

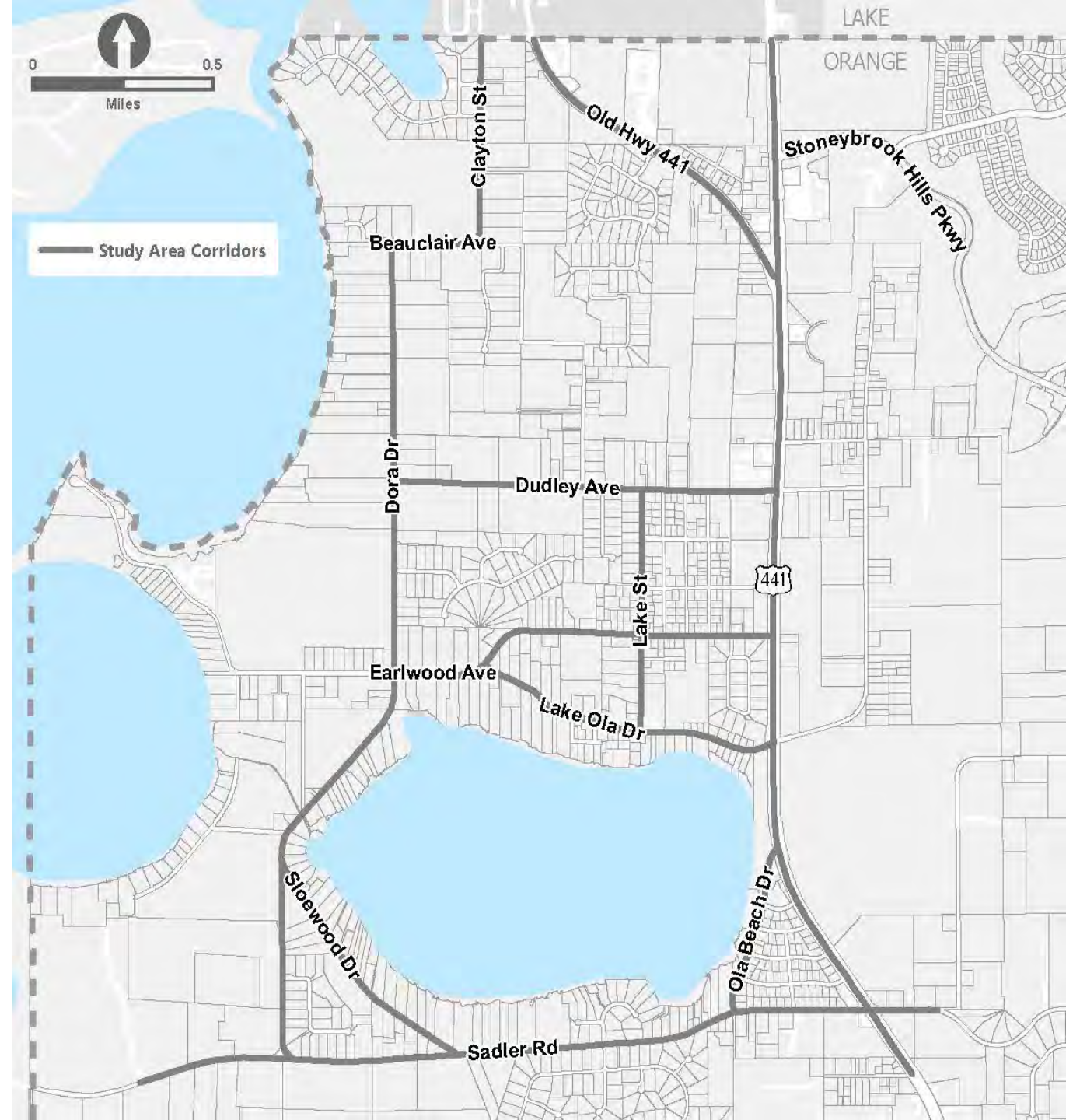


Tangerine Traffic Calming Study



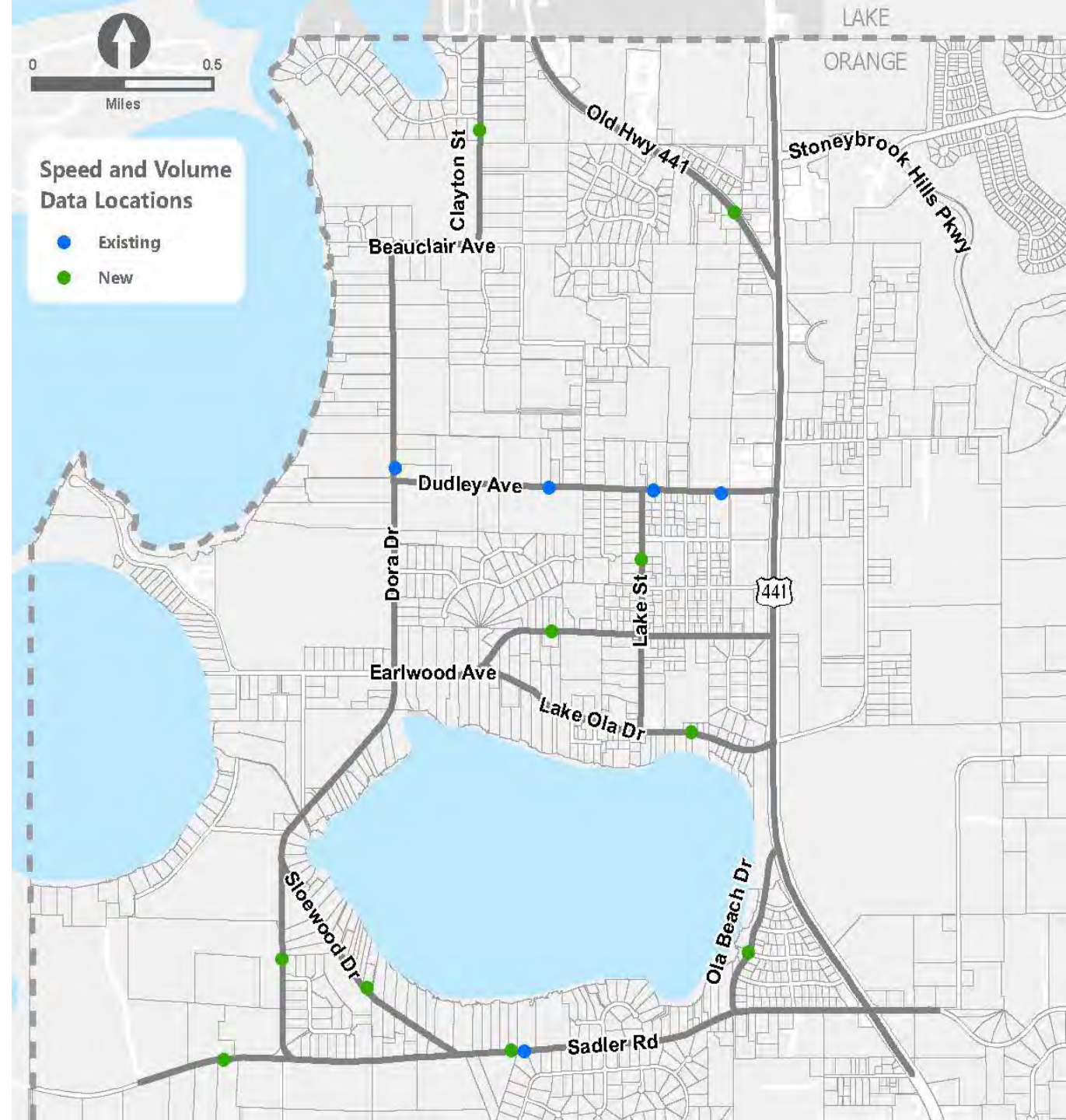
Project Overview

- Objectives
 - Address safety concerns
 - Provide appropriate traffic calming
- Tasks
 - Field assessment / area inventory
 - Data collection and analysis
 - Develop improvement strategies & area plan



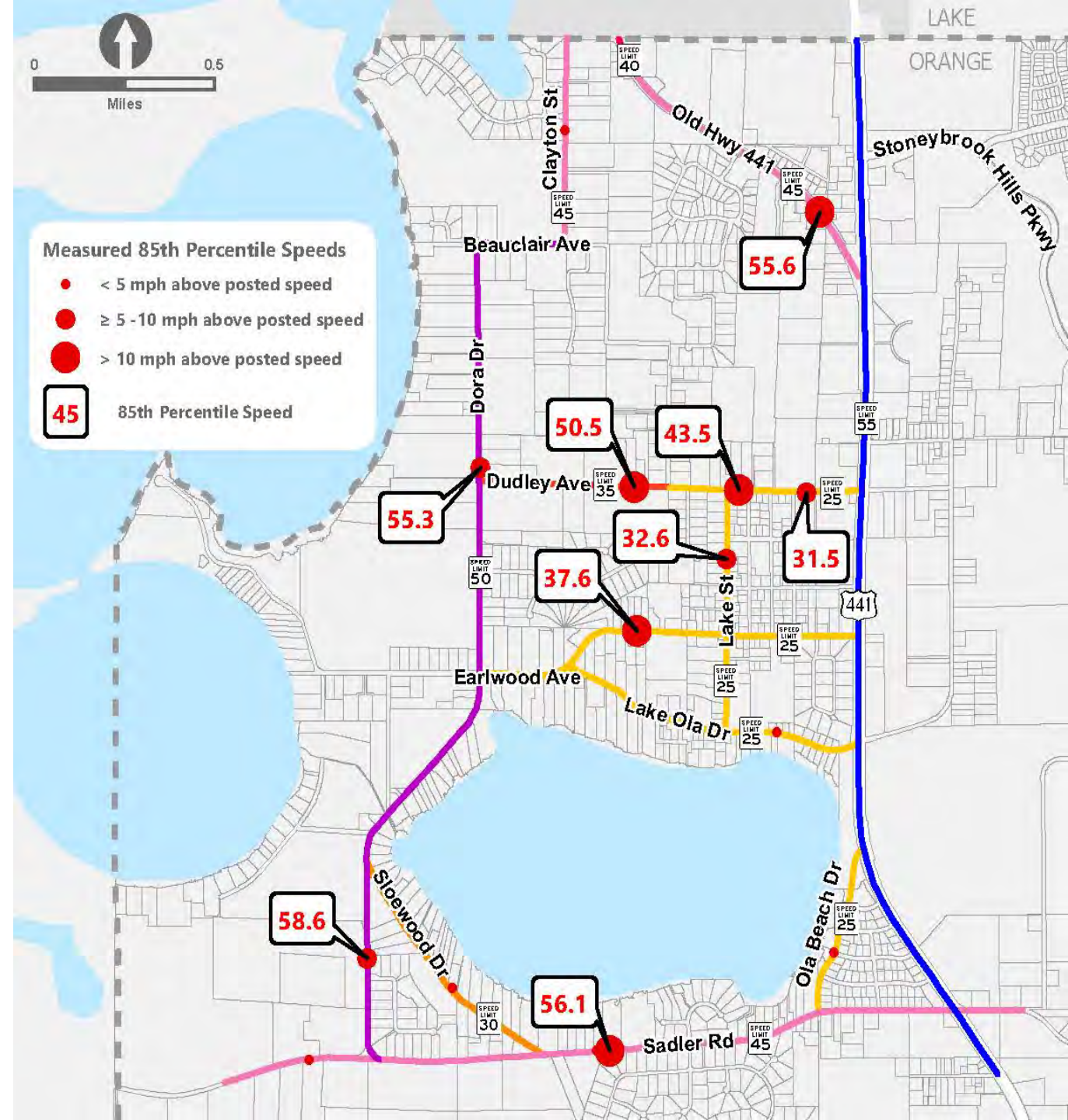
Data Review

- Speed and volume data
 - 5 previous locations (2015-2020)
 - 10 new locations (January 2022)
- Crash data for corridors (2016 – 2020)
- Origin-destination (O-D) data



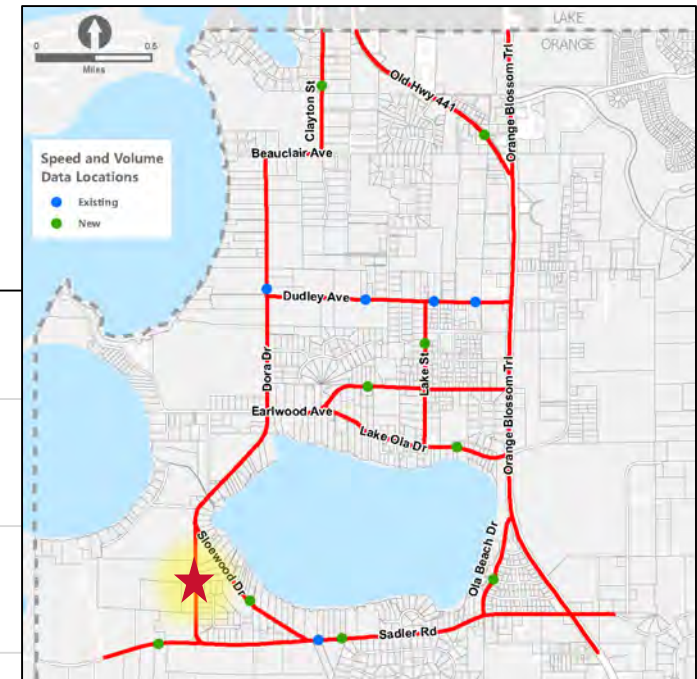
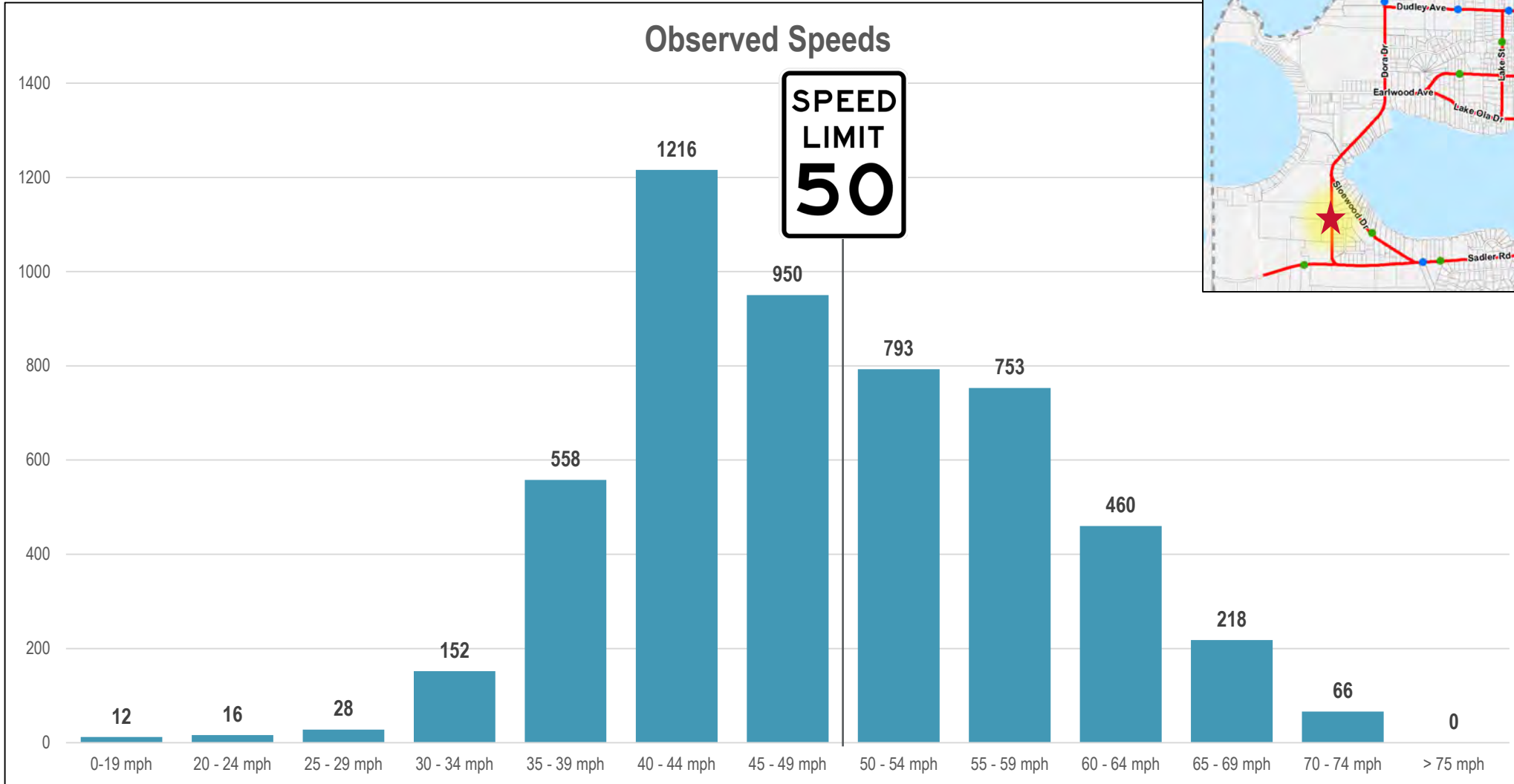
Measured Speeds

- 85th percentile speed
 - The speed at or below which 85 percent of all vehicles are observed to travel under free-flowing conditions past a monitored point
 - Typically used to help set the posted speed limit
- Locations with high 85th percentile speeds are shown and of concern
 - Dudley Avenue
 - Earlwood Avenue
 - Old Hwy 441
 - Dora Drive



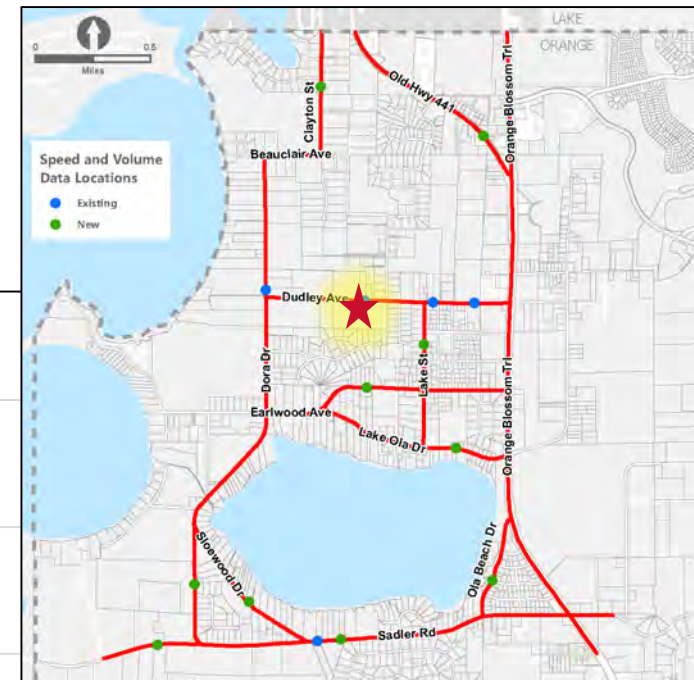
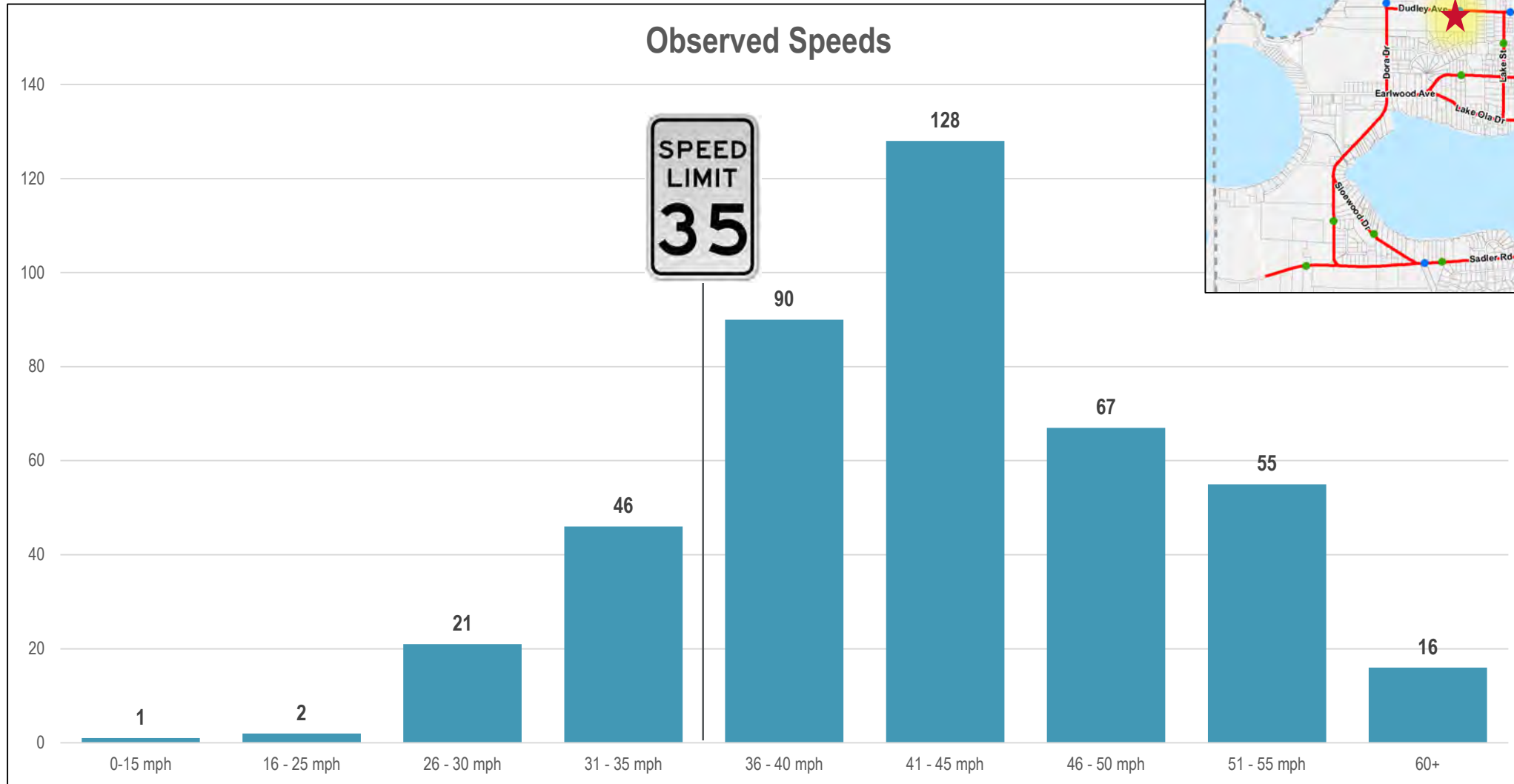
Distribution of Speeds

Dora Drive, North of Sadler Road



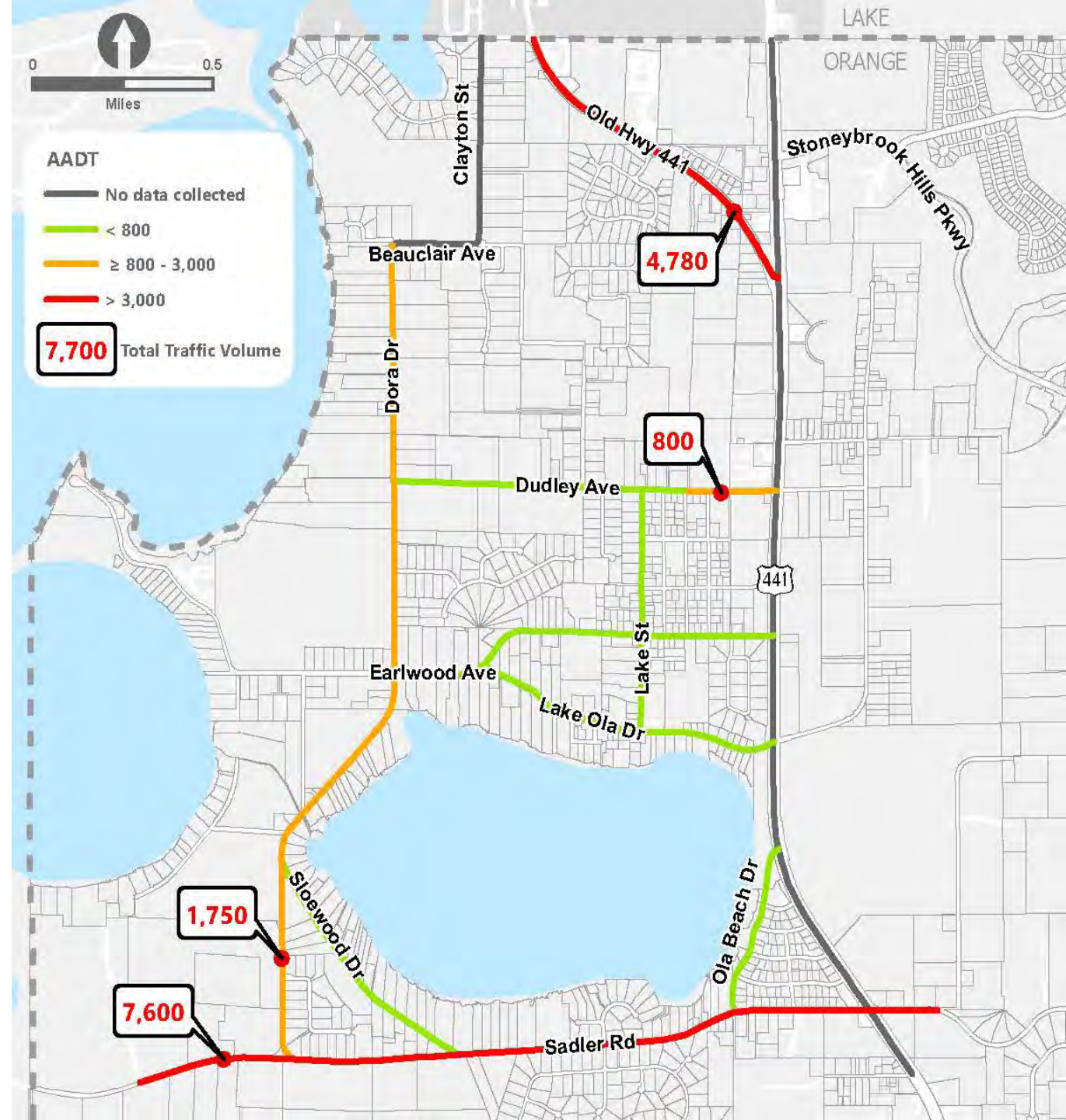
Distribution of Speeds

Dudley Avenue, East of Dora Drive



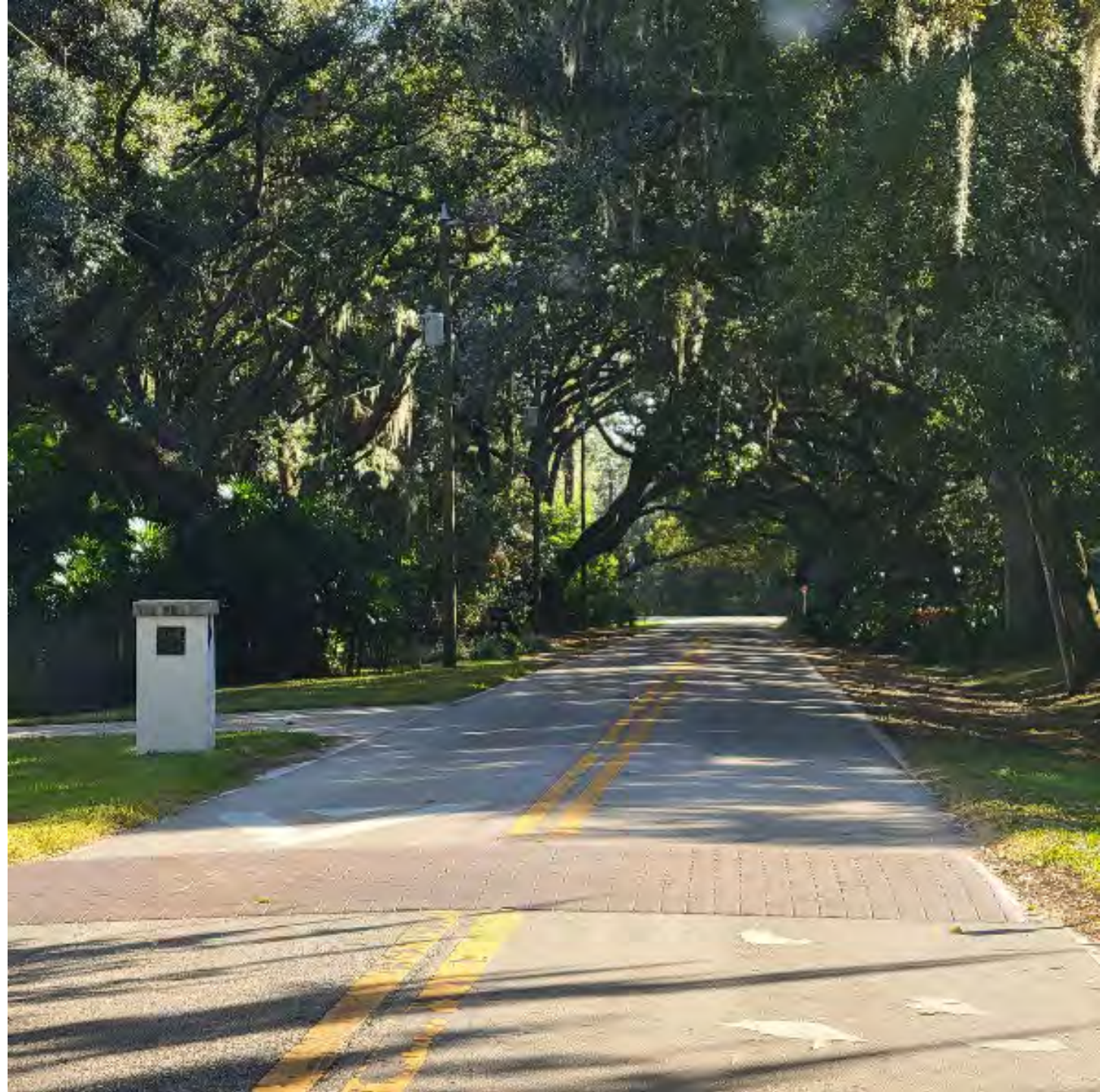
Daily Traffic Volumes

- > 3,000 vehicles / day
 - Sadler Road
 - Old Hwy 441
- Between 800 & 3,000 vehicles / day
 - Dora Drive
 - Dudley Ave (east of US 441)



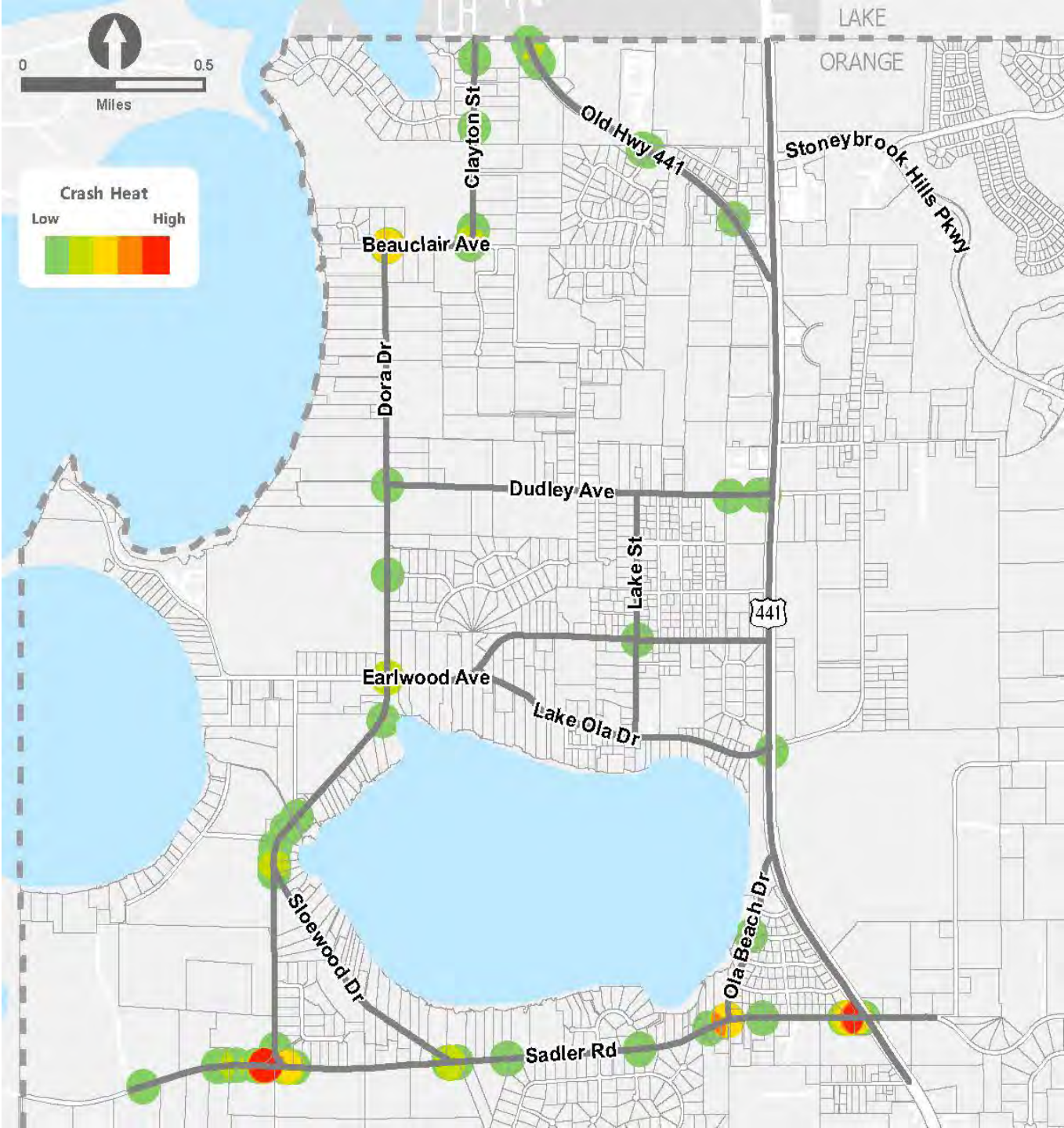
County Speed Hump Program

- Eligibility requirements
 - Local residential street
 - Min traffic volume: 800 vehicles/day
 - Max traffic volume: 3,000 vehicles/day
 - Posted speed \leq 30 mph
 - Observed 85th percentile speed $>$ 30 mph
 - Max street width: 24 feet
- Study streets currently eligible:
 - Dudley Ave, Lake St to US 441



Crash Data

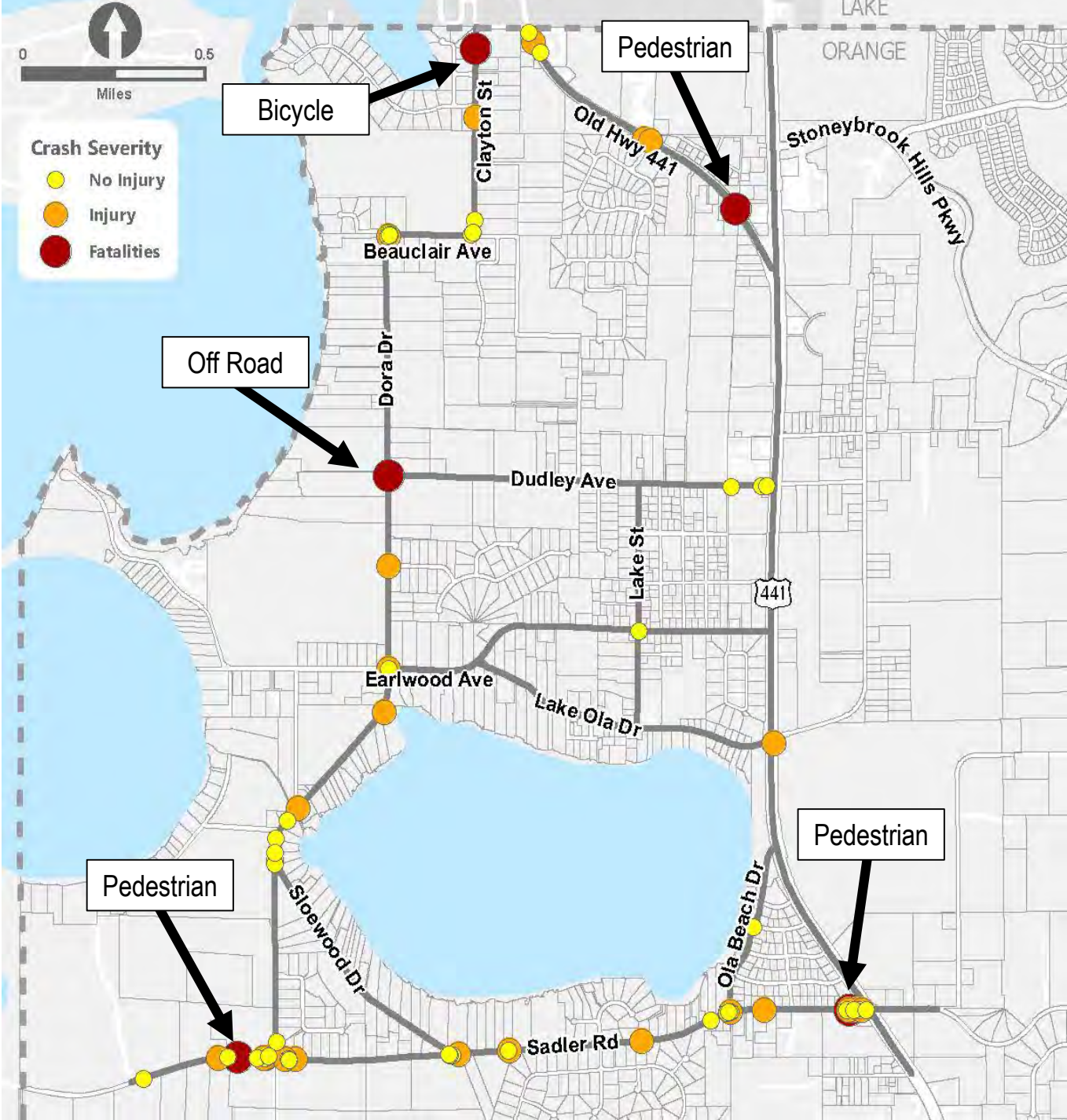
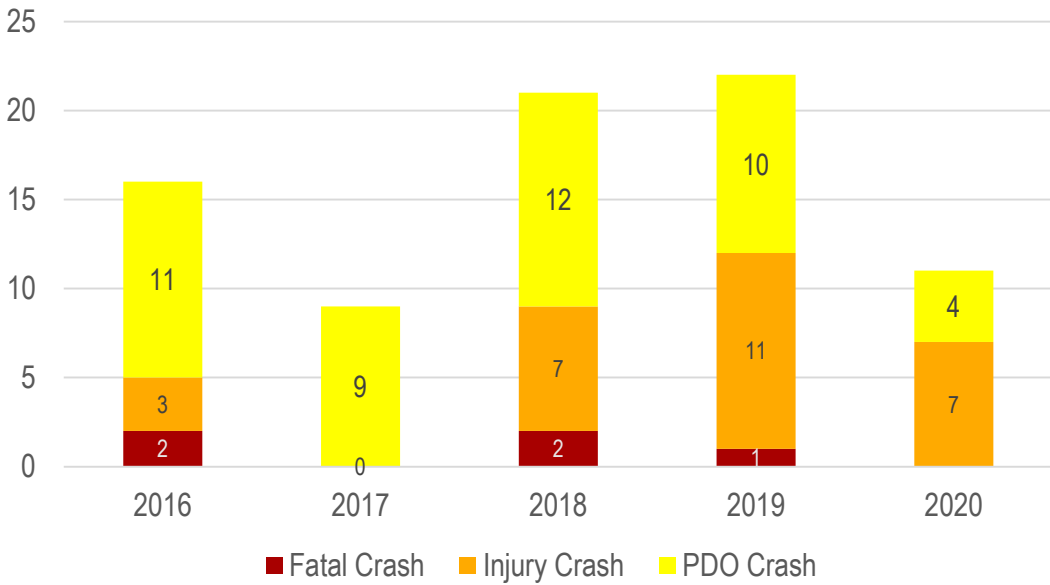
- 2016 – 2020
- Source: Signal Four Analytics (statewide crash database)
- Prominent roadways
 - Sadler Rd
 - Dora Dr



Crash Severity

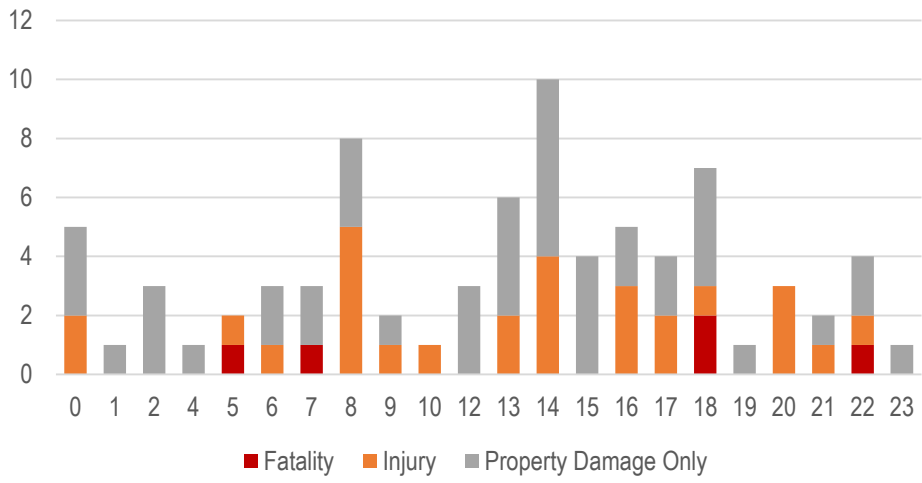
- 79 crashes within neighborhood
 - 46 Property damage only
 - 28 Injury
 - 5 Fatalities (3 pedestrian, 1 bicycle, 1 off road)

Crashes & Severity by Year

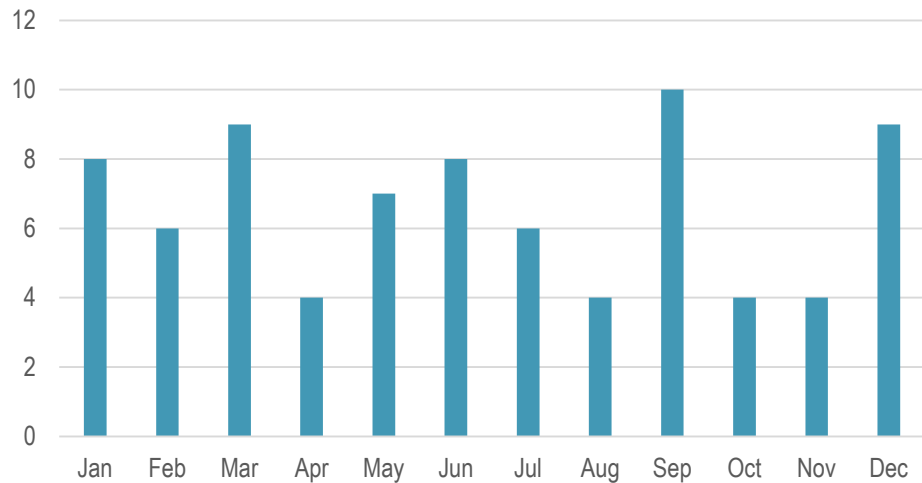


Study Area Crash Statistics

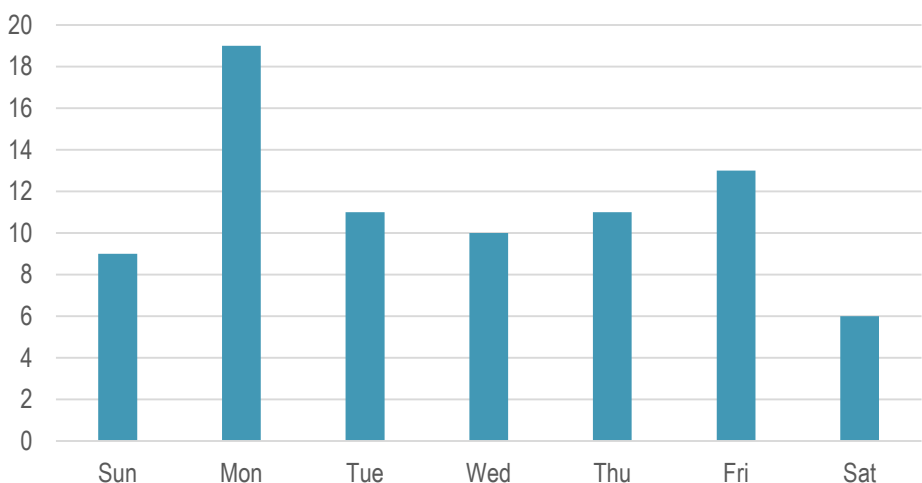
Total Crashes by Hour of Day



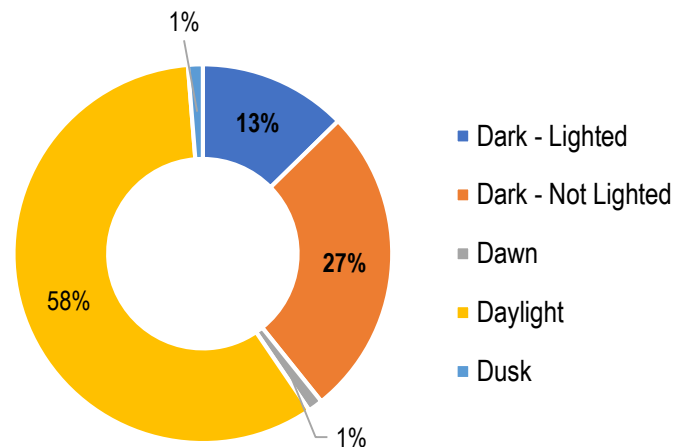
Total Crashes by Month



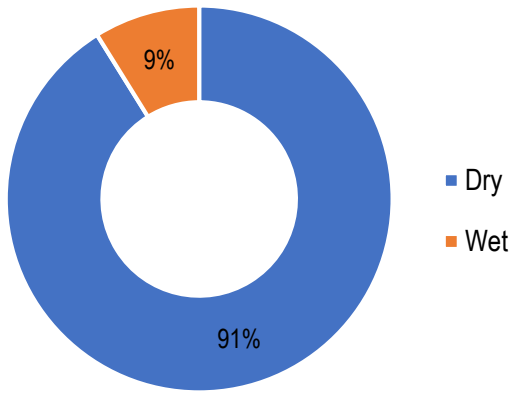
Total Crashes by Day of Week



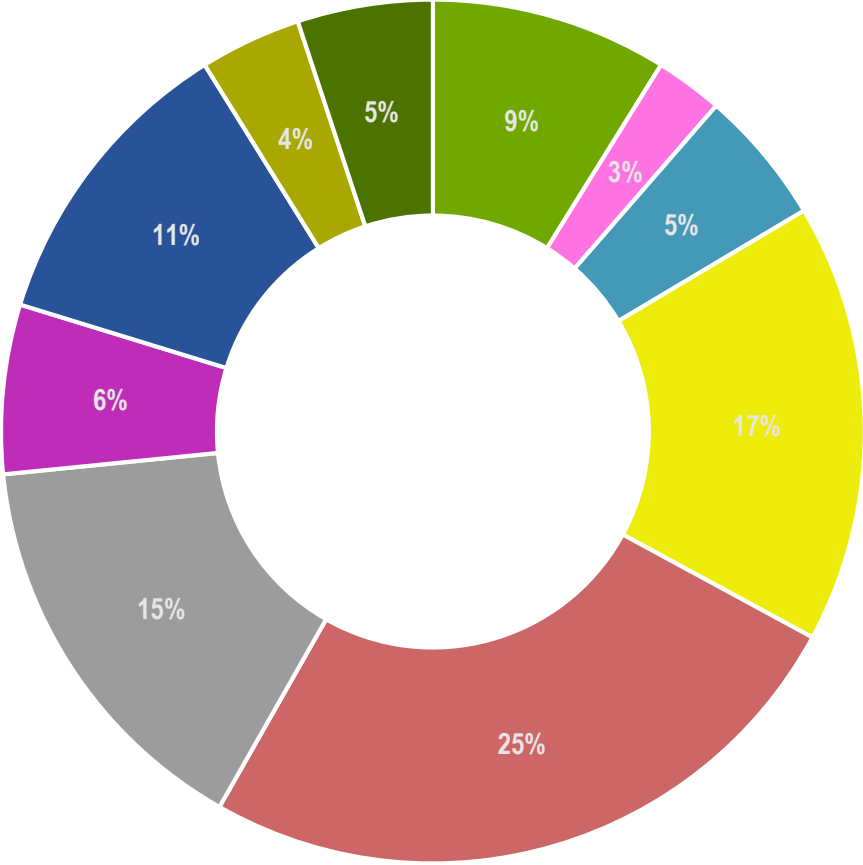
Lighting Conditions



Surface Conditions



Crash Types



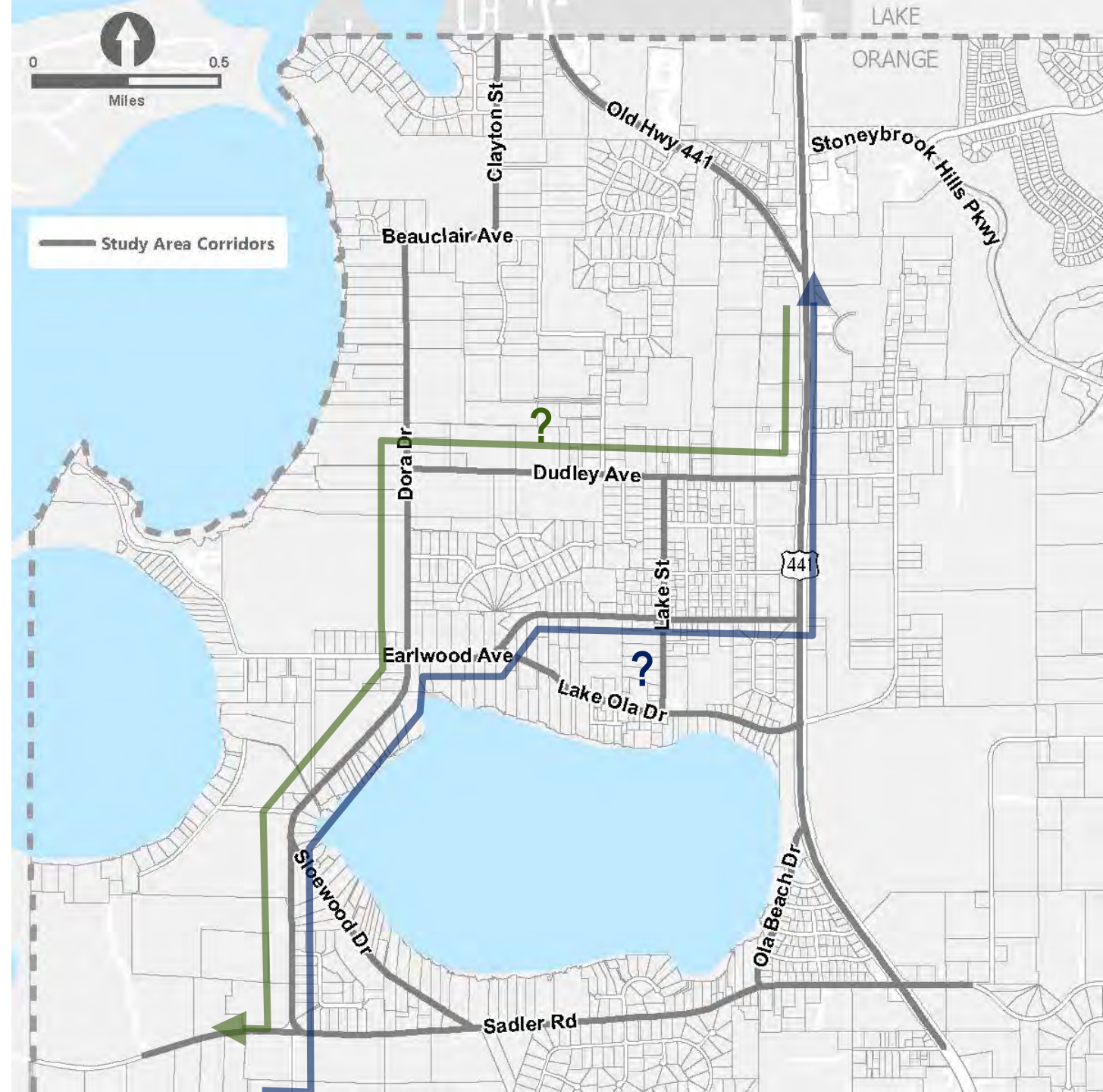
- Angle
- Bicycle
- Head On
- Left Turn
- Off Road
- Other
- Pedestrian
- Rear End
- Sideswipe
- Right Turn



Vehicle Traffic Patterns

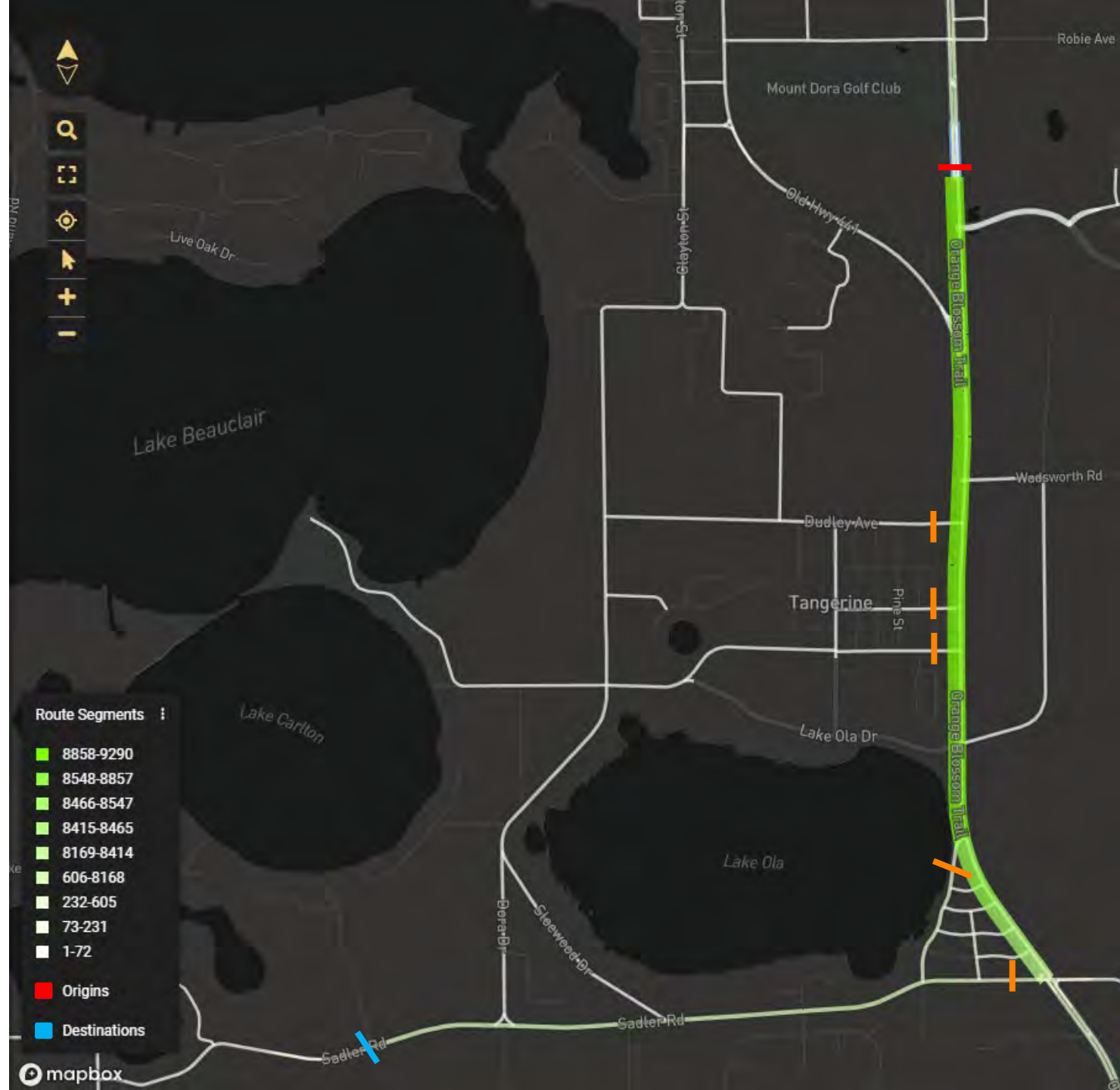
Is there cut-through traffic?

- Data source: StreetLight Data, provided via MetroPlan Orlando
- Streetlight Data contextualizes anonymous location data from GPS-enabled mobile devices to measure population travel patterns
- Two time periods were reviewed:
 - 2019
 - July/August/September of 2021



Vehicle Traffic Patterns

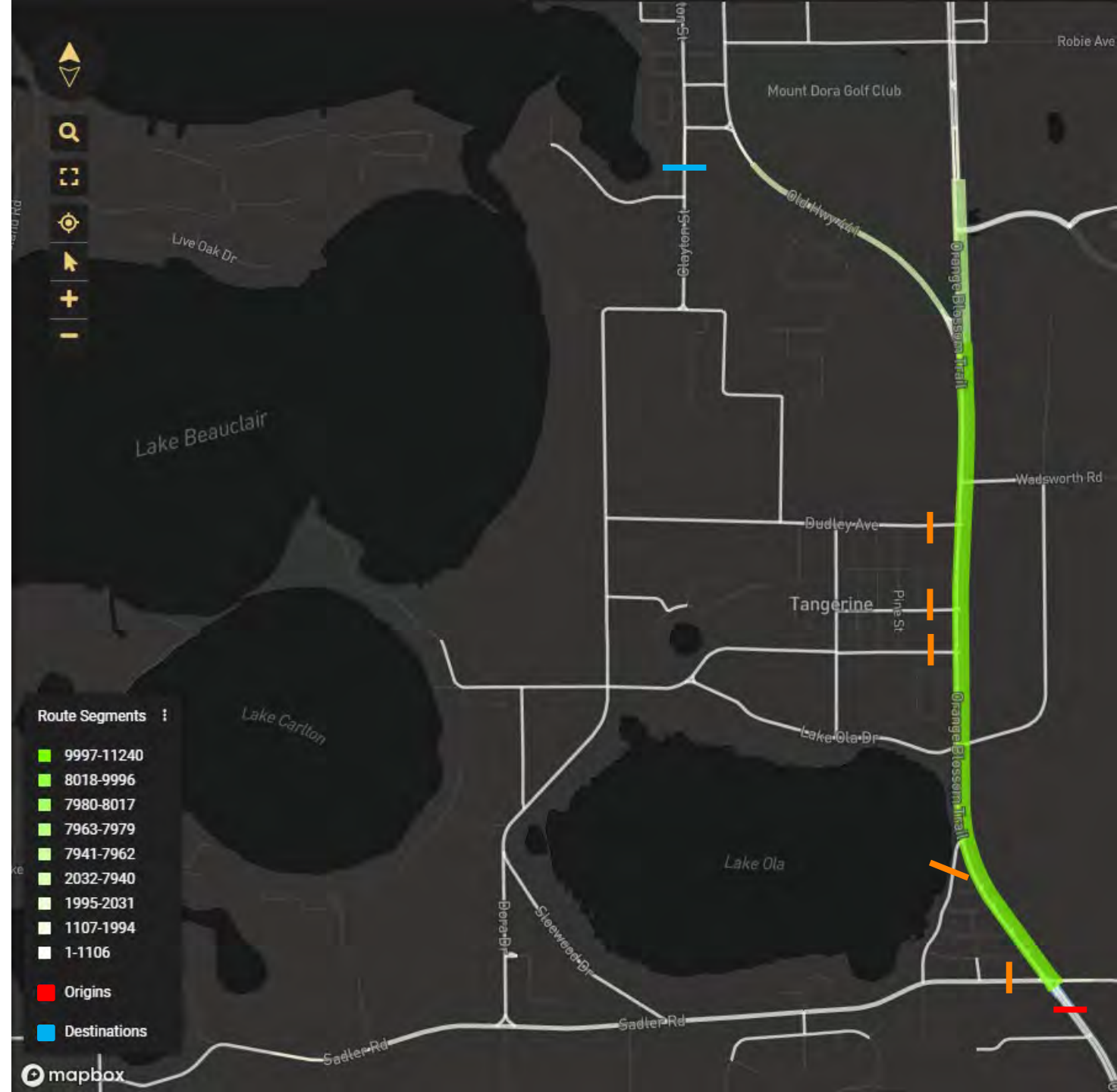
- Top routes between origins and destinations analysis
 - Origins: Red (—)
 - Destinations: Blue (—)
 - Filter: Orange (—)
 - Data: 2019 Average Daily Trips
- 581 Average Daily Trips from US 441 (north) to Sadler Road (west)
 - 48% of trips use Sadler Road
 - 48% of trips use Ola Beach Drive
 - 4% Other



NOTE: Unique scale on each slide.

Vehicle Traffic Patterns

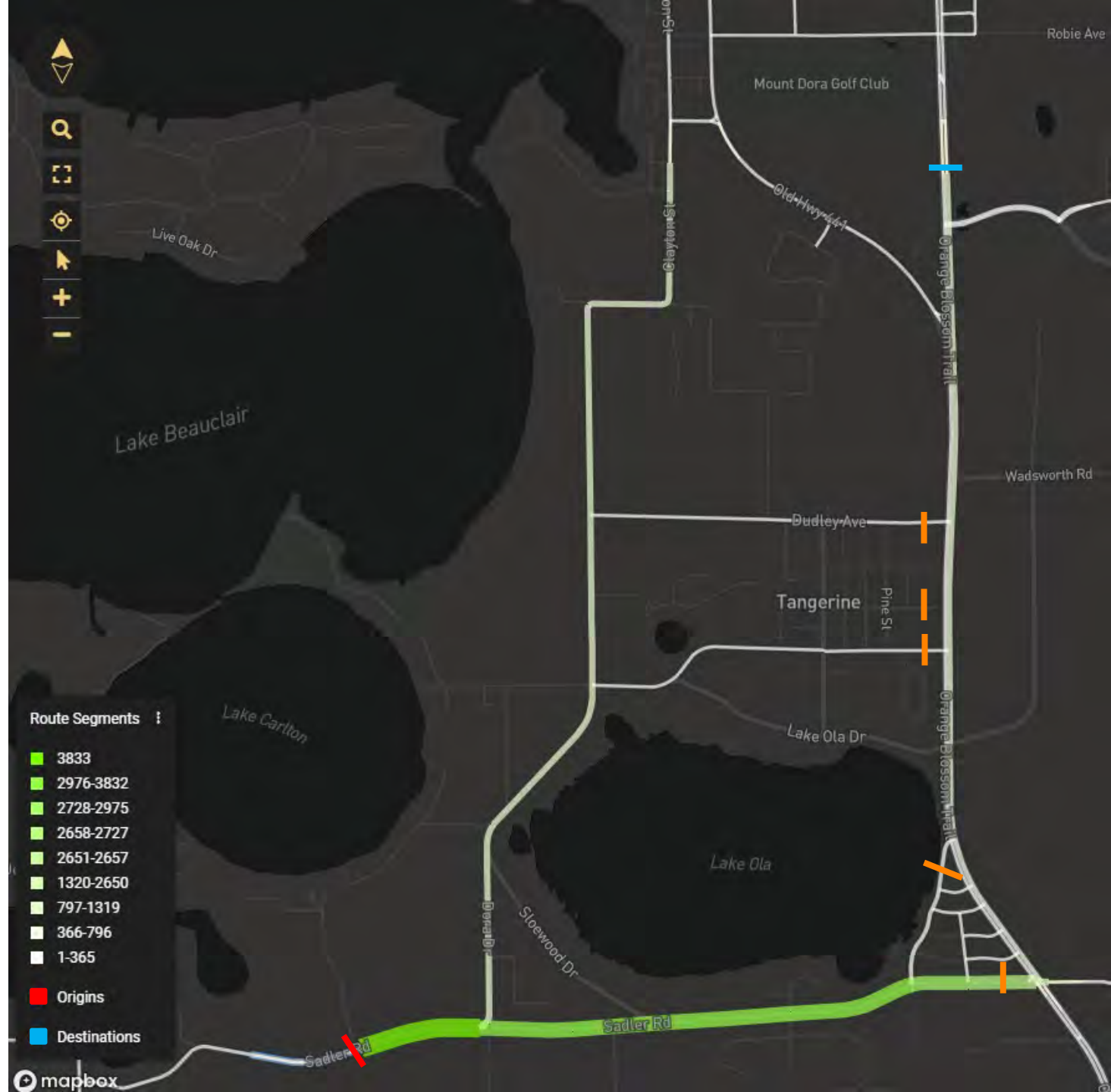
- Top routes between origins and destinations analysis
 - Origins: Red (—)
 - Destinations: Blue (—)
 - Filter: Orange (—)
 - Data: 2019 Average Daily Trips
- 36 Average Daily Trips from US 441 (south) to Clayton Street (north)
 - Nearly half use Sadler Road



NOTE: Unique scale on each slide.

Vehicle Traffic Patterns

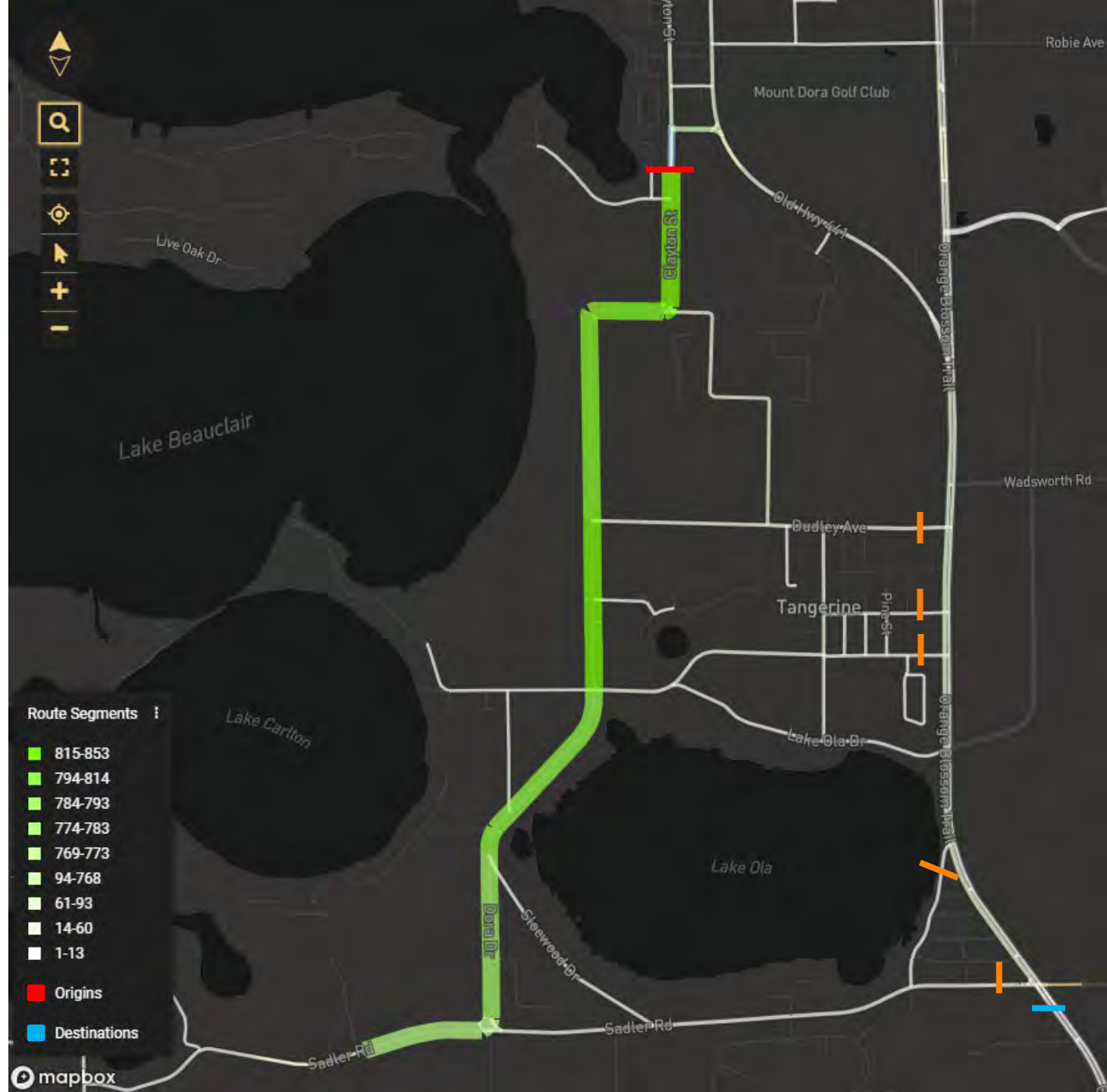
- Top routes between origins and destinations analysis
 - Origins: Red (—)
 - Destinations: Blue (—)
 - Filter: Orange (—)
 - Data: 2019 Average Daily Trips
- 606 Average Daily Trips from Sadler Road (west) to US 441 (north)
 - 60% of trips use Sadler Road
 - 36% of trips use Ola Beach Drive (*now directional NB left turn only, no EB left*)
 - 4% Other



NOTE: Unique scale on each slide.

Vehicle Traffic Patterns

- Top routes between origins and destinations analysis
 - Origins: Red (—)
 - Destinations: Blue (—)
 - Filter: Orange (—)
 - Data: 2019 Average Daily Trips
- 60 Average Daily Trips from Clayton Street (north) to US 441 (south)
 - 40% uses Dudley Ave
 - 32% uses Sadler Rd



NOTE: Unique scale on each slide.



Potential Treatments

- Speed Cushions
- Roundabouts/Mini-Roundabouts
- Rumble Strips
- Speed Feedback Signs
- Roadway Speed Limit Reductions
- Intersection Lighting

Roundabouts* (\$\$-\$\$\$\$)

Benefits

- Reduces vehicular speeds
- Improved vehicular traffic flows
- Shorter crossing distances for non-motorized users
- Improved safety for all users – proven safety countermeasure (FHWA)

*Mini-roundabouts (\$-\$\$)



Roundabout at CR 561 and CR 455 in Lake County, FL

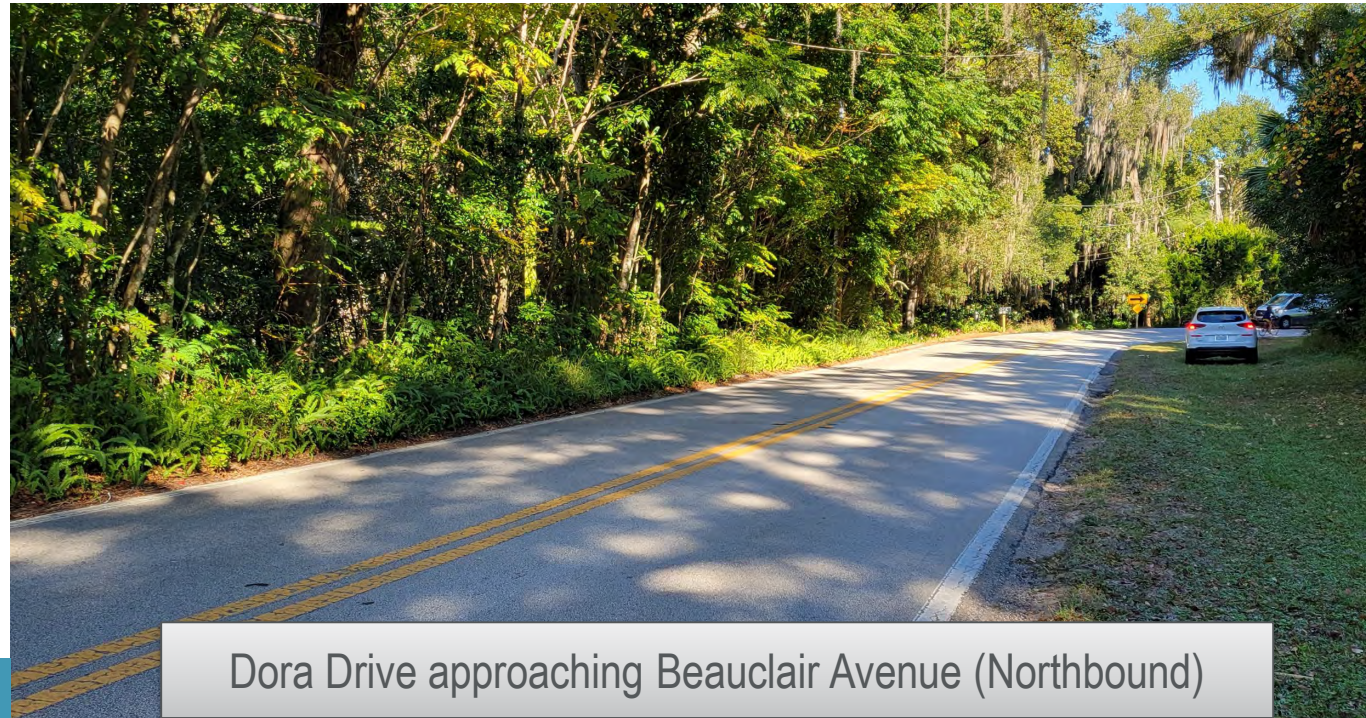


Mini-Roundabout in Sanford, FL

Rumble Strips (\$)

Benefits

- Alerts drivers to an area on the roadway where conditions are changing



Dora Drive approaching Beauclair Avenue (Northbound)

Speed Feedback Signs (\$)

Benefits

- Reduces vehicular speeds
- Actively alerts drivers to when they are speeding



Intersection Lighting (\$\$)

Benefits

- Alerts drivers to an upcoming intersection or curve in the roadway during nighttime conditions



Speed Cushions (\$)

Benefits

- Reduces vehicular speeds
- Slots allow emergency vehicles to pass through without drastically slowing, thereby not slowing response times
- More bike friendly vs. speed hump / table



Pavement Markings (<\$)

Benefits

- Reduces vehicular speeds
- Provides more awareness to drivers when posted speed limits change



Dudley Avenue approaching Lake Street

Preliminary Treatments Plan

- Roundabout / mini-roundabout ●
- Rumble strips ●
- Speed feedback signs ●
- Intersection lighting ●
 - Confirm sufficient lighting at intersections
 - Included at new roundabouts
- Speed cushions ———
- Pavement markings ●
- Reduce speed limit on Dora Drive to 45 MPH



Regional Roads

- Sadler Road
- Dora Drive
- Beauclair Avenue
- Clayton Street
- Old Hwy 441



Sadler Road looking towards Dora Drive



Dora Drive looking Southbound

Roadway Characteristics – Sadler Road

- 45 MPH posted speed limits
- 12' vehicular lane widths
- 5' Sidewalk on north side of Sadler (partial)



Potential Treatments – Sadler Road

- Roundabout installation at Sadler Road and Dora Drive
 - Intersection lighting included
- Intersection lighting at
 - Sadler Road and Sloewood Drive
 - Sadler Road and Ola Beach Drive



Roundabout Mock-up on Sadler Road and Dora Drive



Roundabout Mock-up on Sadler Road and Dora Drive



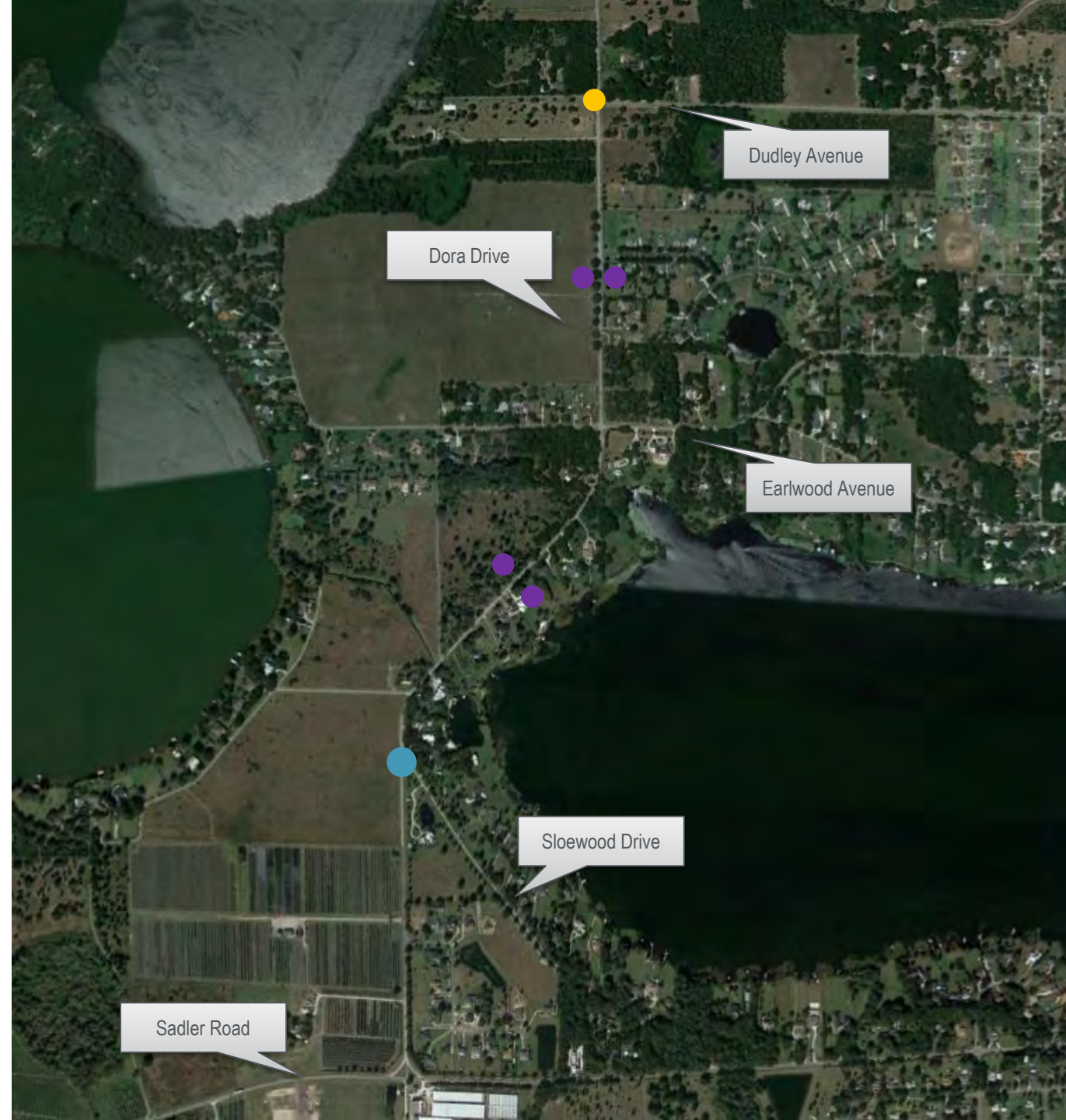
Roadway Characteristics – Dora Drive

- 50 MPH posted speed limits
- 11' vehicular lane widths



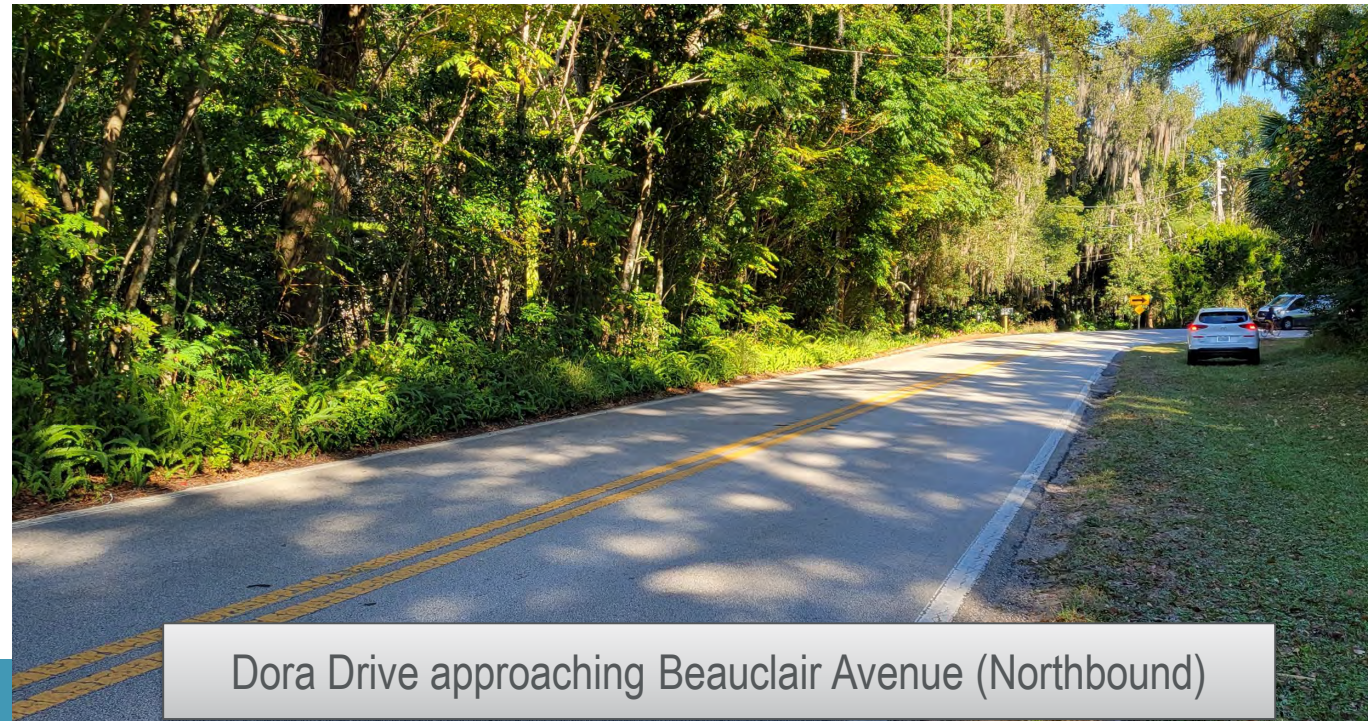
Potential Treatments – Dora Drive

- Speed limit reduction (50 MPH to 45 MPH)
- Speed feedback signage ●
- Intersection lighting (Dora Drive/Dudley Avenue) ●
- Mini-roundabout at Dora Drive and Sloewood Drive ●



Roadway Characteristics – Beauclair Avenue/Clayton Street

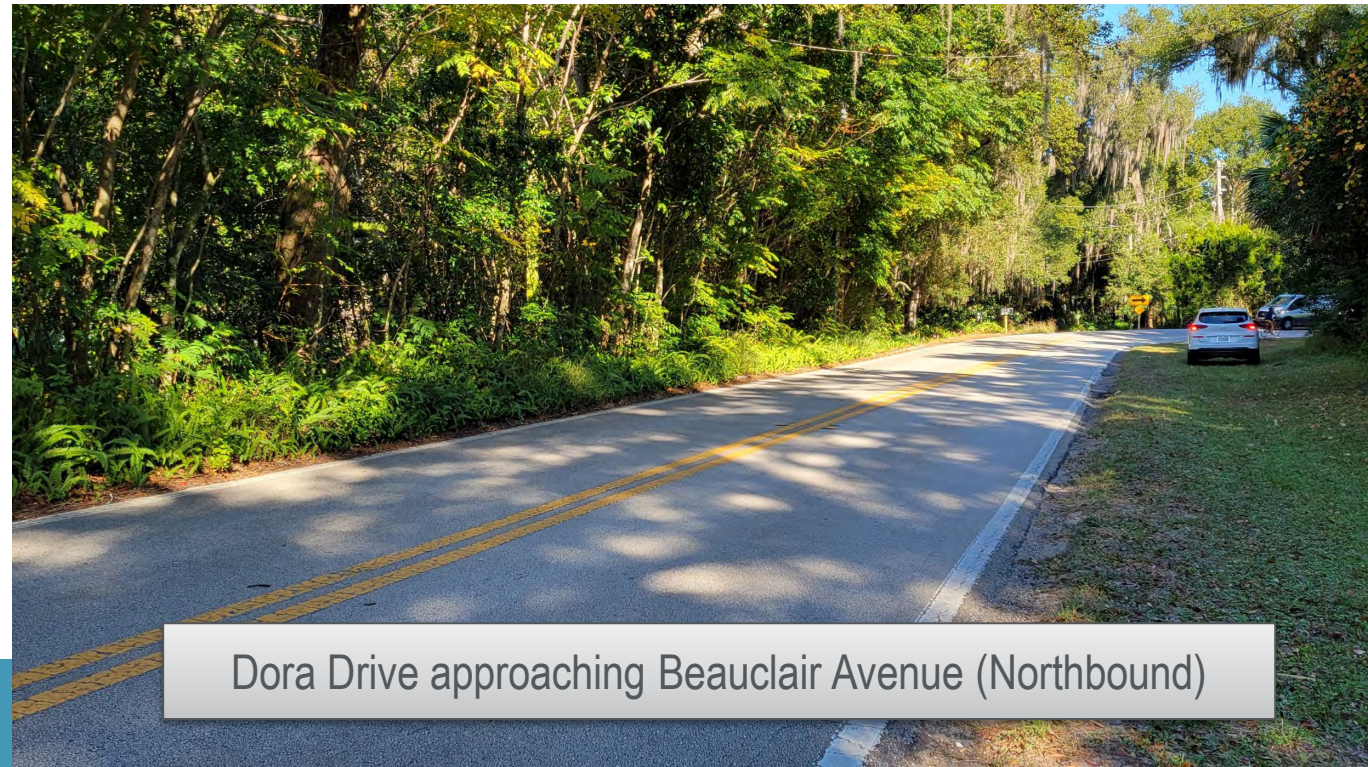
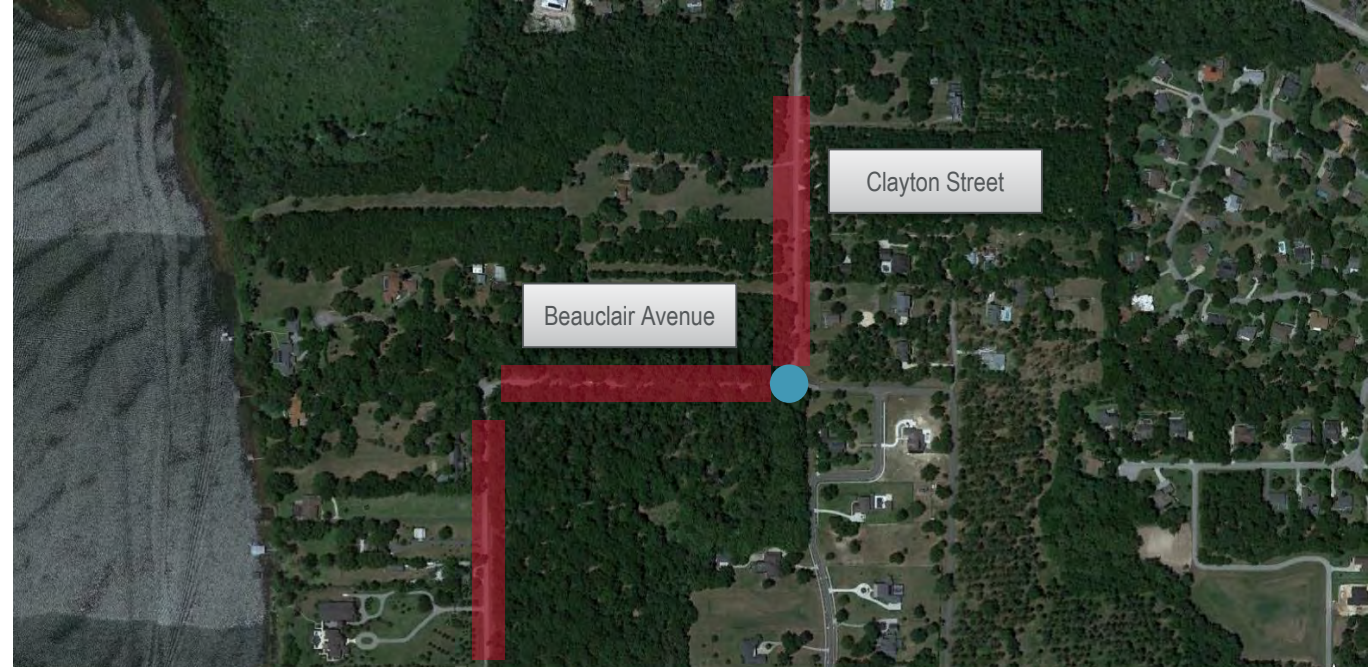
- 50 MPH/45 MPH* posted speed limits
- 11' vehicular lane widths



*Clayton Street

Potential Treatments – Beauclair Avenue/Clayton Street

- Mini-roundabout at intersection of Clayton Street and Beauclair Avenue ●
 - Street lighting included
- Rumble strips on approaches to 90° curves

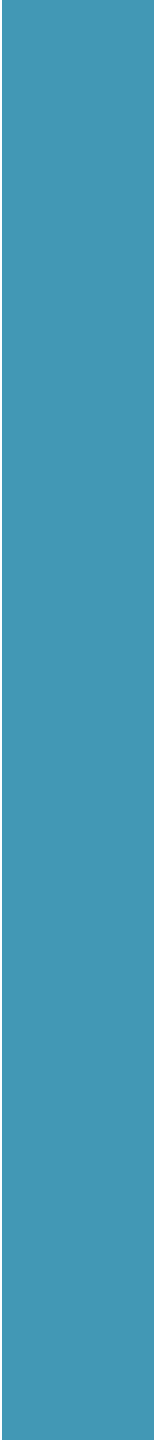
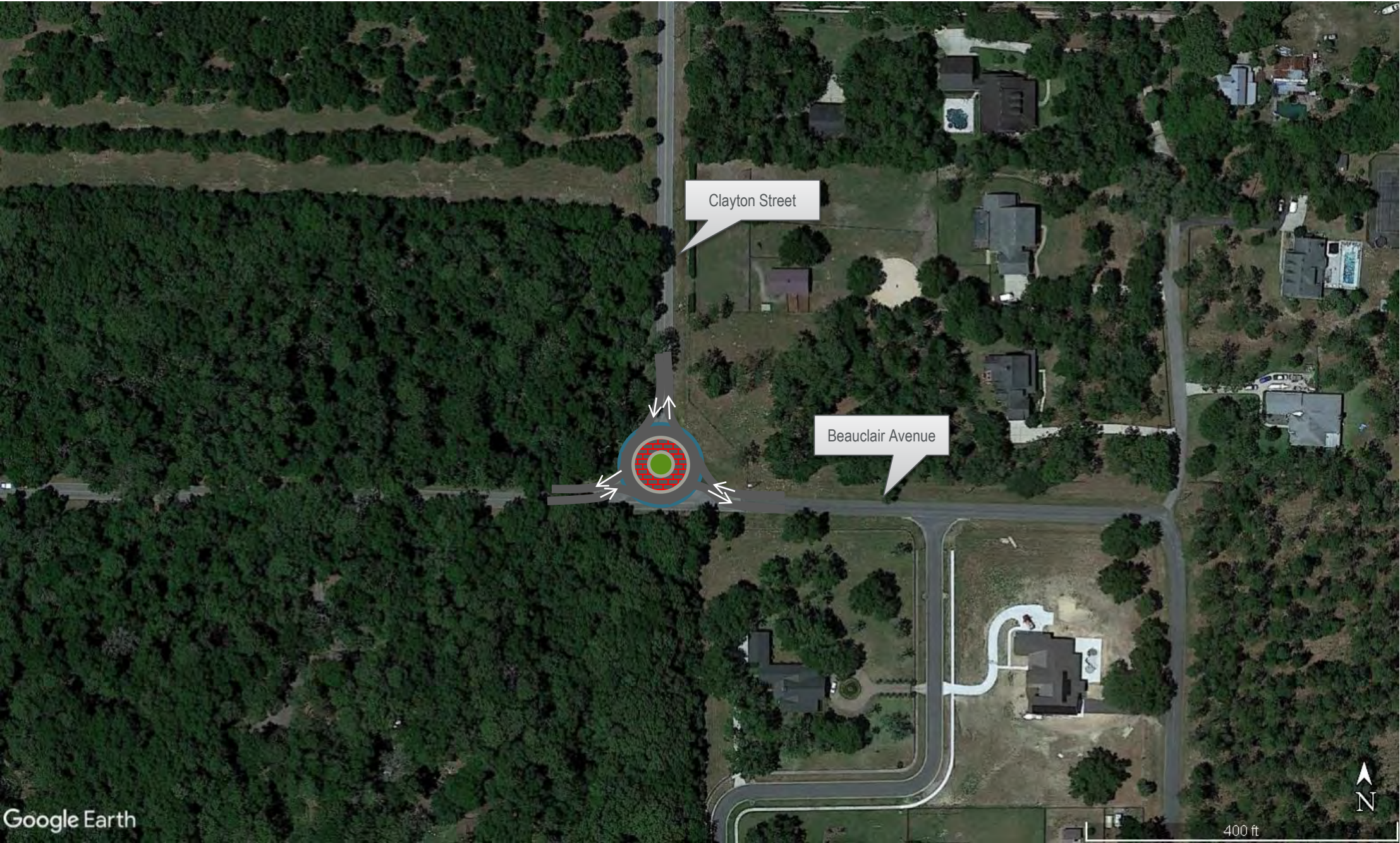


*Clayton Street

Mini-Roundabout Mock-up on Clayton Street and Beauclair Avenue



Mini-Roundabout Mock-up on Clayton Street and Beauclair Avenue

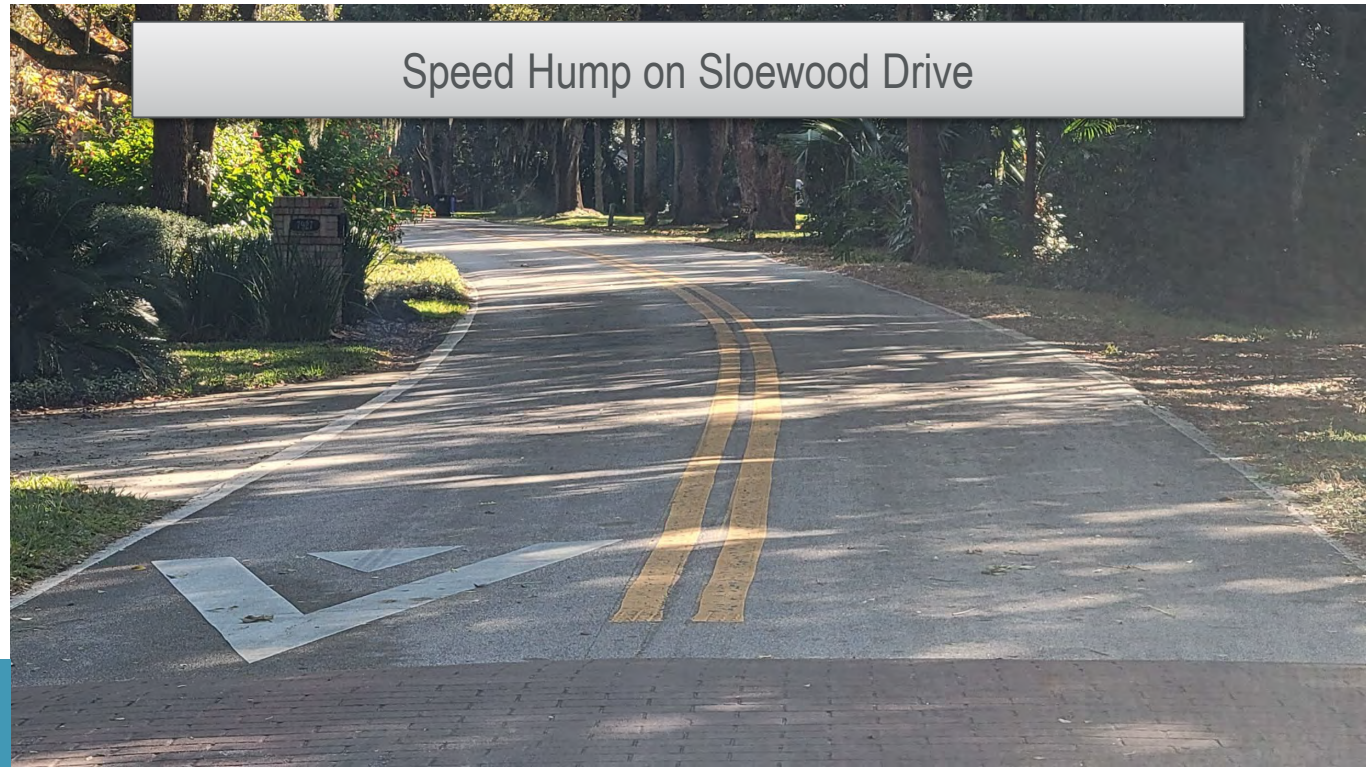


Local Roads

- Dudley Avenue
- Earlwood Avenue
- Sloewood Drive
- Ola Beach Drive
- Lake Street
- Lake Ola Drive



Earlwood Avenue and Lake Street Intersection



Speed Hump on Sloewood Drive

Roadway Characteristics – Dudley Avenue

- 25 MPH posted speed limit
 - Allen Street to US 441
- 35 MPH posted speed limit
 - Dora Drive to Allen Street
- 11' lane widths
- 5' sidewalks (partial)



Potential Treatments – Dudley Avenue

- Speed feedback signage 
- Speed cushions 



Roadway Characteristics – Earlwood Avenue

- 25 MPH posted speed limit
- 11' lane widths



Earlwood Avenue and Lake Ola Drive Intersection



Earlwood Avenue and Lake Ola Drive Intersection

Potential Improvements – Earlwood Avenue

- Mini-roundabout at intersection of Earlwood Avenue and Lake Ola Drive
- Pavement markings between the section of Lake Ola Drive and Dora Drive



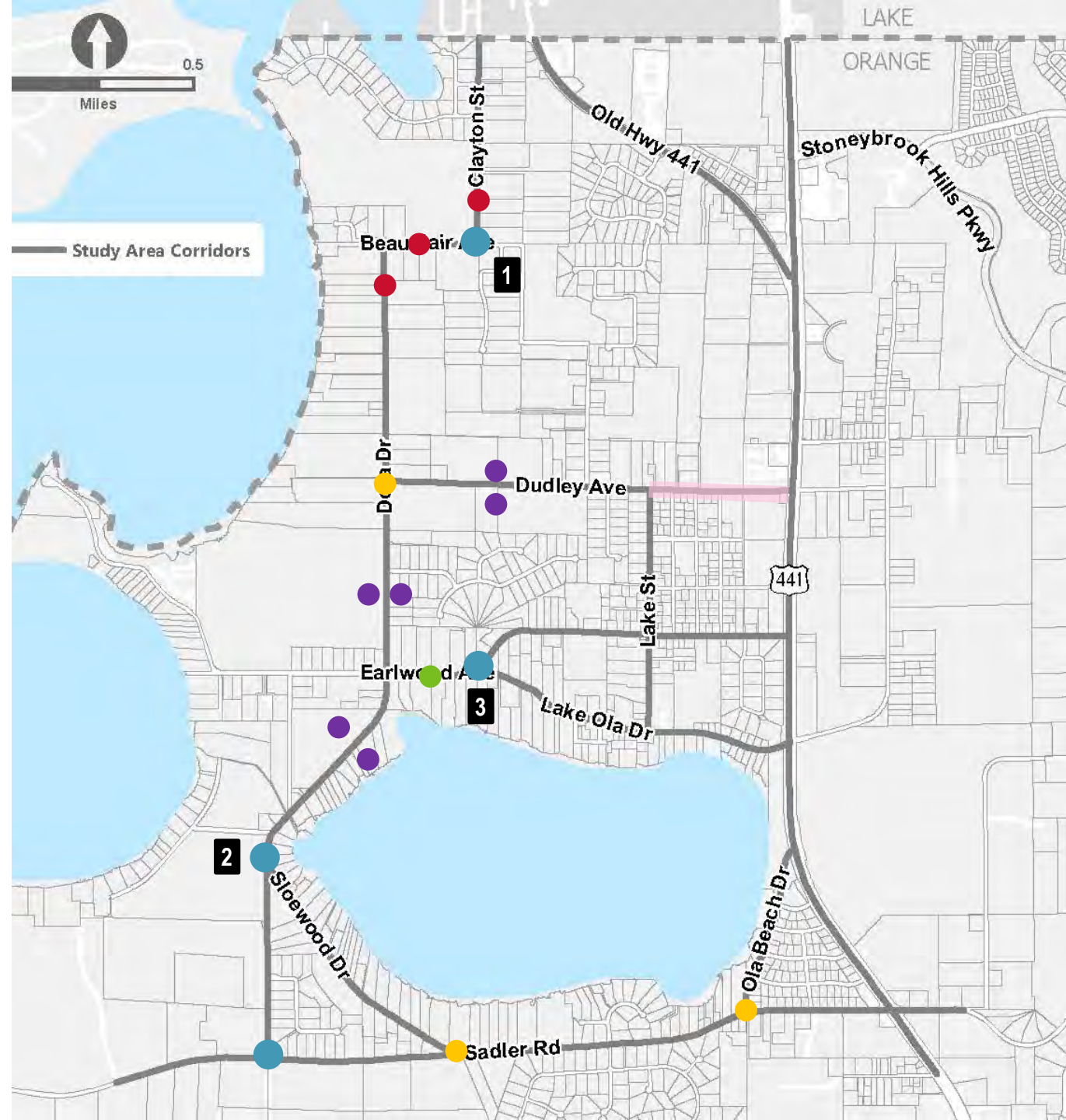
Earlwood Avenue and Lake Ola Drive Intersection



Earlwood Avenue and Lake Ola Drive Intersection

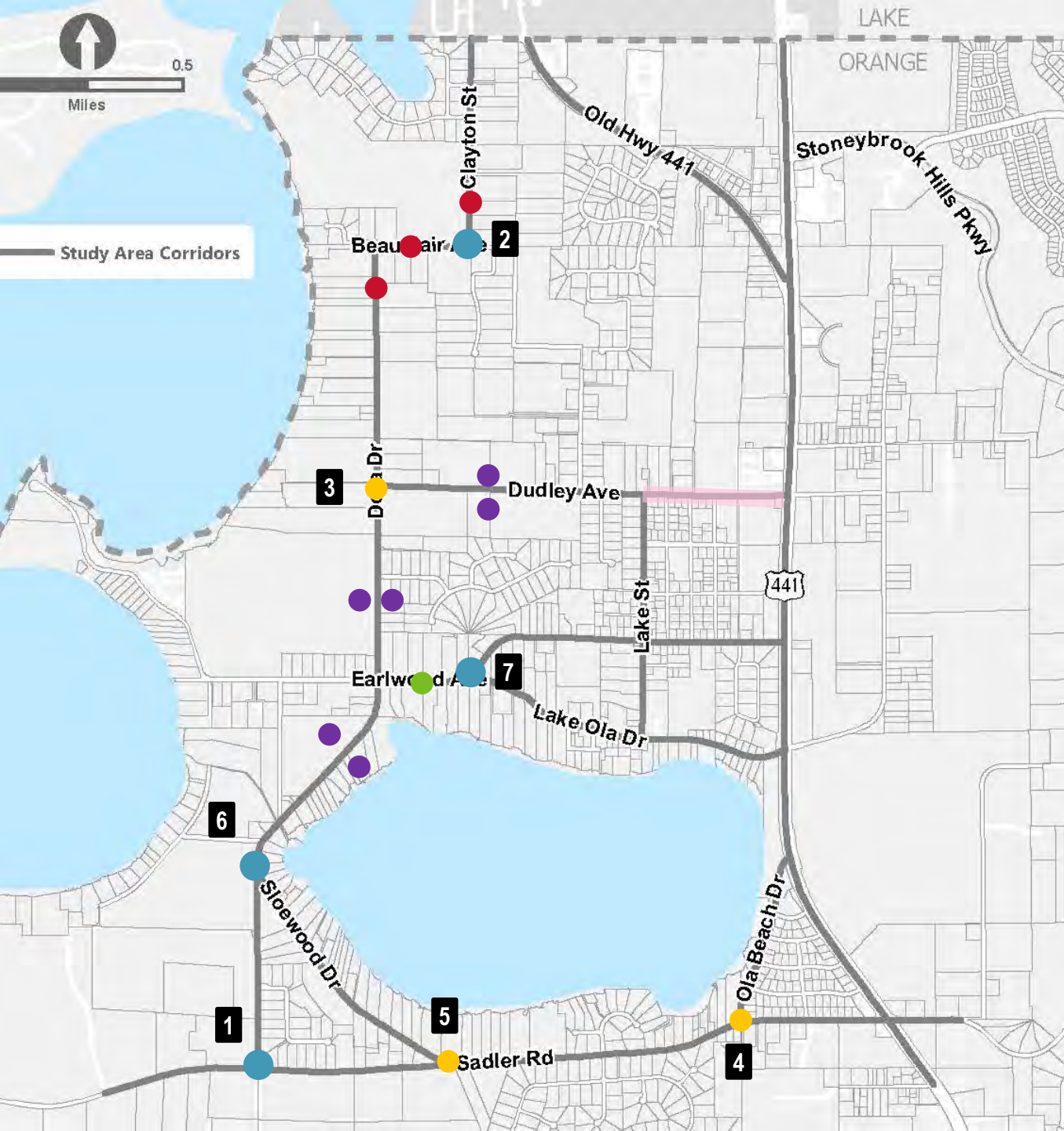
Preliminary Treatments Plan

- Roundabout / mini-roundabout ●
- Rumble strips ●
- Speed feedback signs ●
- Intersection lighting ●
 - Confirm sufficient lighting at intersections
 - Included at new roundabouts
- Speed cushions ———
- Pavement markings ●
- Reduce speed limit on Dora Drive to 45 MPH



Preliminary Treatments Plan

- Roundabout / mini-roundabout ●
- Rumble strips ●
- Speed feedback signs ●
- Intersection lighting ●
 - Confirm sufficient lighting at intersections
 - Included at new roundabouts
- Speed cushions ———
- Pavement markings ●
- Reduce speed limit on Dora Drive to 45 MPH



Next Steps

- Gather input from today's public meeting