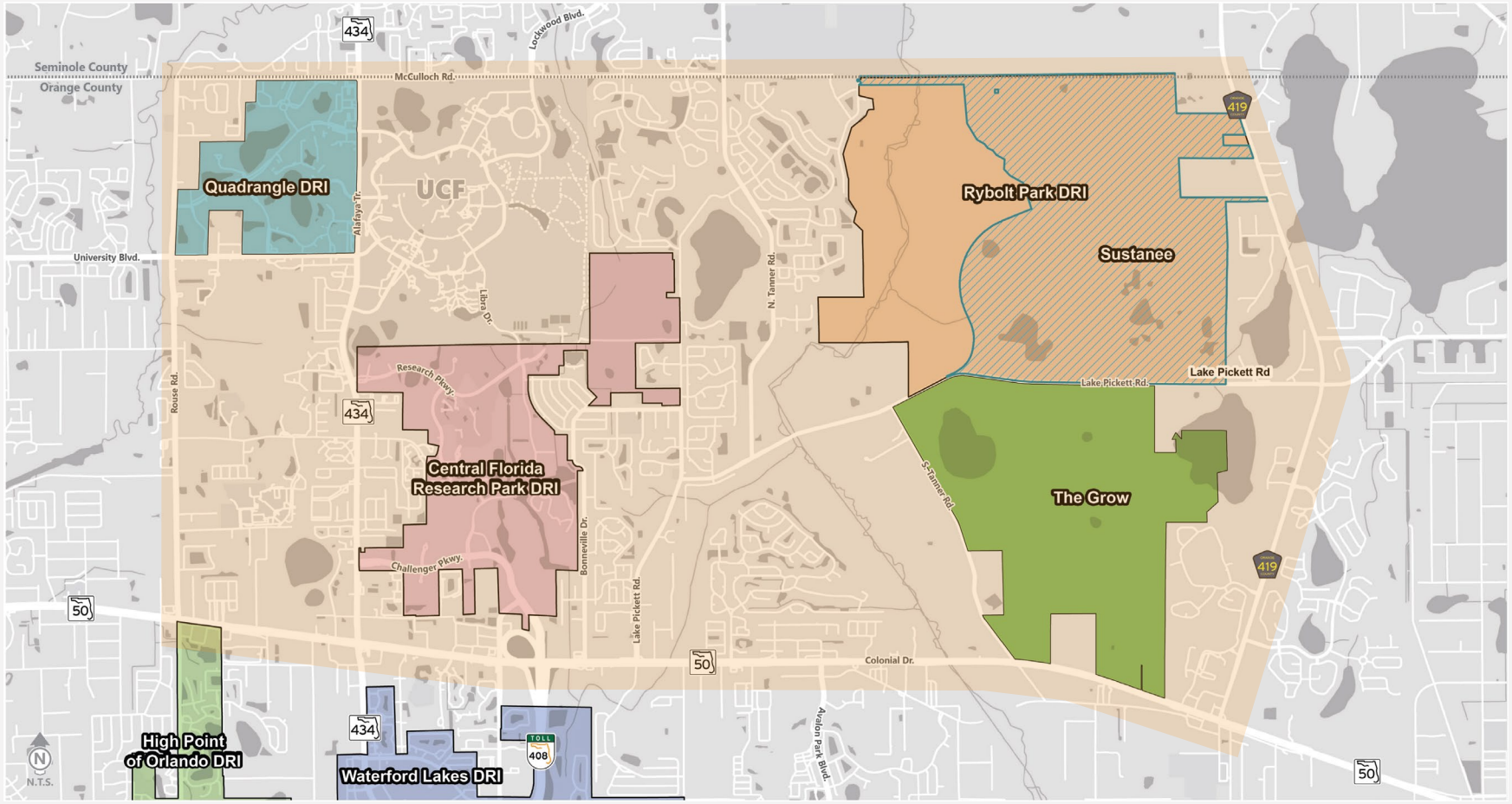
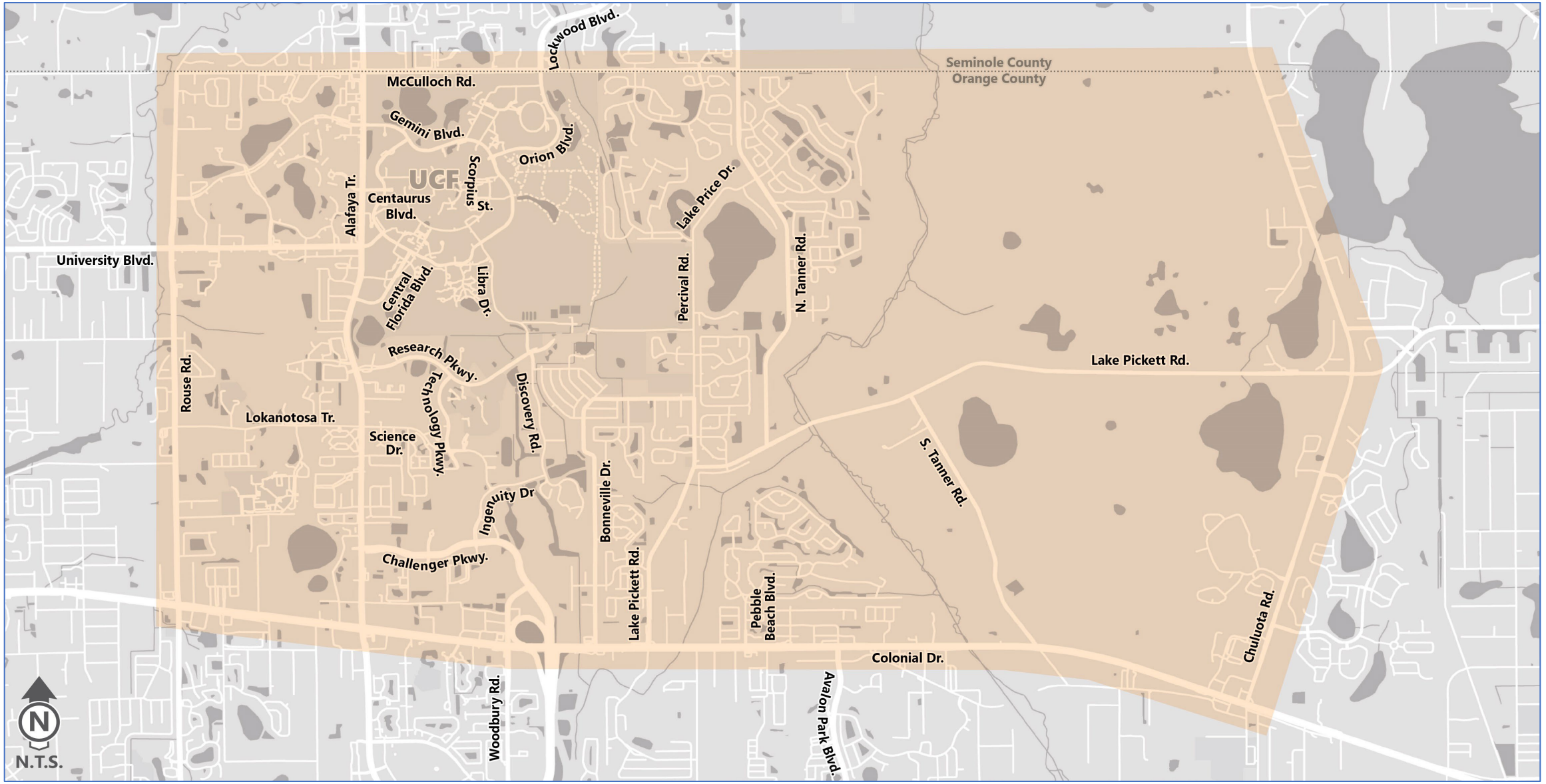
# North East Orange County Areawide Transportation Study (NEOCATS)

## Stakeholder Coordination Meeting

January 2022



# Study Area


Seminole County
Orange County
McCulloch Rd.
Lockwood Blvd.
Gemini Blvd.
Orion Blvd.
UCF
Centaurus Blvd.
Scorpius St.
Alafaya Tr.
Lake Price Dr.
University Blvd.
Central Florida Blvd.
Libra Dr.
Percival Rd.
N. Tanner Rd.
Research Pkwy.
Lake Pickett Rd.
Rouse Rd.
Technology Pkwy.
Discovery Rd.
Lokanotosa Tr.
Science Dr.
S. Tanner Rd.
Ingenuity Dr
Bonneville Dr.
Challenger Pkwy.
Lake Pickett Rd.
Pebble Beach Blvd.
Chuluota Rd.
Colonial Dr.
Woodbury Rd.
Avalon Park Blvd.
N
N.T.S.

# Agenda

- Introductions
- Agenda
- Study Purpose and Objectives
- Existing Conditions Review
- Programmed and Planned Improvements
- Future Traffic Conditions
- Multimodal & ITS Improvements
- Study Timeline
- Feedback and Discussion

# Study Purpose and Objectives

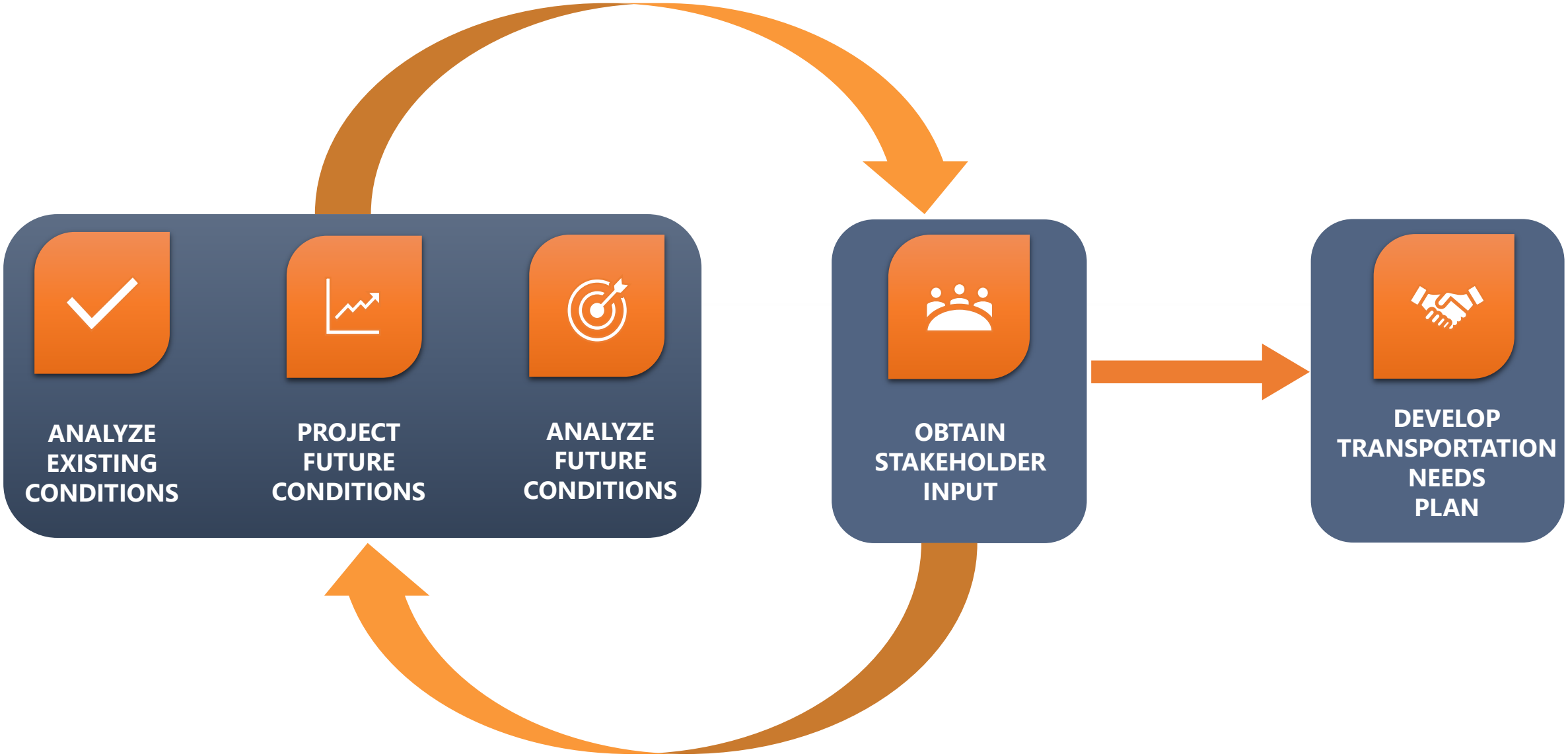
## Study Purpose

*"Support future growth while preserving community character"*

## Objectives

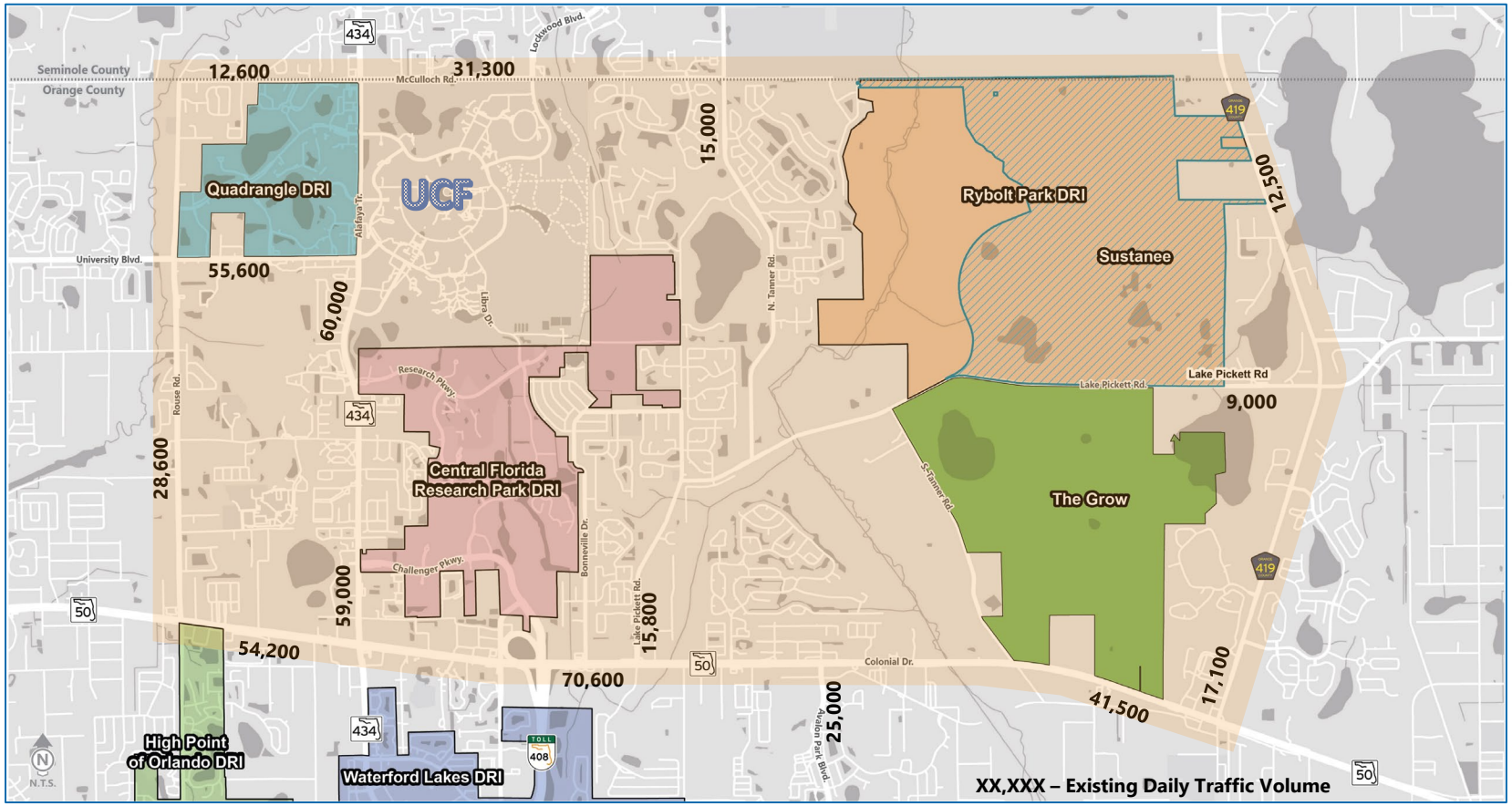
- Improve **Safety, Mobility & Connectivity** for people who drive, walk, bike and use transit
- Identify and prioritize potential transportation projects
  - Improve network connectivity
  - Provide relief to constrained corridors
  - Short-term (2025), mid-term (2035), and long-term (2045) improvements for all road users

# Study Approach



# Study Area Overview

- Major economic generators
- UCF - Second largest university in the nation
- Two major business parks
  - Central Florida Research Park
  - Quadrangle
- Major developments
  - High Point of Orlando
  - Waterford Lakes
  - Rybolt Park*/Sustanee
  - The Grow
- 37 intersections
- 22 roadways

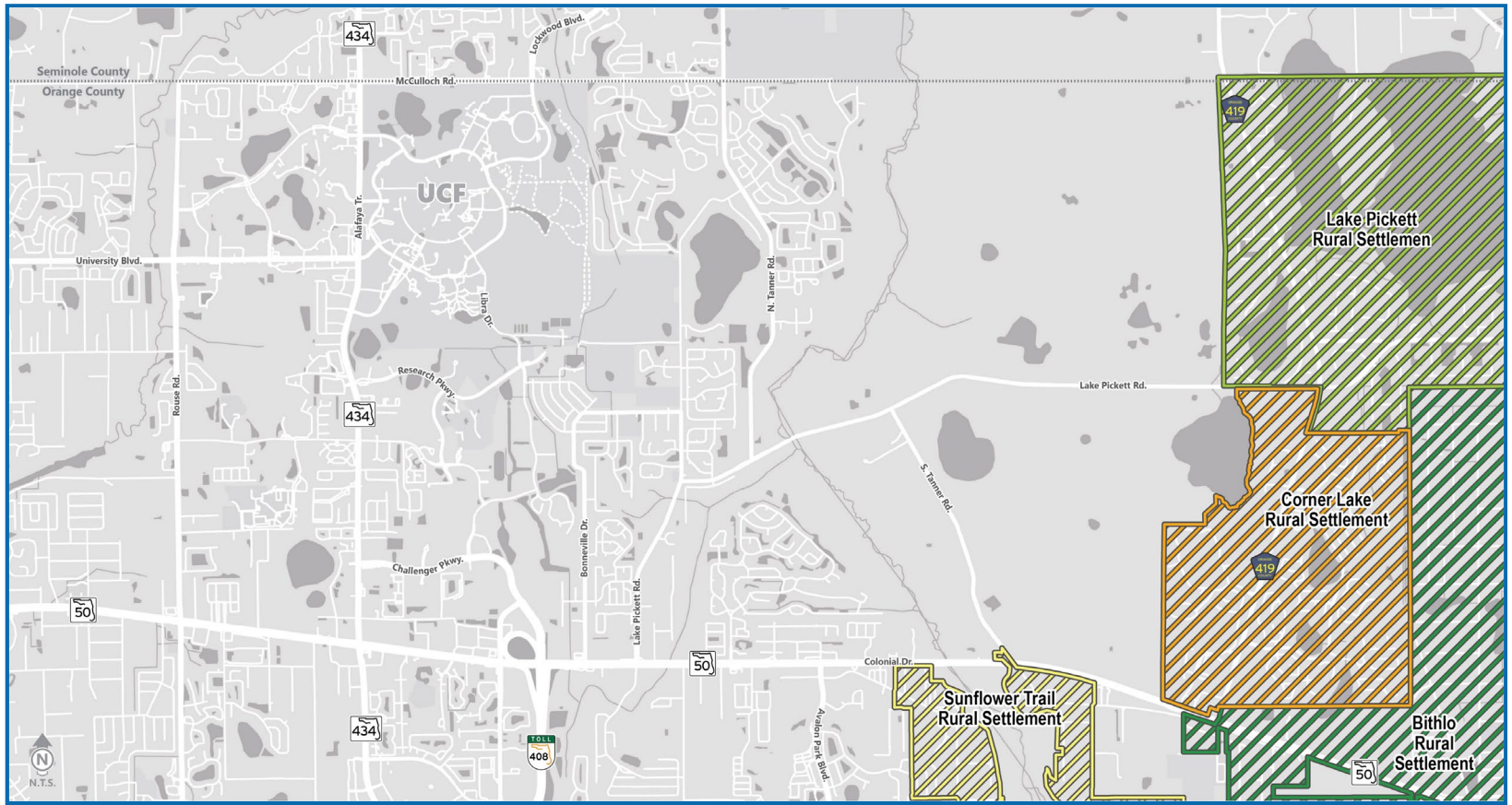



* This DRI application is withdrawn. A portion of the Rybolt Park DRI is currently being processed as Sustanee development.

# Rural Settlements

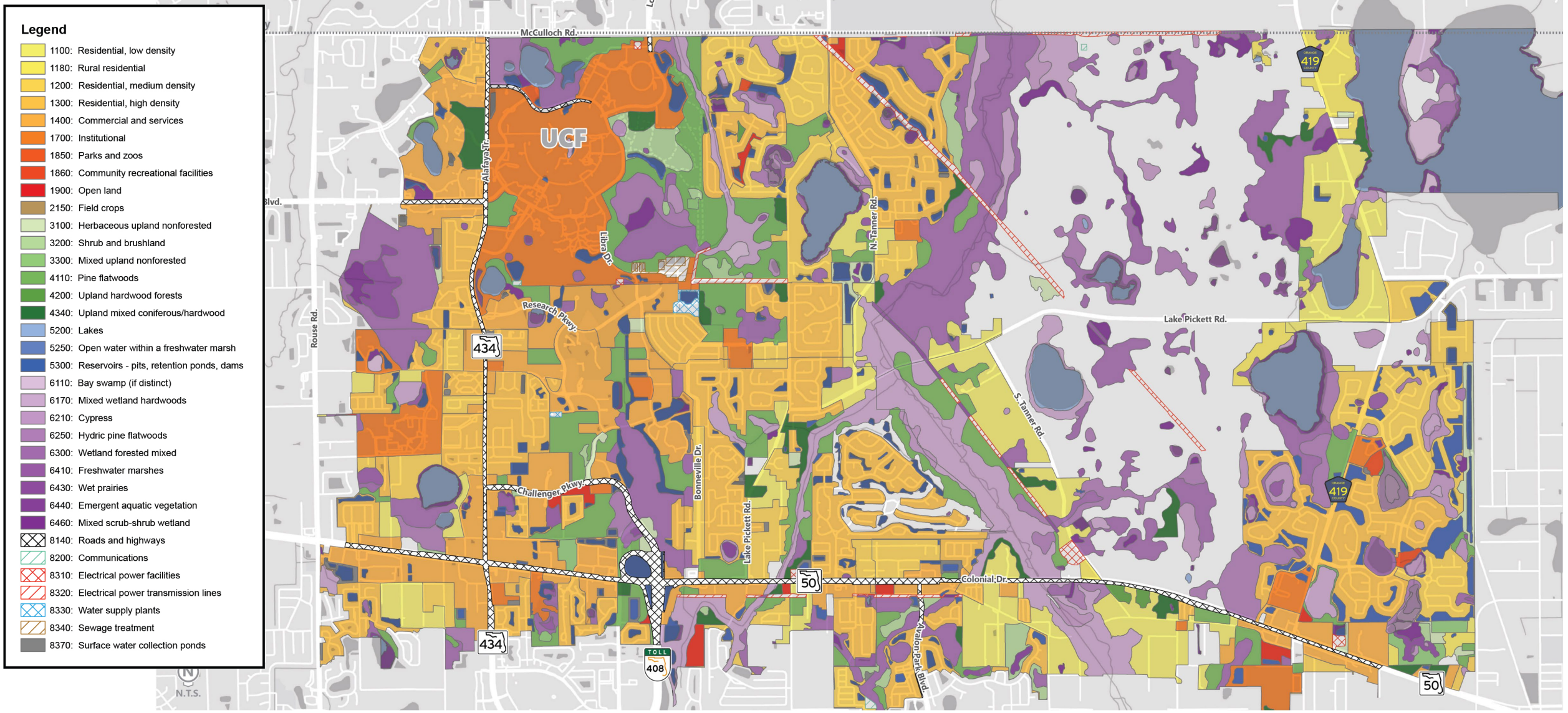
## Rural Settlements – 4

- Sunflower Trail
- Bithlo
- Lake Pickett, and
- Corner Lake




Rural Settlements

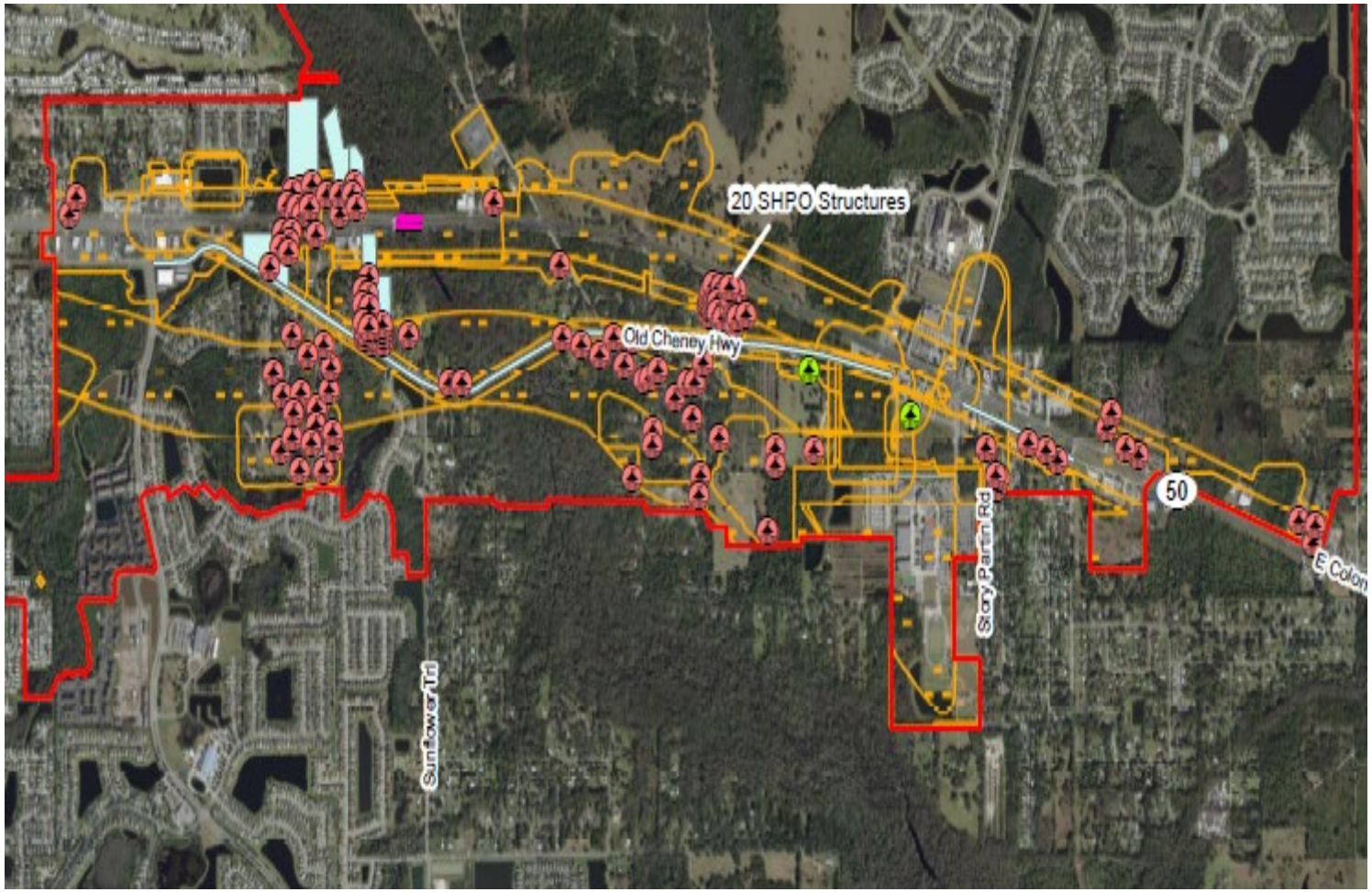
# Existing Land Use



# Environmental Analysis – Cultural Resources

## Historic/Archaeological Sites

- Structures – 153
- Bridges – 2
- Resource Groups* - 8
- No known resources eligible for National Listing




*Resource Groups are districts, landscapes, building complexes and extant linear resources – a collection of similar style historic resources in a neighborhood.

# Environmental Analysis – Social Resources

## Public Facilities

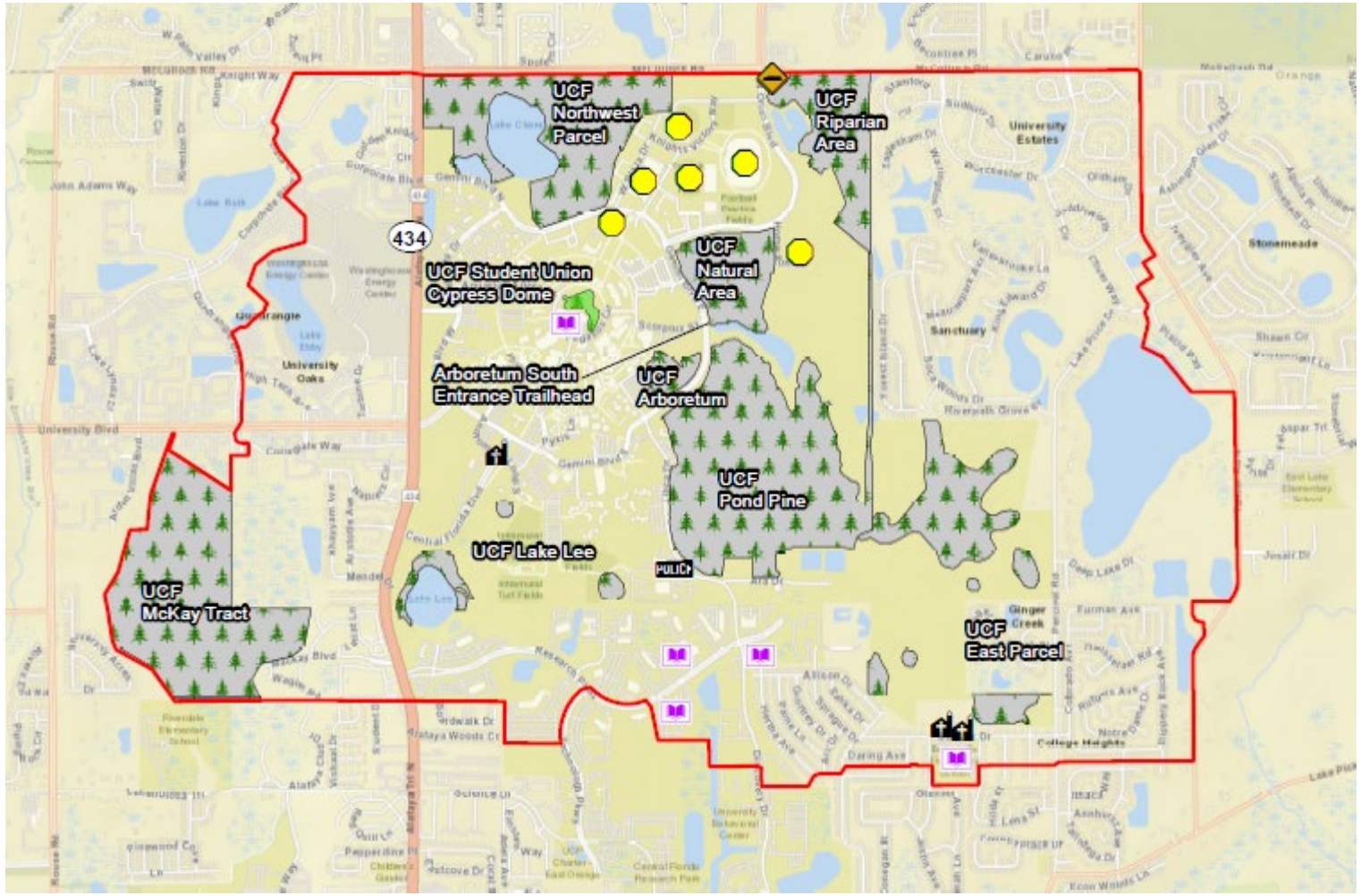
- Civic Centers -6
- Police/Fire – 3
- Health Care/Hospital – 8
- Religious Center – 5
- Schools – 17
- Veterans Facilities – 3
- Parks/Natural Lands – 25

## Utility Agency/Owned Lands

- 70

## Conservation/Public Lands

- 127



# Environmental Analysis – Natural and Physical Resources

## Potential for protected wildlife species

- 51

## Within USFWS Consultation Area for:

- Audubon's Crested Caracara
- Everglade Snail Kite
- Florida Scrub-Jay
- Red-Cockaded Woodpecker
- Wood Stork core foraging area for two colonies

## Potential wildlife crossings/habitat connectivity enhancements

- 7

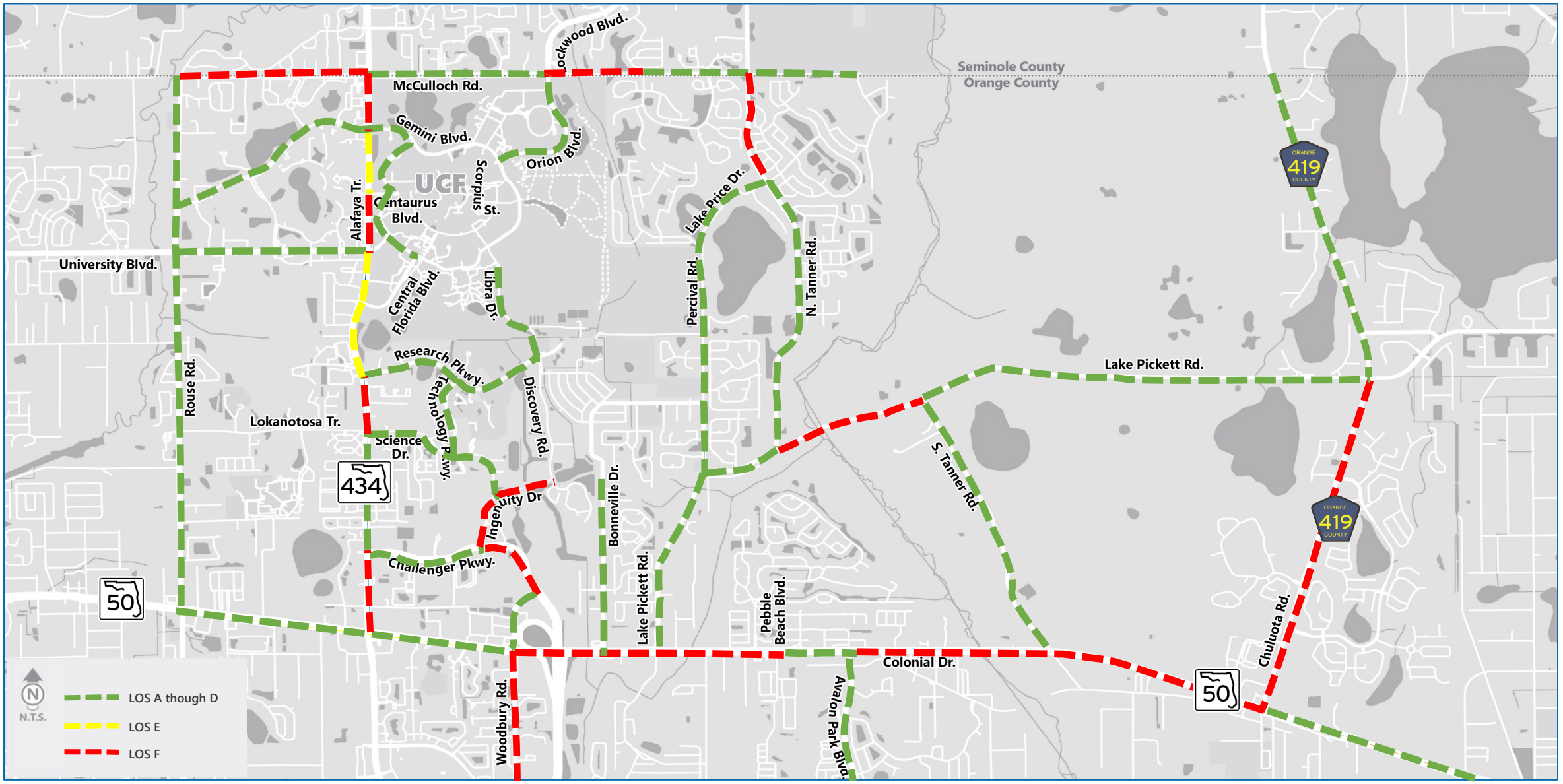
## Wetlands - 8,115+/- acres

- Econlockhatchee and Tributaries
- Lakes - Lee, Claire, Price, Ebby, Rouse, Pickett, Drawdy, Paxton, Tanner and Corner
- Unnamed systems

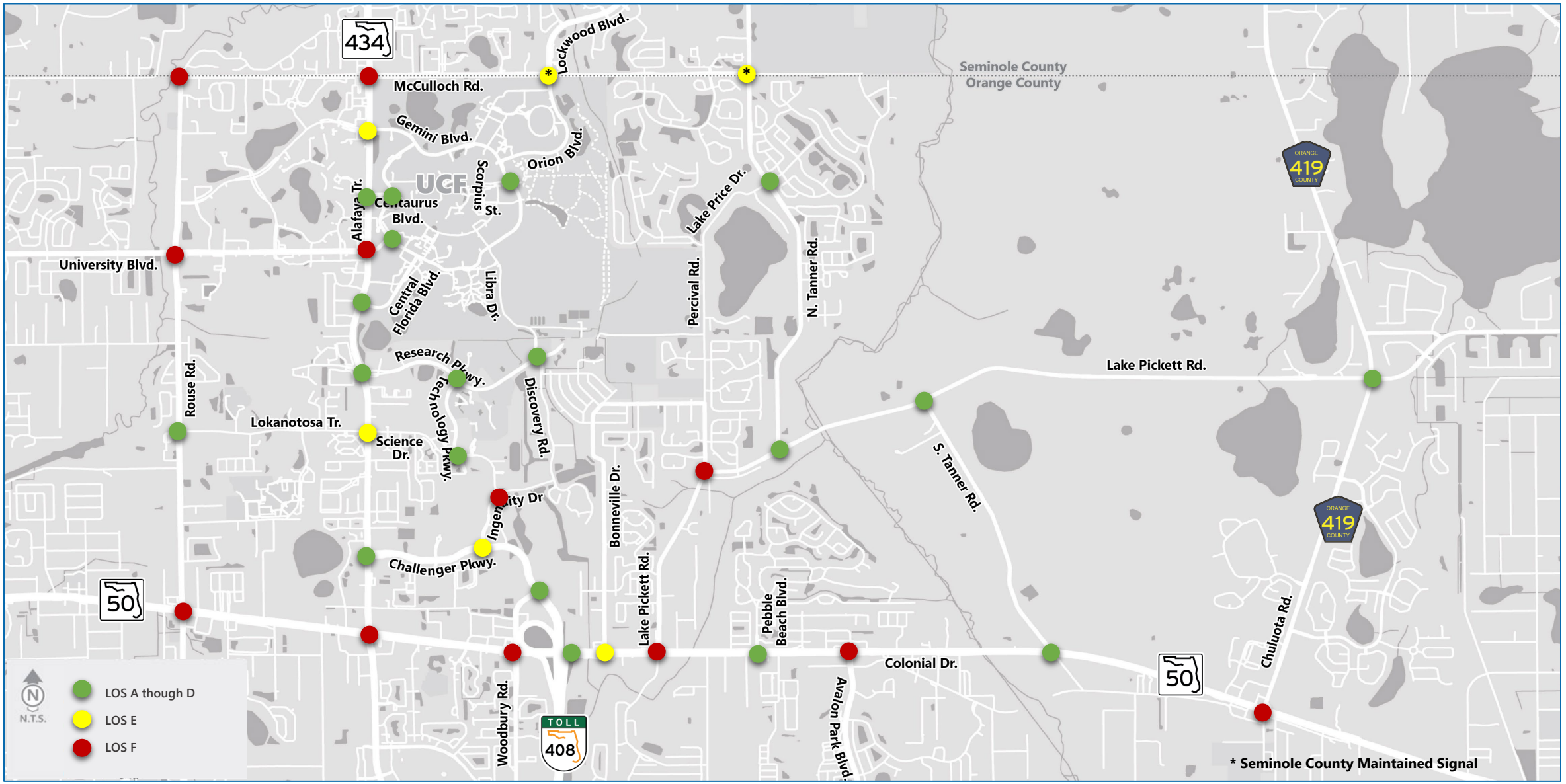
## Contamination

- 518 (potential for/known)

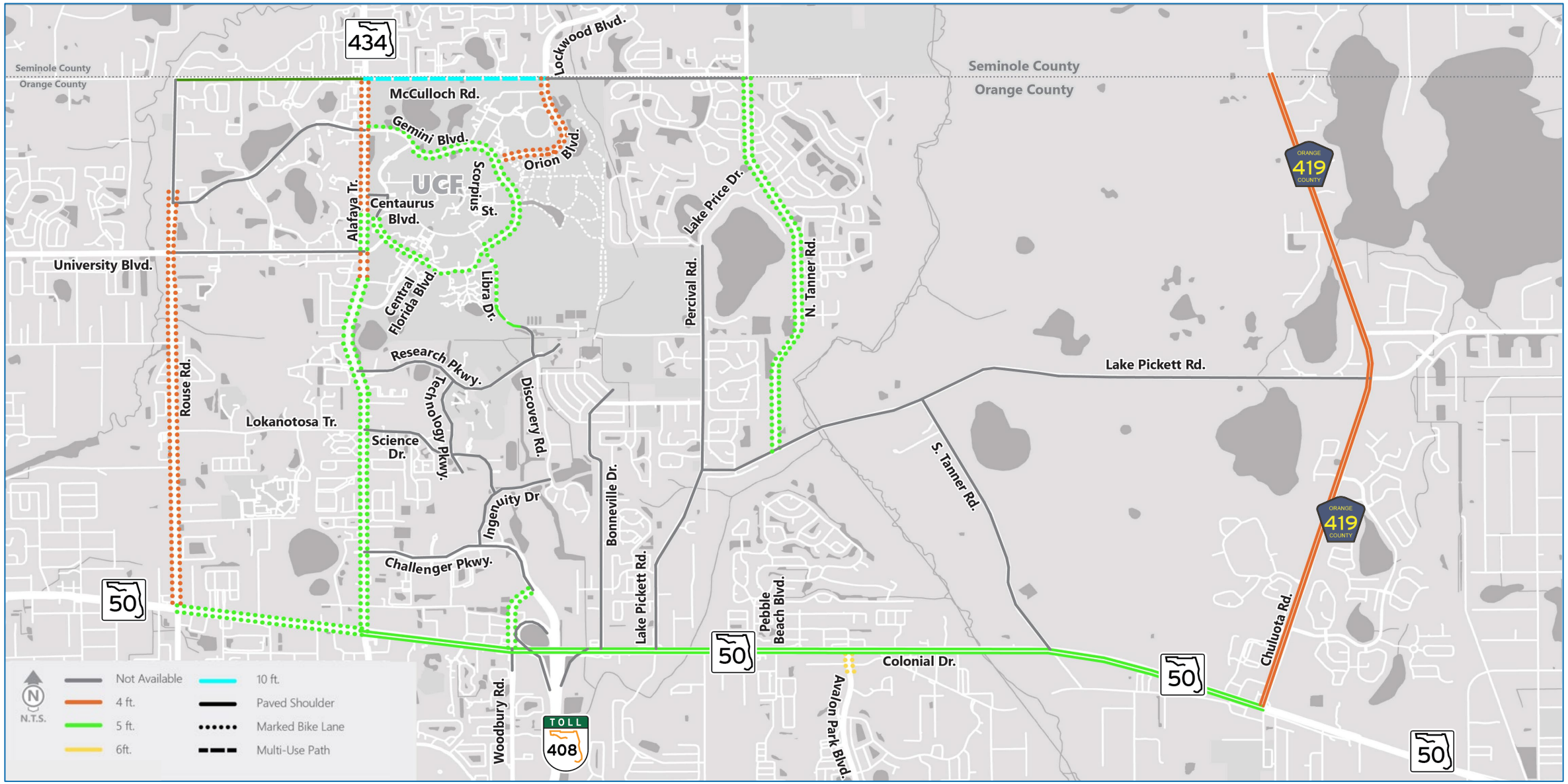
# Existing Traffic Conditions - Segments



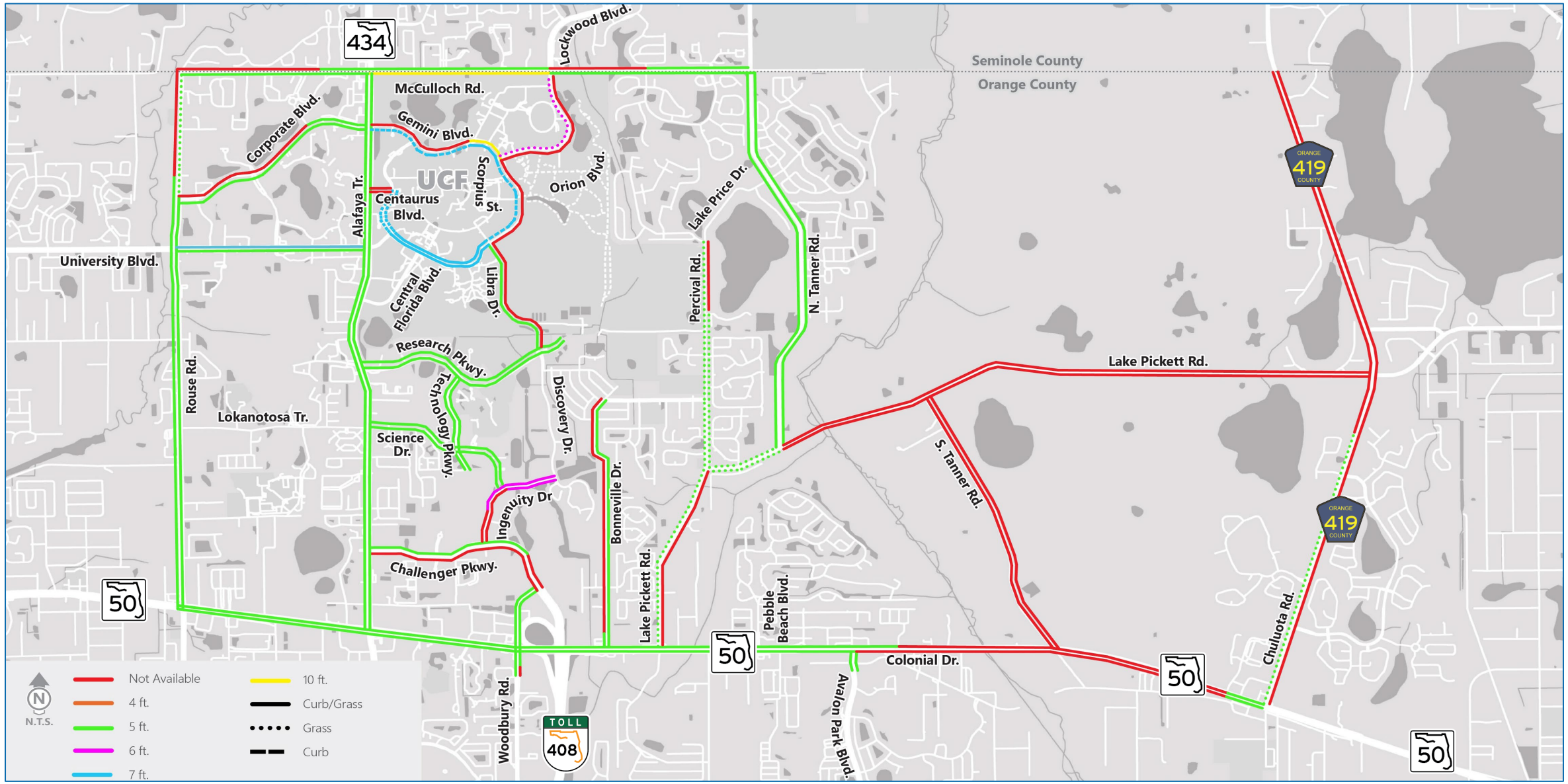
# Existing Traffic Conditions – Intersections



# Existing Bicycle Facilities



# Existing Pedestrian Facilities



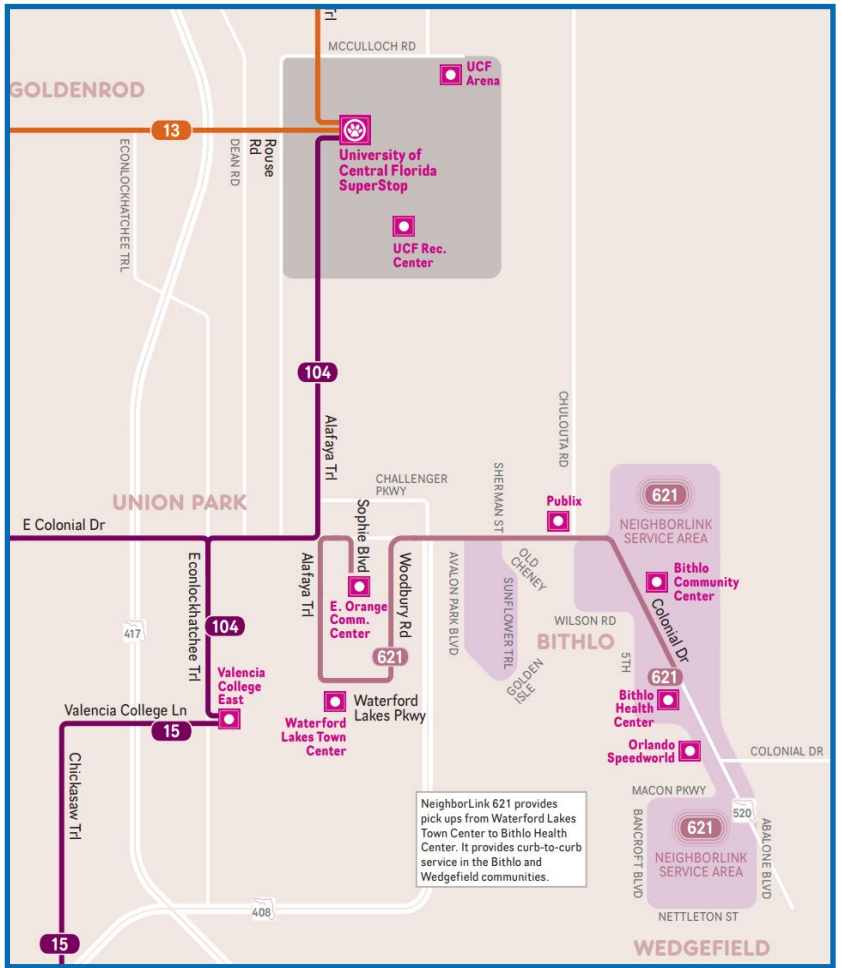
# Existing Transit

## LYNX

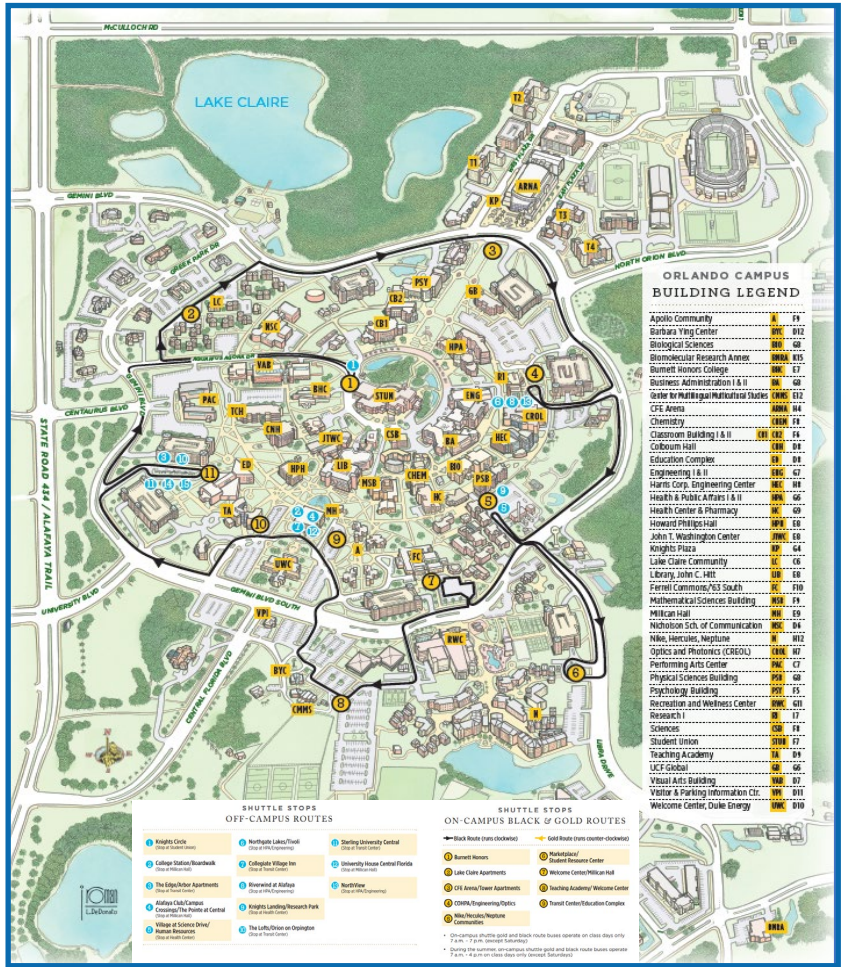
- Route 104, East Colonial Drive/UCF
  - 2019 Ridership – 572,801
  - Frequency – 30 minutes
- Route 13, University Boulevard/UCF
  - 2019 Ridership – 233,629
  - Frequency – 60 minutes
- Route 434, SR 434
  - 2019 Ridership – 139,055
  - Frequency – 60 minutes
- NeighborLink 621, on-demand circulator

## UCF Shuttle Service

- On-campus (Pegasus Express)
- Off-campus
- Grocery shuttle
- Gameday

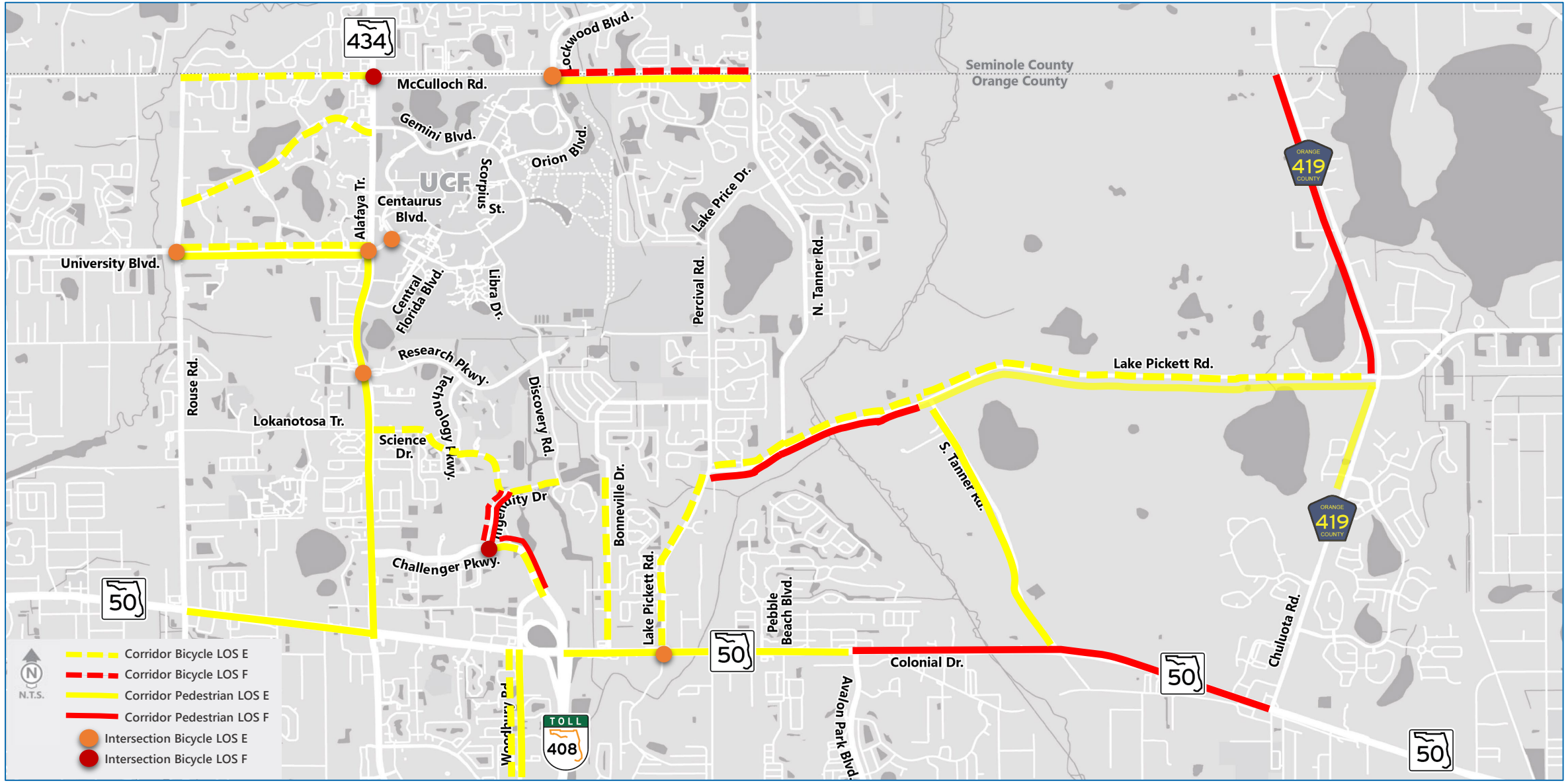



Source: LYNX

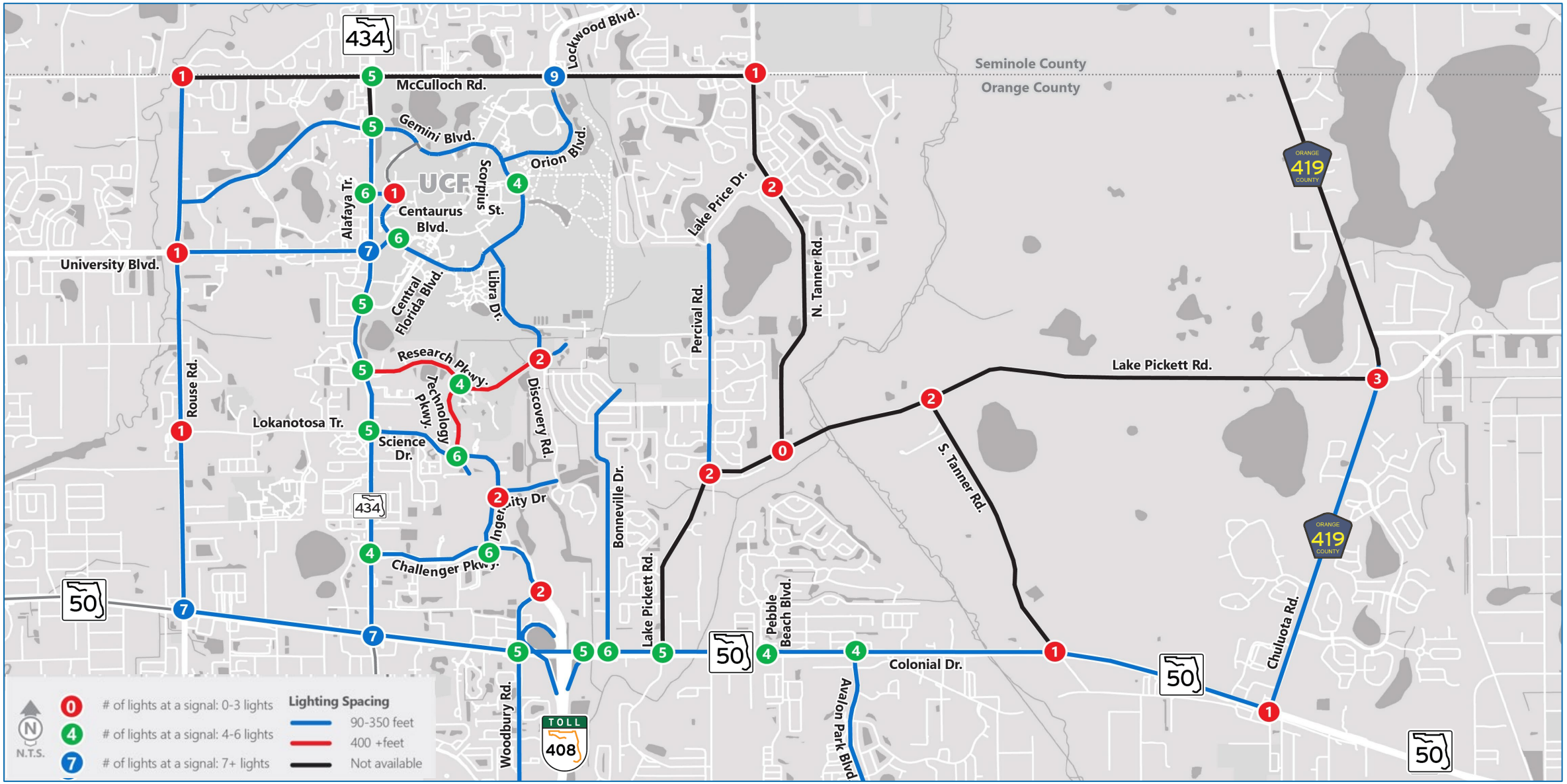



Source: https://www.parking.ucf.edu

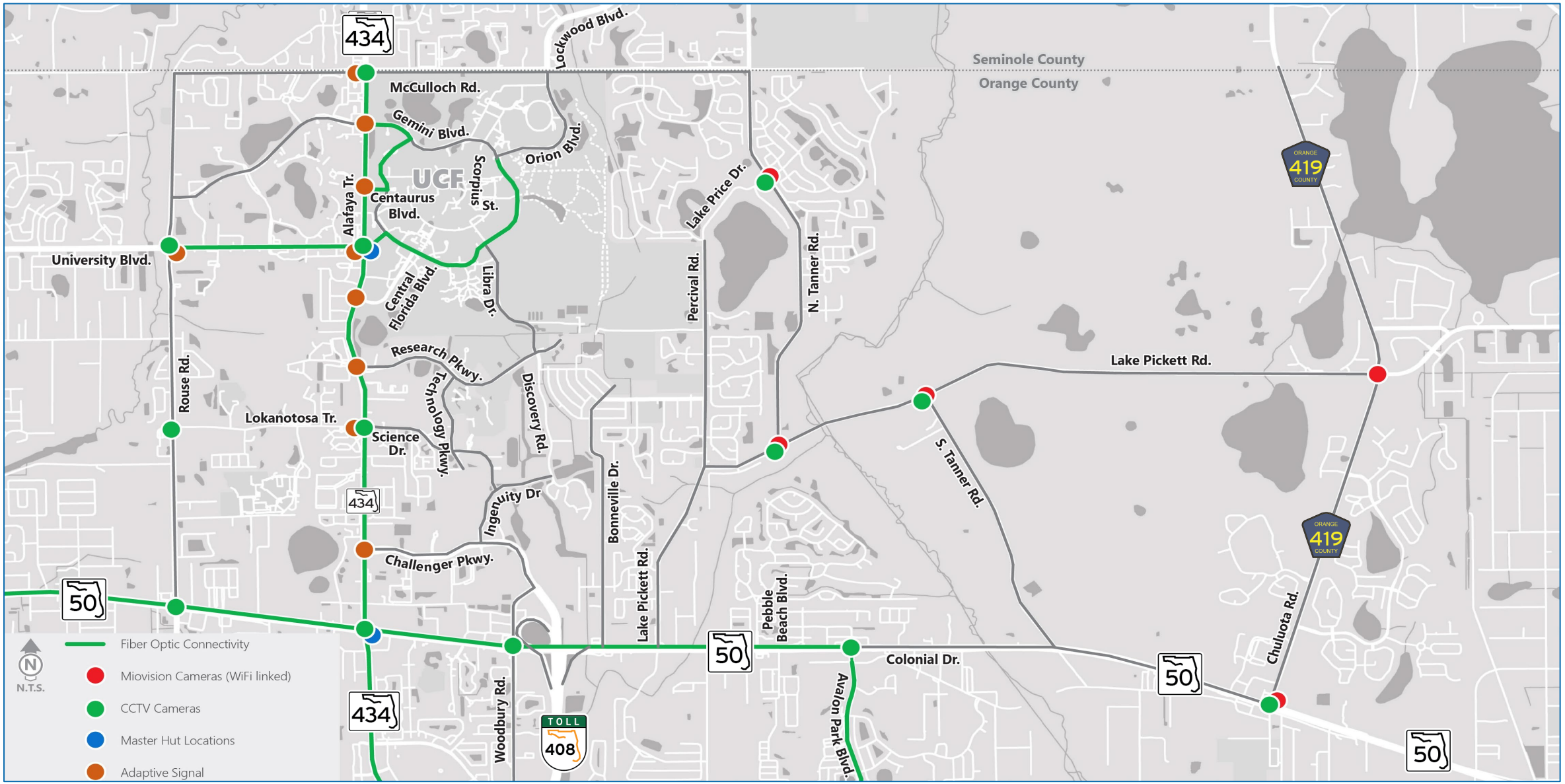
# Existing Multimodal Analysis



# Existing Lighting Conditions



# Existing ITS Features



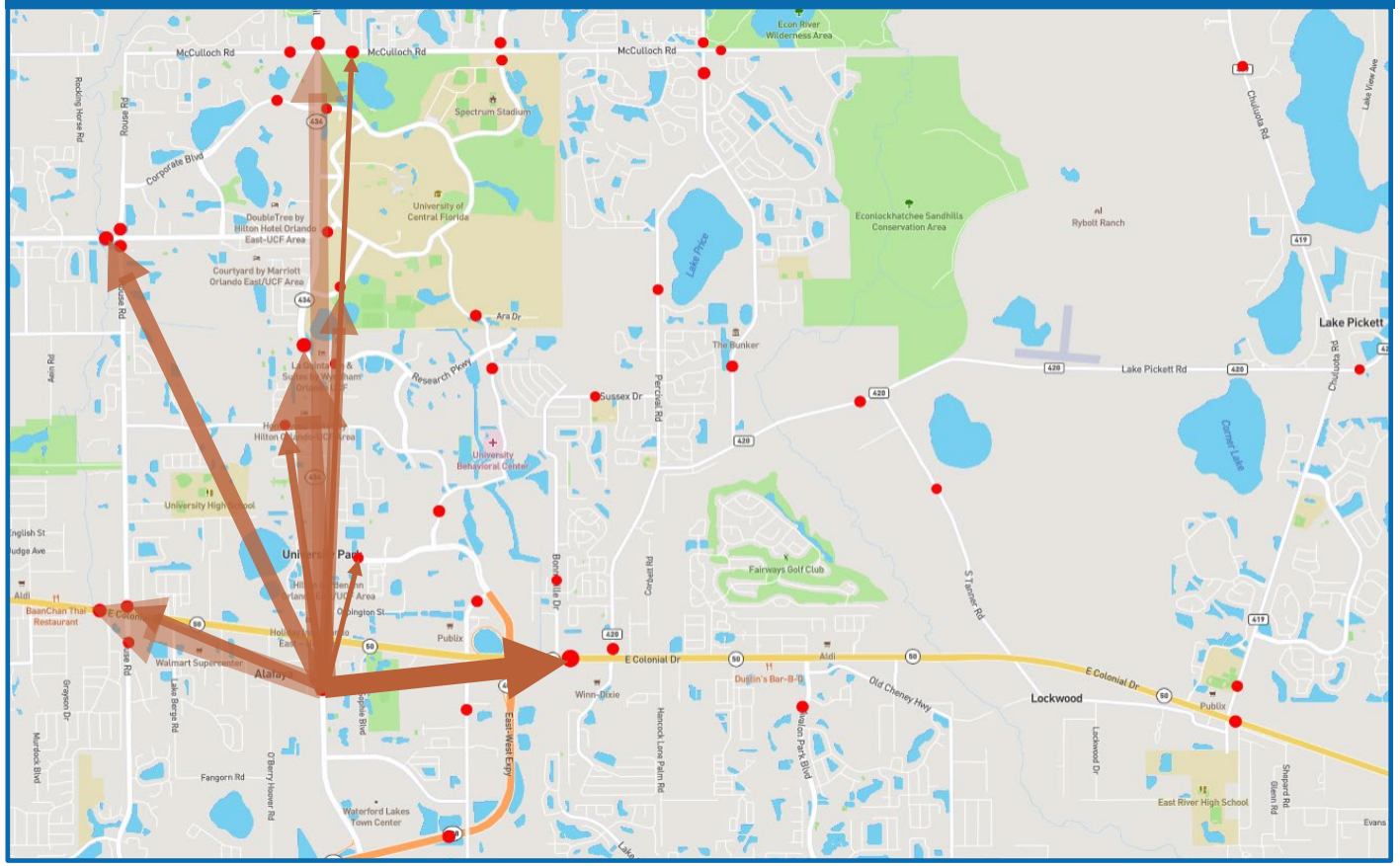
# Origin-Destination (OD) Study

- StreetLight - September 2019
- Understand travel patterns between origins and destinations
- Time periods
  - Weekday daily
  - Weekday AM (7-9 AM)
  - Weekday PM (4-6 PM)
- Average speeds & trip durations
  - Travel demand model validation

**Table 1: Top Ten Trip Destinations for: SR434 South of SR50**

| Rank | Destination Zone | Trip Duration (minutes) | Average Trip Speed (mph) |
|---|---|---|---|
| 1 | SR 434 North of Research Pkwy | 6.1 | 23 |
| 2 | SR 50 West of Rouse Rd | 6.5 | 18 |
| 3 | SR 50 East Bonneville Dr | 8.1 | 19 |
| 4 | SR 434 North of McCulloch Rd | 10.4 | 24 |
| 5 | University Blvd West of Rouse | 14.4 | 21 |
| 6 | Central Florida Blvd East of SR 434 | 7.7 | 22 |
| 7 | Rouse Rd North of SR 50 | 6.7 | 17 |
| 8 | Lokanotosa Tr West of SR 434 | 6.7 | 18 |
| 9 | McCulloch Rd East of SR 434 | 14.0 | 22 |
| 10 | Challenger Pkwy East of SR 434 | 3.8 | 20 |

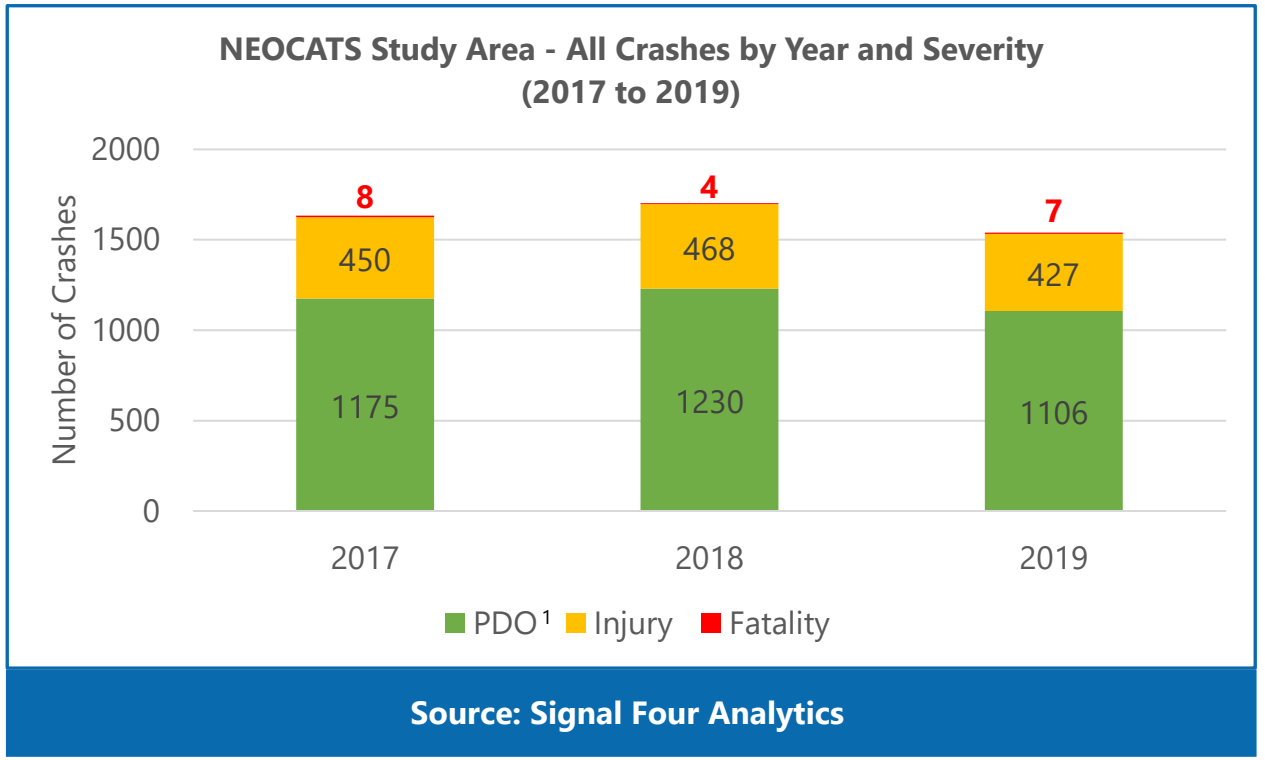
**Top Ten Trip Destinations for SR 434, South of SR 50**



# Historical Crash Analysis

## Signal Four Analytics (2017-2019)

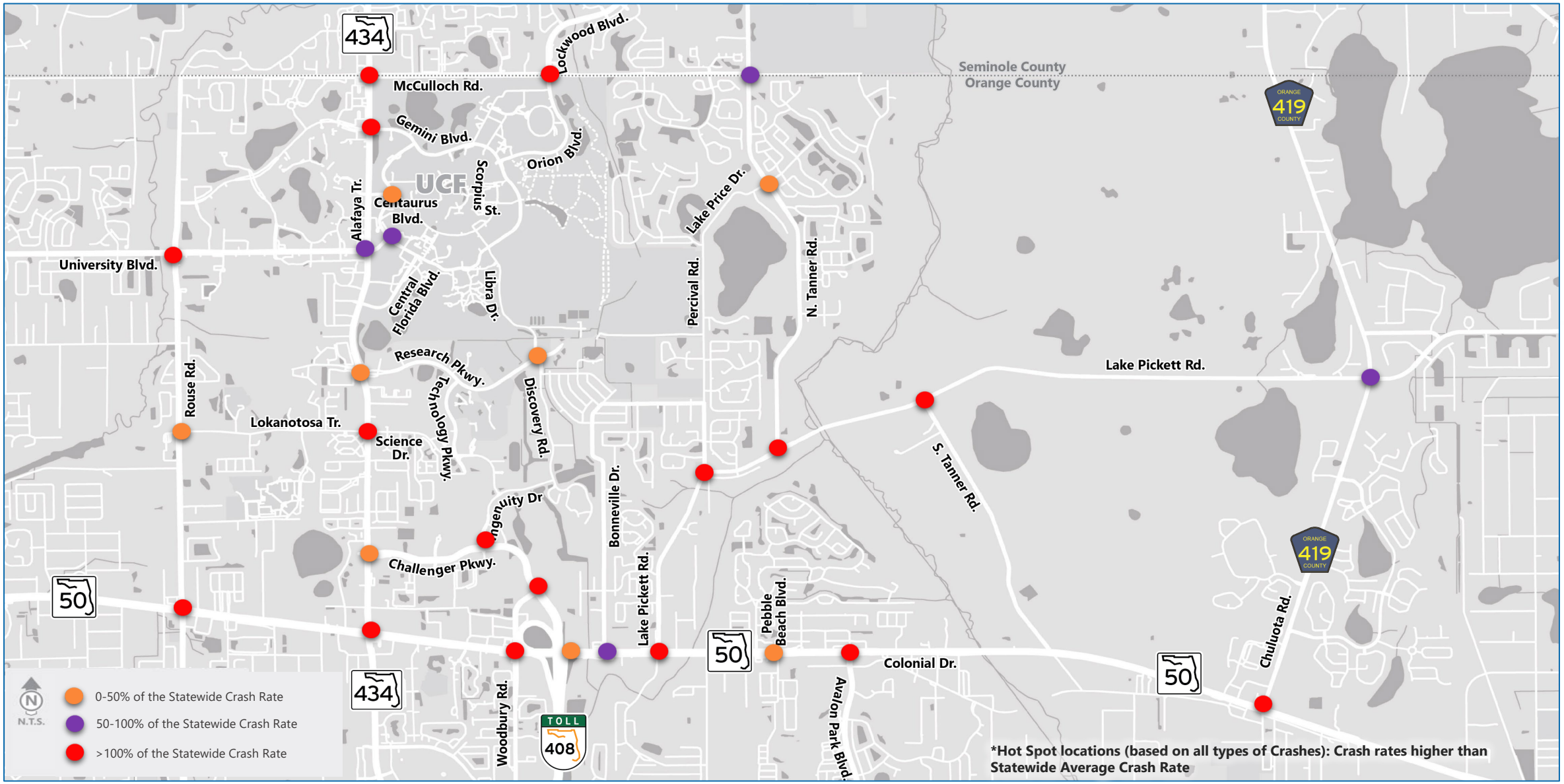
- Totals (roadway + intersections)
  - 4,875
  - 19 fatalities
  - 1,345 injury crashes
  - 3,511 property damage
  - Major types – Rear-end, Angle & Sideswipe
- Intersections
  - 2,728 (56% of total)
- Mid-segments
  - 2,147 (44% of total)



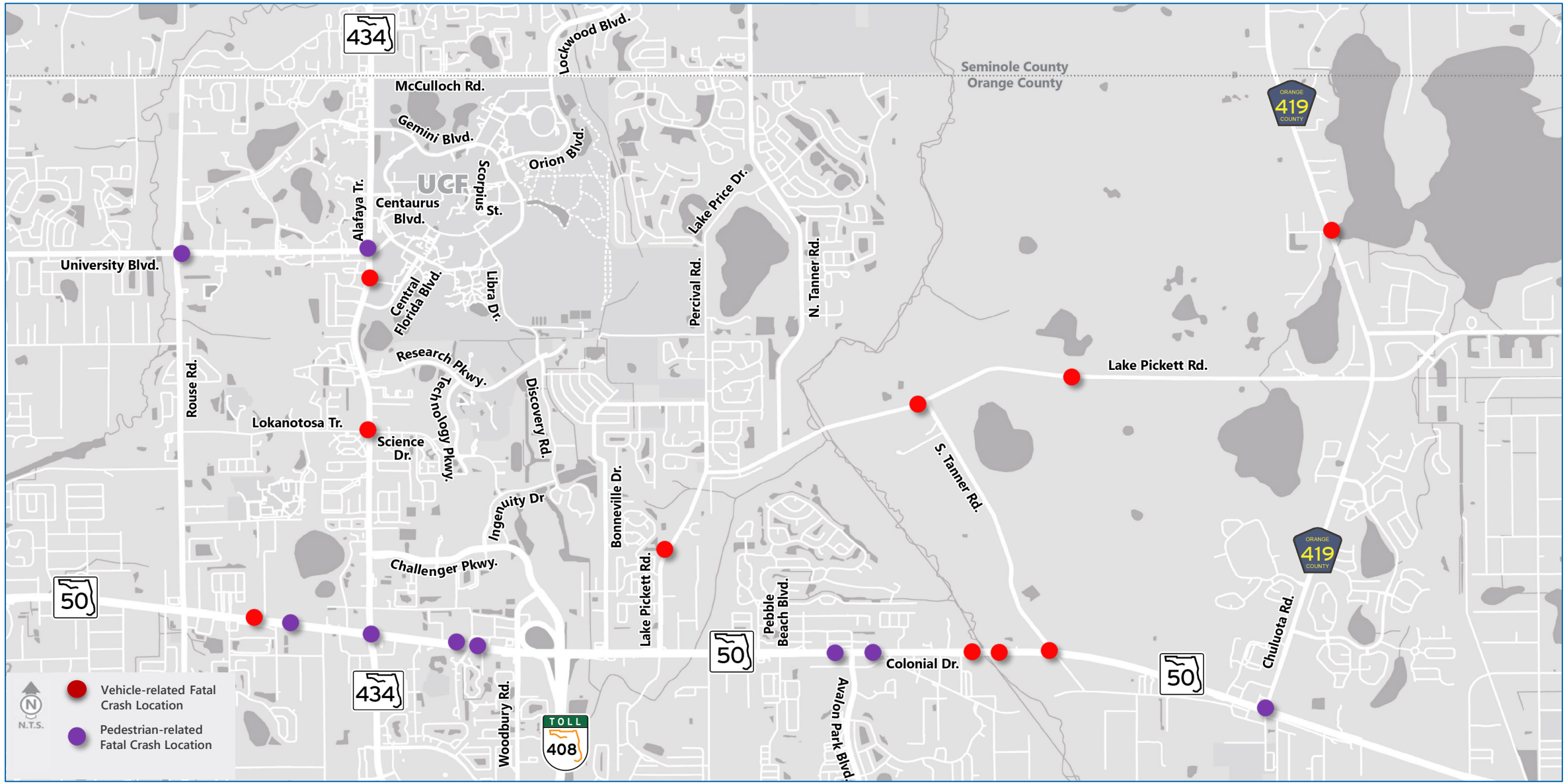

**Source: Signal Four Analytics**

1. PDO - Property Damage Only

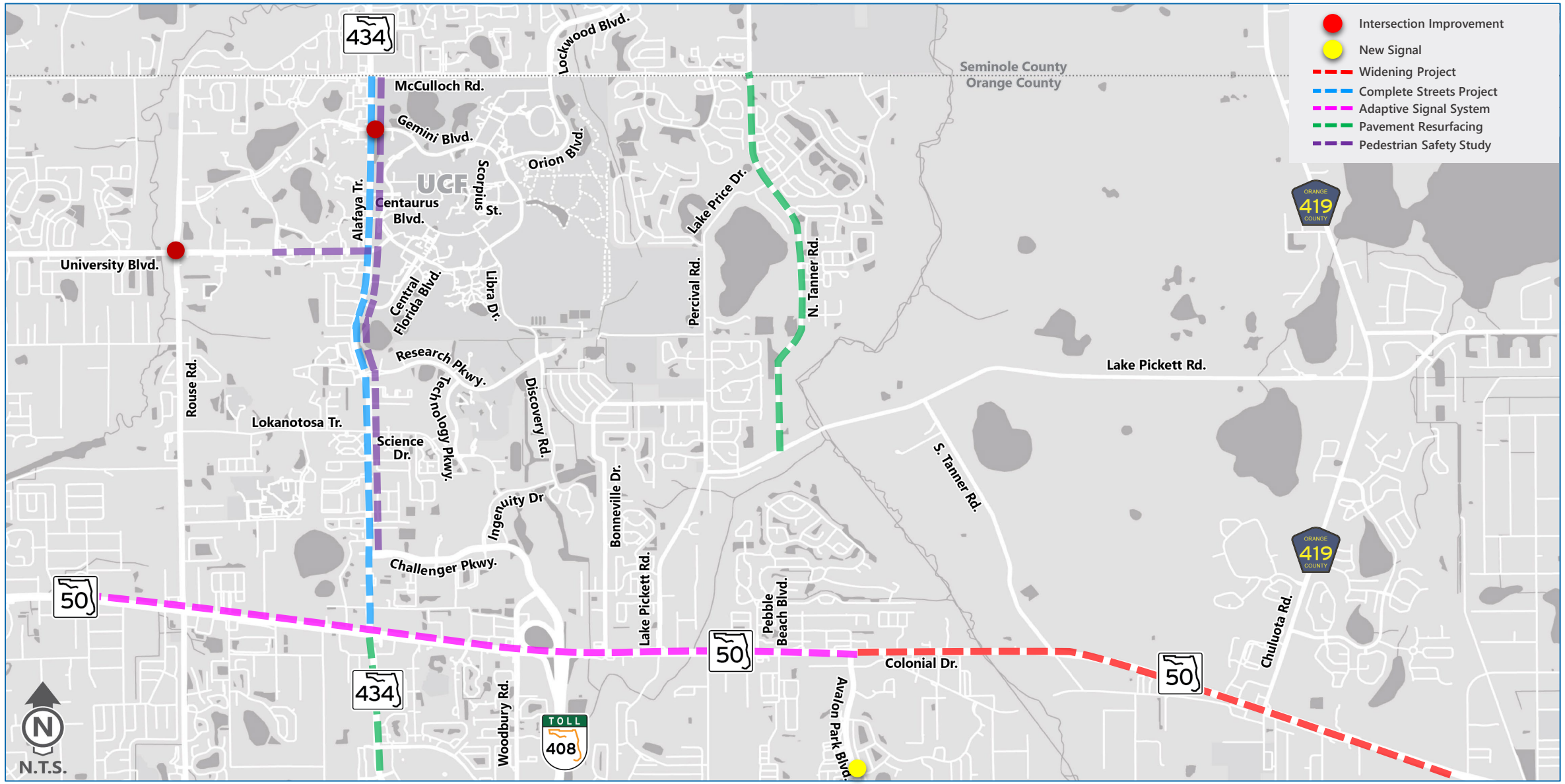
# Hot Spot Locations (2017-2019)



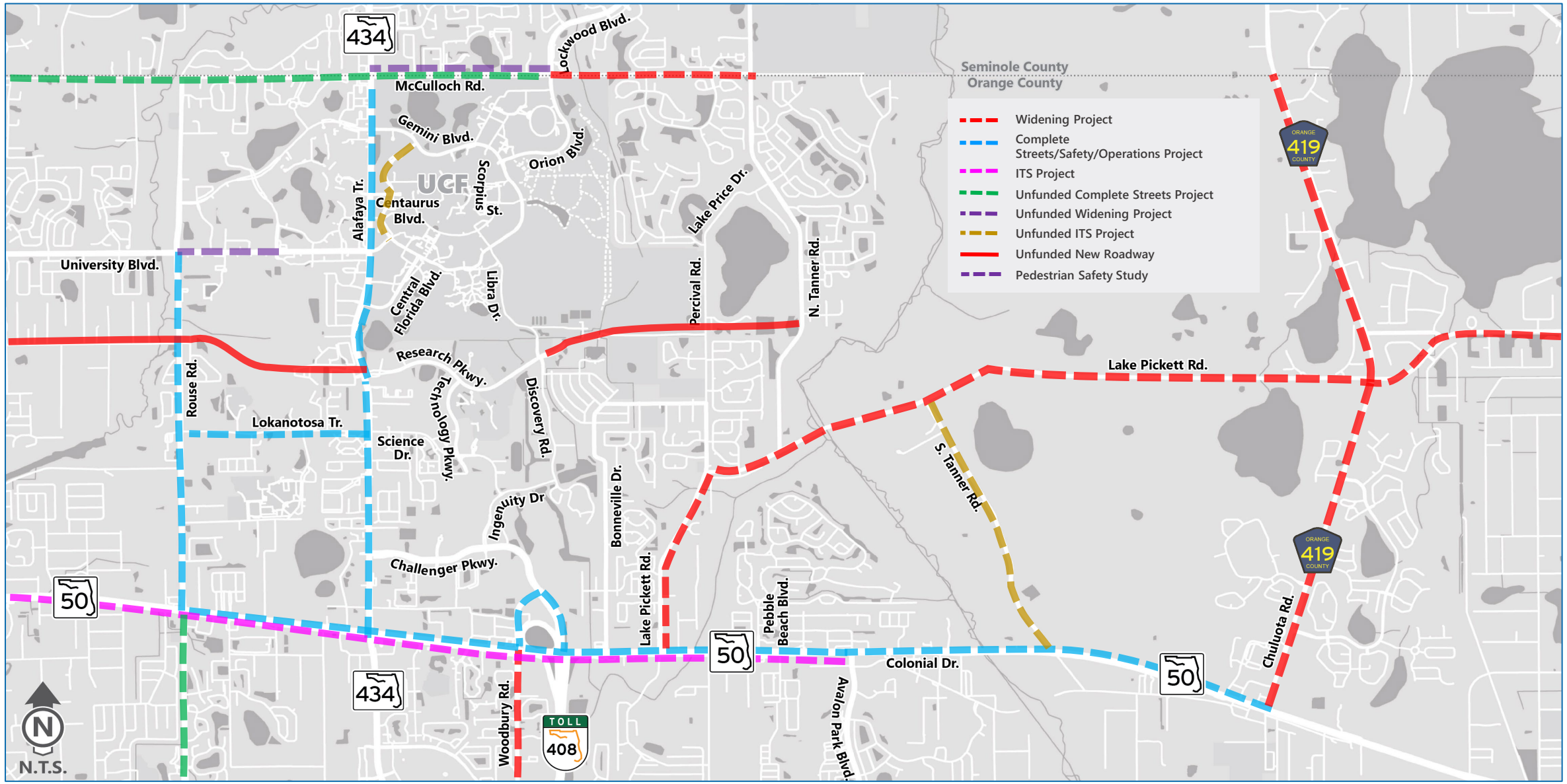
# Fatal Crash Locations (2017-2019)



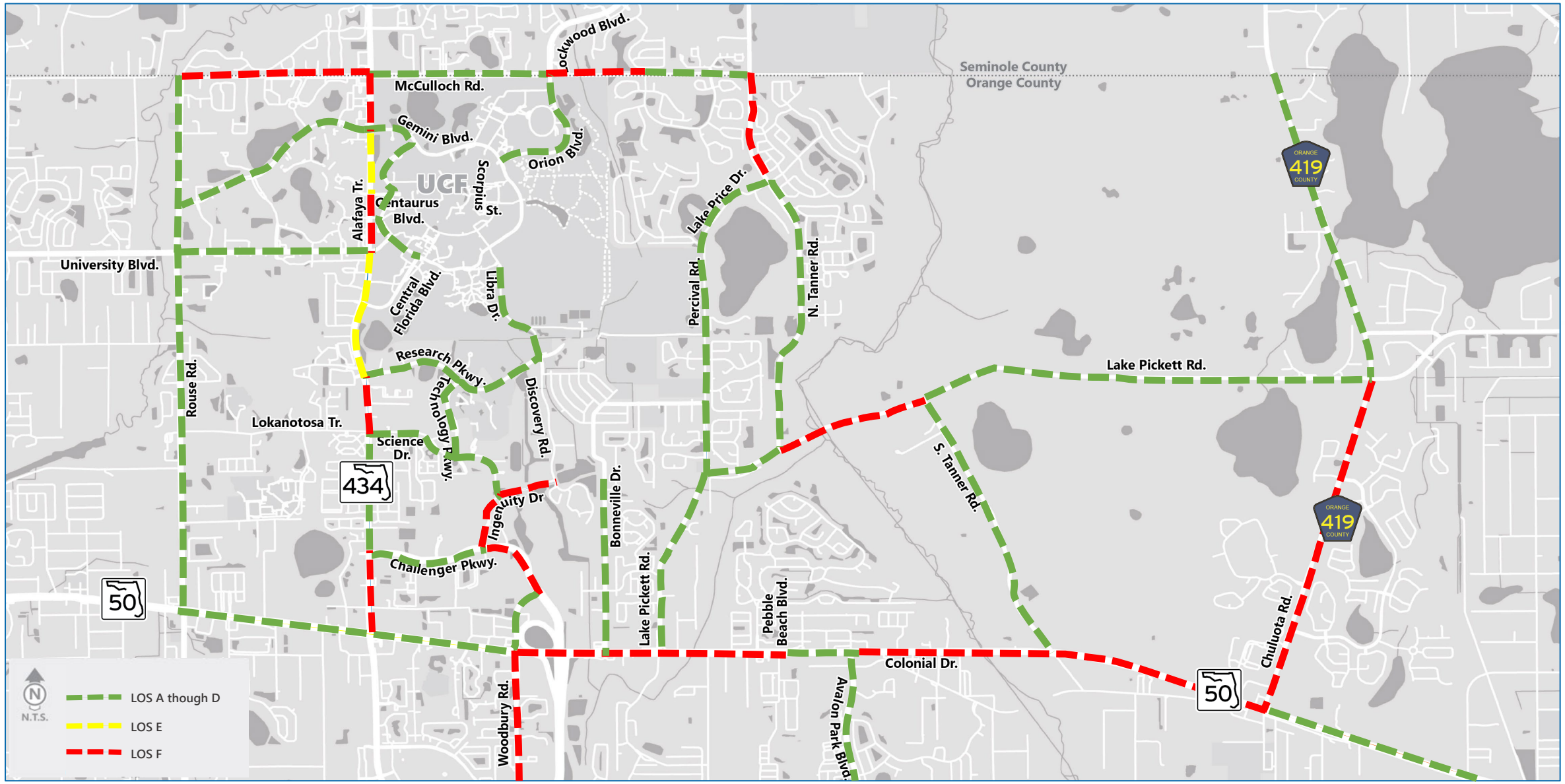
# Ongoing/Programmed Improvement Projects



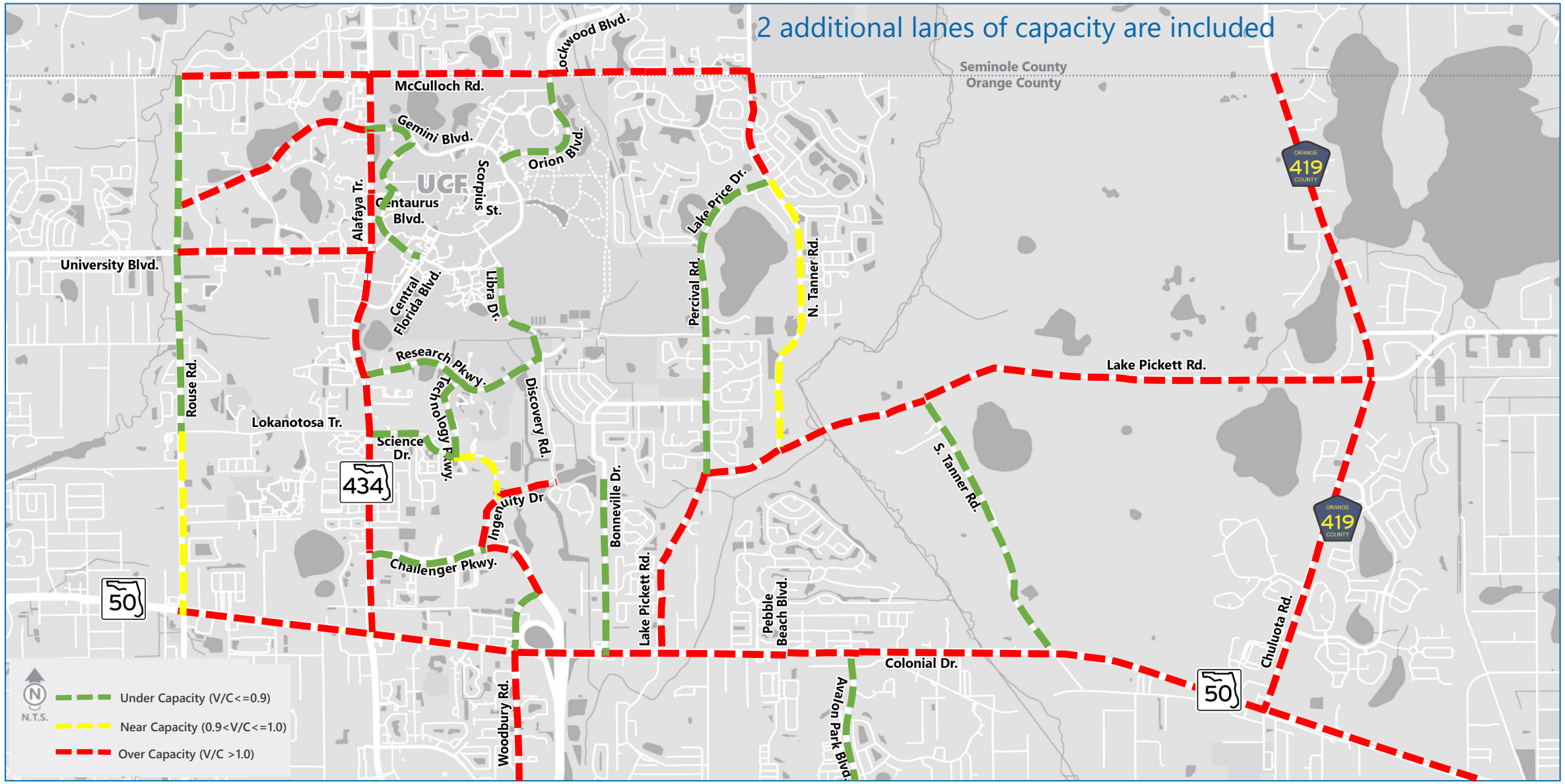
# Planned Improvements – Roadway Projects



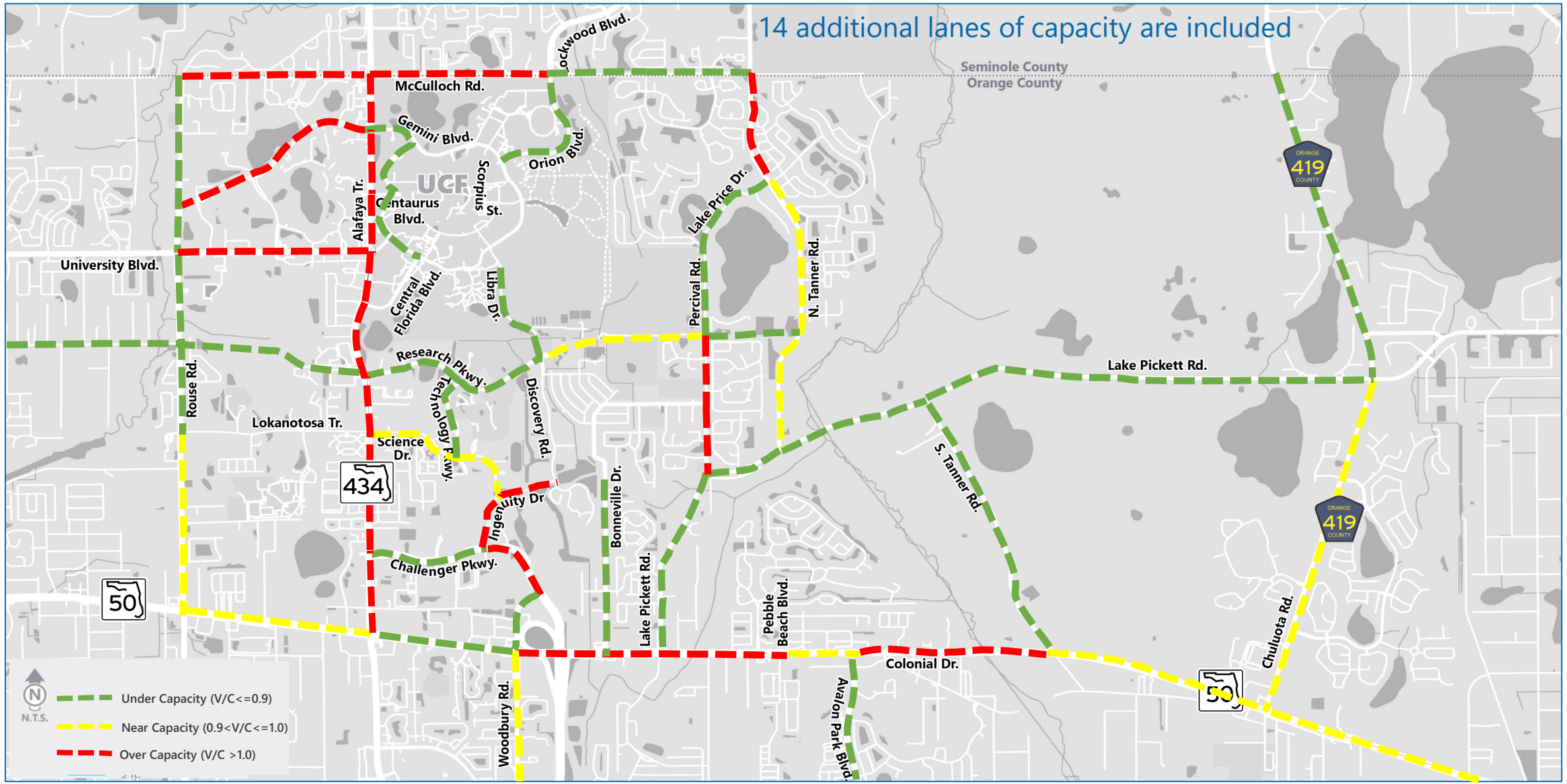
# Existing Traffic Conditions - Segments



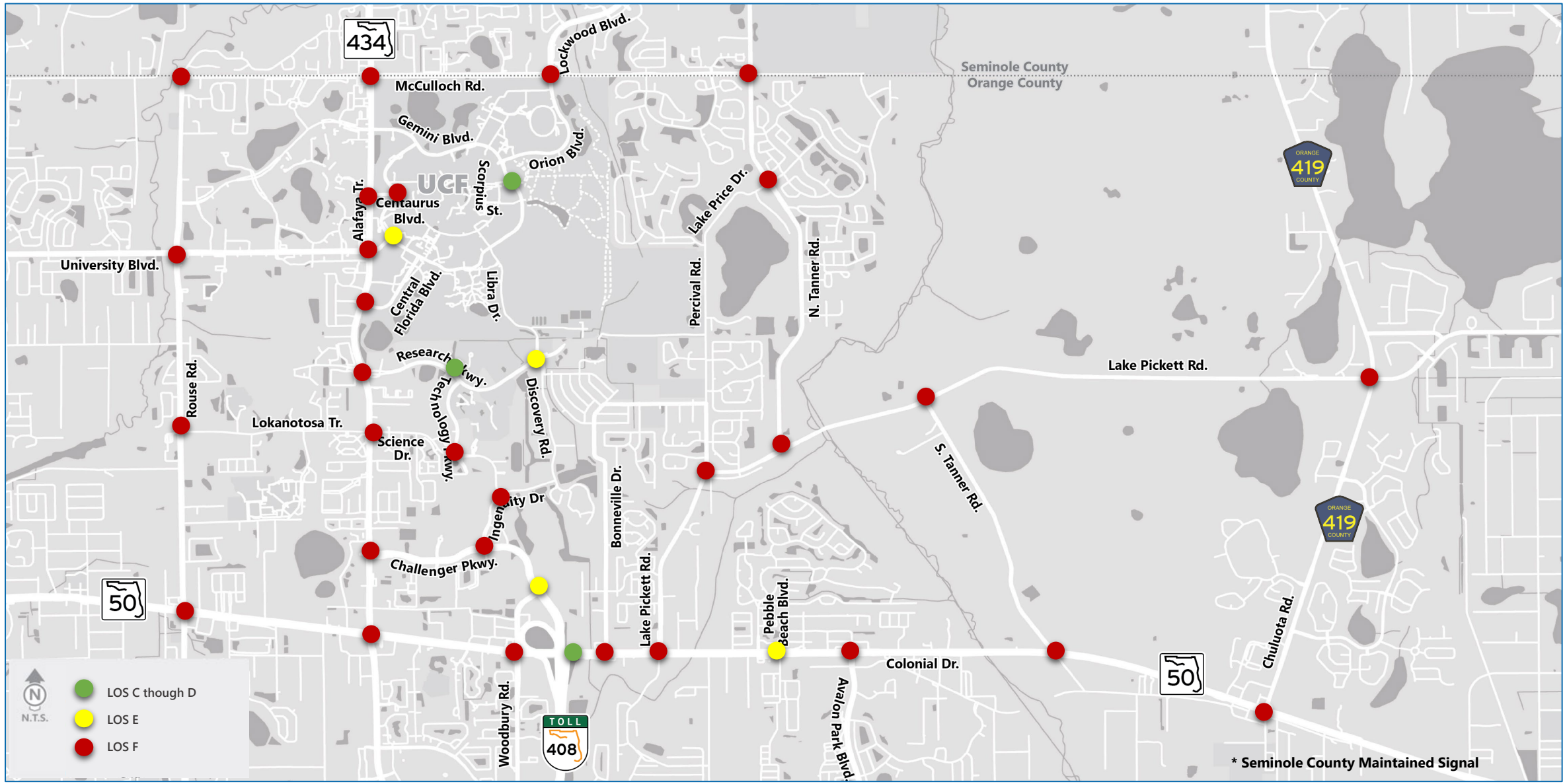
# 2045 No Build Traffic Conditions - Segments



# 2045 Build Traffic Conditions - Segments



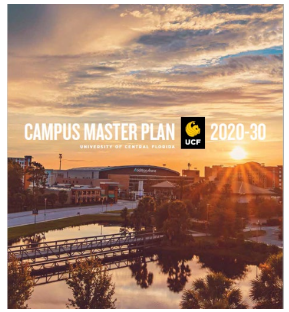
# 2045 No Build Conditions – Intersections

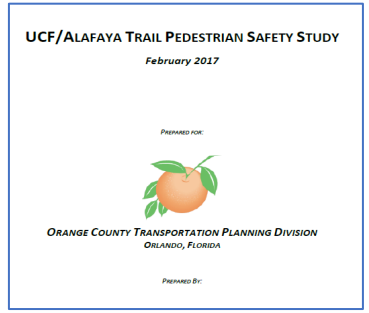


# Multimodal & ITS Improvements

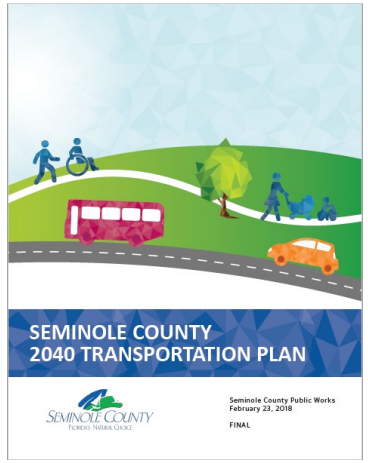
## Sources

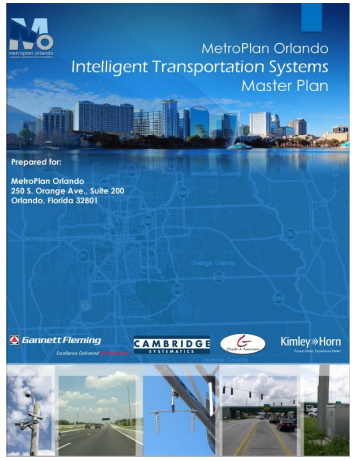
- LYNX Transit Development Plan (FY 2021-30) – **2021 Annual Update**
- Seminole County Transportation 2040 Masterplan – **2018**
- Orange County Trails Master Plan – **2021**
- MetroPlan Orlando 2045 MTP – ITS Master Plan – **2017**
- ATTAIN Central Florida
- UCF/CFRP: Study to Assess Traffic Patterns – **2019**
- UCF/Alafaya Trail Pedestrian Safety Study – **2017**
- LYNX SR 50 BRT Station Area Analysis – **2019**
- UCF Campus Masterplan (2020-30) – **2019**



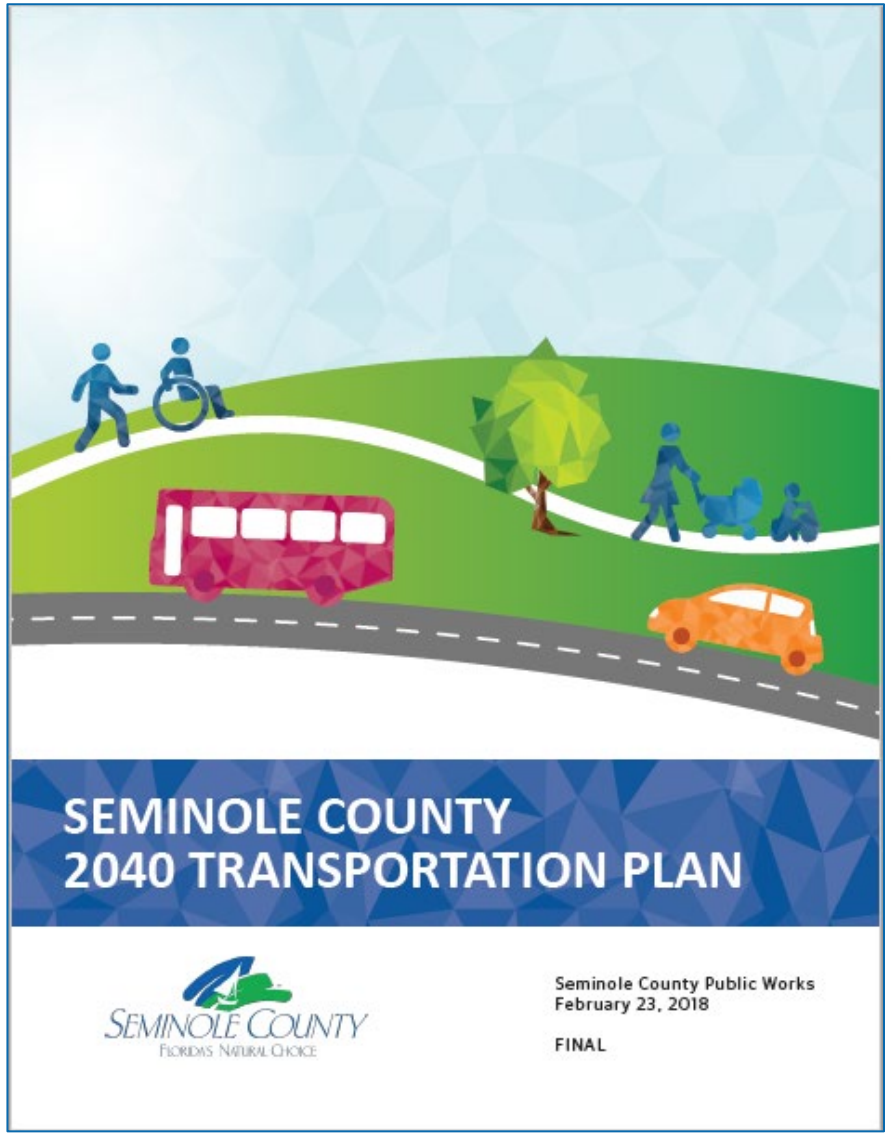




# LYNX Transit Development Plan (FY 2021-30)

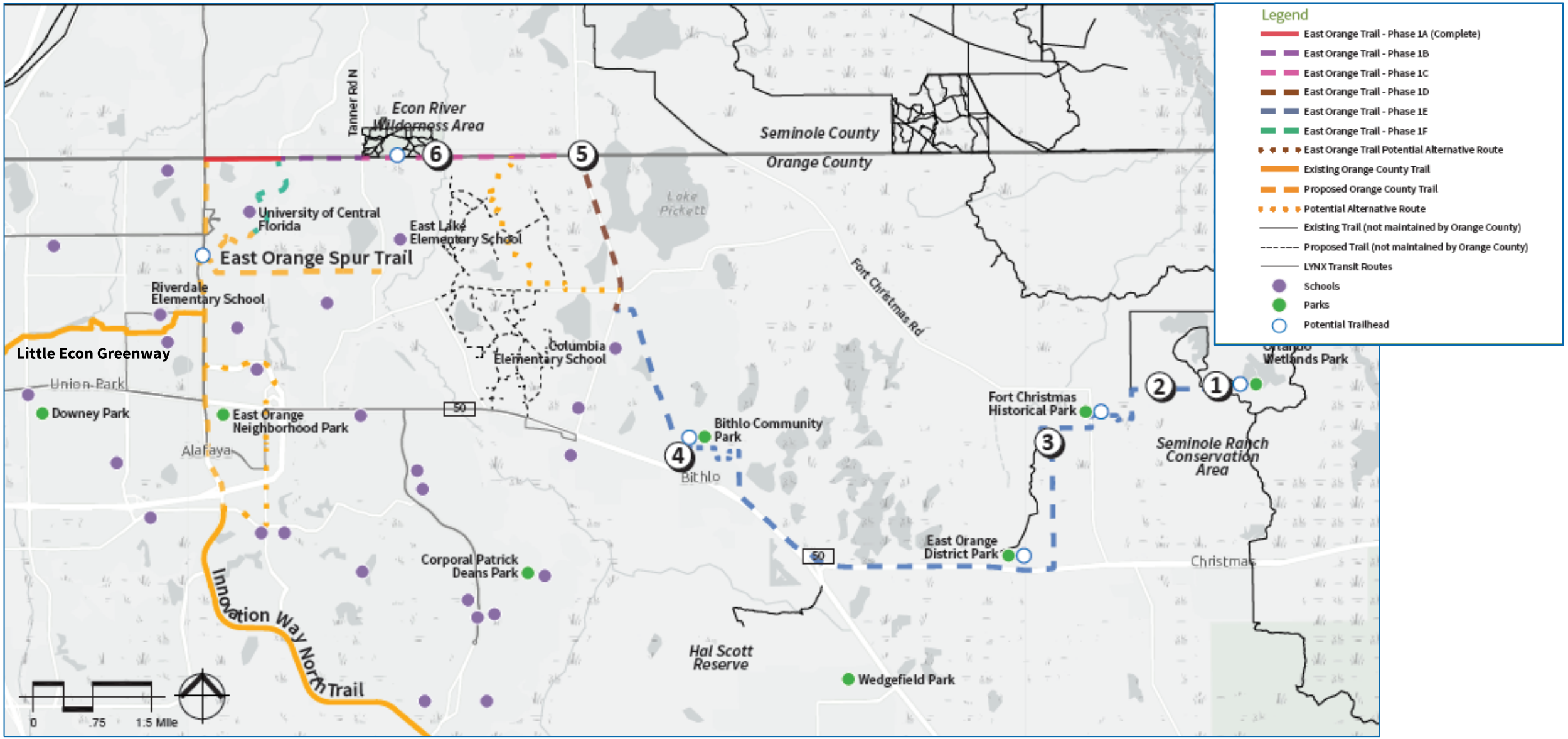
| Link Number | Description | Effective Year |
|---|---|---|
| **New Routes to be Implemented** | | |
| **712 (Circulator)** | Seminole State College | 2021 |
| **104 (Core)** | SR 50 (Colonial Dr) (28, 29, 48, 49, 104, 105) | 2029 |
| **500 (Primary)** | SR 434 (Alafaya Tr) - Oviedo Mall/OBT | 2029 |
| **501 (Primary)** | Goldenrod Rd-OIA/University Blvd-SR 436 | 2029 |
| **506 (Primary)** | Lake Underhill Rd-UCF/LCS | 2029 |
| **NeighborLink 870** | University Blvd | 2029 |
| **NeighborLink 873** | Waterford Lakes/Avalon Park | 2029 |
| **904 (BRT)** | SR 50 (Colonial Dr) BRT | 2029 |
| **Increase Hours of Service** | | |
| **NeighborLink 621** | SR 50 (E. Colonial Dr)/Bithlo (Change to NL 821) | 2029 |
| **Routes to be Discontinued** | | |
| **13** | University Blvd/UCF | 2029 |
| **104** | SR 50 (Colonial Dr)/UCF | 2029 |
| **434** | SR 434 (Alafaya Tr) | 2029 |

# 2040 Seminole County Transportation Master Plan

| Project Name | Limits | Description | Length | Tier |
|---|---|---|---|---|
| CR 419 (Chuluota Rd) | East of Snowhill Rd to Orange County Line | Shared-use path | 2.6 mi | 2026-30 |
| | East of Snowhill Rd to Orange County Line | Roadway widening | 2.6 mi | 2031-40 |
| McCulloch Rd | Dean Rd to Lockwood Blvd | Complete Street - Bicycle, pedestrian, and landscape improvements with possible new pedestrian bridge over Little Econ River | 3.2 mi | 2026-30 |
| | Alafaya Tr to Lockwood Blvd | Turn lane improvements | - | 2026-30 |
| Old Lockwood Rd | E McCulloch Rd to Seminole State College | Pedestrian and ADA improvements with new trail | 1.7 mi | 2031-40 |
| West McCulloch Rd | Houndsgate Blvd to Cardinal Glen Pl | Pedestrian and ADA improvements | 1.3 mi | 2031-40 |

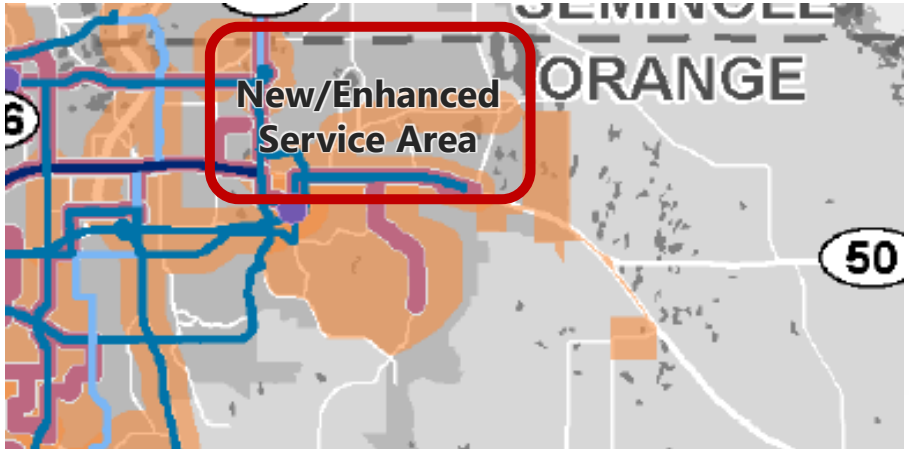


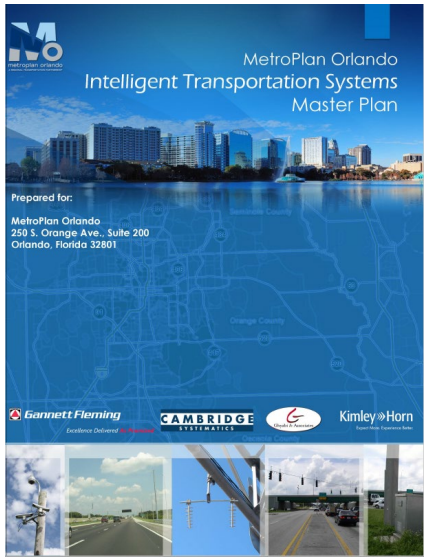
# Orange County Trails Master Plan (2021)

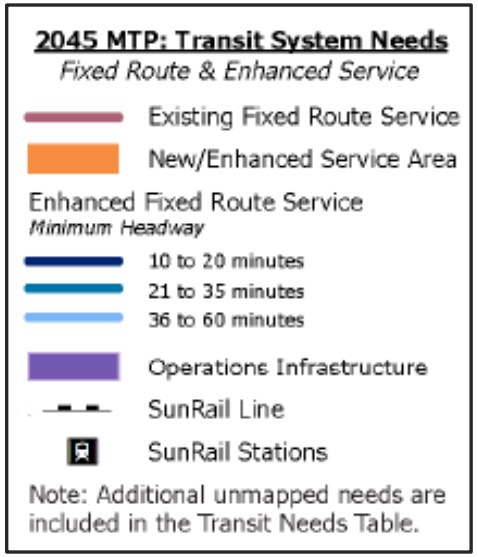


# MetroPlan 2045 MTP – ITS/Transit Improvements

| | ITS Project | Description |
|---|---|---|
| Short Term | CCTV Expansion | Install CCTV Cameras |
| | Orange County ATMS Phase 4 | Expansion of ATMS |
| | Signal Upgrades | Upgrade signal controllers to Intelight ATC with communication switches |
| | Signal Cabinet Upgrades | Upgrade signal cabinets with UPS cabinets |
| | *SR 50 Adaptive Signal System (Forsyth Rd to Avalon Park Blvd)* | *Install an Adaptive Signal System* |
| | Bluetooth Expansion | Install Bluetooth readers |
| | Intelligent Transportation Systems/Customer Information Systems/Travel Planning | Test upcoming transit technologies and real time transit dissemination applications |
| | Data Sharing Application | Access real-time information from other agencies (dashboard with performance measures, and tools to measure performance and communicate information) |
| Mid Term | Connected Vehicle Pilot Project | Test connected vehicle strategies |
| | *UCF- Bicycle and Pedestrian Innovative ITS Solution* | *Install bicycle and pedestrian ITS technologies* |

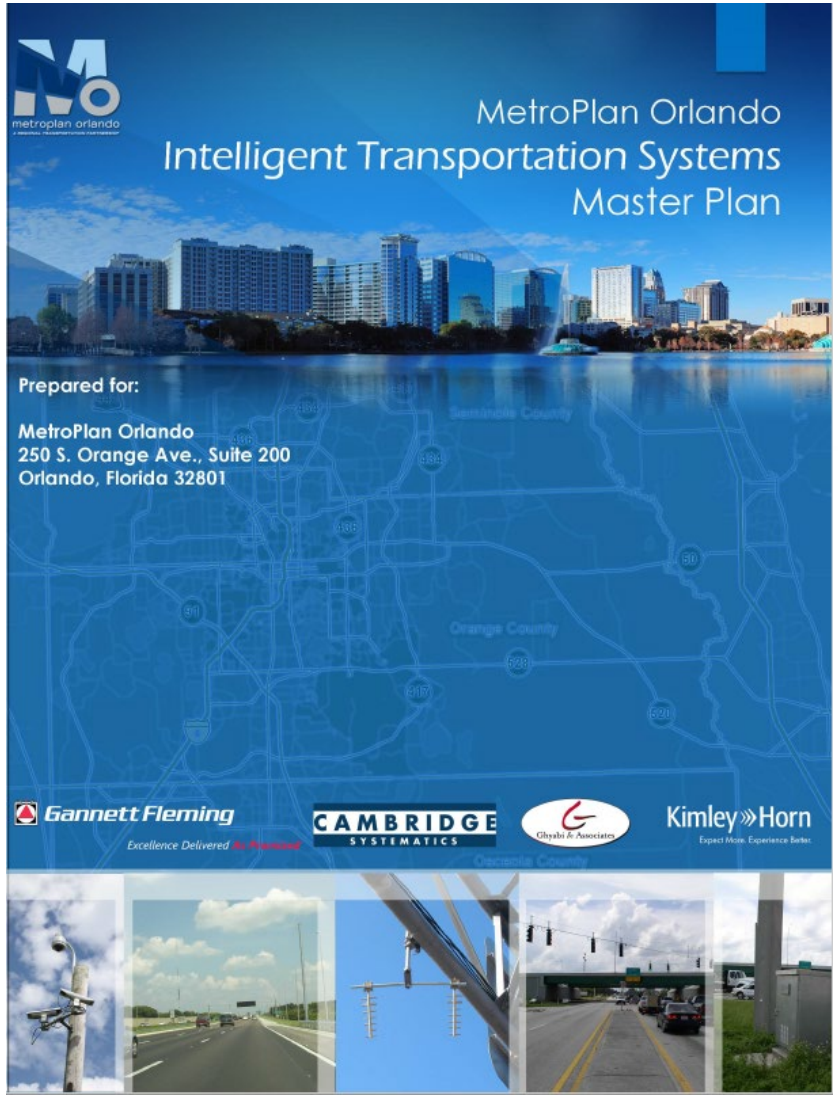


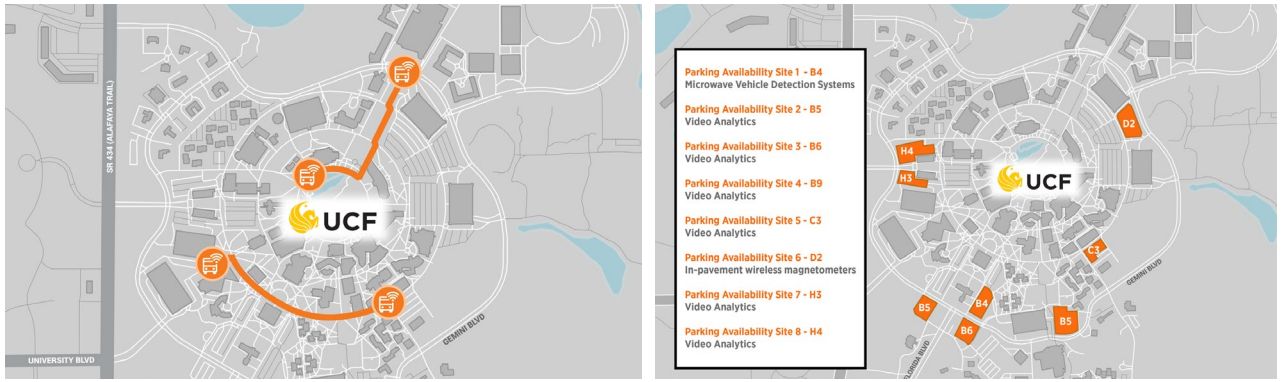
# MetroPlan Orlando 2045 MTP – ITS Master Plan

| | Project Name | Description |
|---|---|---|
| Short Term | CCTV Expansion | Install CCTV Cameras |
| | Orange County ATMS Phase 4 | Expansion of ATMS |
| | Signal Upgrades | Upgrade signal controllers to Intelight ATC with communication switches |
| | Signal Cabinet Upgrades | Upgrade signal cabinets with UPS cabinets |
| | *SR 50 Adaptive Signal System (Forsyth Rd to Avalon Park Blvd)* | *Install an Adaptive Signal System* |
| | Bluetooth Expansion | Install Bluetooth readers |
| | Intelligent Transportation Systems/Customer Information Systems/Travel Planning | Test upcoming transit technologies and real time transit dissemination applications |
| | Data Sharing Application | Access real-time information from other agencies (dashboard with performance measures, and tools to measure performance and communicate information) |
| Mid Term | Connected Vehicle Pilot Project | Test connected vehicle strategies |
| | *UCF- Bicycle and Pedestrian Innovative ITS Solution* | *Install bicycle and pedestrian ITS technologies* |



# ATTAIN Central Florida

- Deploy smart technologies in Central Florida - Four distinct programs
- Funded by FHWA grant and local matching funds
- PedSafe – hardware installations complete
  - Innovative ped/bike collision avoidance system that will operate with CV technologies
  - *Pilot deployment at/between signals on Alafaya Tr adjacent to UCF*
- Greenway - CV Technologies installed at 33 signals (Orange County)
  - Cellular vehicle-to-everything (C-V2X) roadside units (RSU),
  - Emergency vehicle preemption (EVP),
  - Transit signal priority (TSP)
  - Passive pedestrian detection (PPD) technology
  - *Initially will be used by UCF transit /first responder vehicles*
- Smart Community
  - *District's 1st autonomous vehicle (AV) shuttles (2) within UCF*
  - Surface Parking Management
- SunStore – FDOT's Data Storage & Research Sharing Initiative

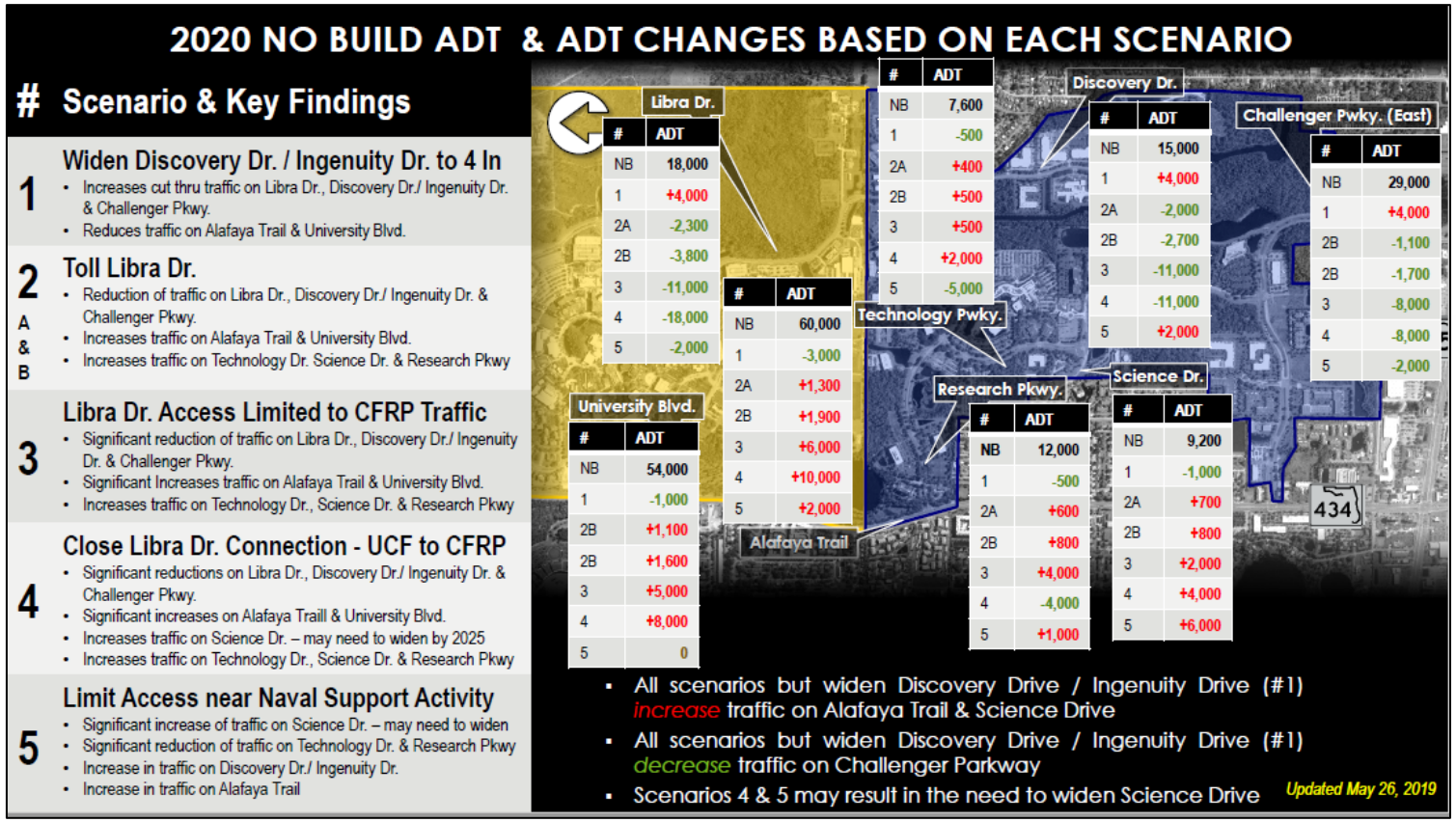



**Source: https://cflsmartroads.com/projects/ATTAIN-CFL.html**

# UCF/CFRP – Study to Assess Traffic Patterns (2019)

## Conclusions

- Libra Dr is a critical connection
- Percent cut-through traffic
  - Daily-10%, AM-4%, & PM-13%
- Discovery Dr and Ingenuity Dr widening
- Tolling options
- *Other Considerations*
  - *Review transit circulator*
  - *Review wayfinding/signage*
  - *Intersection improvements*
    - *Ingenuity Dr and Discovery Dr*
    - *Alafaya Tr and Challenger Pkwy*
    - *Challenger Pkwy and Ingenuity Dr*
    - *Research Pkwy and Discovery Dr*



# LYNX SR 50 BRT Station Area Analysis (2019)

## Study Summary

- Evaluates 14 proposed station locations identified in the 2013 SR 50/UCF Connector Alternatives Analysis
- NEOCATS
  - Alafaya Tr and Centaurus Blvd
  - Alafaya Tr and Lokanotosa Tr
  - Alafaya Tr and SR 50
- Corridor Analysis
- Transit Oriented Development Readiness
- Location Analysis
- Pedestrian/bicycle Connectivity

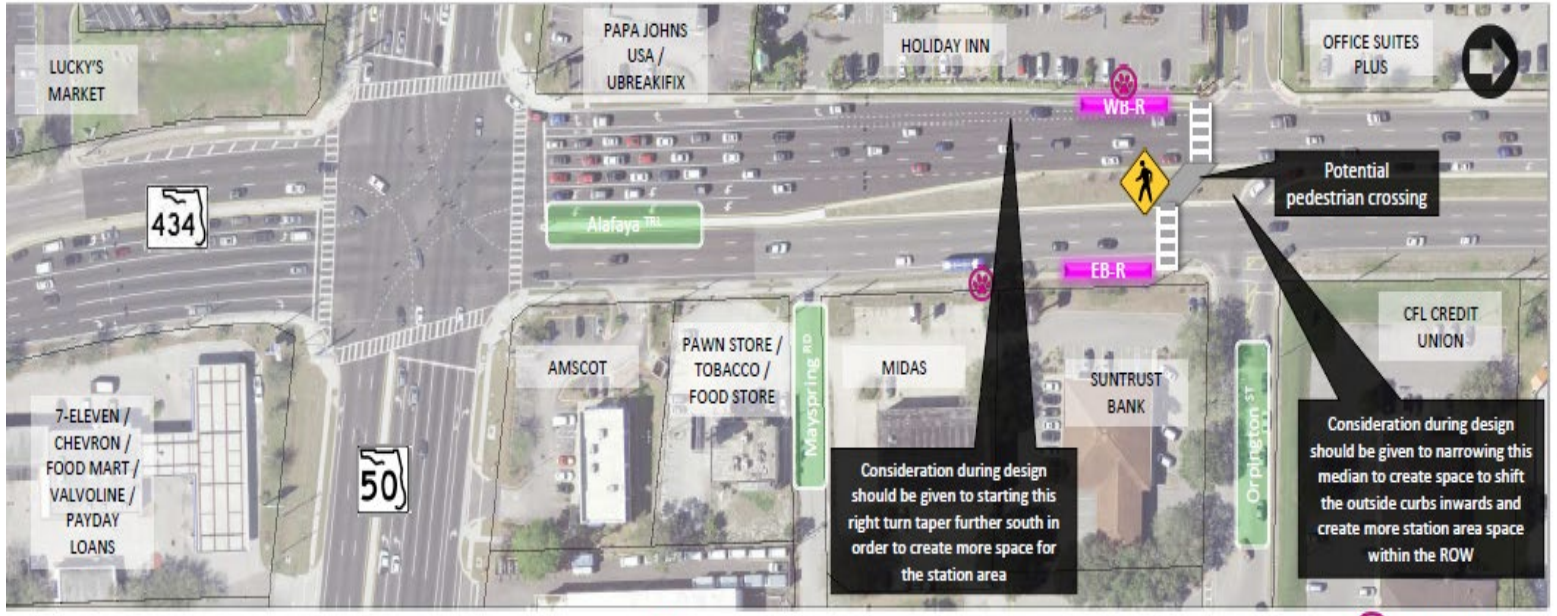
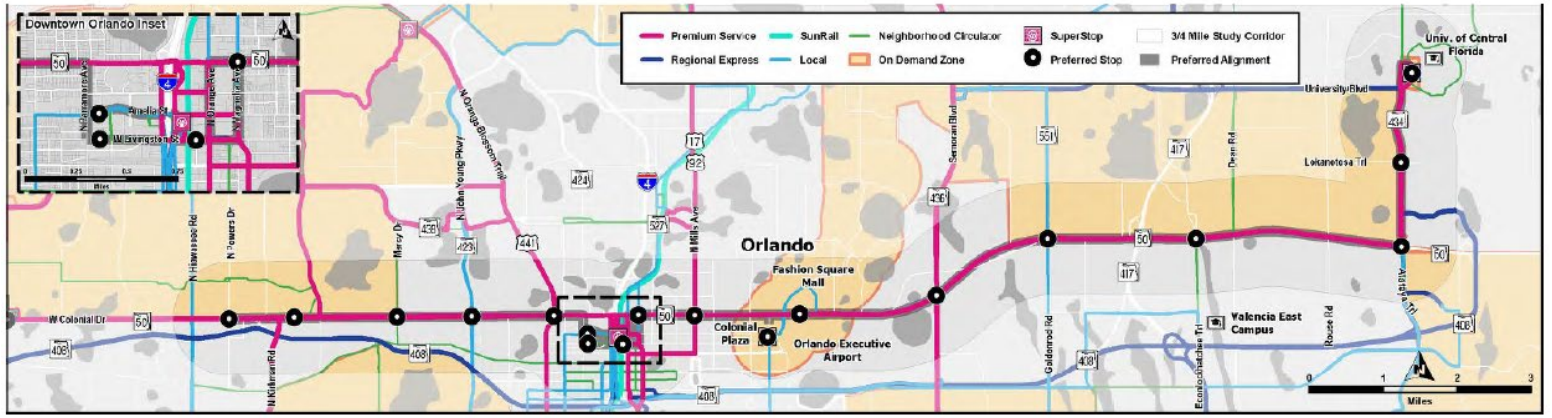



Figure 15 |Future LYNX Network



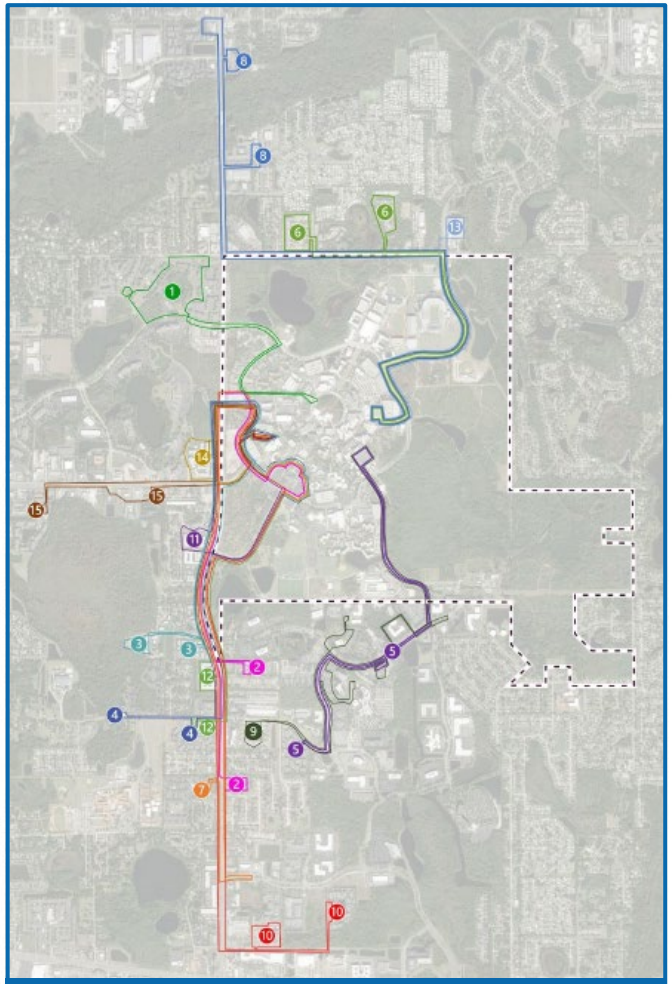
# UCF 2020-30 Campus Master Plan (2019)

## Sustainable Transportation Approaches

- **Traffic volumes decreased b/w 2014 and 2019 with increased enrollment**
- Transit Circulation
- Bicycle/Pedestrian Circulation
- Green Initiative – EV Charging Stations
- Car-Sharing
- Parking Solutions – Park & Ride
- Limited-access Service Roads
- Transportation Demand Management (TDM)
- Academic Solutions

## Committed Transportation Improvements

- Supporting the UCF Pedestrian Safety Study
  - Additional ROW
  - Mid-block crossings on University Blvd and Alafaya Tr
  - Lighting improvements
  - Educational programs
  - Wayfinding on University Blvd and Alafaya Tr
- Bicycle pathway through the UCF that links existing trails



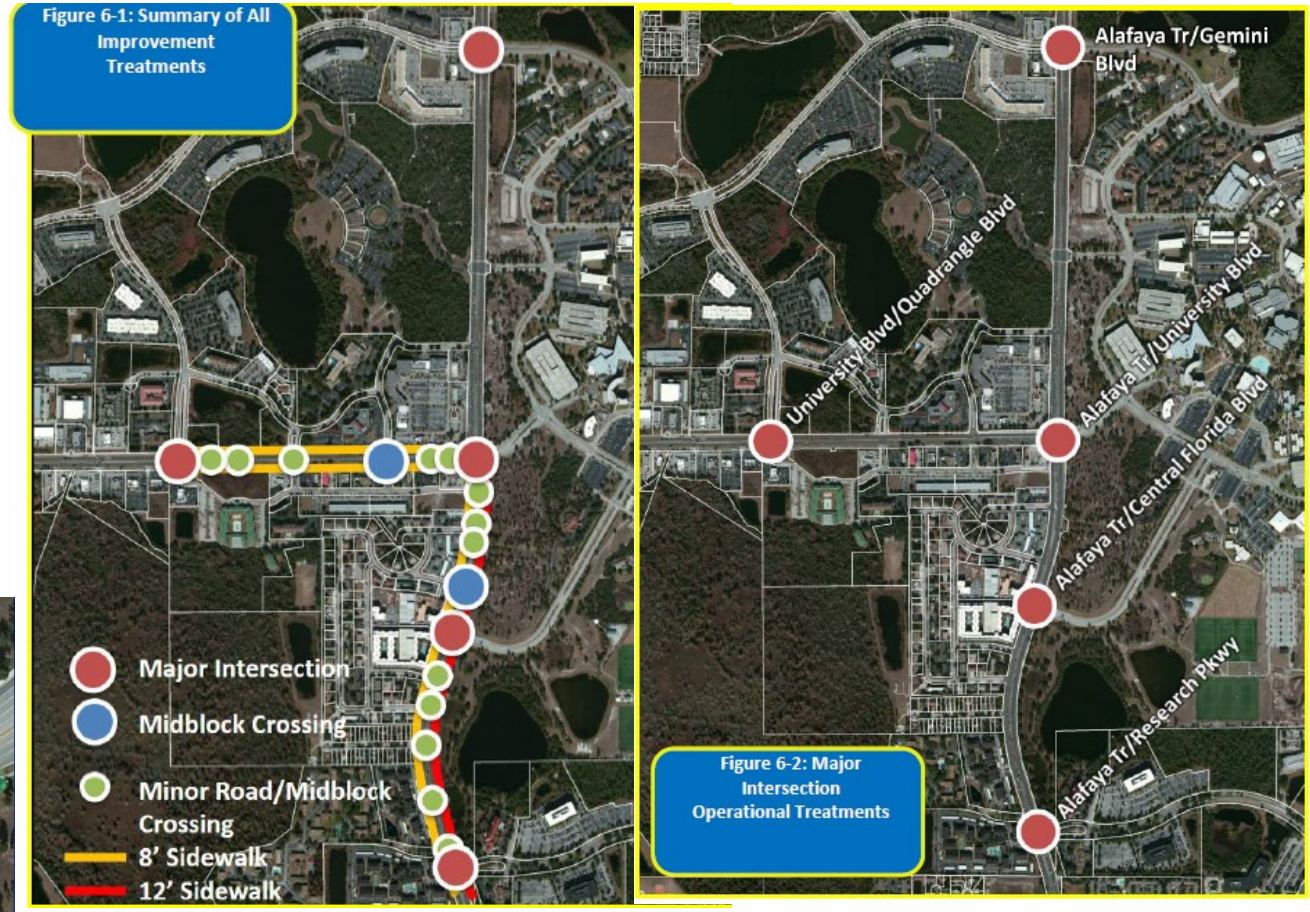
Off-Campus UCF Shuttle Map

# UCF/Alafaya Trail Pedestrian Safety Study (2017)

## Improvements Summary

- Alafaya Tr from Challenger Pkwy to McCulloch Rd, University Blvd from Rouse Rd to Alafaya Tr, and McCulloch Rd from Alafaya Tr to N Orion Blvd
- Reduce return radii on corners
- Tress/shrubs in medians & b/w sidewalk and curb
- Sidewalk widened to 8-foot minimum
- Pedestrian fencing and pedestrian lighting
- Two new mid-block pedestrian crossing signals
- Improve LYNX bus stops

**Phase 1**
(Alafaya Tr from Challenger Pkwy to McCulloch Rd & University Blvd from Quadrangle Blvd to Alafaya Tr)
**Underway**



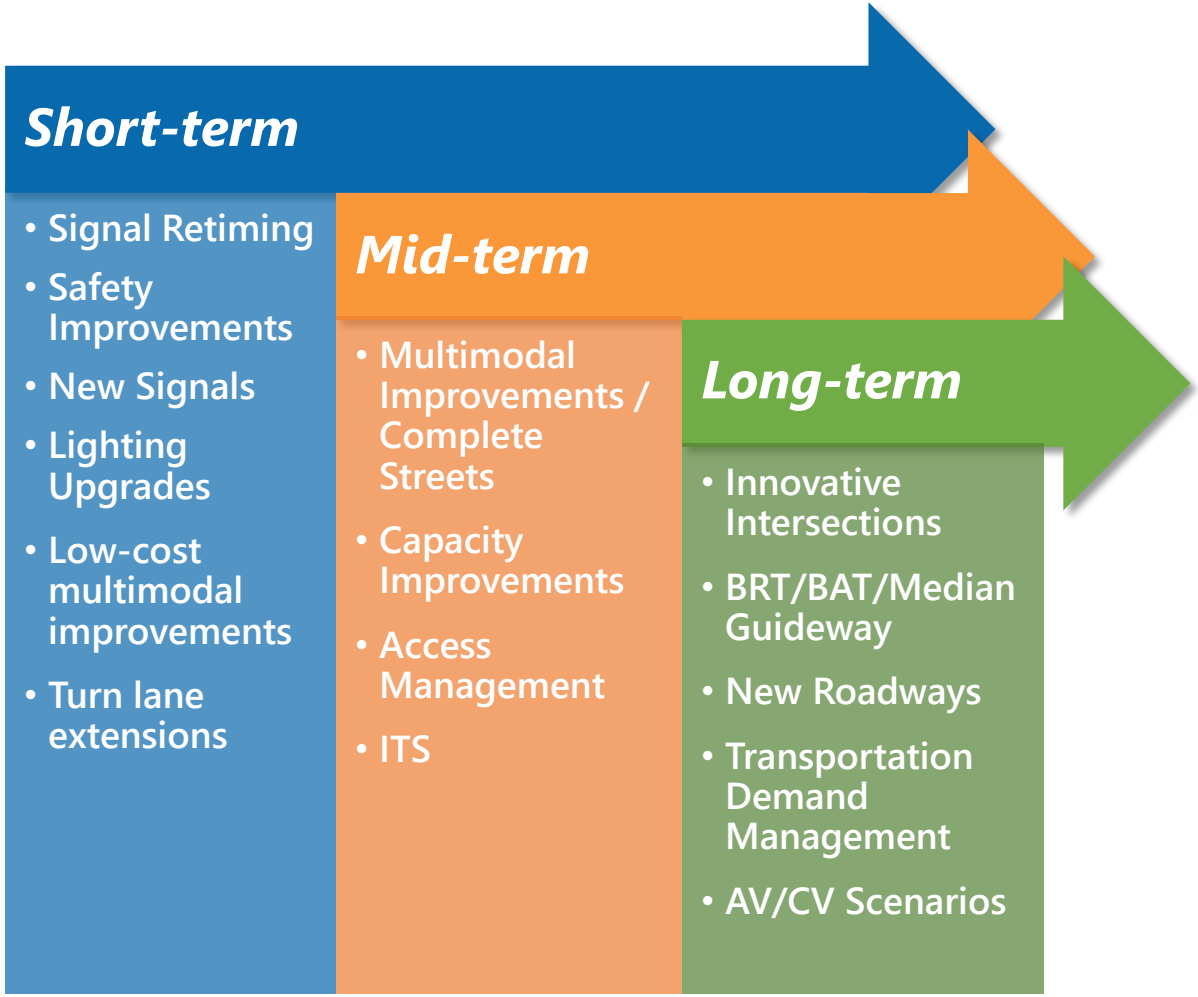

**Alafaya Tr/University Blvd Proposed Concept**

# Evaluation of Scenarios & Needs Plan

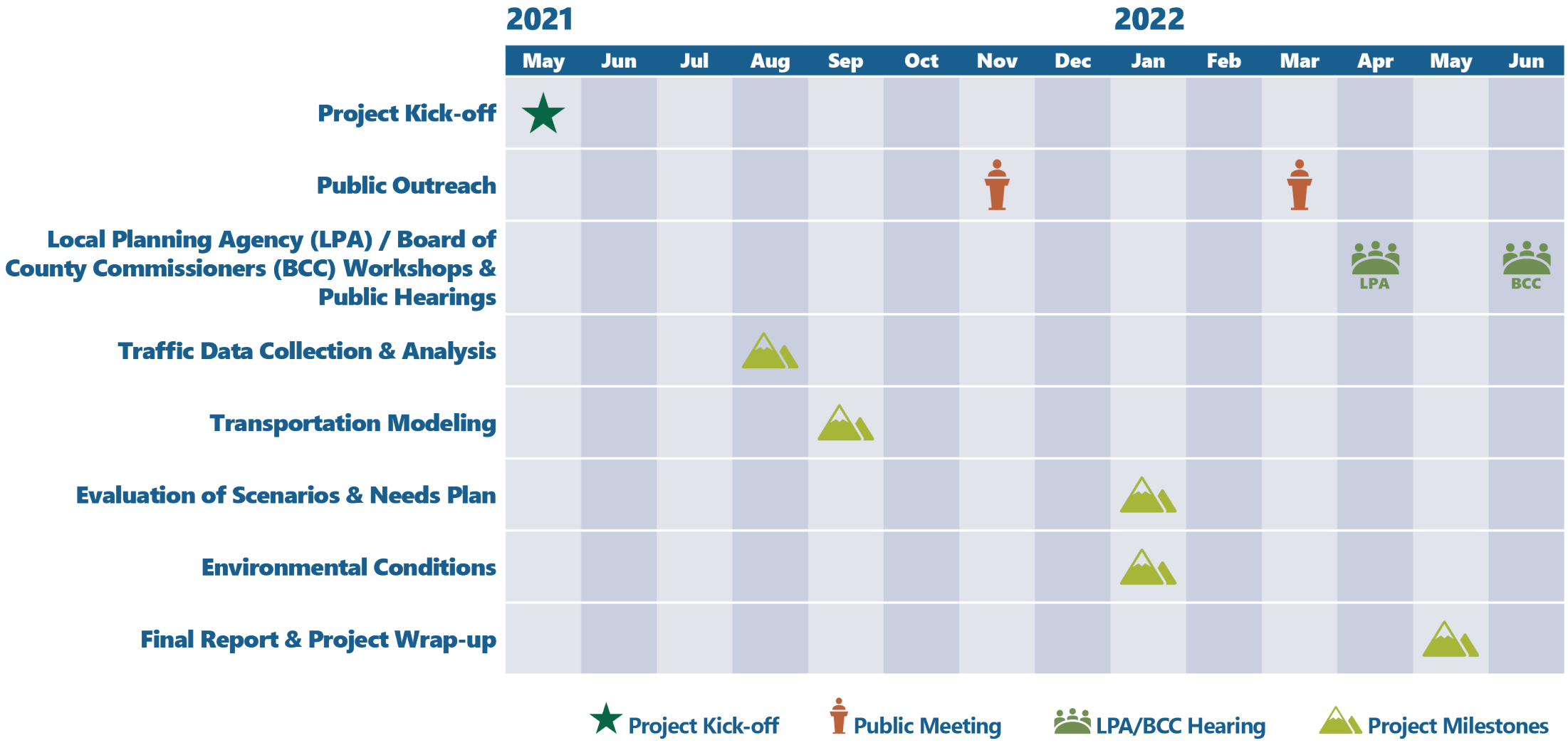
## Future Year Needs Plan

Develop and prioritize short-term, mid-term, and long-term improvements:

- Short-term – by 2025
  - Low-cost improvements; TSM&O
- Mid-term – 2026 - 2035
  - May need additional funding
  - Can be constructed within 10-15 years
- Long-term – 2036 - 2045
  - Major improvements
  - Sustainable Transportation Improvements
  - > 20 years



# NEOCATS Study Timeline



# NEOCATS Study – Contact Information


**Hatem A. Abou-Senna, PhD., P.E.**
Project Manager
Orange County Transportation Planning Division
4200 S. John Young Pkwy.
Orlando, FL. 32839

(407) 836-8023

**Babuji Ambikapathy, AICP, P.E.**
Consultant Project Manager
225 E. Robinson Street, Suite 300
Landmark Center Two
Orlando, FL 32801-4326

(407) 230-2762

# NEOCATS – Website/Feedback

## www.neocatstudy.com


**Visit the project web page.**

**We want to know what you think!**

# Questions & Discussion