



Transportation Technology & Sustainability Overview

Bryan Homayouni, PE - Manager of Traffic Operations



CFX Intelligent Transportation Systems

Existing Devices

- 277 CCTV Cameras
- 189 Data Collection Sensors (DCS)
- 454 Traffic Monitoring Stations (TMS)
- 50 Three Line Dynamic Message Signs (DMS)
- 52 Toll Plaza Dynamic Message Signs (DMS)
- 26 Arterial Dynamic Message Signs (DMS)
- 2 Toll Booth Dynamic Message Signs (DMS)
- 63 Wrong Way Driving (WWD) Detection Stations
- Over 250 miles of Fiber Optic Cable







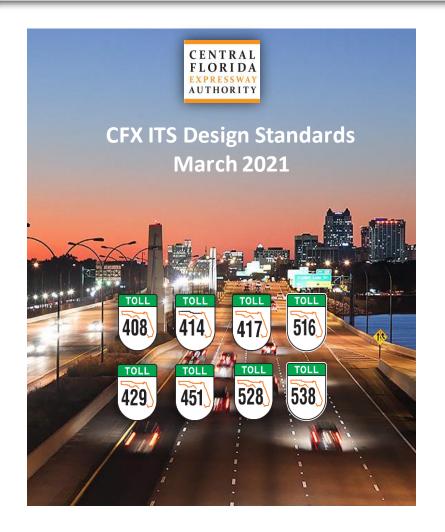








CFX ITS Design Standards



- Current 9th Edition
 - Published March 2021
 - Includes Part Time Shoulder Use (PTSU)
 - Includes Wrong Way Driving System
- https://www.cfxway.com/cfx-design-standards/



CFX Sustainability Study



Report Accepted by CFX Board in April 2019

- Deployment of Photovoltaic (PV) Power Solutions (Solar Deployments)
- Improved Energy Efficiencies at CFX Buildings
- Readiness for Vehicle Electrification

Available on CFXWAY Website under Agency Information

https://www.cfxway.com/wp-content/uploads/2019/11/CFX_Sustainability_Report-FINAL.pdf



FY 2022-2026 Work Plan

Sustainability

- Five Solar Deployment (PV) Projects (Facilities
 Projects Summary Page)
- Includes Solar Deployment Projects at Nine
 Toll Plaza Facilities
- Total capital investment estimated at \$10.3M
- Total estimated lifetime benefit of +/- \$25.0M





Work Plan Photovoltaic Projects

Design/Build Timeline
2021
2021
2021/2022
2023
2023/2024
2024/2025
2025
2025/2026
2025/2026











FY 2022-2026 Work Plan

Transportation Technology

- Construction
 - DMS Replacement Project
- Design & Construction
 - Wrong Way Driving Deployment Project
 - Connected Vehicle Projects
- Implementation & Installation
 - Lifecycle Equipment Replacements
 - Advanced Expressway Operations Performance Measures
 - Fiber Installation









Questions?



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Upcoming Design Projects & Design Guidelines Update

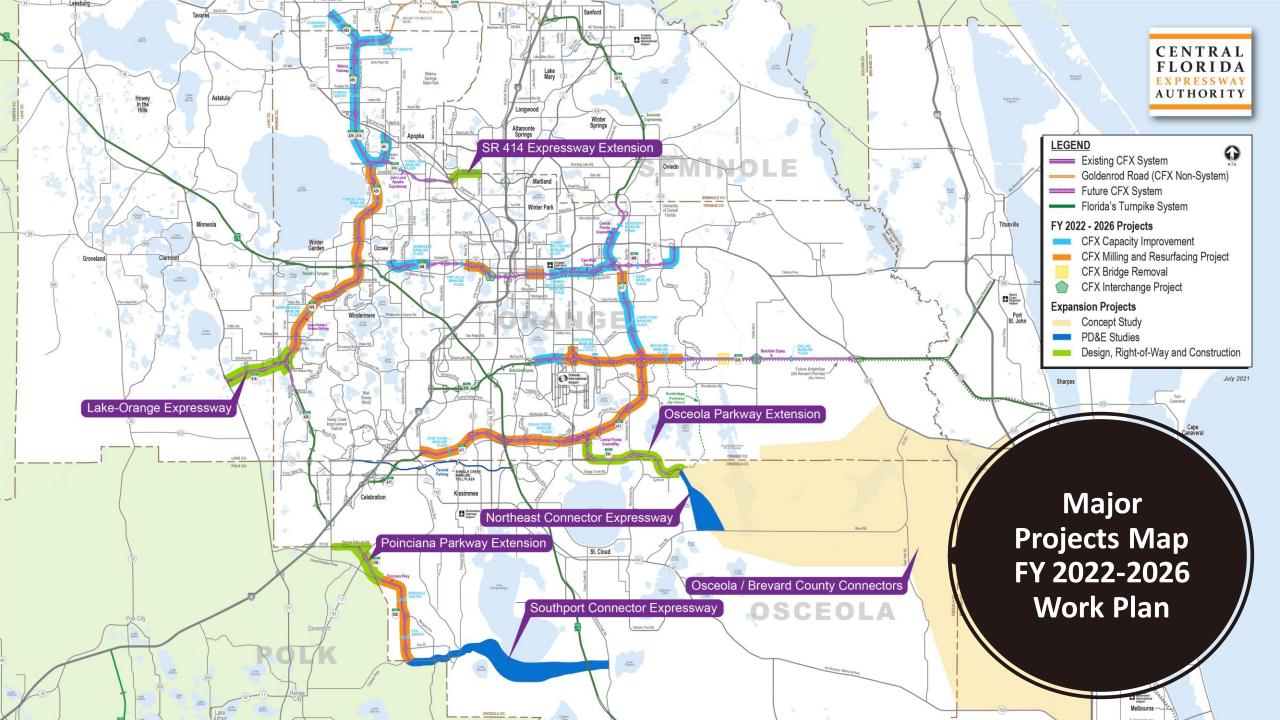
Jamison Edwards, PE – Engineering Project Manager



FY 2022-2026 Work Plan

Project Cost Summary (\$000's)	Fiscal Year					
Category	2021/22	2022/23	2023/24	2024/25	2025/26	Totals
Existing System Improvements	358,209	453,058	289,189	147,654	94,371	1,342,481
System Expansion Projects	90,555	223,941	361,448	352,251	410,989	1,439,184
Interchange Projects	3,937	9,790	39,698	82,064	14,348	149,837
Facilities Projects	15,496	13,365	7,612	9,480	5,382	51,335
Transportation Technology Projects	10,138	7,800	3,410	1,497	3,258	26,103
Information Technology Projects	49,855	11,241	2,707	2,180	2,180	68,163
Signing and Pavement Markings	9,438	11,794	1,981	4,086	2,376	29,675
Renewal and Replacement Projects	39,480	23,824	16,099	8,658	15,604	103,665
Landscape Projects	80	1,463	1,418	109	1,478	4,548
Non-System Projects	19	348	0	140	1,884	2,391
TOTALS	577,207	756,624	723,562	608,119	551,870	3,217,382





Design Team Requirements

Prime Firm Requirements:

- Prime executes at least 55% of the contract
- Not required to have the home office within Authority area
 - Can have fewer points in the LOI scoring though

Key Local Resources:

- Prime Project Manager
- Roadway Lead
- Drainage Lead
- Permitting Lead



Design Projects

SSBE Continuing Services Contracts

- 3rd Quarter 2021 Ad. Design
- 3rd Quarter 2021 Ad. Planning

SR 528 West Mainline Toll Gantries

• 3rd Quarter 2021 Advertisement

SR 408 Widening – West of SR 436 to Goldenrod Road

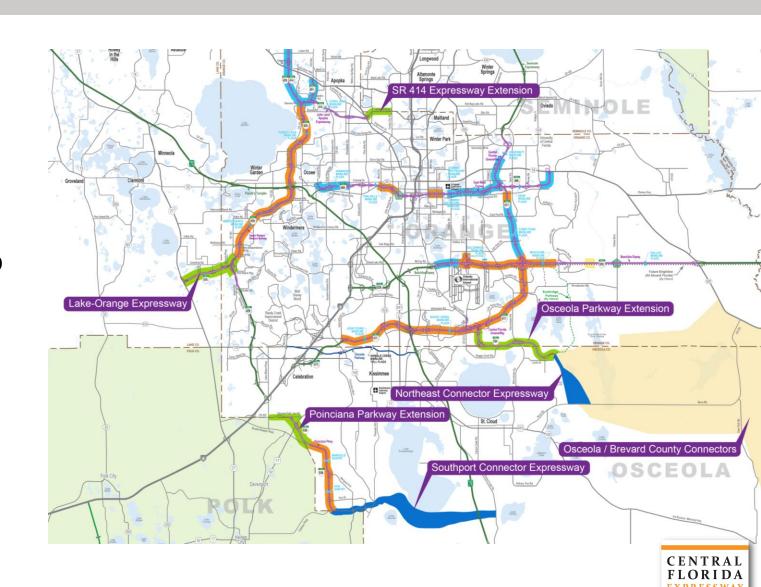
• 4th Quarter 2021 Advertisement

SR 408 Widening – East of Pine Hills Plaza to East of Church Street

• 1st Quarter 2022 Advertisement

Dallas Blvd Interchange

• 2nd Quarter of 2022 Advertisement



Potential Design Projects

Osceola Parkway Extension (SR 534)

- Design Segments 1, 3, 2, 1A, and 2A (listed in order of Advertisement)
- 4th Quarter 2021 for Advertisements to Begin

SR 414 Expressway Extension

- Possible 1st Quarter 2022
 Advertisement
- Pending results of PD&E and Viability

SR 414 Expressway Extension Lake-Orange Expresswa Osceola Parkway Extension Northeast Connector Expressway Poinciana Parkway Extension Osceola / Brevard County Connectors Southport Connector Expressway OSCEOLA

Calendar year quarters (dates subject to change)

Design Team Qualifications (SSBE)

Prime Firm Must Meet Qualifications:

- Located within Lake, Orange, Brevard, Osceola, or Seminole
- Independently owned/operated for one year prior to submittal
- 50 or fewer employees
- Owner(s) must be legal residents of Florida
- Annual gross sales over previous three years cannot exceed \$10 million
- Must be qualified and registered with the Supplier Diversity Department

Team Needs a Wide Range of Services:

Projects could include roadway, signing, architecture, utilities, and more

CFX Website: Doing Business/Supplier Diversity



SR 528 – West Mainline Toll Gantries Boggy Creek Road to Daetwyler Drive

New AET Toll Gantries

Advertisement

• 3rd Quarter 2021

Design Fee Estimate

• \$632 thousand





SR 528 – West Mainline Toll Gantries Boggy Creek Road to Daetwyler Drive

Challenges

Adjacent project coordination

- West FTE
- East SR 528 (528-143)

- FTE Coordination
- Rebate Gantry Removals
- New Mainline Toll Gantries
 - Gantries, Concrete
 Pavement, & MOT





SR 408 Widening West of SR 436 to Goldenrod Road

1.2 Miles Widening to Outside Advertisement

• 4th Quarter 2021

Design Fee Estimate

• \$3.6 million





SR 408 Widening West of SR 436 to Goldenrod Road

Challenges

Adjacent project coordination

• 408-763 M&R

- Add 1 Lane per Direction
- SR 436 Ramp
 Adjustments for added
 lane





SR 408 Widening

East of Pine Hills Mainline Plaza to East of Church Street

1.5 Miles

Widening to Outside

Advertisement

• 1st Quarter 2022

Design Fee Estimate

• \$6.3 million





SR 408 Widening

East of Pine Hills Mainline Plaza to East of Church Street

Challenges

Adjacent project coordination

East – 408-315 Tampa Ave.
 Interchange

- Add 1 Lane per Direction
- Replace impacted Ramp
 Plazas with Gantries





SR 528 & Dallas Boulevard Interchange *East of Econ River Bridge to East of Dallas Boulevard*

Advertisement

• 2nd Quarter 2022

Design Fee Estimate

• \$3.9 million





SR 528 & Dallas Boulevard Interchange *East of Econ River Bridge to East of Dallas Boulevard*

Challenges

Adjacent Project Coordination

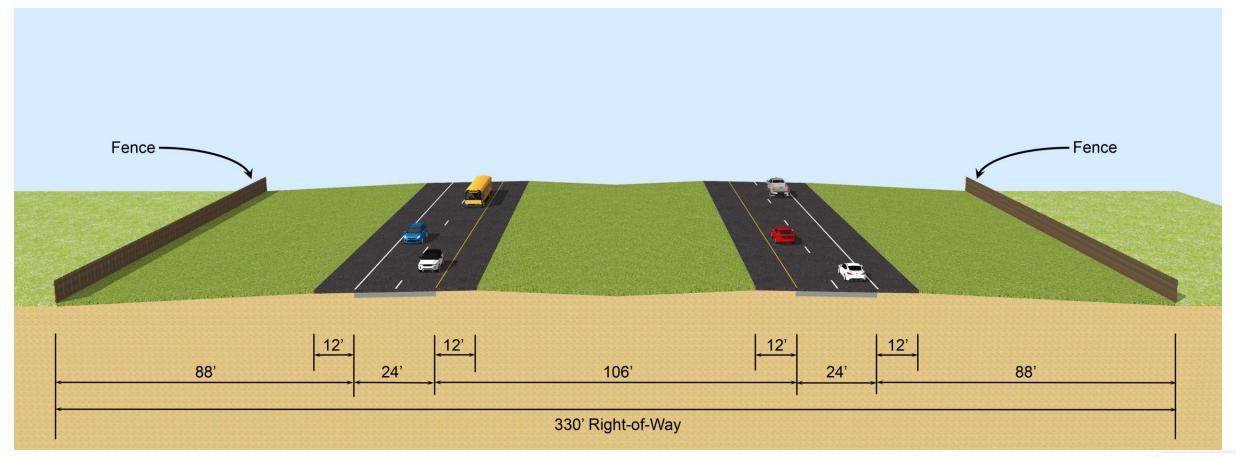
Brightline Railroad

- Permitting Econ River
- Orange County Side Streets
 - Dallas Boulevard
 - Starry Street





Osceola Parkway Extension (SR 534) SR 417 to Sunbridge Parkway





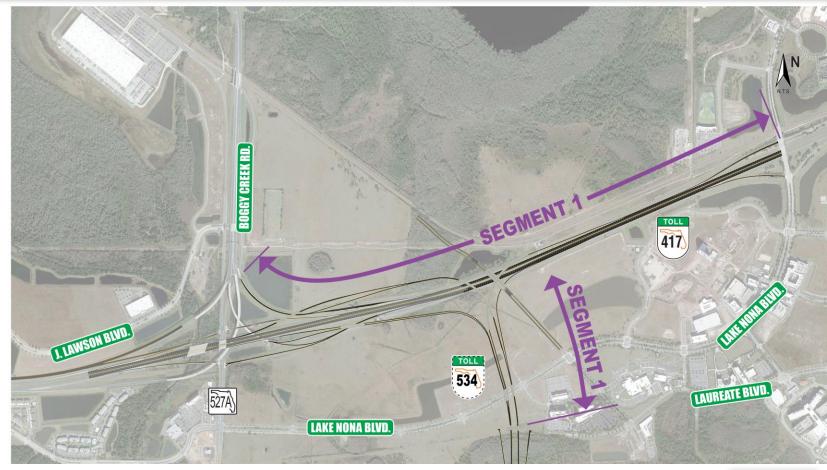
Osceola Parkway Extension (SR 534) – Segment 1 SR 417 to Laureate Boulevard

New Systems Interchange Advertisement

• 4th Quarter 2021 (Placeholder)

Design Fee Estimate

• \$11.7 million





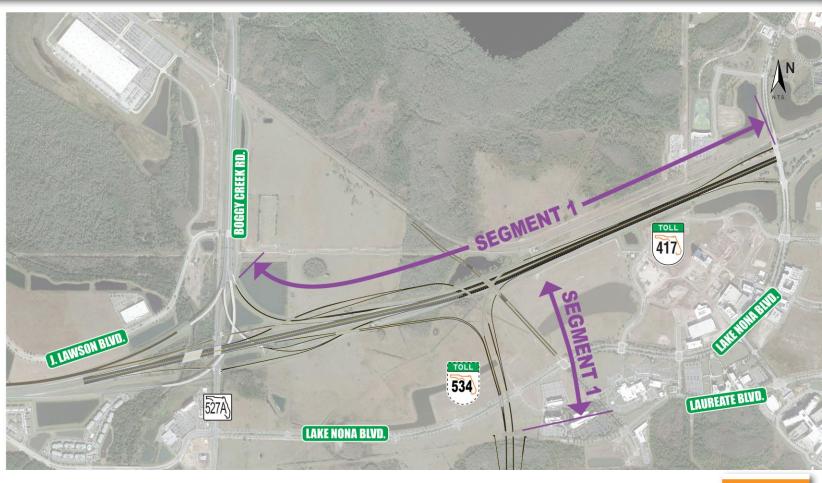
Osceola Parkway Extension (SR 534) – Segment 1 SR 417 to Laureate Boulevard

Challenges

Adjacent project coordination

- West SR 417 (417-149 & 417-151)
- West OPE Segment 1A
- East OPE Segment 2

- Systems Interchange at SR 417
- Rail Coordination
- Lake Nona Medical City Drive







Osceola Parkway Extension (SR 534) - Segment 3 East of Simpson Road to Narcoossee Road

2.2 Miles – New Expressway

Advertisement

• 4th Quarter 2021

Design Fee Estimate

• \$10.4 million





Osceola Parkway Extension (SR 534) - Segment 3

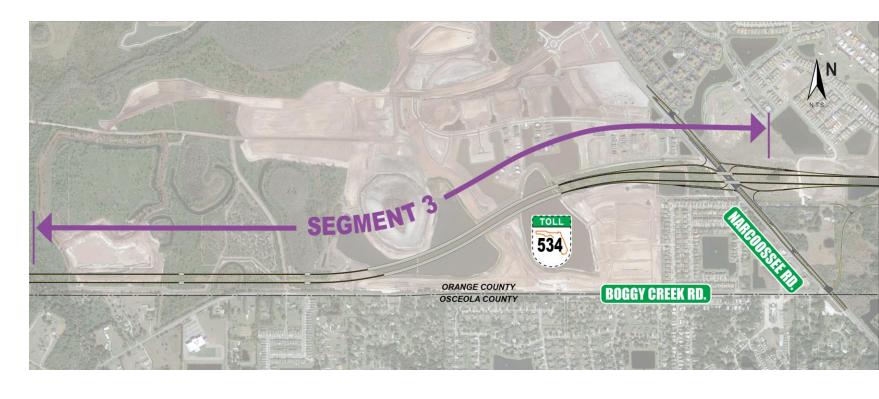
East of Simpson Road to Narcoossee Road

Challenges

Adjacent project coordination

West – OPE Segment2

- Poitras Developments
- Narcoossee Road Interchange
- Orange/Osceola Counties





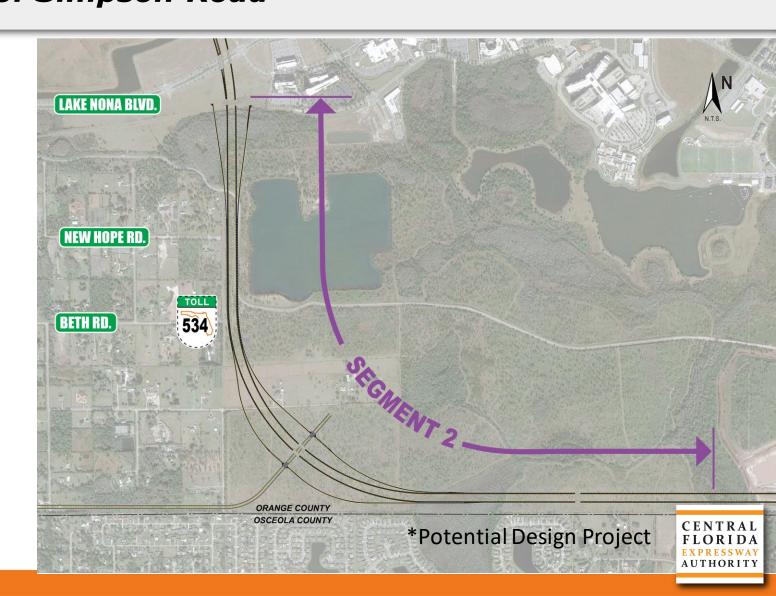
Osceola Parkway Extension (SR 534) – Segment 2 Laureate Boulevard to East of Simpson Road

2.2 Miles – New Expressway Advertisement

• 1st Quarter 2022

Design Fee Estimate

• \$5.8 million



Calendar year quarters (dates subject to change)

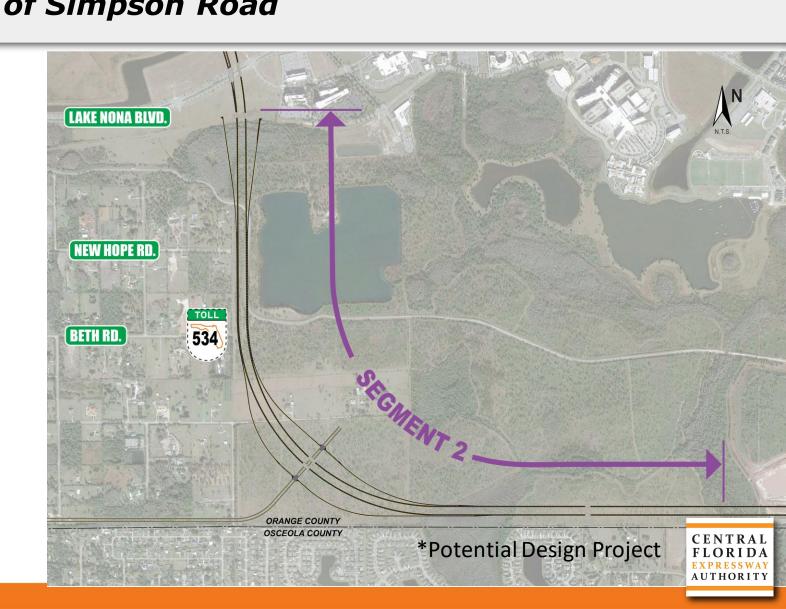
Osceola Parkway Extension (SR 534) - Segment 2 Laureate Boulevard to East of Simpson Road

Challenges

Adjacent project coordination

- West OPE Segment 1
- OPE Segment 2A
- East OPE Segment 3

- Lake Nona Laureate Blvd.
 Ramps
- Simpson Road Interchange



Osceola Parkway Extension (SR 534) - Segment 1A SR 417 Southbound Ramp Extensions (Landstar Blvd. to Boggy Creek Rd.)

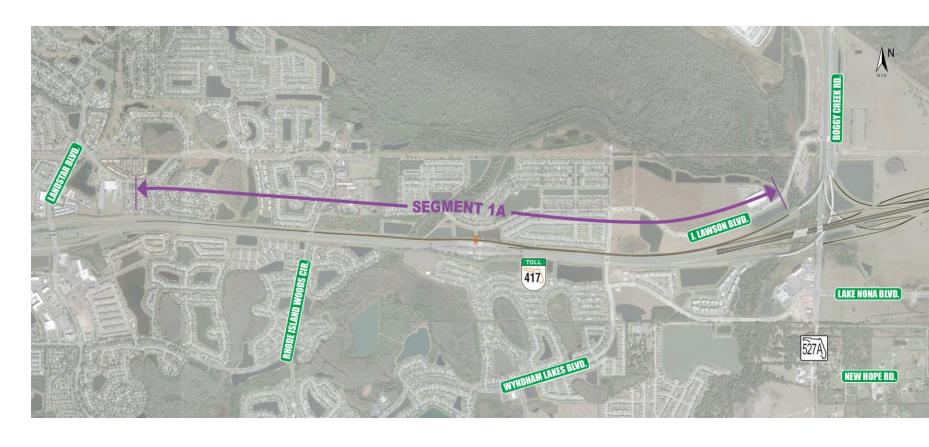
3.1 Miles – Ramp Extensions

Advertisement

• 2nd Quarter 2022

Design Fee Estimate

• \$5 million





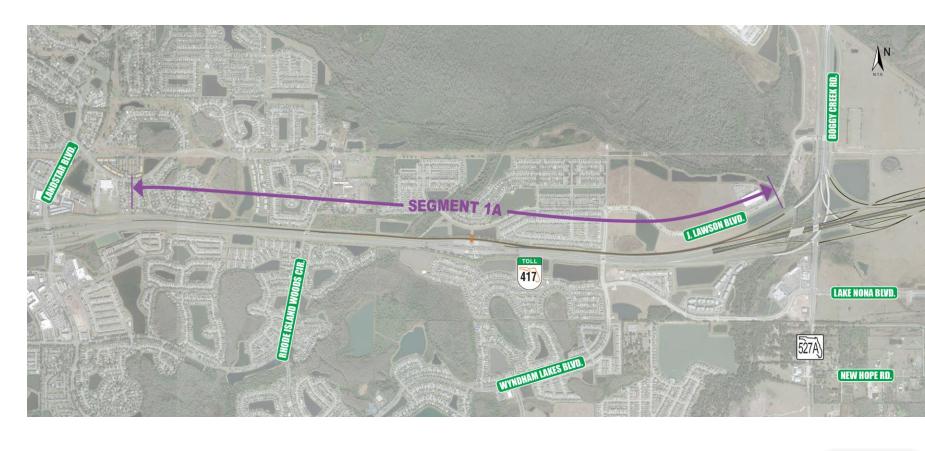
Osceola Parkway Extension (SR 534) - Segment 1A SR 417 Southbound Ramp Extensions (Landstar Blvd. to Boggy Creek Rd.)

Challenges

Adjacent project coordination

- SR 417 (417-149)
- East OPE Segment 1

- New & Widened Bridges
- AET Toll Gantry





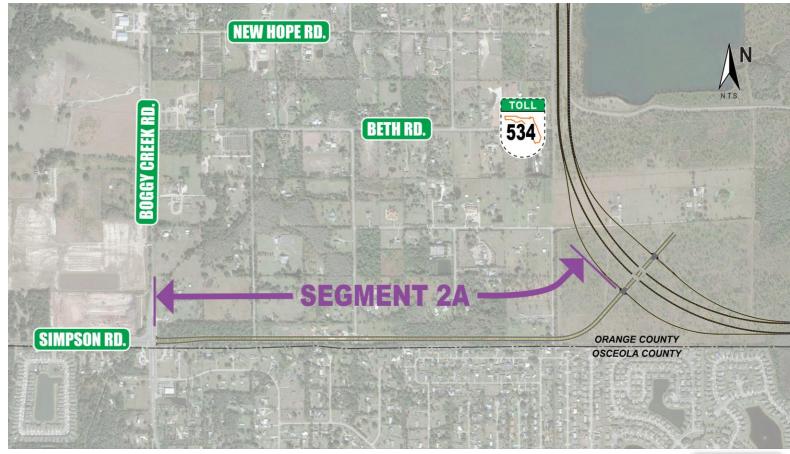
Osceola Parkway Extension (SR 534) - Segment 2A Simpson Road Extension (Boggy Creek Road to SR 534)

1.4 Miles – Road Extension Advertisement

• 2nd Quarter 2022

Design Fee Estimate

• \$1.4 million





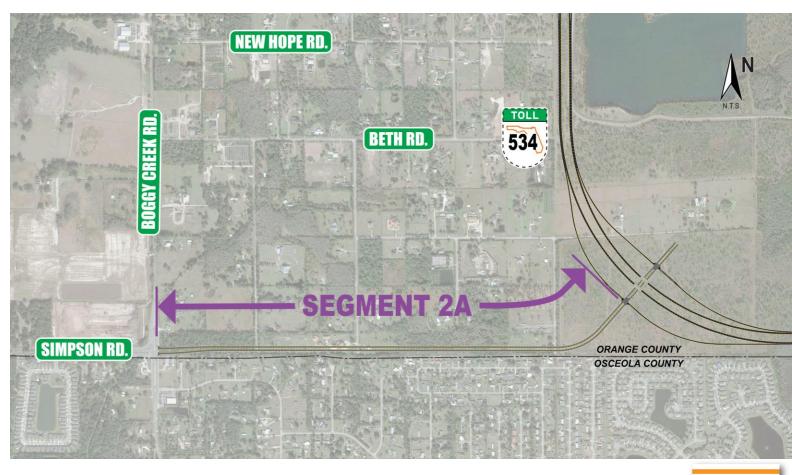
Osceola Parkway Extension (SR 534) - Segment 2A Simpson Road Extension (Boggy Creek Road to SR 534)

Challenges

Adjacent project coordination

- Osceola Co. Boggy Creek
 Road
- East OPE Segment 2

- Noise Walls
- Orange/Osceola Counties
 - -Boggy Creek Road







SR 414 Expressway US 441 to SR 434

PD&E Underway

Complete in September 2021

Advertisement

- Possible 1st Quarter
 2022
- Pending results of PD&E and Viability

Design Fee Estimate

• \$20.7 million





SR 414 Expressway US 441 to SR 434

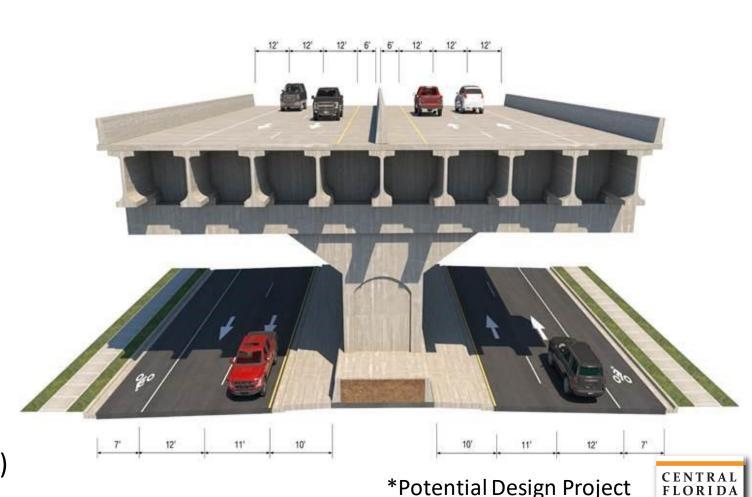
Challenges

Maitland Blvd. Typical Section

- Limited Existing R/W
- Bike/Ped Accommodations
- Mods to Ex. Bridge over Lake Bosse

Elevated SR 414 Design

- Accom. Turn Lanes Under Viaduct
- Work Zone TTC
- Lake Bosse Geotech
- Bridge Type (Beams / Segmental Box)



Look Ahead *Engineering Advertisements*

WP Page #	Description	Design Fee Estimate	Anticipated Advertisement*
NA	SSBE Continuing Services Contract - Design	TBD	3 rd Quarter 2021
40	SR 528 West Mainline Toll Gantries	\$632 Thousand	3 rd Quarter 2021
NA	SSBE Continuing Services Contract - Planning	TBD	3 rd Quarter 2021
3	SR 408 Widening – West of SR 436 to Goldenrod Road	\$3.6 Million	4 th Quarter 2021
1	SR 408 Widening – East of Pine Hills Plaza to East of Church Street	\$6.3 Million	1 st Quarter 2022
67	Dallas Boulevard Interchange	\$3.9 Million	2 nd Quarter 2022
*Quarters are "Calendar" Quarters and subject to change.			



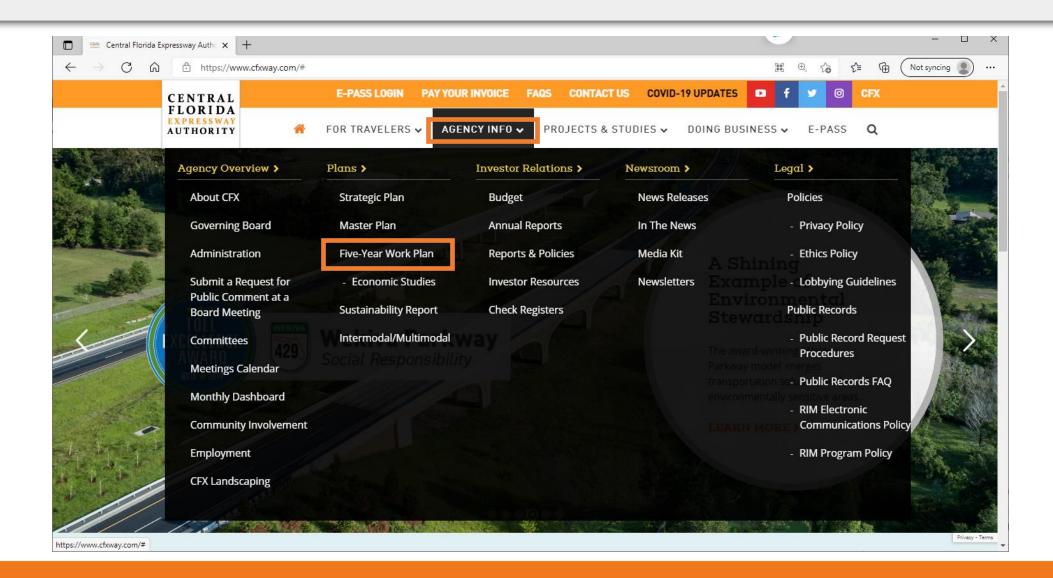
Look Ahead *Potential Engineering Advertisements*

WP Page #	Description	Design Fee Estimate	Anticipated Advertisement*
56	Osceola Parkway Extension (SR 534) – Segment 1	\$11.7 Million	4 th Quarter 2021
60	Osceola Parkway Extension (SR 534) – Segment 3	\$10.4 Million	4 th Quarter 2021
58	Osceola Parkway Extension (SR 534) – Segment 2	\$5.8 Million	1 st Quarter 2022
57	Osceola Parkway Extension (SR 534) – Segment 1A	\$5 Million	2 nd Quarter 2022
59	Osceola Parkway Extension (SR 534) – Segment 2A	\$1.4 Million	2 nd Quarter 2022
46	SR 414 Expressway Extension	\$20.7 Million	1 st Quarter 2022

*Quarters are "Calendar" Quarters and subject to change.

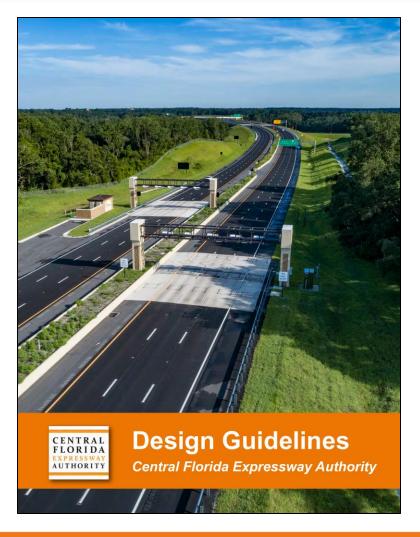


CFX Website - 5 Year Work Plan





CFX Design Guidelines



- Add/Delete/Revise Sections of FDM
- Updated Annually
 - 2nd Edition Released March 2021 (Adopts 2021 FDM)
- https://www.cfxway.com/cfx-design-standards/



Questions?



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Engineering Project Manager

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Construction Overview

Jack Burch, PE - Resident Engineer/ Construction Manager



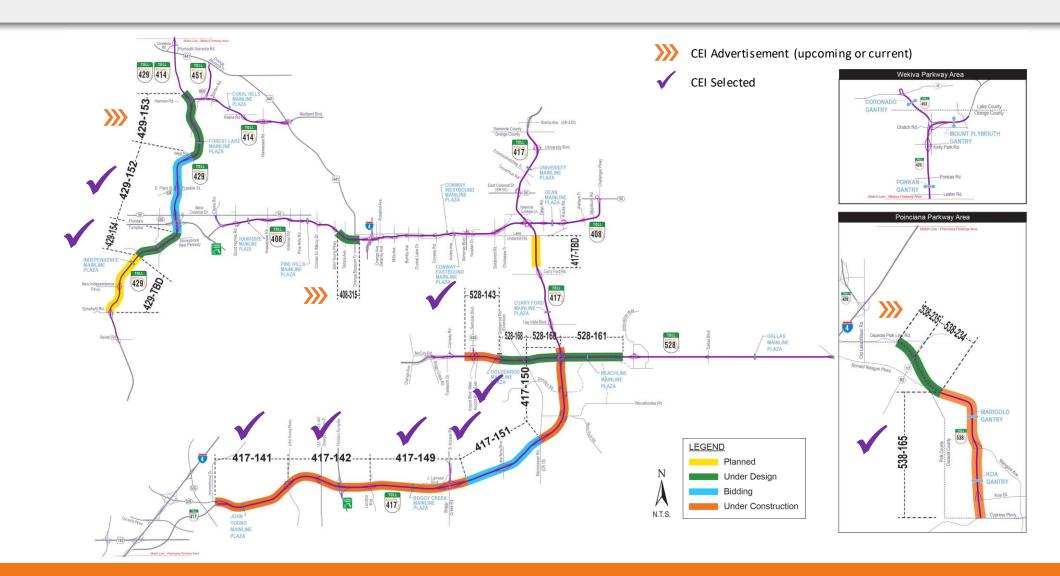
CEI Qualifications

Major Types of Work:

- 10.1 Roadway Construction
- 10.3 Construction Materials Inspection
- 10.4 Minor Bridge and Miscellaneous Structures
- 10.5 Major Bridge (scope dependent)



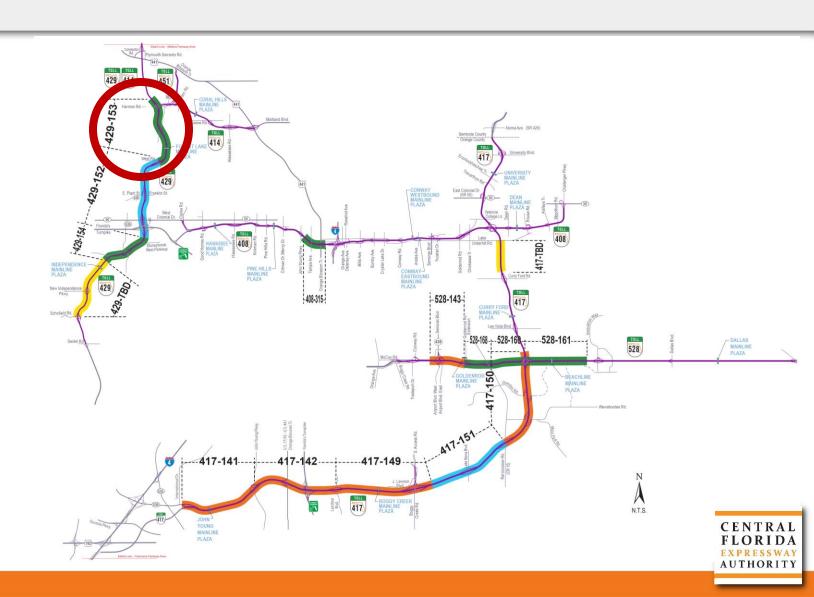
Status of Major Projects





SR 429 Widening West Road to SR 414

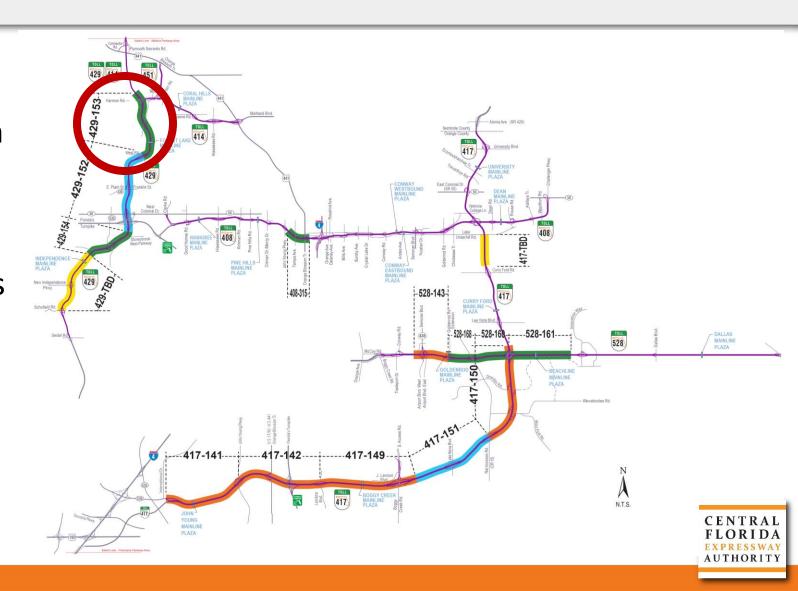
- CEI Project (429-153)
- Advertisement:
 - Currently Advertised
- \$105M Construction cost estimate
 - Inside Widening to 8 lanes:
 - 2 Part-Time Shoulder Use
 - 6 General Use



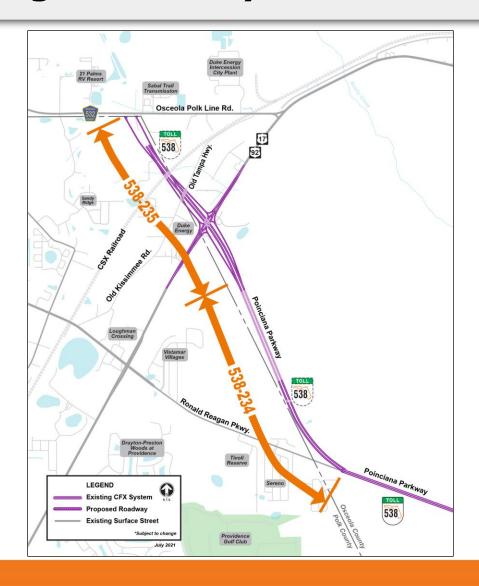
SR 429 Widening West Road to SR 414

Challenges

- Adjacent project coordination
 - South Project 429-152
- Construction
 - 4 Sets of Bridge Widenings
 - 1 Set of Bridge Replacements (CR 437A)
 - Temporary Utility Relocation
 - Toll Plaza Coordination



SR 538 Extension *CR 532 to Ronald Reagan Parkway*





SR 538 Extension South of US 17/92 to Ronald Reagan Parkway

- CEI Project (538-234)
- Advertisement:
 - 4th Quarter 2021
- \$85M Construction cost estimate
 - New Expressway





SR 538 Extension South of US 17/92 to Ronald Reagan Parkway

Challenges

- Adjacent project coordination
 - West Project 538-235
 - East Project 538-165
- Construction
 - 4 Bridges
 - Reedy Creek Mitigation Bank





SR 538 Extension CR 532 to South of US 17/92

- CEI Project (538-235)
- Advertisement:
 - 4th Quarter 2021
- \$58M Construction cost estimate
 - New Expressway

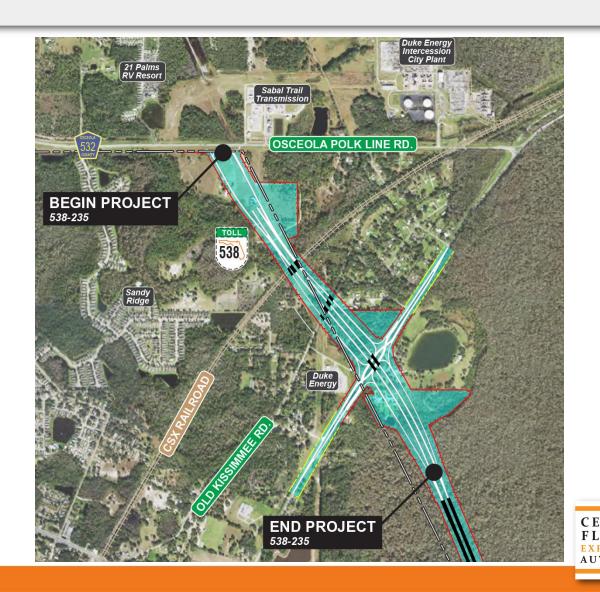




SR 538 Extension CR 532 to South of US 17/92

Challenges

- Adjacent project coordination
 - West Project 538-235A
 - East Project 538-234
- Construction
 - 9 Bridges
 - Utility Relocations
 - CSX Railroad
 - FDOT (US 17/92 Interchange)
 - Toll Gantries (2)



SR 408 Tampa Avenue Interchange *Tampa Avenue to Orange Blossom Trail*

- CEI Project (408-315)
- Advertisement:
 - 2nd Quarter 2022
- \$77M Construction cost estimate
 - Multiple new / widened bridges
 - Add a 4th lane eastbound from JYP to I-4 ramp
 - New and reconstructed ramps
 - 3 AET ramp toll gantries





SR 408 Tampa Avenue Interchange *Tampa Avenue to Orange Blossom Trail*

Challenges

- Adjacent project coordination
 - East I-4 Ultimate Project (FDOT)
 - West SR 408 Widening Project
- Construction
 - Camping World Stadium events
 - City of Orlando JPA for local streets
 - Tampa Avenue, Long Street, Carter Street, Rio Grande Avenue, Orange Blossom Trail (FDOT)
 - Temporary Traffic Control





1 – Year Look Ahead CEI Advertisements

Project #	Description	Construction Cost Estimate	Anticipated CEI Advertisement*
429-153	SR 429 Widening West Rd to SR 414	\$105 Million	Currently Advertised
538-234	SR 538 Extension South of US 17/92 to Ronald Reagan Parkway	\$85 Million	4 th Quarter 2021
538-235	SR 538 Extension South of CR 532 to South of US 17/92	\$58 Million	4 th Quarter 2021
408-315	SR 408 Tampa Avenue Interchange	\$77 Million	2 nd Quarter 2022
*Quarters are "Calendar" Quarters and subject to change.			



1 - Year Look Ahead Construction Advertisements

Project #	Description	Construction Cost Estimate
417-151	SR 417 Widening from Boggy Creek Road to Narcoossee Road	Advertised
429-152	SR 429 Widening from Florida's Turnpike to West Road	Advertised
429-153	SR 429 Widening West Rd to SR 414	\$105 Million
429-154	SR 429 Widening from Tilden Road to Florida's Turnpike	\$80 Million
528-160	SR 528 Widening from Narcoossee Road to SR 417	\$18 Million
528-757	SR 528 Farm Access Road 1 Bridge Removal	\$6.5 Million
538-235	SR 538 from CR 532 to South of US 17/92	\$58 Million
538-234	SR 538 from South of US 17/92 to Ronald Reagan Parkway	\$85 Million



Questions?



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