

*Transportation Planning Division*

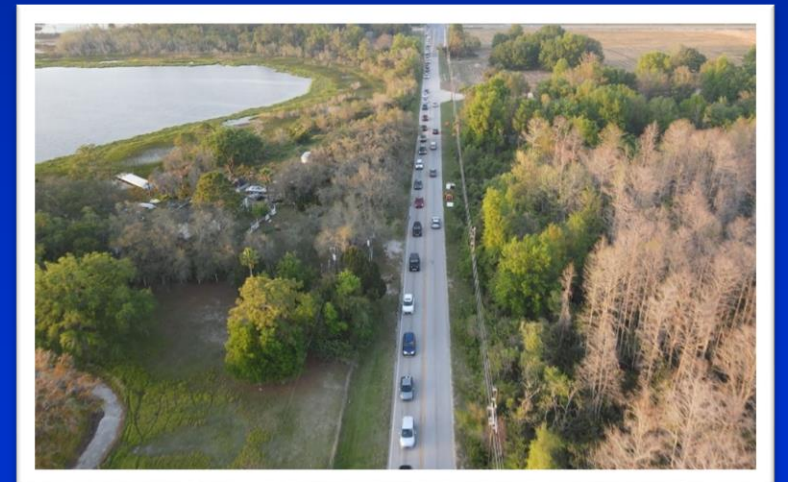
**AVALON ROAD (CR 545)  
RCA STUDY**

**Board of County Commissioners  
Public Hearing**

**April 11, 2023**

# Presentation Outline

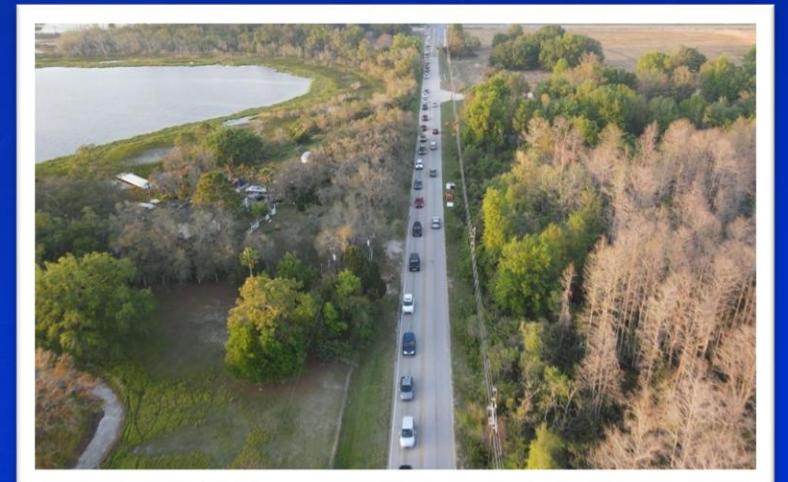
- Overview
- Existing Conditions
- Recommended Improvements
- Public Engagement and Schedule
- Summary and Action Requested





# Presentation Outline

- **Overview**
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# Overview

- **Identify Improvements:**
  - Document Project Need
  - Balance Needs of all users
    - Safety
    - Mobility
    - Comfort
    - Connectivity



Automobiles



Pedestrians



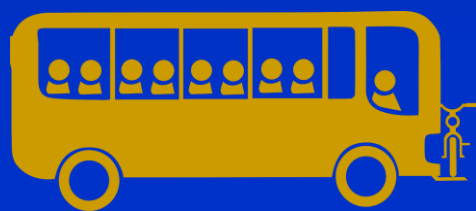
Cyclists



Freight

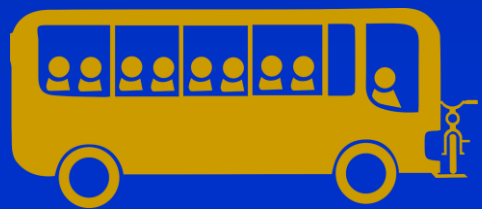
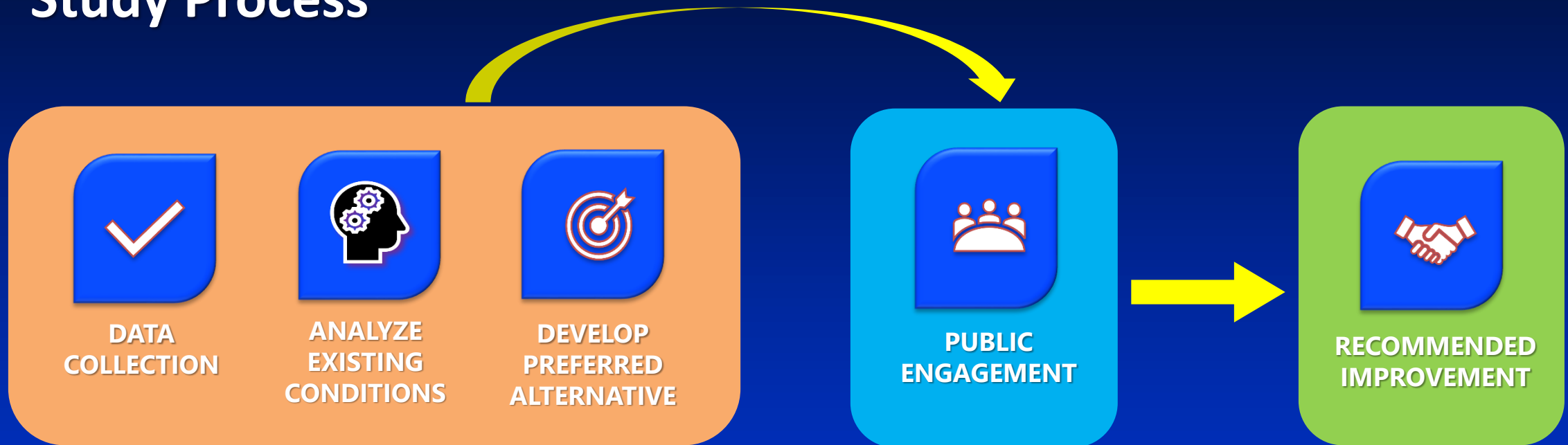


Transit



# Overview

## ■ Study Process

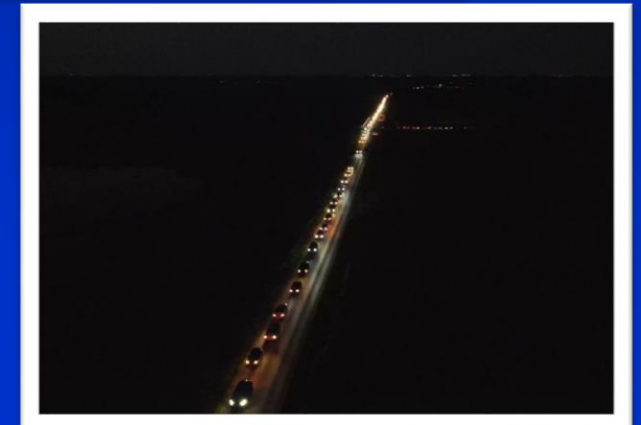
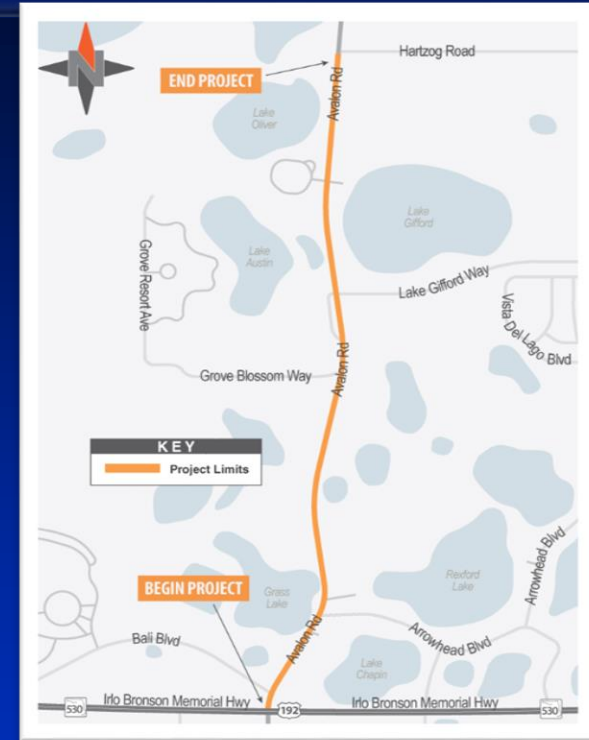






# Overview

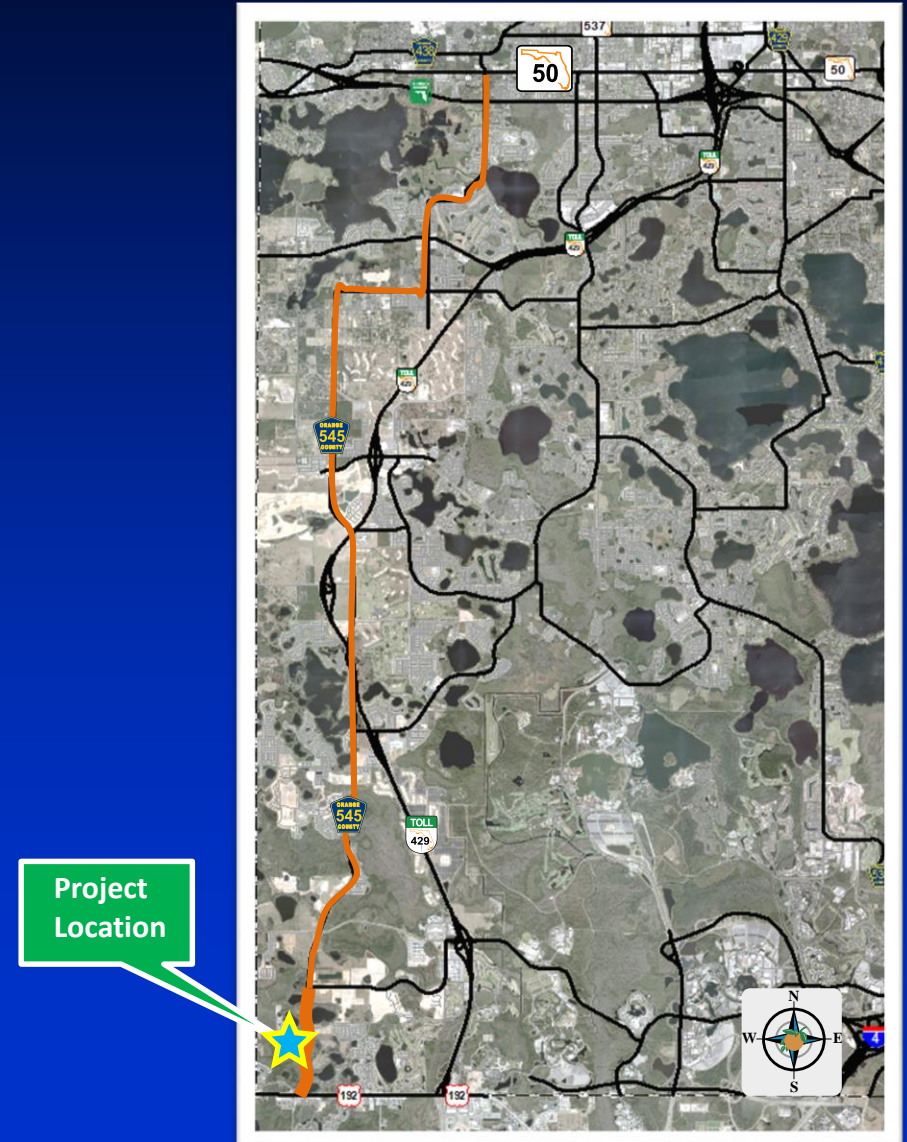
- The study begins at US 192 and extends to Hartzog Road, a distance of 1.6 miles
- The corridor is mostly undeveloped, though numerous developments are in process through the county's permitting system
- Avalon Road is on Orange County's Long Range Transportation Plan





# Overview

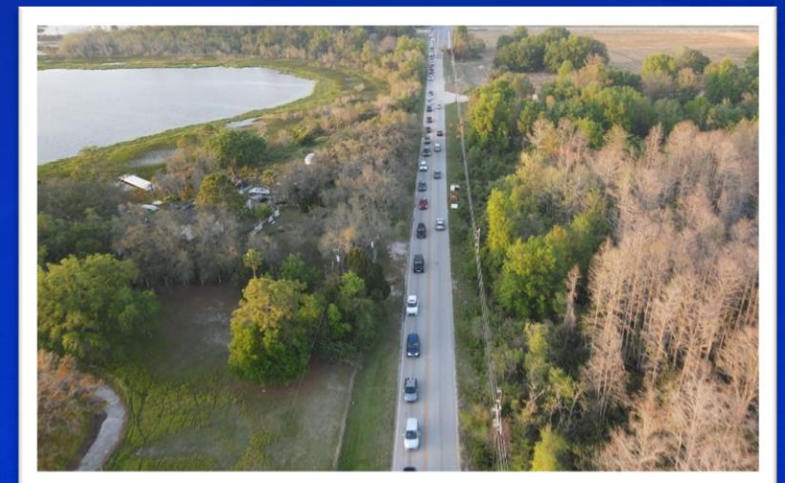
- Avalon Road is an Urban Collector roadway located west of the SR 429 tollway in southwest Orange County
- The roadway enters Osceola County at US 192
- This project is part of a 17.6 mile regional improvement program to widen and enhance CR 545 from US 192 to SR 50 (Colonial Drive)





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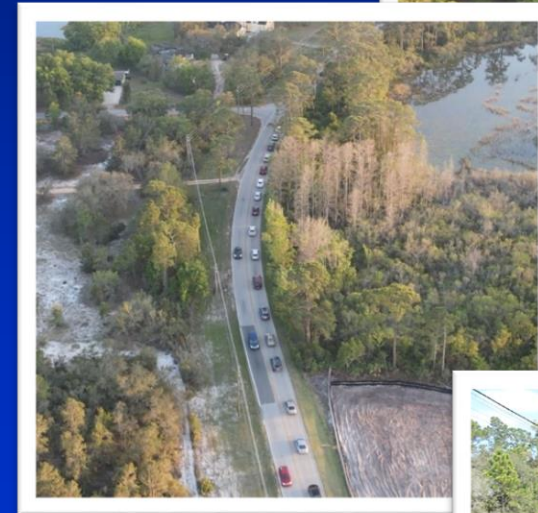






# Existing Conditions

- **Roadway Geometry and Characteristics**
  - Currently a paved two-lane roadway with flush unpaved shoulders
  - The alignment has several horizontal curves throughout the south half of the project
  - Sidewalks are not continuous throughout the corridor
  - The existing right of way varies from 66 to 140 feet

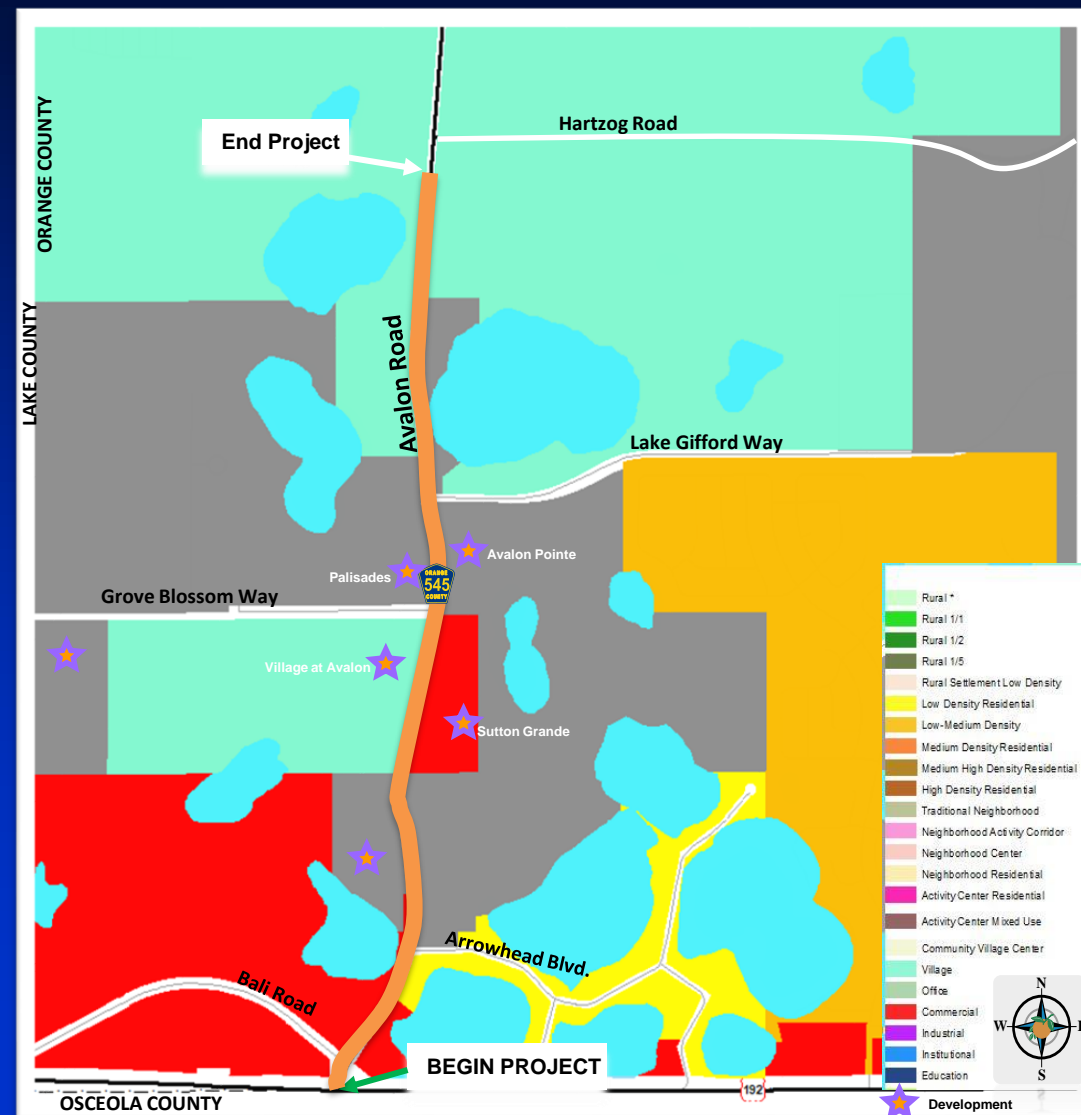




# Existing Conditions

## Land Use

- The current land use along or near the Avalon Road corridor consists primarily of open lands with scattered single-family homes and some residential developments such as the Palisades and Grove Resort
- Future land use is anticipated to include several new residential developments
- This project is outside of the Horizon West planning area





# Existing Conditions

## ▪ Drainage

- Project is within the South Florida Water Management District (SFWMD)
- The existing drainage system relies on ditches adjacent to the roadway to convey stormwater to area lakes
- There are no stormwater treatment ponds along the corridor

Project Location

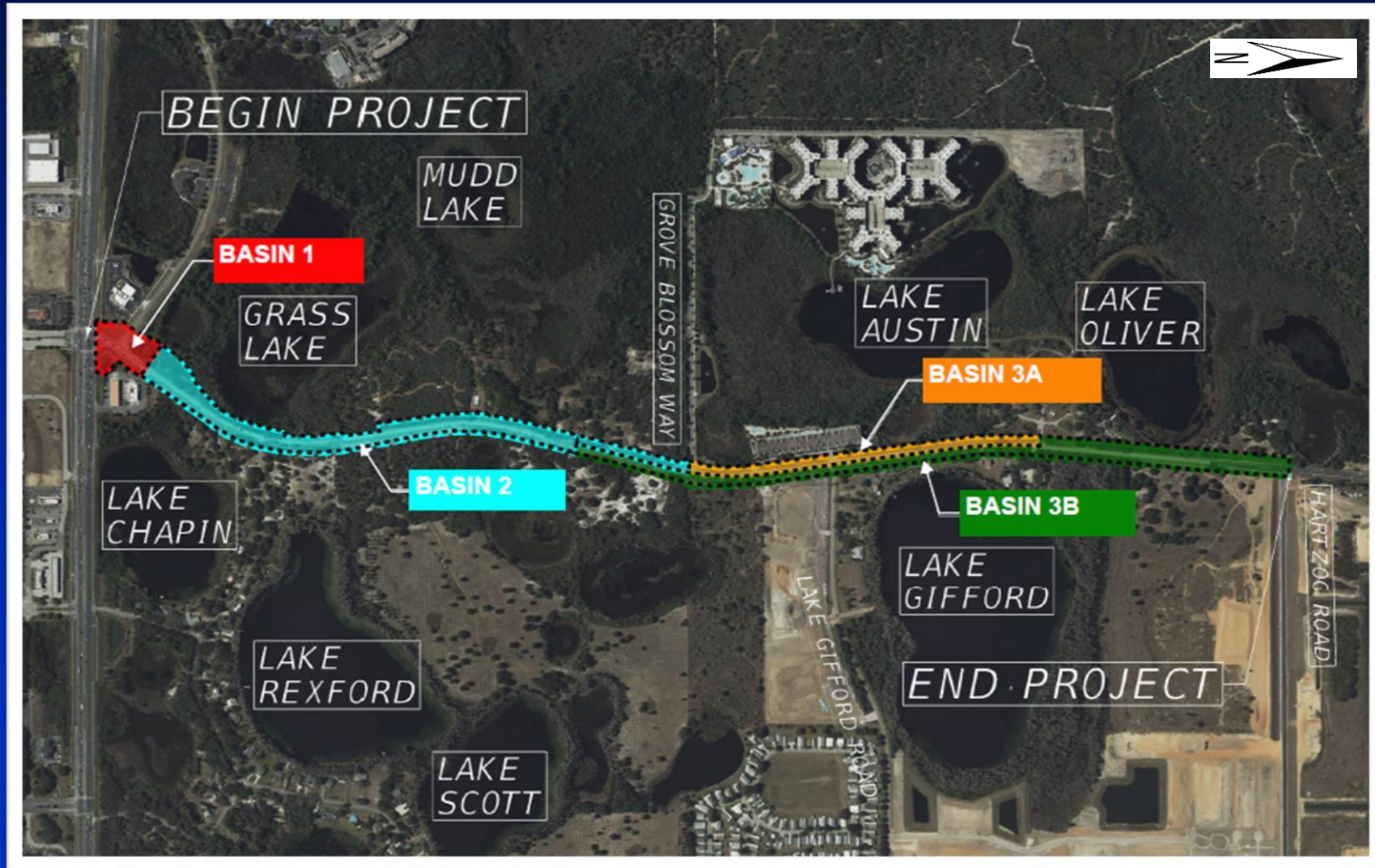






# Existing Conditions

## Basin Map



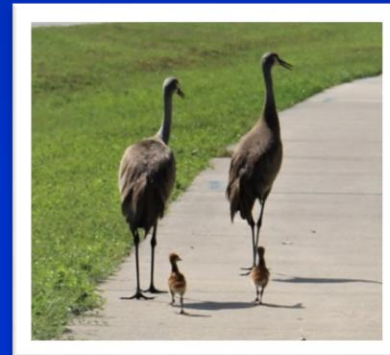




# EXISTING CONDITIONS

## ▪ Existing Environmental Assessment

- Wetland impacts are expected to be minimal
- No protected species were observed in the study corridor; however habitat was noted with the potential to support listed species: Gopher tortoise, Eastern Indigo snake, snail kite, sand skink (Consultation Area), Florida sandhill crane, wood stork, little blue heron, tri-colored heron, American alligator
- Surveys for protected wildlife species will be preformed during design
- No historic buildings or archaeological sites were identified

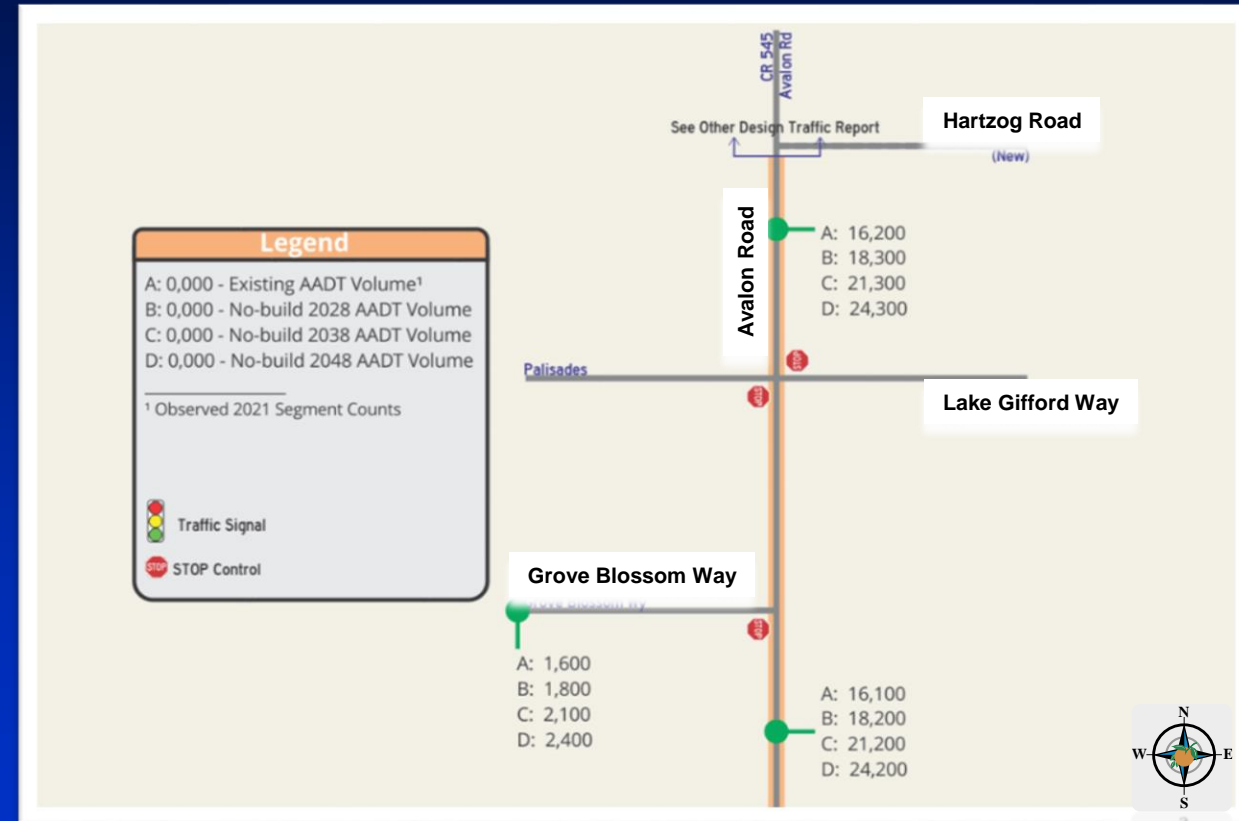




# Existing Conditions

## ■ Traffic Analysis

- Existing Year Average Annual Daily Traffic (AADT) Volume: 15,700 – 16,200
- Existing Level of Service (LOS) is F indicating Moderate to Severe Congestion
- Pedestrian/Bicycle Counts included
  - 13 Pedestrians
  - 7 Bicyclists





# Existing Conditions



\* Drone footage from Avalon Road resident







# Existing Conditions

Context Classification for Avalon Road is C3R Suburban Residential



- Allows for 40 – 45 mph Design Speed
- Representative of Medium Density Population



# Existing Conditions

STRATEGIES TO ACHIEVE DESIRED OPERATING SPEED FOR ARTERIALS AND COLLECTORS		
CONTEXT CLASSIFICATION	DESIGN SPEED (MPH)	STRATEGIES
C3R	45-55	Project Specific Transition Zone
	40-45	Roundabout, Lane Narrowing, Horizontal Deflection, Speed Feedback Signs, RRFBs, and PHBs
	35	Roundabout, Lane Narrowing, Horizontal Deflection, Speed Feedback Signs, Islands in Crossings, Road Diet, RRFBs, and PHBs, Terminated Vistas

## Included in the Study:

- Horizontal Deflection addressed by Horizontal Curves
- Street Trees
- Curb/Gutter, Medians

## Determined in Design:

- Median Island Crossings

## Post Construction as Indicated by Pedestrian and Bicyclist Use Patterns

- Speed Feedback Signs
- Textured Surfaces
- Mid-Block Crossings
- Speed Tables / Raised Intersections
- RRFBs, PHBs, Hawk



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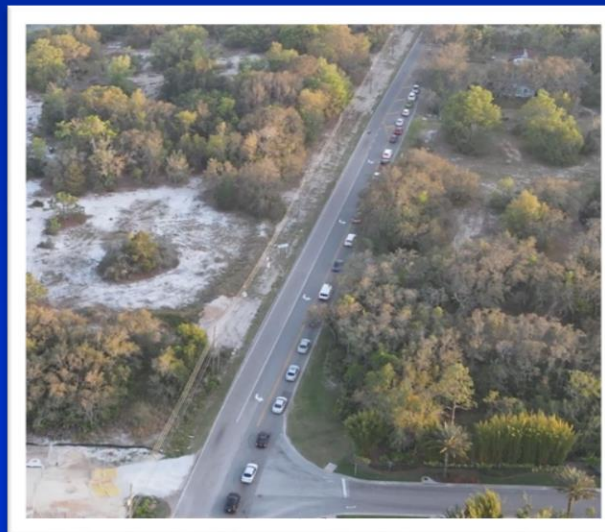
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# Recommended Improvement

## ■ Traffic Analysis

- Future Annual Daily Traffic
- Opening Year 2028 AADT: 17,800 – 18,300
- Mid-Design Year 2038 AADT: 20,700 – 21,300
- Design Year 2048 AADT: 23,600 – 24,300



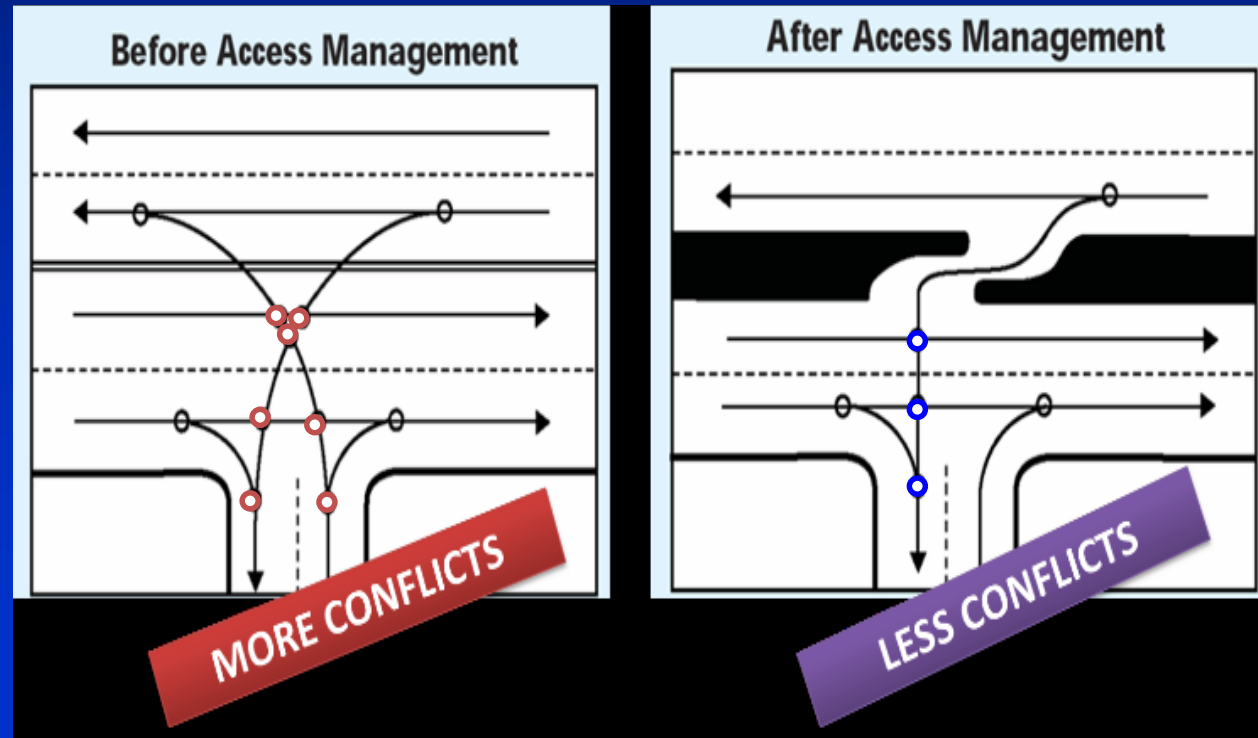




# Recommended Alternative

- **Access Management**

- Access management is the careful planning of the location, type and design of access.
- More conflict points means more crashes

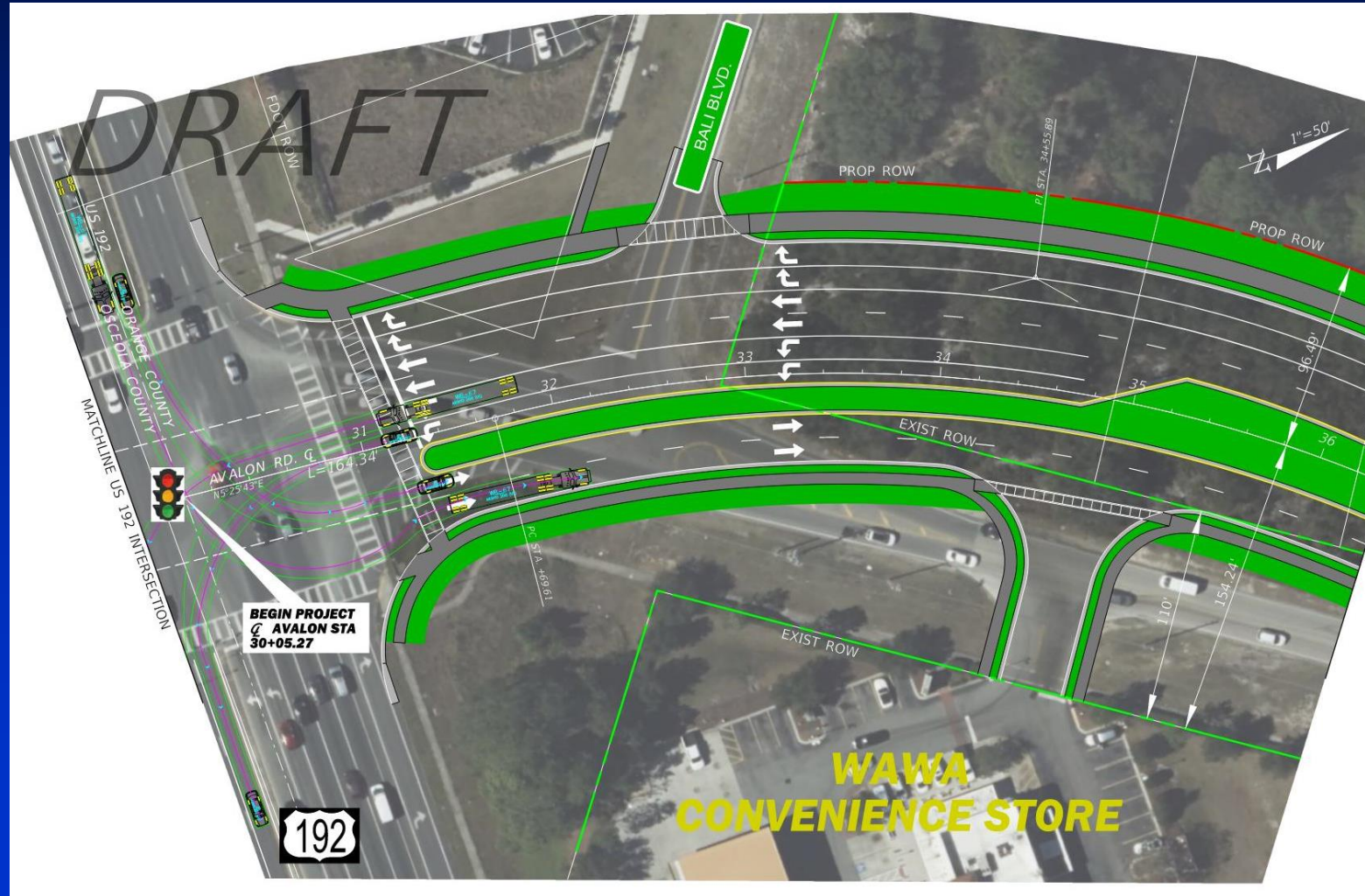




# Recommended Alternative

## Intersection at Bali Boulevard

- Spacing between US 192 and Bali Boulevard is short, left turns at Bali Boulevard will be eliminated - only right-in, right-out movements will be allowed
- Access to Bali Boulevard from the south will be provided by a U-turn at Arrowhead Boulevard







# Recommended Alternative

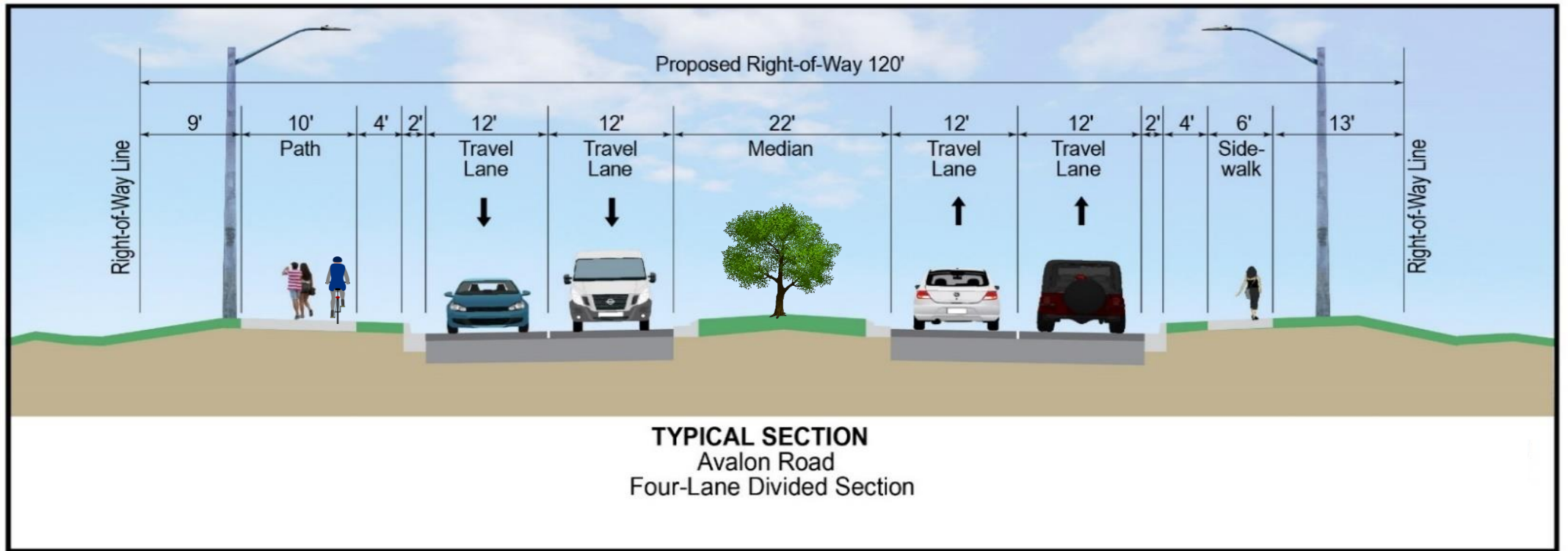
- Full median opening at Grove Blossom Way
- Traffic Signal will be added by future development

## Signalized intersection at Grove Blossom Way





# Recommended Typical Section



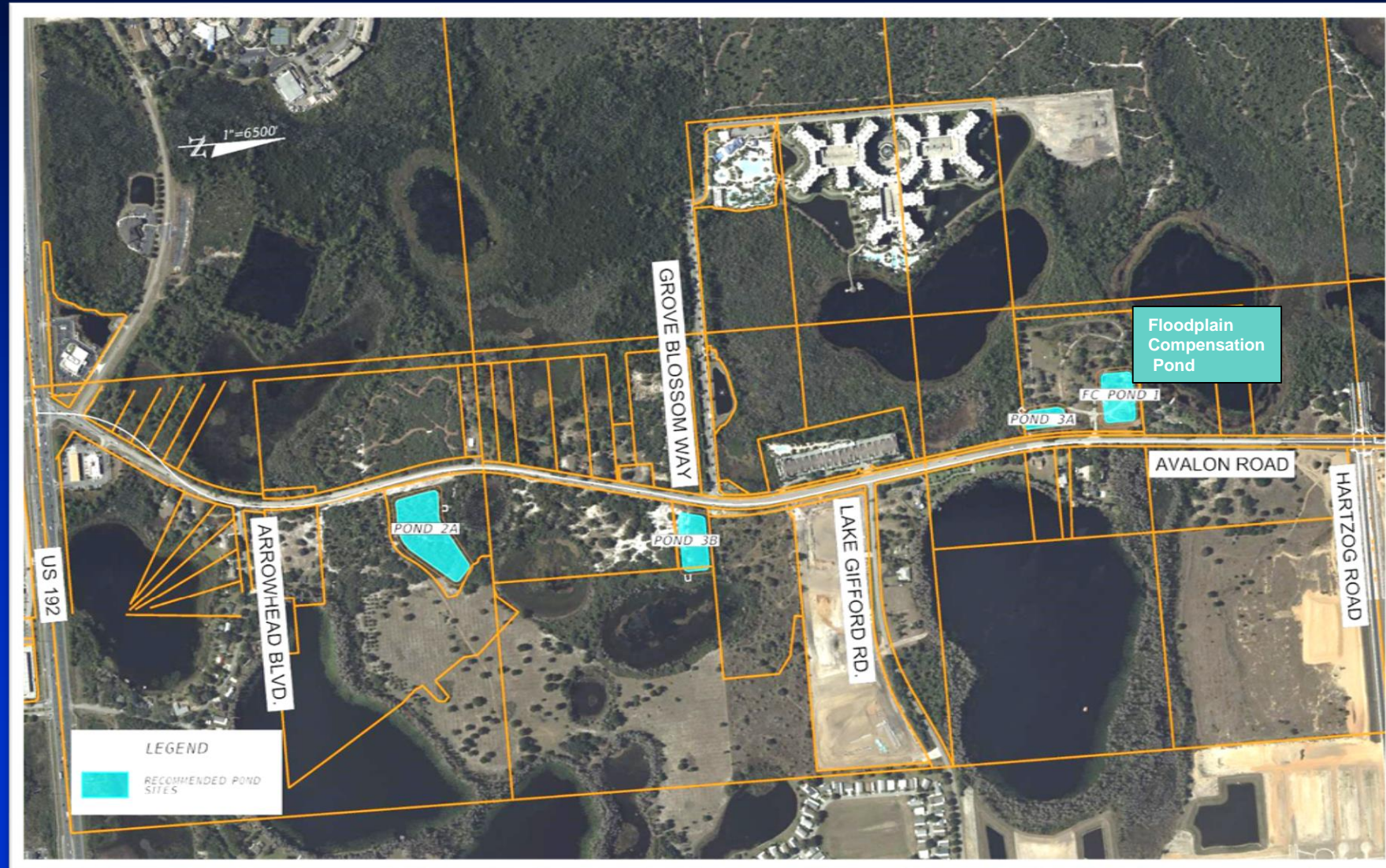
- Four 12-foot-wide travel lanes (two lanes each direction) with 22-foot raised median
- Six-foot-wide sidewalk on east side, and 10-foot-wide path on the west side
- Design Speed is 40-45 mph
- Closed drainage system with stormwater ponds
- Roadway lighting





# Recommended Pond Sites

- Three recommended stormwater ponds
- Alternative pond sites were also analyzed
- One recommended floodplain compensation pond







# Recommended Improvements

## ■ Evaluation Matrix

- The West Alignment Alternative will impact planned developments in the corridor
- The East Alignment Alternative will impact existing and proposed developments
- The Preferred Alignment Alternative is recommended since it eliminates or minimizes right-of-way impacts while improving drainage and multimodal accommodations

	No-Build Alternative	West Alignment Alternative	East Alignment Alternative	Preferred Alignment Alternative
Evaluation Criteria	No Improvements	Four-Lane Urban Section with 6' SW and 10' Path	Four-Lane Urban Section with 6' SW and 10' Path	Four-Lane Urban Section with 6' SW and 10' Path
<b>Relocations</b>				
Number of Residential Acquisitions	None	None	None	None
Number of Business Acquisitions	None	None	None	None
Number of Parcels Impacted	None	36	31	40
Right-of-Way Impacts (Acres) (1)	None	17.8	18	17.9
<b>Social, Natural and Physical Impacts</b>				
Social and Neighborhood	None	None	None	None
Archeological/Historic Sites	None	None	None	None
Threatened and Endangered Species (2)	None	Moderate	Moderate	Moderate
Wetland Impacts - Roadway and Ponds (Ac)	None	1.04	1.06	1.74
RHPZ Uplands (Acres)	None	None	None	None
Floodplains (Acres)	None	5.05	4.63	5.25
Potential High or Medium Ranked Contamination Sites	None	None	None	None
<b>Estimated Costs (Present Day Costs)</b>				
Estimated Construction Costs	No Cost	\$ 25,974,295	\$ 25,954,417	\$ 25,995,128
Design and Admin Costs (10% of Construction)	No Cost	\$ 2,597,429	\$ 2,595,442	\$ 2,599,513
CEI (12% of Construction)	No Cost	\$ 3,116,915	\$ 3,114,530	\$ 3,119,415
Right-of-Way Acquisition (3)	No Cost	\$ 3,295,314	\$ 3,332,340	\$ 3,313,827
Wetland Mitigation	No Cost	\$ 98,000	\$ 100,000	\$ 164,000
RHPZ Uplands Mitigation	No Cost	None	None	None
Reimbursable Utility Relocation	No Cost	\$ 2,986,000		\$ 2,986,000
Subtotal		\$ 38,067,954	\$ 35,096,729	\$ 38,177,883
Contingencies (20%)		\$ 7,613,591	\$ 7,019,346	\$ 7,635,577
<b>TOTAL ESTIMATED COSTS</b>		<b>\$ 45,681,544</b>	<b>\$ 42,116,075</b>	<b>\$ 45,813,460</b>



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# Public Engagement & Schedule

## Public Engagement

- Community Meeting
- Call/Email
- Attend Hearings



Newsletters



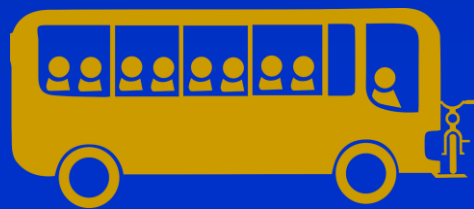
Public  
Community  
Meeting



LPA Hearing



BCC Hearing











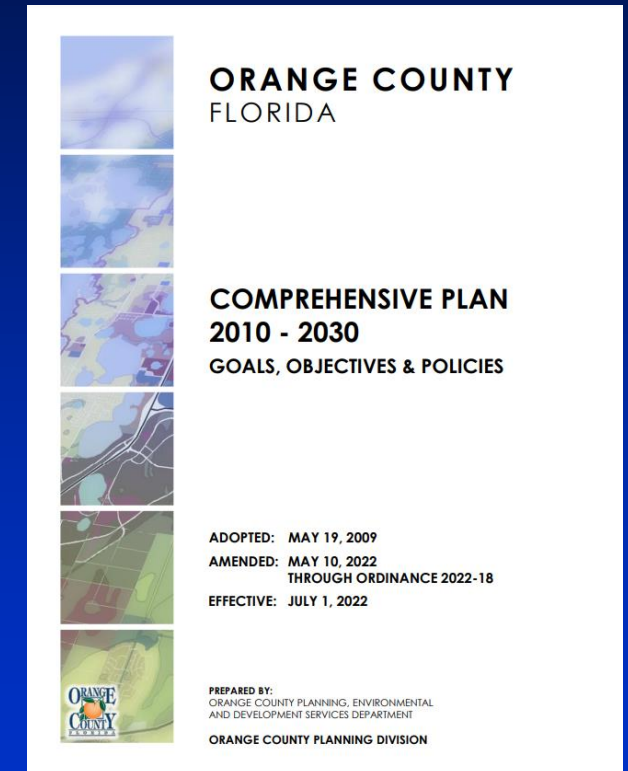
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# Summary

- **Consistency with the Comprehensive Plan**
  - Implement Long Range Transportation Plan (Obj. T1.1)
  - Implement financially-feasible multimodal transportation system (Obj. T1.3)
  - Ensure LOS standards are met on County roads within unincorporated Orange County (Obj. T1.3.2)
  - Support strategies which promote convenient & efficient mobility system for all modes (Obj. T3.1)
  - Build street, pedestrian and bicycle networks that provide interconnectivity and access to multimodal transportation facilities (Obj. T3.2)





## Summary

- CR 545 is an older, 2 lane rural roadway that is not able to accommodate the projected growth
- The study used engineering criteria to evaluate both existing and future conditions to recommend a preferred alternative
- CR 545 will be designed as a 4-lane urban roadway and carry a significant volume of traffic in the future
- County has engaged the public through a variety of means





## Action Requested

- Find the Avalon Road (CR 545) Roadway Conceptual Analysis Study Consistent with the Comprehensive Plan
- Approval to Initiate Design, Right-of-way Acquisition and Construction

*Transportation Planning Division*

**AVALON ROAD (CR 545)  
RCA STUDY**

**Board of County Commissioners  
Public Hearing**

**April 11, 2023**