

*Transportation Planning Division*

# **CHULUOTA ROAD (CR 419) RCA STUDY**

**Board of County Commissioners  
Public Hearing**

**March 7, 2022**



# Presentation Outline

- Overview
- Existing Conditions
- Recommended Improvements
- Public Engagement
- Summary and Recommendation





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# Overview

## ■ Identify Improvements:

- Document Project Need
- Balance Needs of all users
  - Safety
  - Mobility
  - Comfort
  - Connectivity



Automobiles



Pedestrians



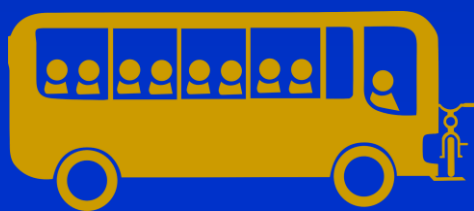
Cyclists



Freight

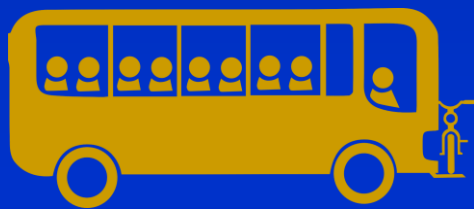


Transit



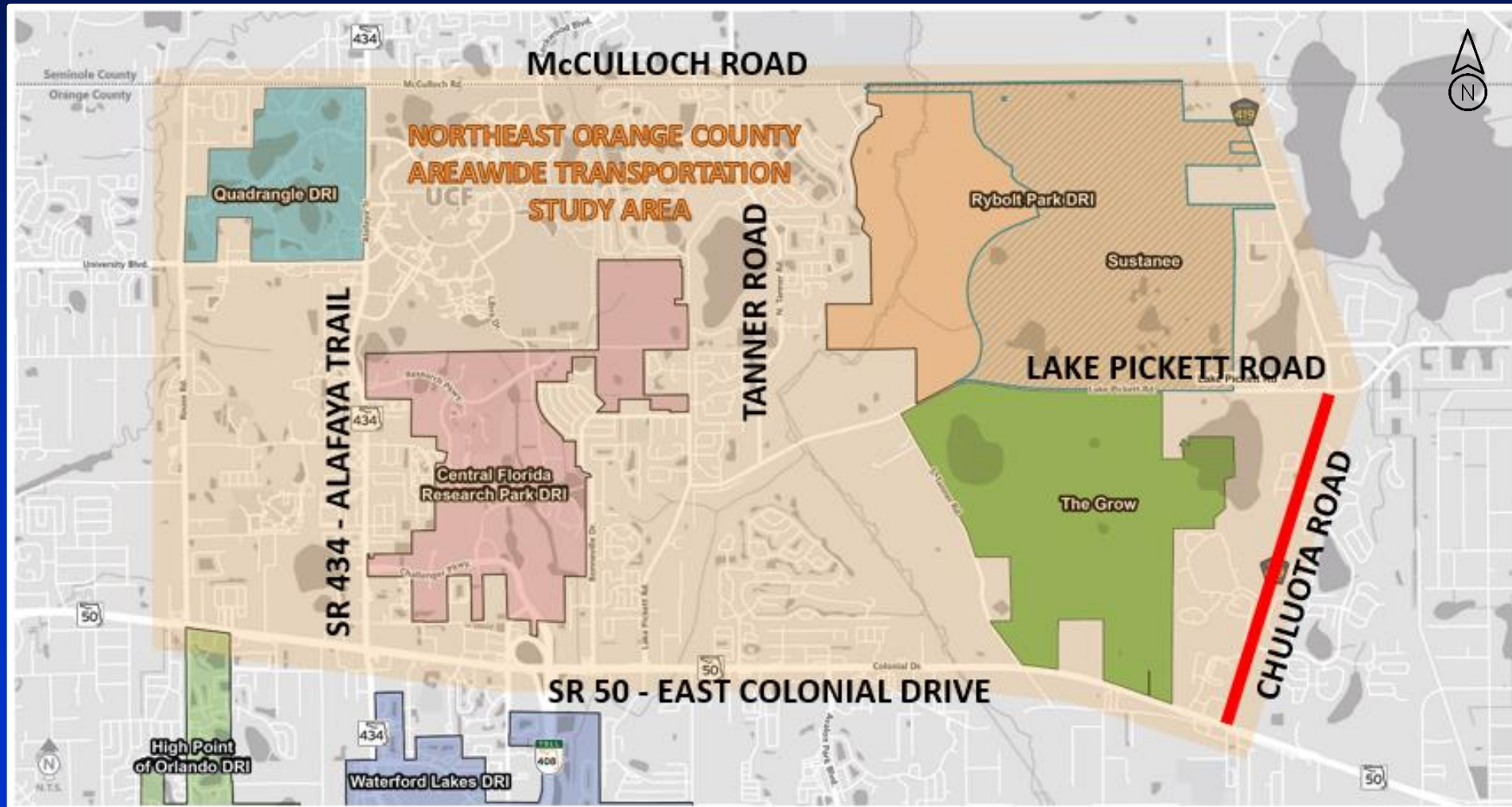
# Overview

## ■ Study Process



# Overview

## ■ Project Location





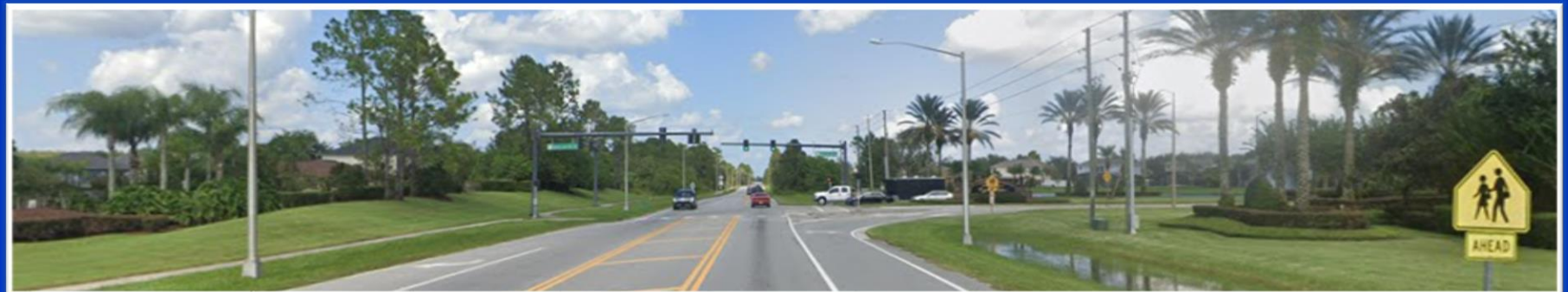
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# Existing Conditions

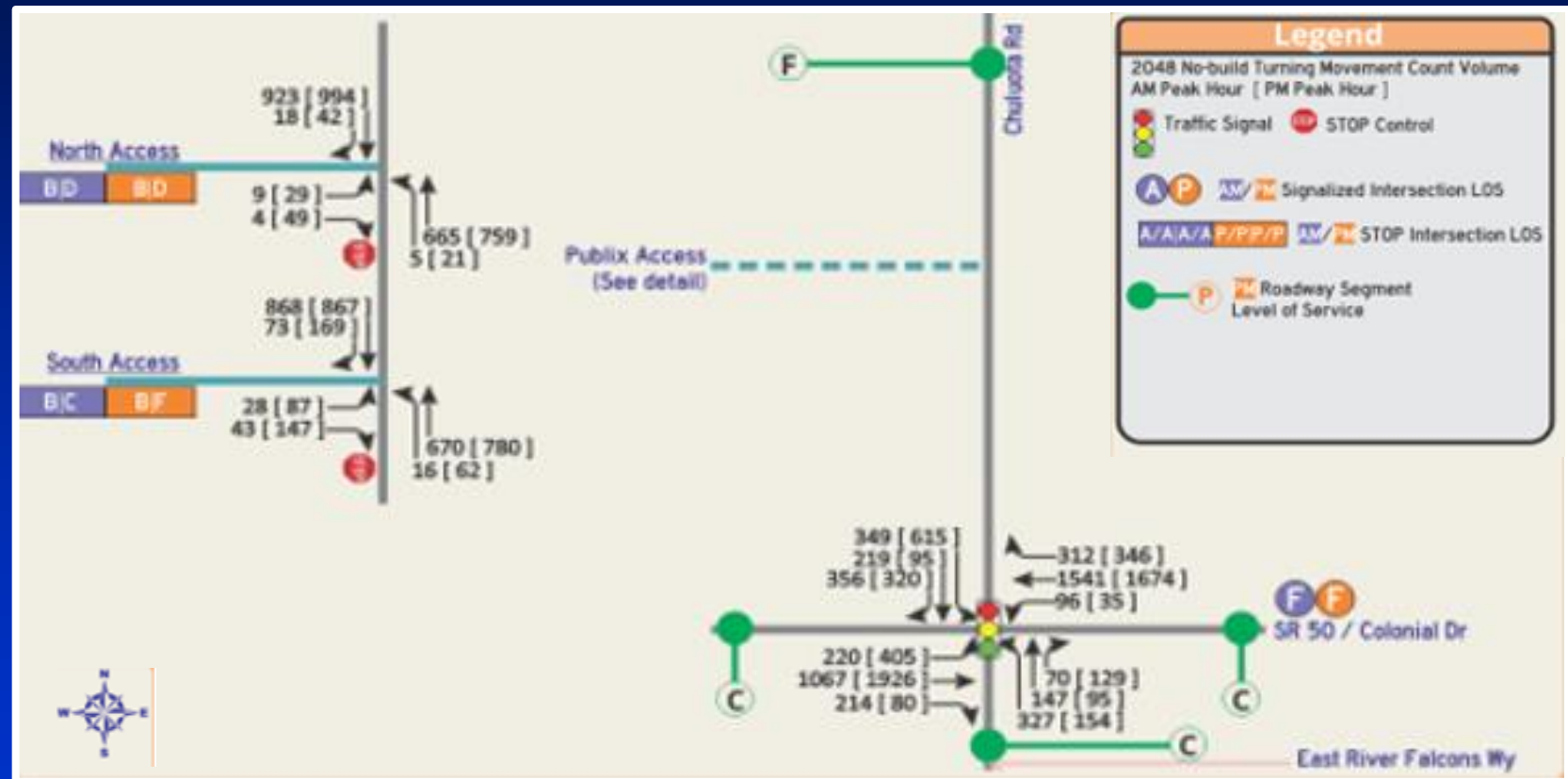
- **Roadway Characteristics**
  - Two-lane roadway with flush paved shoulders
  - Open ditch drainage with no stormwater ponds
  - Sidewalks are present along portions of the project
  - The existing right of way varies from 100 to 130 feet





# Existing Conditions

- Traffic volumes range from 11,500 to 15,400 vehicles per day
- Segments of Chuluota Road projected to operate at a Level of Service F In Design Year - 2048

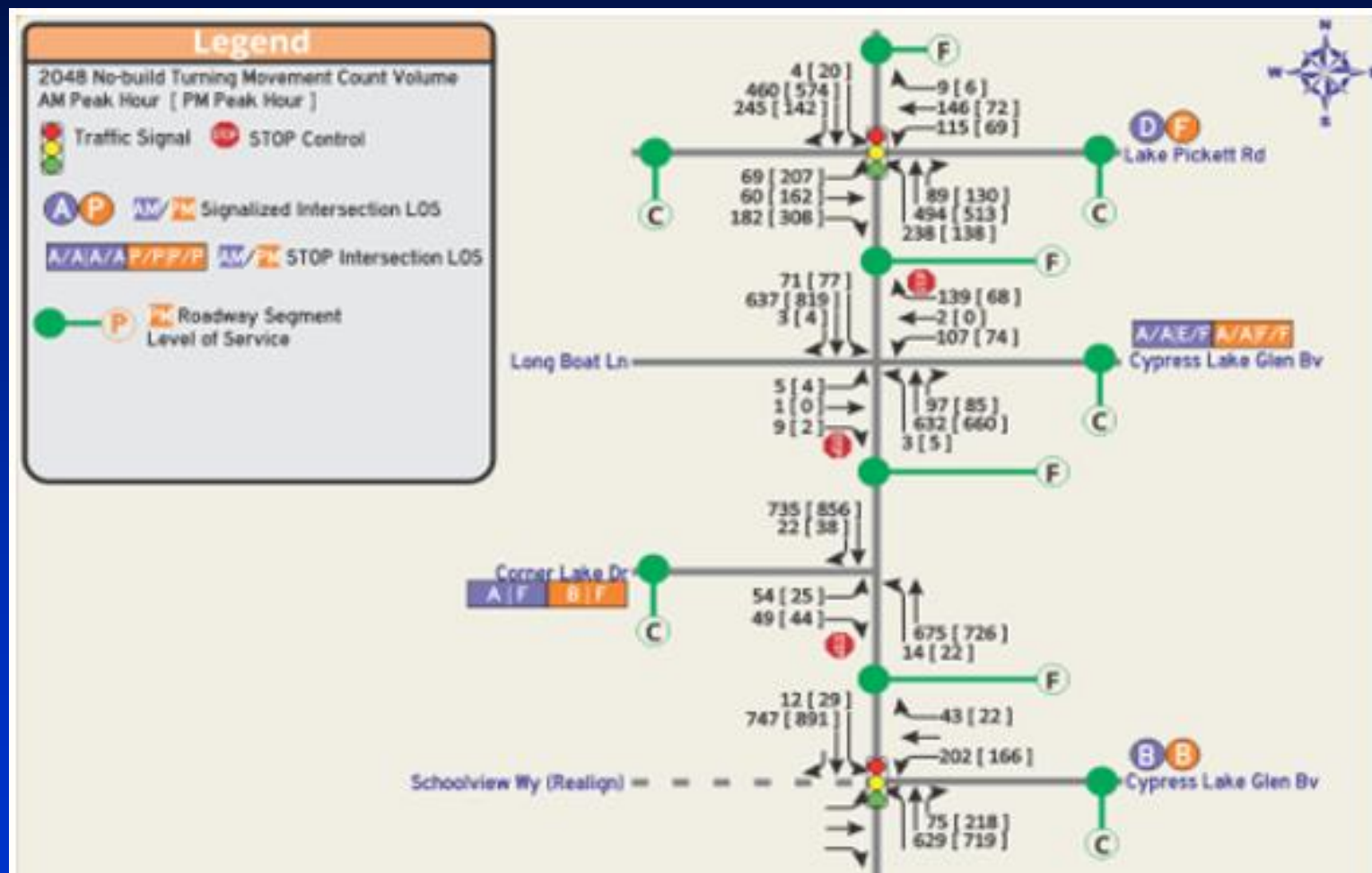






# Existing Conditions

- Traffic volumes range from 11,500 to 15,400 vehicles per day
- Segments of Chuluota Road projected to operate at a Level of Service F In Design Year - 2048







# Existing Conditions

## ■ Bicycle and Pedestrian Counts

Study Intersections	Pedestrian Volumes						Bicycle Volumes						Combined Volumes					
	AM		MID-DAY		PM		AM		MID-DAY		PM		AM		MID-DAY		PM	
	6:00-9:00		12:00-2:00		4:00-7:00		6:00-9:00		12:00-2:00		4:00-7:00		6:00-9:00		12:00-2:00		4:00-7:00	
	Major	Minor	Major	Minor	Major	Minor	Major	Minor	Major	Minor	Major	Minor	Major	Minor	Major	Minor	Major	Minor
Chuluota Road																		
Lake Pickett Road	0	0	0	0	0	0	0	0	0	0	1	1	0	0	0	0	1	1
Long Boat Lane/Cypress Lake Gl Blvd (N)	2	6	0	1	2	4	3	2	1	0	6	2	5	8	1	1	8	6
Corner Lake Drive	0	3	0	2	0	4	3	2	1	0	6	2	3	5	1	2	6	6
Cypress Lake Gl Blvd (S)	12	3	20	1	12	6	10	0	3	1	5	0	22	3	23	2	17	6
Corner Lake Plaza (Both Driveways)	0	5	0	20	0	9	1	11	0	1	0	3	1	16	0	21	0	12
SR 50	4	16	7	52	1	3	3	9	2	8	3	2	7	25	9	60	4	5



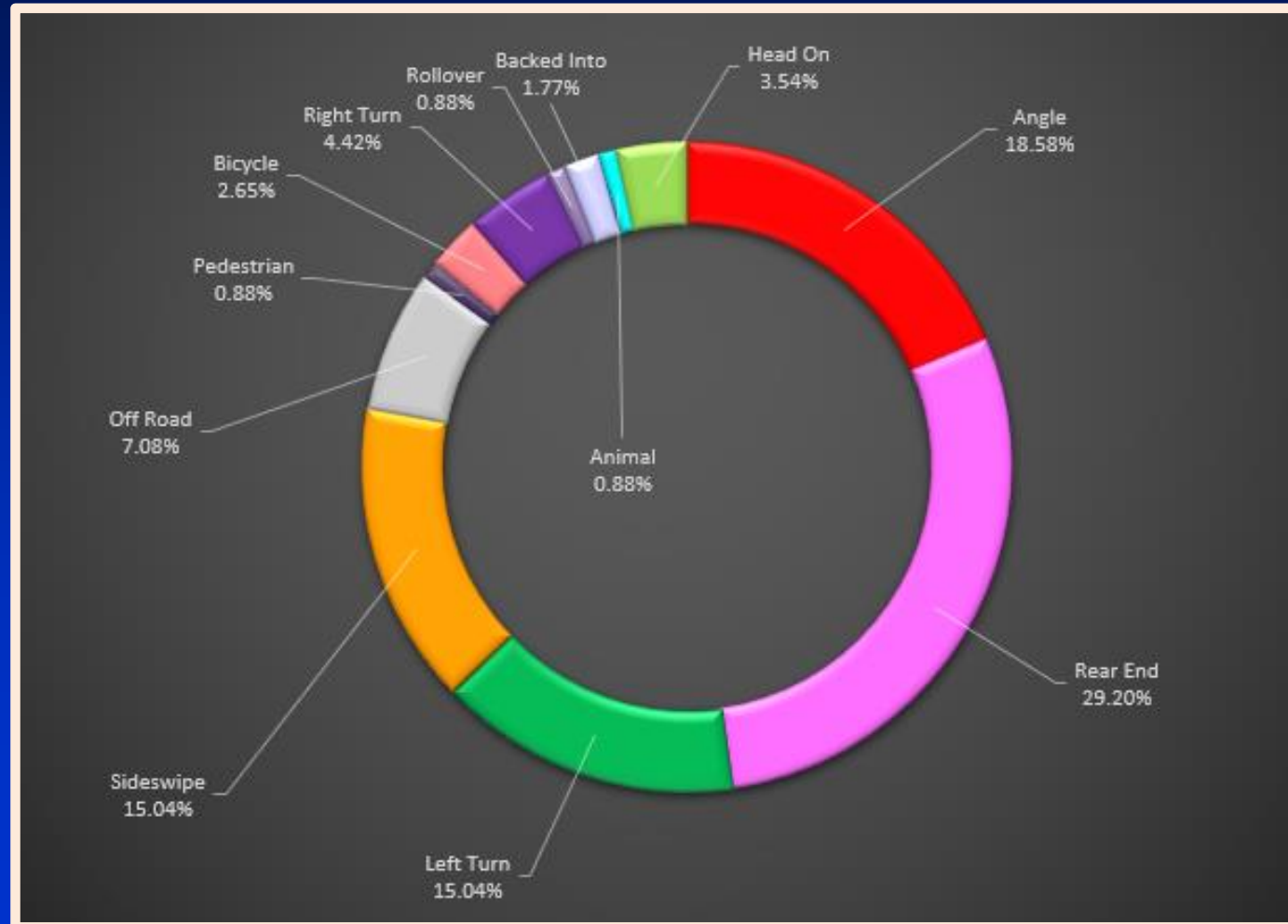


# Existing Conditions

## ■ Crash History

Five-Year Period 2016 – 2020:

- 113 Total Crashes
- 36 Injury Crashes
- No Fatalities
- One Pedestrian Crash
- Three Bicycle Crashes

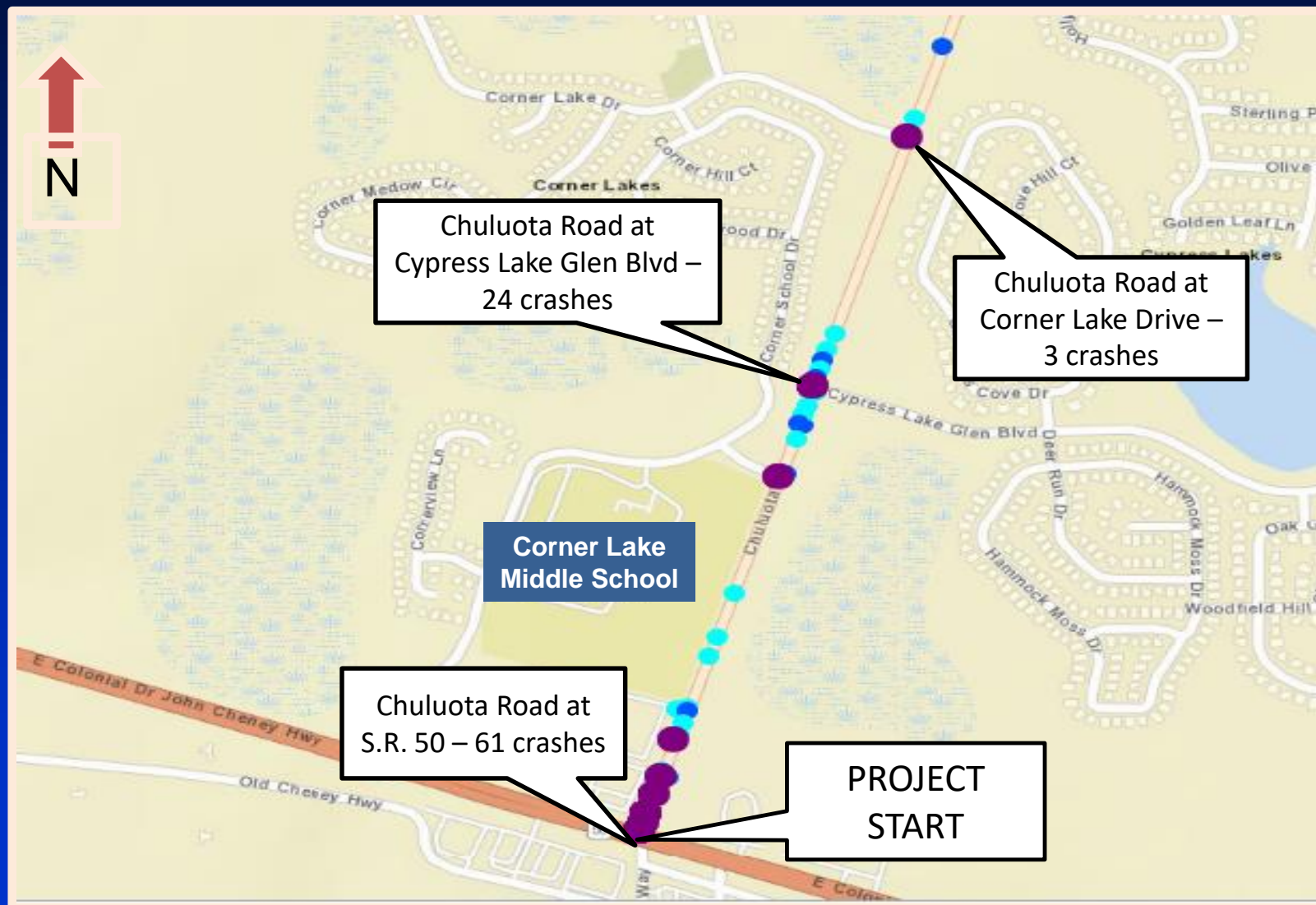






# Existing Conditions

- Crash History
  - South Section (2016-2020)

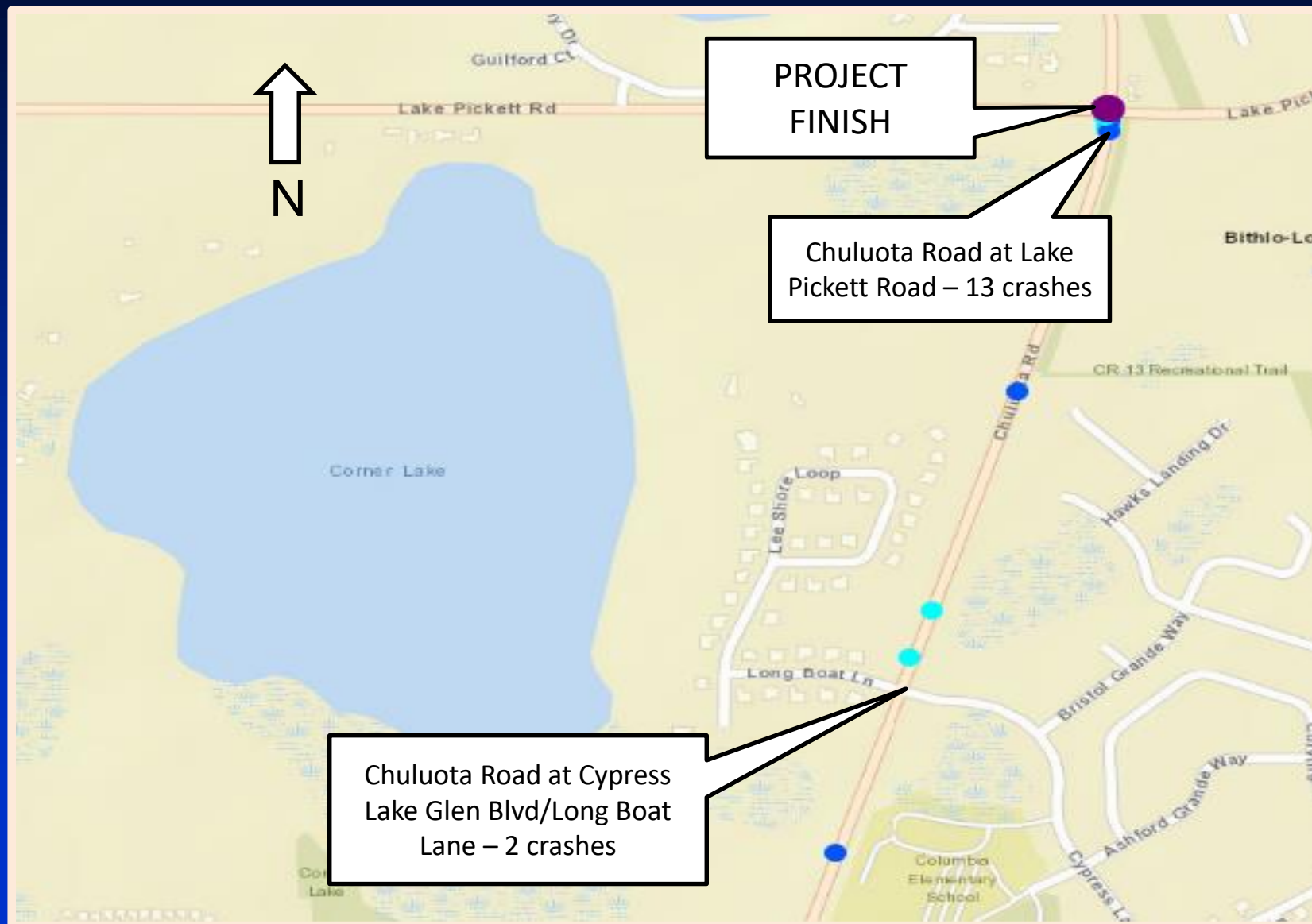






# Existing Conditions

- **Crash History**
  - North Section  
(2016-2020)





# Recommended Improvements

## ■ Environmental Assessment

- Wetland impacts expected to be minimal
- Riparian Habitat Protection Zone (RHPZ) impacts expected to be minimal
- Habitat supporting flora and fauna species of concern including Gopher tortoise, snail kite, Florida sandhill crane, wood stork, little blue heron, tri-colored heron, and American alligator is present in the vicinity of the corridor
- Species counts will be performed during design
- No Impacts to potential high or medium risk contamination sites

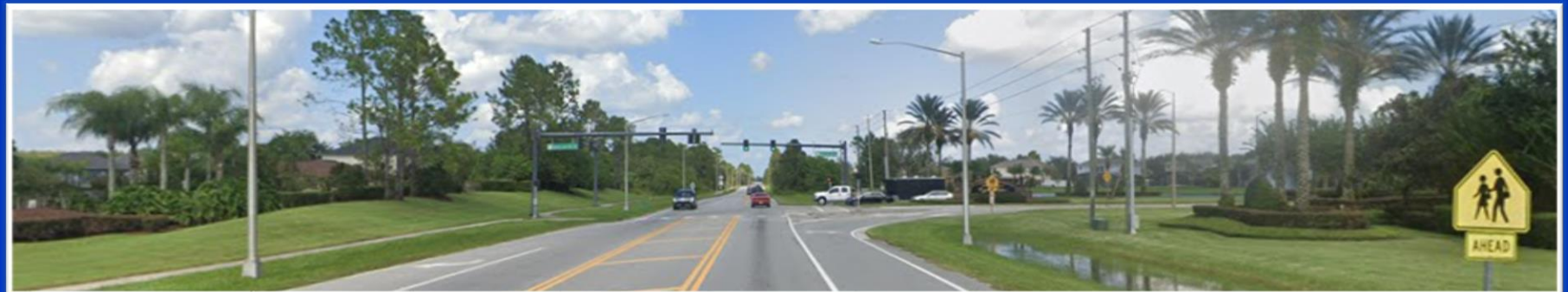






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# Recommended Alternative

- Context Classification C3C Suburban Commercial and C3R Suburban Residential



**Allows for 35-45 mph Design Speed According to Context**  
**Allows the Creation of Project Specific Transition Zones**



# Recommended Alternative

## STRATEGIES TO ACHIEVE DESIRED OPERATING SPEED FOR ARTERIALS AND COLLECTORS

CONTEXT CLASSIFICATION	DEIGN SPEED (MPH)	STRATEGIES
<b>C3R</b>	45-55	ProJet 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
<b>C3C</b>	40-45	Roundabout, Lane Narrowing, Horizontal Deflection, Speed Feedback Signs, Rectangular Rapid Flashing Beacons (RRFB), and Pedestrian Hybrid Beacons (PHB)
	35	Roundabout, Lane Narrowing, Horizontal Deflection, Speed Feedback Signs, Median Islands in Crossings, Road Diet, RRFB and Hawk, Terminated Vistas

### Included in the Study:

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

### 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



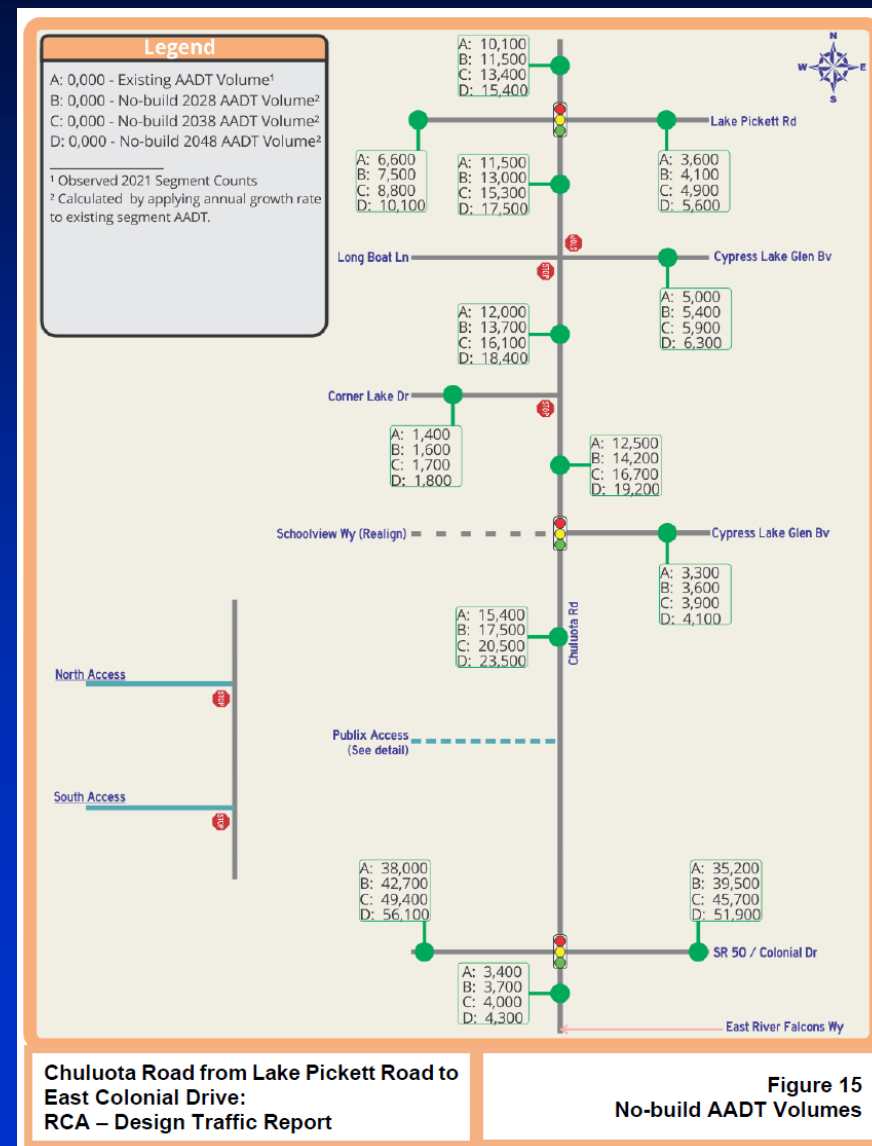
# Recommended Alternative

## 2048 Design Year Traffic

### CHULUOTA ROAD RCA DESIGN YEAR AADT

ROADWAY SEGMENT	AADT
SR 50 - Cypress Lake Glenn Boulevard	23,500
Cypress Lake Glenn Boulevard - Corner Lake Drive	19,200
Corner Lake Drive - Long Boat Lane	18,400
Long Boat Lane - Lake Pickett Road	17,500

- Traffic forecast - Without widening segments are projected to reach LOS F by the design year
- NEOCATS – Listed segment as currently at capacity
- FDOT Quality/Level of Service Handbook - LOS E for C3C = 19,530 ADT
- According to the Orange County Currency Management System no additional capacity is not available for the study segment. Proposed developments are contributing the Proportionate Fair Share





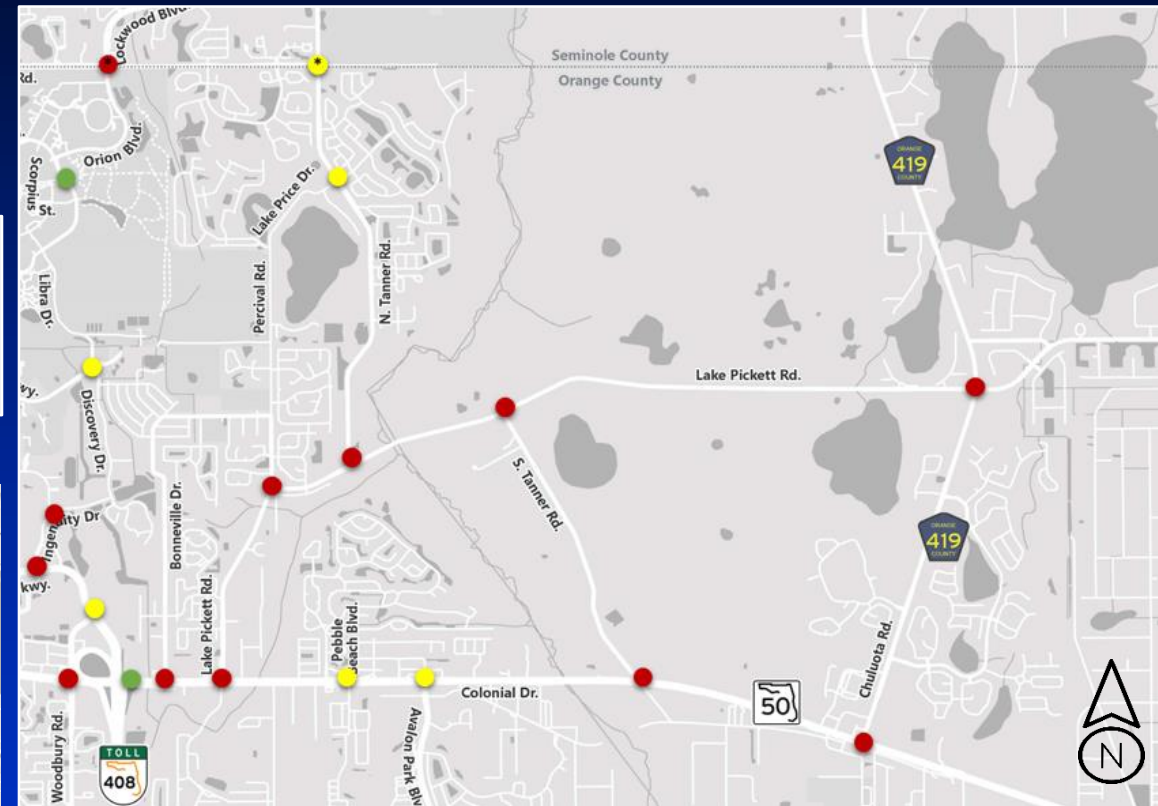
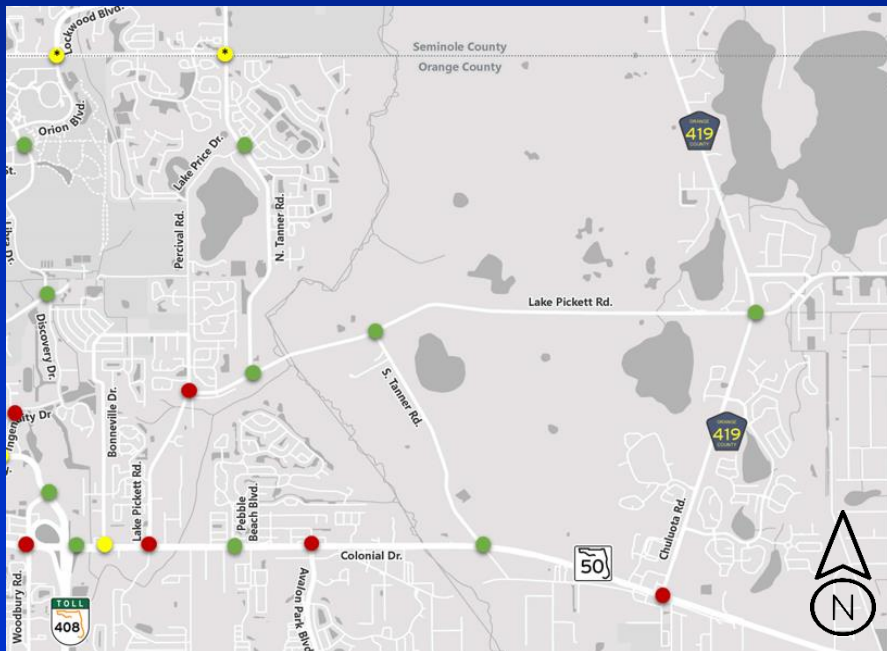
# Overview



NEOCATS  
Segments  
Currently  
Over  
Capacity



## NEOCATS Intersections Existing Conditions

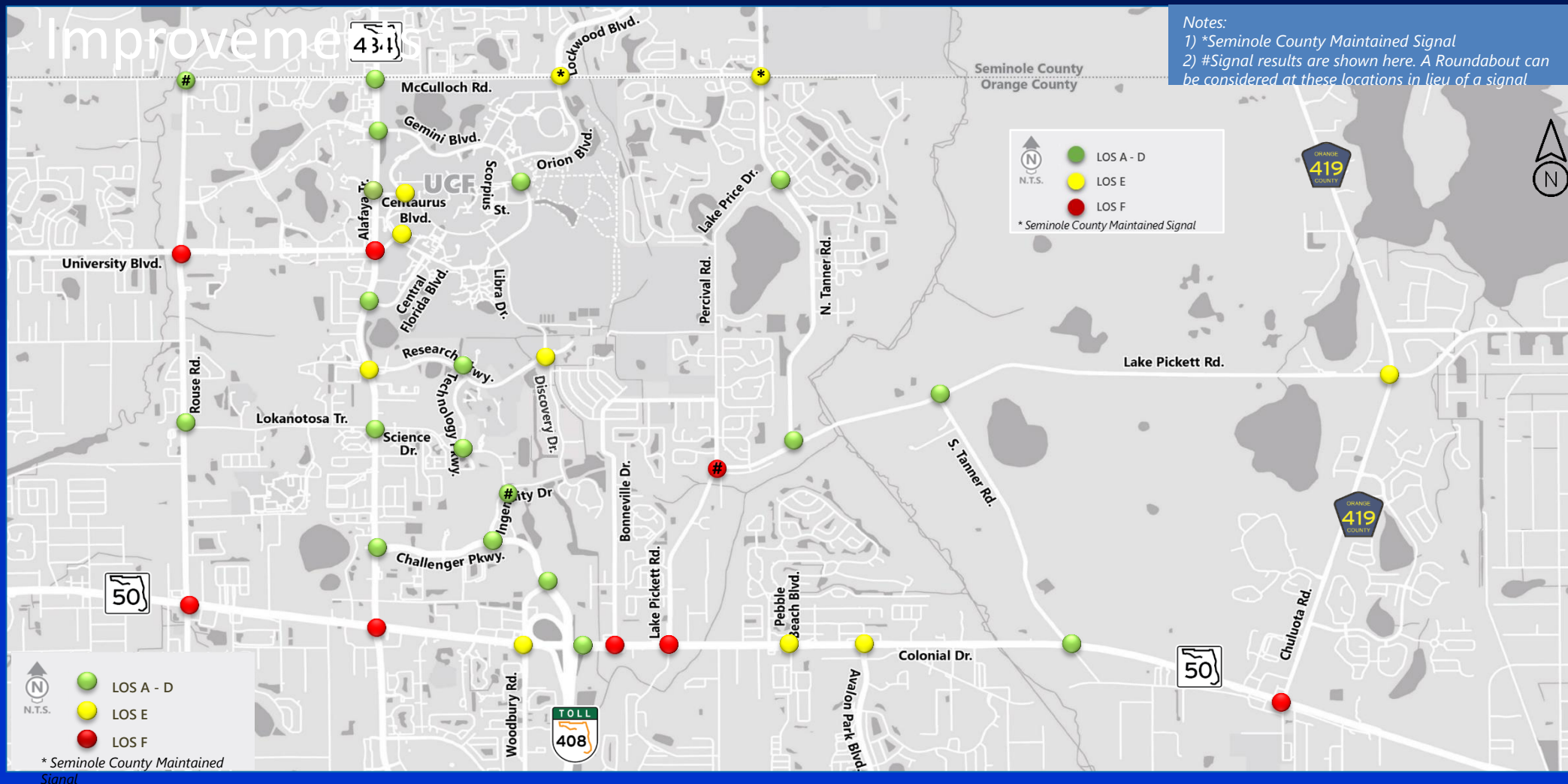


## NEOCATS Intersections 2045 No Build



# Overview

## Future Build Traffic Conditions with Programmed/Planned





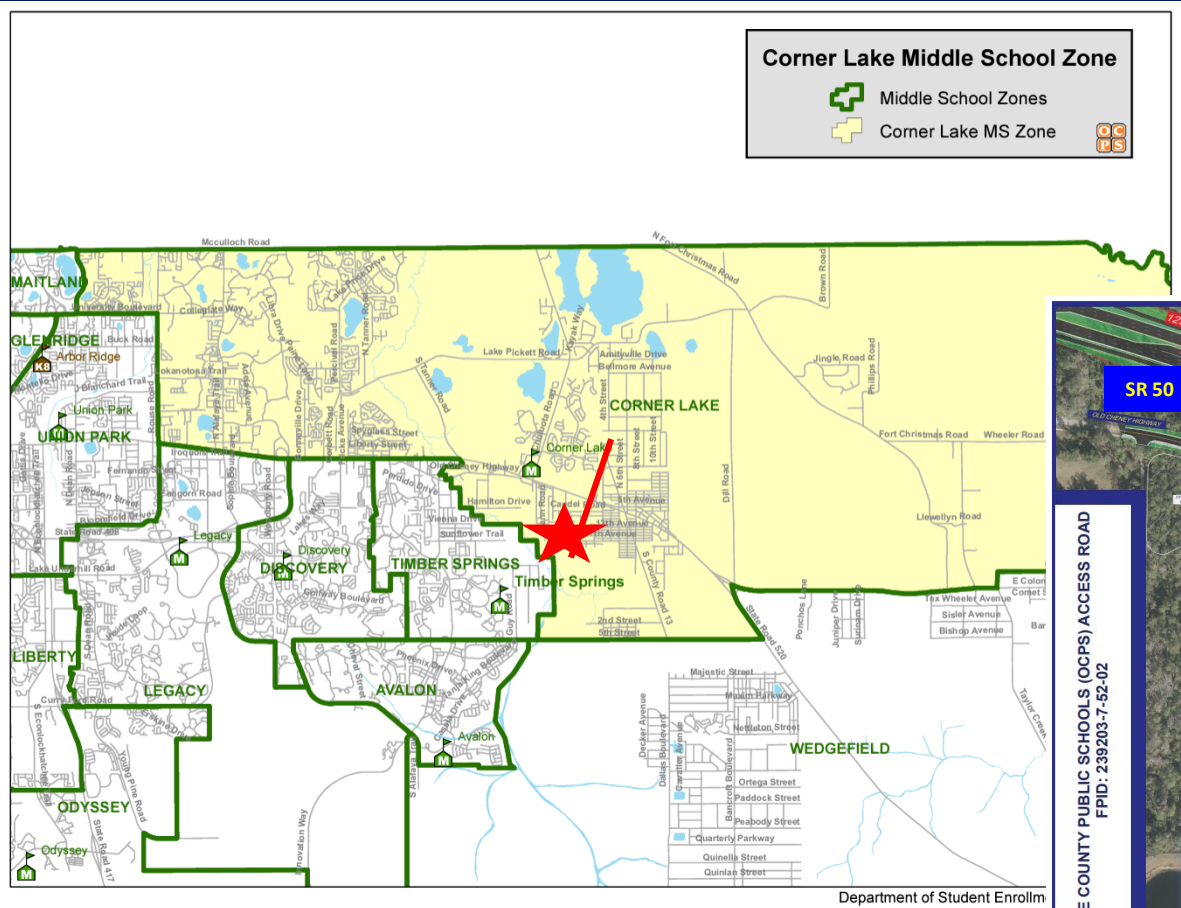
# Recommended Alternative

Study Intersections	Future Traffic Control	Peak Hour Period	2048 Build Four-Lane Chuluota Road Cross Section									
			EB		WB		NB		SB		Overall	
			Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Chuluota Rd Lake Pickett Rd	Signal	AM	31.5	C	33.6	C	17.5	B	27.6	C	24.5	C
		PM	30	C	37	C	20.6	C	27	C	25.8	C
	R/A	AM	19.5	C	26.6	D	8.8	A	21.5	C	16.9	C
		PM	305.1	F	15.4	C	16.7	C	11.6	B	95.9	F
Chuluota Rd Cypress Lake Glen Bv (S)	Signal	AM	20.6	C	29.4	C	22.9	C	20.5	C	22.5	C
		PM	29.9	C	28.3	C	20.5	C	19.2	B	21	C
	R/A	AM	10	A	13.3	B	6.4	A	9.4	A	8.7	A
		PM	19.6	C	14.4	B	9.7	A	11.6	B	11.3	B

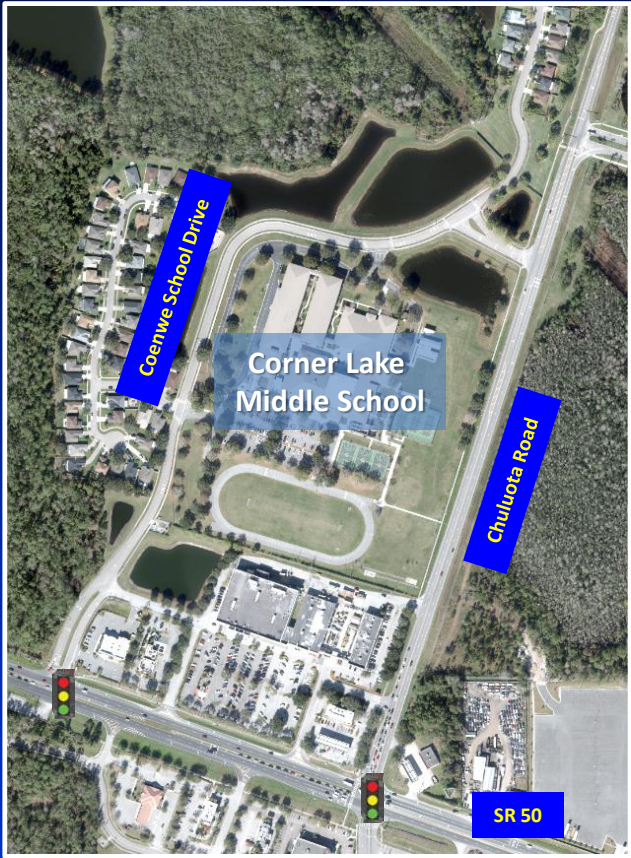
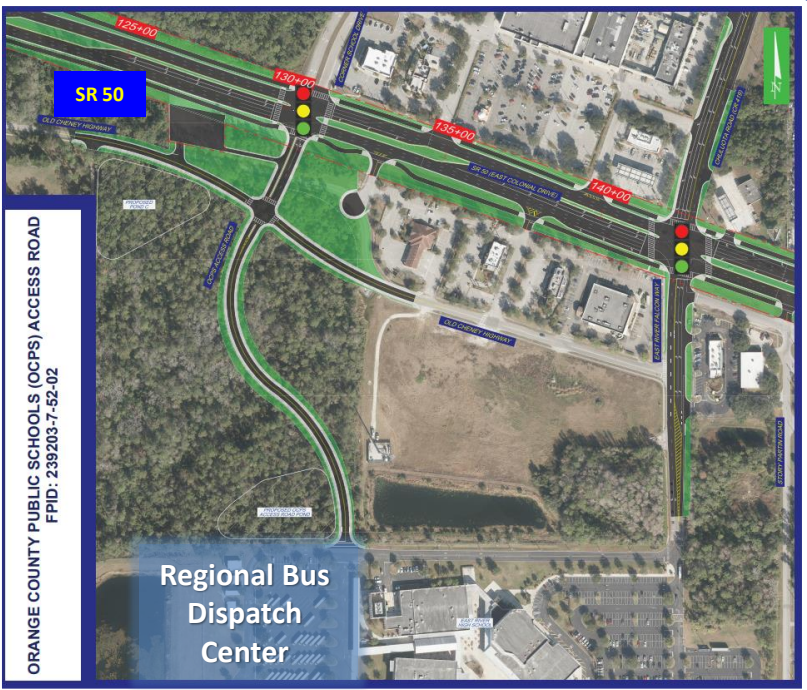
- The delay differential between traditional intersections and roundabouts was calculated
- Roundabouts are not recommended due to higher delay time, school traffic accommodation, and travel / approach speeds
- Additional considerations include ROW Impacts on existing private properties and established subdivision landscaping and monument features



■ Corner Lake Middle School Zone



FDOT Proposed Improvements

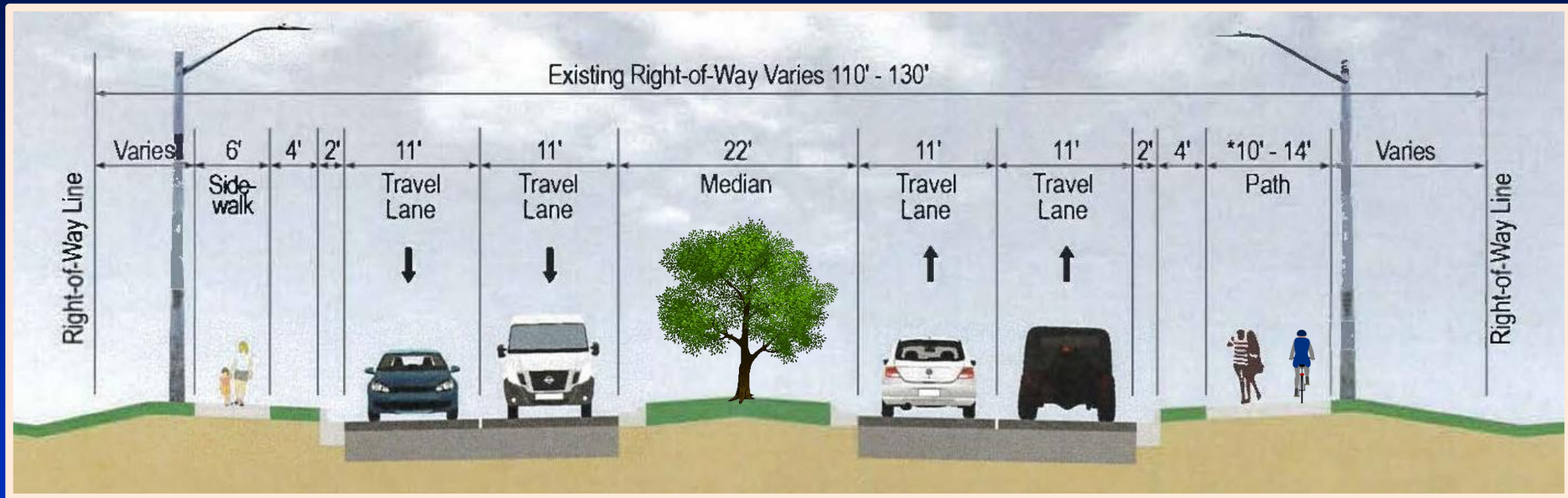






# Recommended Alternative

## Typical Section Elements From Cypress Lake Glen Boulevard to Lake Pickett Road



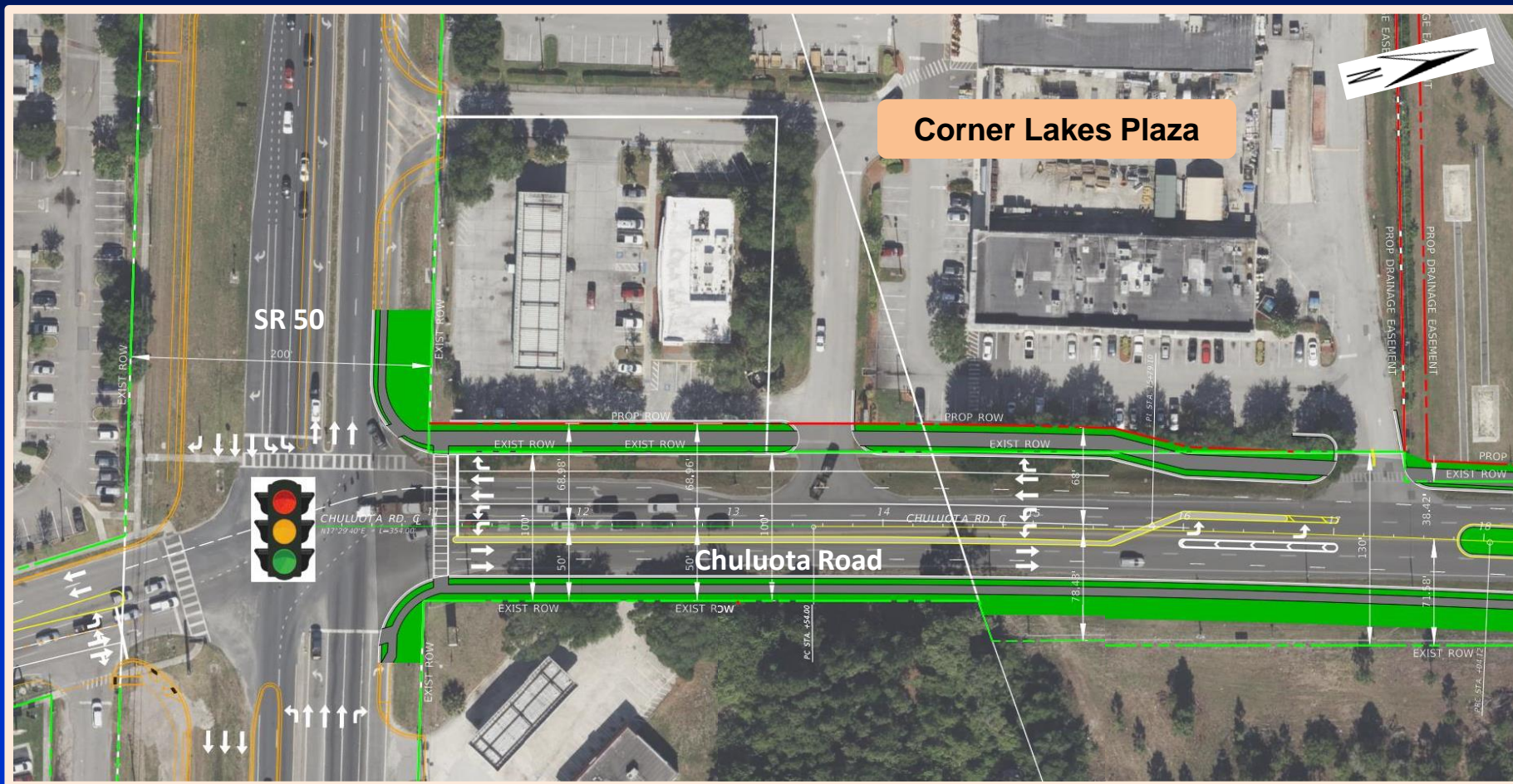
- Four 11-foot-wide travel lanes (two each direction) with 22-foot raised median
- Multi-modal accommodations consisting of 6-foot-wide sidewalk on west side, and 10- to 14-foot-wide path on the east side of Chuluota Road
- Closed drainage system with stormwater treatment ponds
- Nominal 120' right-of-way required which can be accommodated within the existing right-of-way



# Recommended Alternative

## ■ Access Management Changes at Corner Lake Plaza

- Only right-in, right-out movements will be provided at the south driveway to Corner Lakes Plaza given the close proximity to SR 50
- Full access to Corner Lakes Plaza will be provided at the north driveway to accommodate shopping center movements







# Recommended Alternative

- **Changes at Cypress Lake Glen Boulevard**
  - Provide new westerly connection to Corner School Drive at the signalized Cypress Lake Glen Boulevard Intersection
  - Improves access to Corner Lake Middle School
  - Improves operations along Chuluota Road



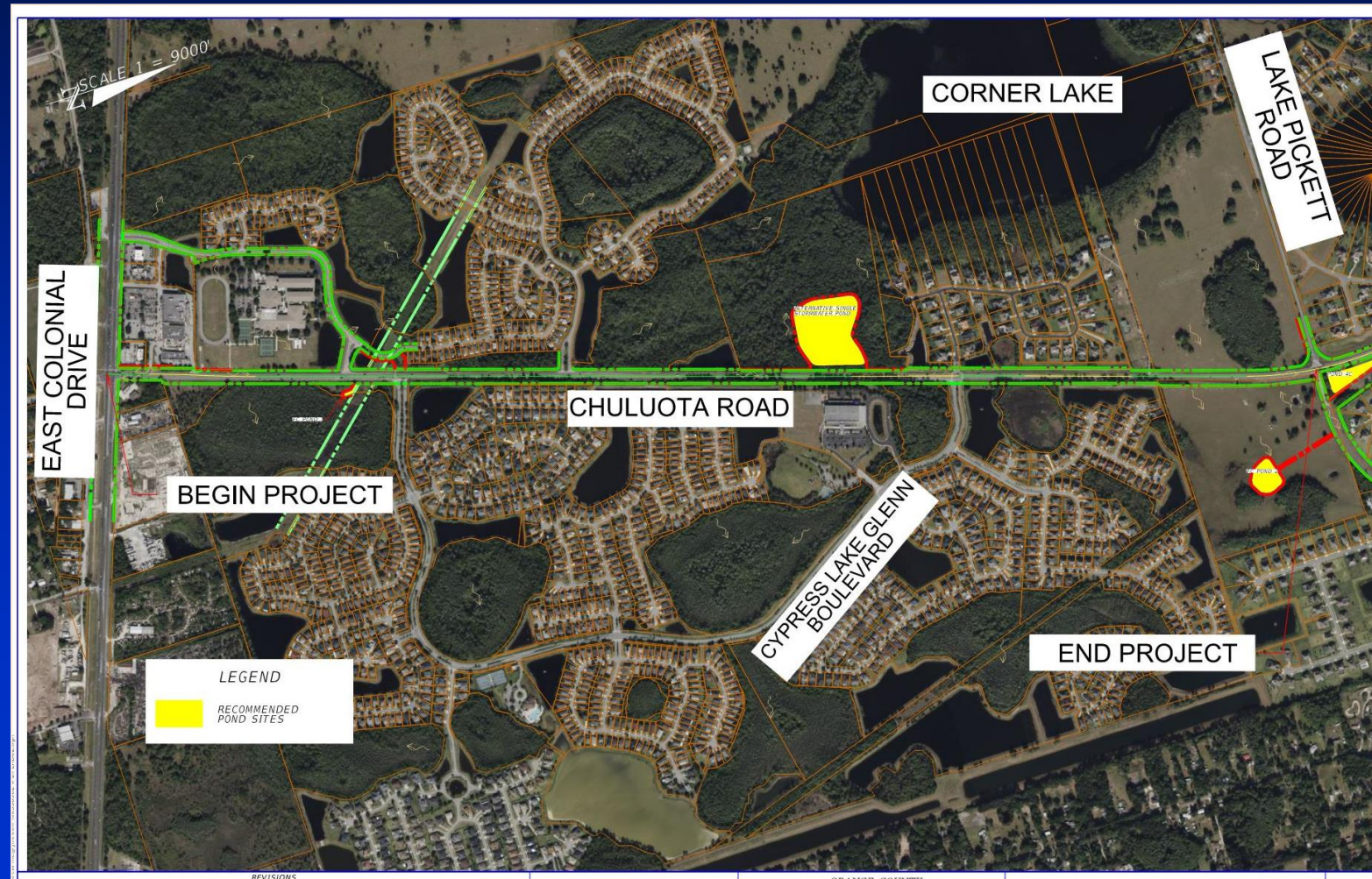




# Recommended Alternative

## ■ Recommended Pond Sites

- Two preferred stormwater ponds
- Two preferred floodplain compensation ponds







# Recommended Alternative

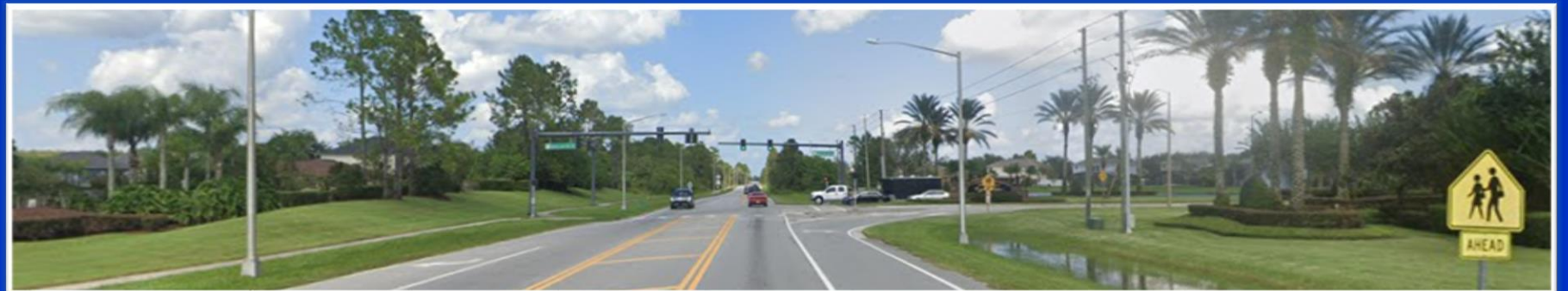
<b>Chuluota Road RCA</b> From SR 50 to Lake Pickett Road  <b>Alternatives Evaluation Matrix</b>		
	<b>No-Build Alternative</b>	<b>Preferred Alternative</b>
<b>Evaluation Criteria</b>	<b>No Improvements</b>	<b>Four-Lane Urban Section with 6' SW and 10-14' Path</b>
<b>Relocations</b>		
Number of Residential Acquisitions	None	1
Number of Business Acquisitions	None	None
Number of Parcels Impacted	None	10
<b>Social, Natural and Physical Impacts</b>		
Social and Neighborhood	None	Low
Archeological/Historic Sites	None	None
Threatened and Endangered Species	None	No Adverse Impacts
Wetland Impacts (Acres)	None	None
RHPZ Uplands Impacts (Acres)	None	1.03
Floodplain Impacts (Acre-Feet)	None	0.798
Potential High or Medium Ranked Contamination Sites	None	None
<b>Estimated Costs (Present Day Costs)</b>		
Estimated Construction Cost	No Cost	\$27,538,176
Design, Adm Costs (15% of Construction)	No Cost	\$4,130,726
CEI (15% of Construction)	No Cost	\$4,130,726
Right-of-Way Costs	No Cost	\$2,148,566
Wetland Mitigation	No Cost	
RHPZ Uplands Mitigation	No Cost	\$103,000
Reimbursable Utility Relocation	No Cost	
Subtotal		\$38,051,194
Contingency (20%)		\$7,610,239
<b>TOTAL ESTIMATED COSTS</b>		<b>\$45,661,433</b>





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# Public Engagement & Schedule

## ■ Public Engagement

- Call/Email
- Attend LPA and
- BCC Hearings



Newsletters



Public  
Community  
Meeting

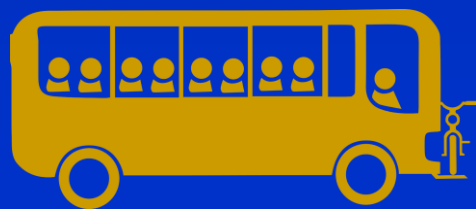


LPA Hearing



BCC Hearing

Project Website: <https://www.chuluotarca.com>





# Public Engagement & Schedule

## Public Engagement and Agency Meetings

- 2/23-24/23 Cypress Lakes HOA, President
- 2/9/23 FDOT SR50 – FDOT Public Meeting – Chuluota / SR 50 intersection
- 2/16/23 LPA Hearing
- 2/6/23 Commissioner Bonilla Meeting
- 2/6/23 Commissioner Gomez Cordero Briefing
- 2/7/23 BCC Work Session
- 2/20/23 Commissioner Moore Briefing
- 1/19/23 LPA Work Session
- 12/5/22 Community Meeting #2
- 11/7/22 Cross Life Church, pond location
- 10/6/22 Gangadai Ramnarine – NE Corner Chuluota and Pickett, Pond Location
- 9/20/22 Community Meeting
- 7/11/22 Cross Life Church – Roadway ROW and Pond location
- 6/27/22 OCPS/FDOT/OC Chuluota / East River Falcons Way





# Public Engagement & Schedule

## Public Engagement and Agency Meetings

- 6/14/22 SE Corner Pickett and Chuluota, Potential pond site / Flood Plain Comp Storage pond
- 6/14/23 Corner Lake Gardens Community Meeting (SW corner Chuluota/Pickett)OC Planning
- 6/7/22 Cross Life Church – Roadway ROW and Pond location
- 5/25/22 FDOT Chuluota / SR 50 intersection
- 5/11/22 Tree preservation meeting for Cross Life Church property
- 5/5/22 Tree preservation meeting for Cross Life Church property
- 3/4/22 Corner Lake Gardens Development Chuluota ROW needs (roadway and potential pond)
- 12/2/21 Trail Coordination Meeting (OC Parks)
- 11/12/21 OCPS Coordination Meeting
- 11/5/21 FDOT Quarterly Meeting – Chuluota Road / SR 50 intersection



# Public Engagement & Schedule

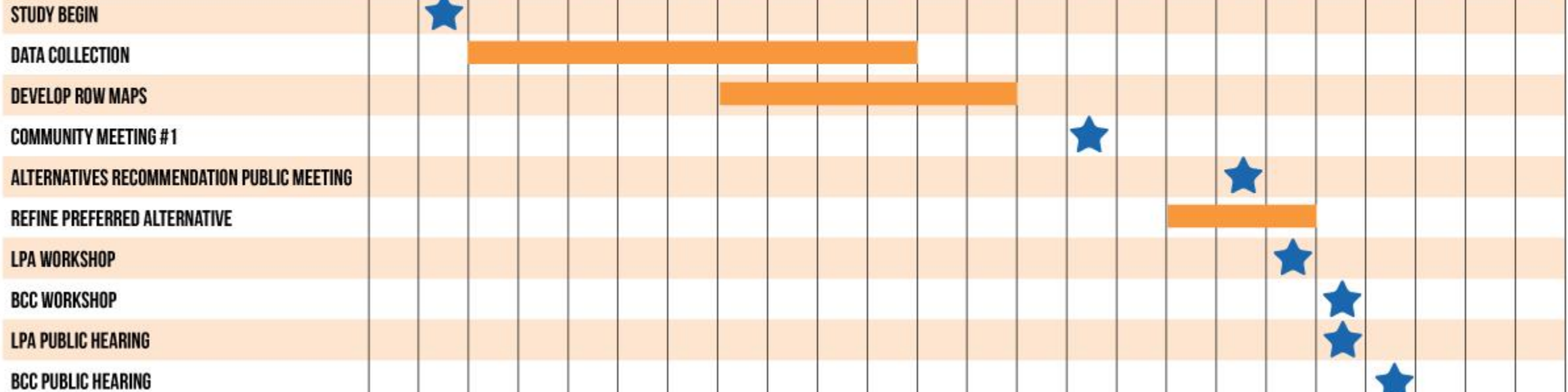
## CHULUOTA ROAD RCA PROJECT SCHEDULE

2021

2022

2023

JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC JAN FEB MAR APR MAY JUN





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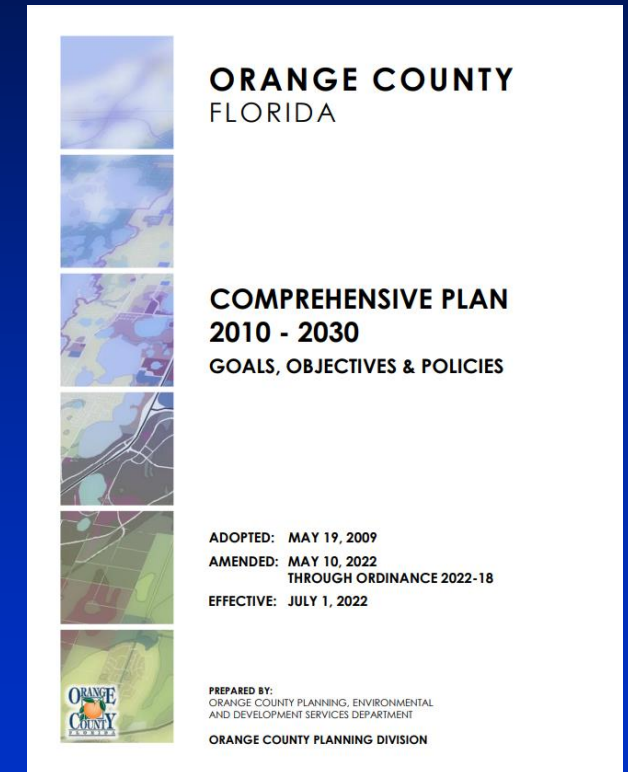






# Summary

- **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)
  - 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

- Chuluota Road is a developing collector roadway ultimately intended to connect SR 50 East Colonial Drive to Lake Pickett Road and Seminole County to the north
- The RCA considered existing and future conditions and engineering criteria to anticipate future conditions and recommend a preferred alternative which addresses access management for all modes
- Chuluota Road is being designed as a 4-lane urban roadway and will carry a significant volume of traffic in the future
- New, contiguous pedestrian/bicycle facilities are proposed
- The County has engaged the public through a variety of means





# Next Steps

CHULUOTA ROAD IMPROVEMENT SCHEDULE							
	2023	2024	2025	2026	2027	2028	2029
RCA							
DESIGN							
ROW							
CONSTRUCTION							

\*Tentative Schedule



## **Action Requested**

- **Find the Chuluota Road Roadway Conceptual Analysis Study Consistent with the Comprehensive Plan**
- **Approve the Study and Approval to Initiate Design, Right-of-way Acquisition and Construction**



*Transportation Planning Division*

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