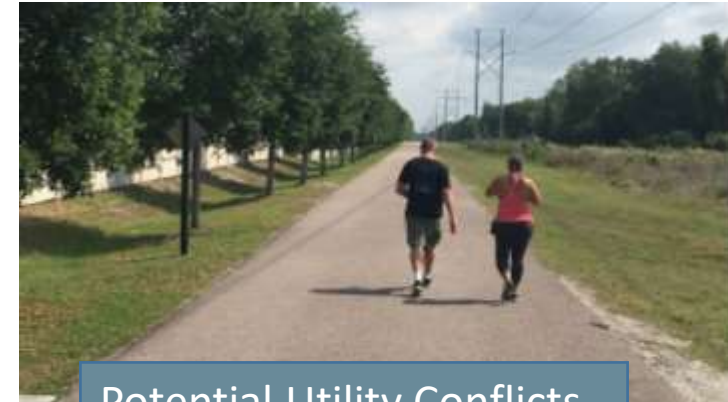
# Additional Environmental Considerations

## Cultural

- No significant Archaeological or Historical resources

## Physical

- Potential contamination sites
- Major utilities:
  - Duke Energy
  - City of Altamonte/Ultimate I-4 AFIRST Project
  - AT&T
  - Municipal water/sewer
  - Utility Assessment Package in progress





# Preliminary Environmental Evaluation

Evaluation Factors		No-Build Alternative	Build Alternative
<b>SOCIAL</b>	Total Acres of Impacts	0 acres	0 acres anticipated (TBD)
	Total Parcels Affected:	None	0 parcels anticipated (TBD)
	- Potential Residential Parcels Affected	None	0 parcels anticipated (TBD)
	- Potential Non-Residential Parcels Affected	None	0 parcels anticipated (TBD)
	Potential Displacements	None	None anticipated (TBD)
<b>CULTURAL</b>	Potential Community Uses Affected	None	None anticipated
	Potential Impacts to Historic /Archaeological Resources	None	None anticipated
<b>NATURAL</b>	Potential Impacts to Wetlands and Floodplains	None	Minimal (TBD)
	Potential Impacts to Threatened and Endangered Species Habitat	None	Minimal (TBD)
<b>PHYSICAL</b>	Impacted Noise Sensitive Areas	TBD	TBD
	Impacted Potential Contamination Risk Sites	None	Minimal (TBD)
	Potential Utility Conflicts	None	Minimal (TBD)

TBD = To be determined

# Alternatives Analysis and Refinement

## Sample reports to be completed:

- Preliminary Engineering Report
- Project Environmental Impact Report
- Noise Study Report
- Bridge Analysis TM
- Utility Assessment Package
- Pond Siting Report
- Water Quality Impact Evaluation
- Natural Resource Evaluation
- Contamination Screening Evaluation TM
- Cultural Resources Assessment Survey



# Next Steps

**Alternatives Refinement**

**EAG/PAG Meeting #2 (April 2021)**

**Draft study documents (May 2021)**

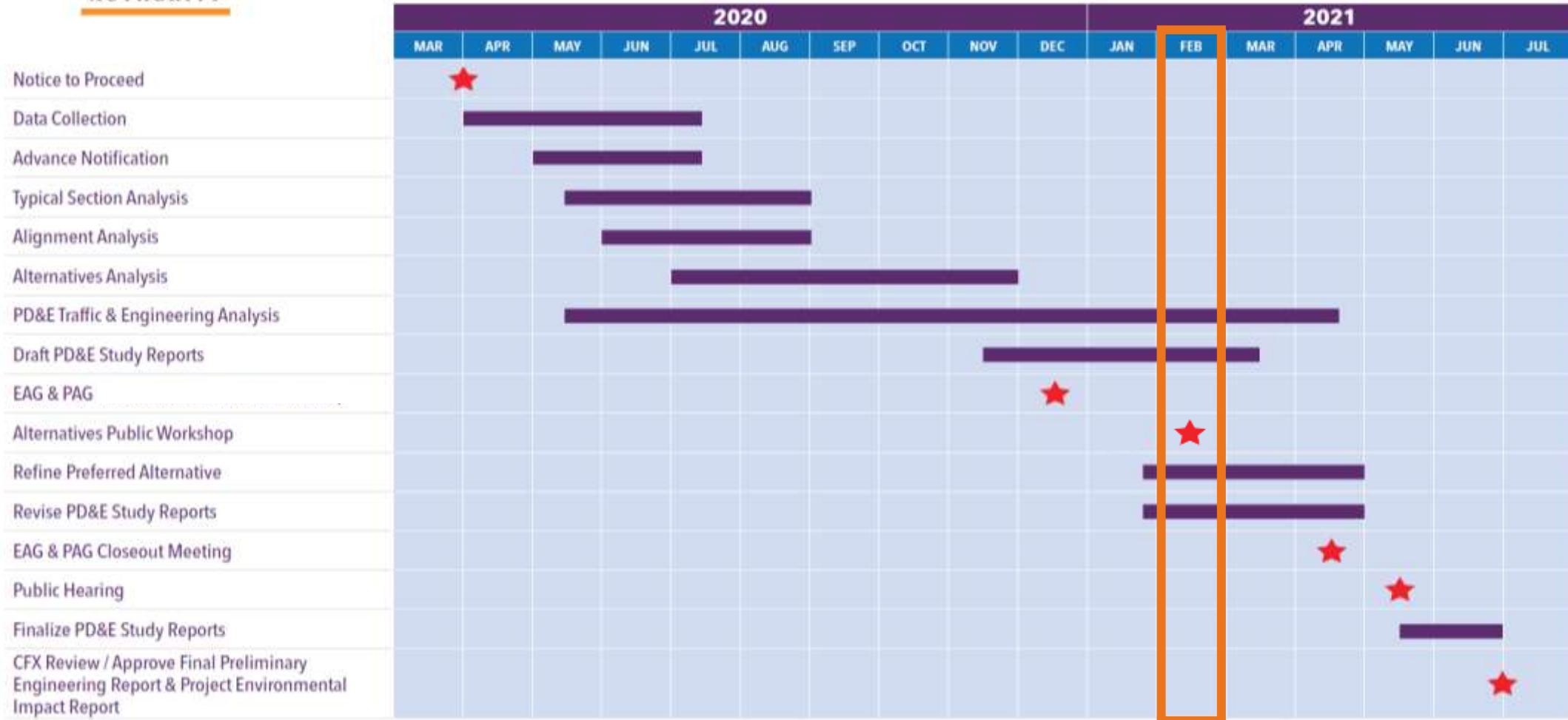
**Public Hearing (late May 2021)**



# PD&E Schedule



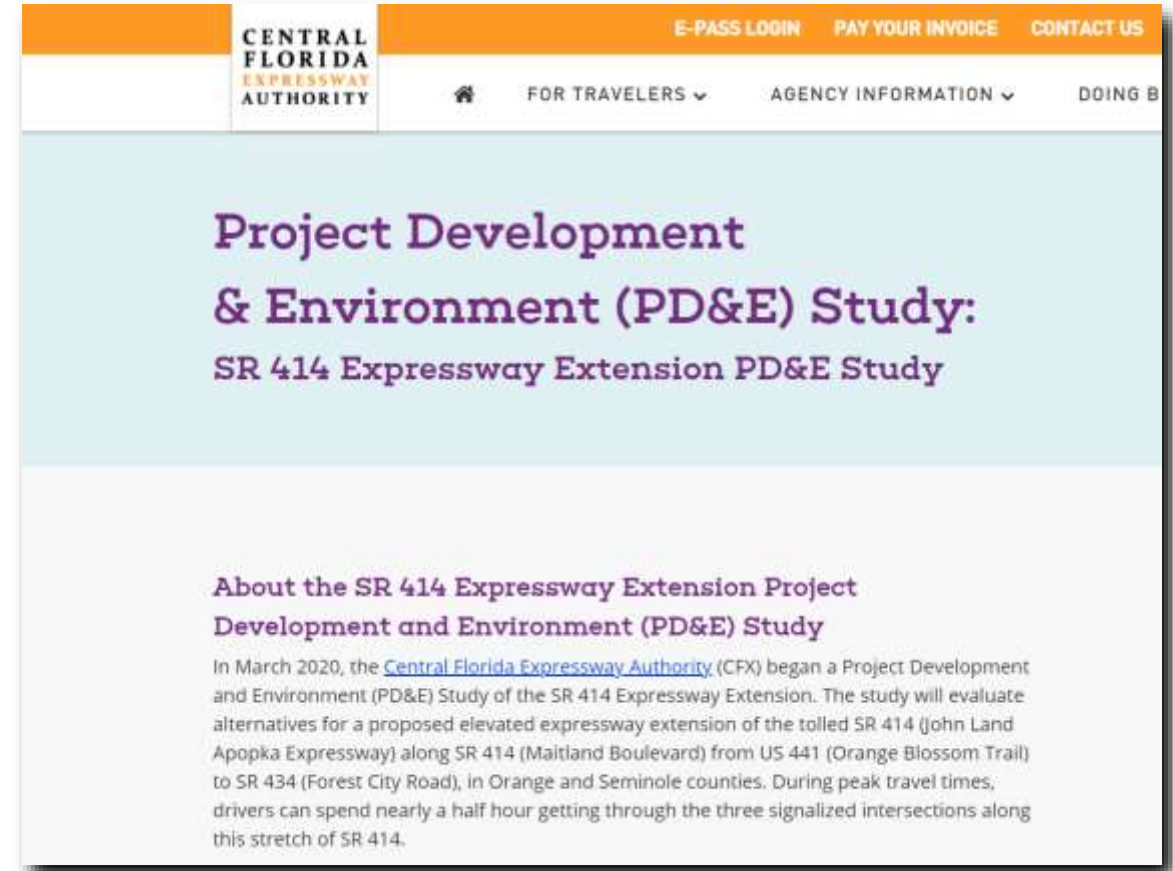
## SR 414 Expressway Extension PD&E Study (Subject to Change)



# Study Website

Study documents and meeting materials are posted to the study website:

- Shortened study website address:  
<https://bit.ly/2KLmliP>
- CFX Web Address:  
<http://www.cfxway.com/>



# Project Contact

## For more information contact:

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Public Involvement Coordinator  
407-802-3210  
[ProjectStudies@CFXway.com](mailto:ProjectStudies@CFXway.com)

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Project Manager (for Dewberry)  
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[cevans@Dewberry.com](mailto:cevans@Dewberry.com)

CFX web address:  
[www.CFXway.com](http://www.CFXway.com)  
Shortened study web address:  
<https://bit.ly/2KLmliP>

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FLORIDA  
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AUTHORITY**

**THANK YOU!**