



SOUTH CHURTON STREET

Multimodal Corridor Study

U-5845

Town Board - Workshop

June 10th, 2024



TOWN OF HILLSBOROUGH



Project Team



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TOWN OF
HILLSBOROUGH
NORTH CAROLINA



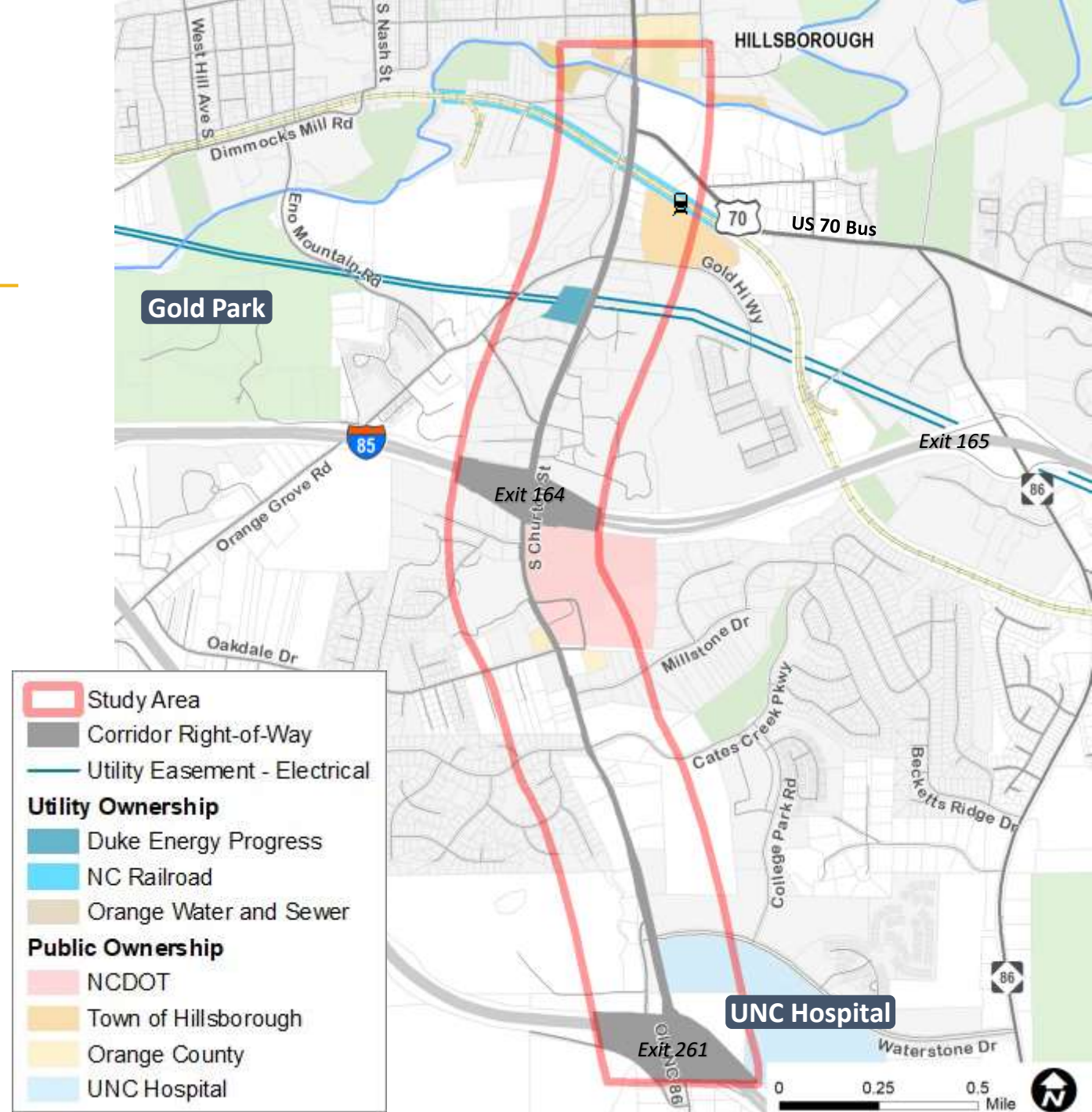
Stantec

alta

Corridor Background

Where is the *study* corridor?

- Churton Street / Old NC 86
- 2.4 miles
 - I-40 to US 70 Bus.
- Gateway into Downtown



Stephanie –

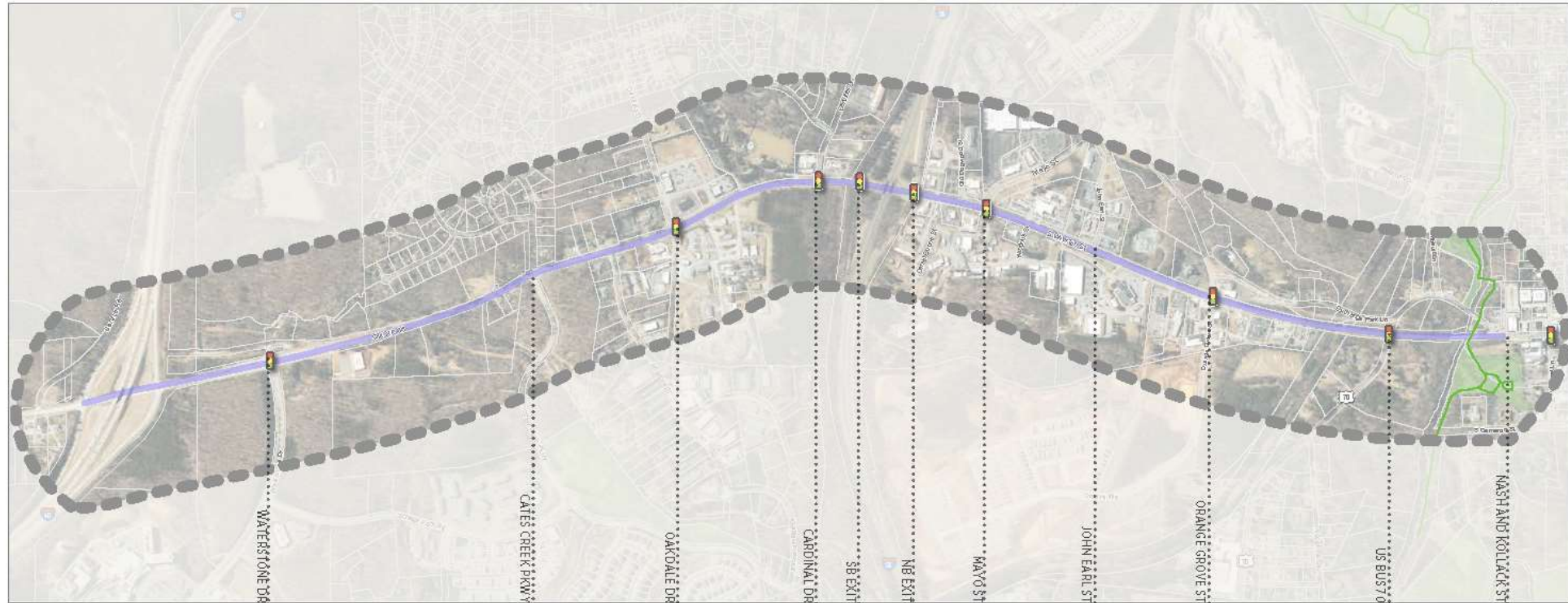
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Why are we here? PROJECT SCHEDULE

Project Timeline



Churton Street Corridor Profile

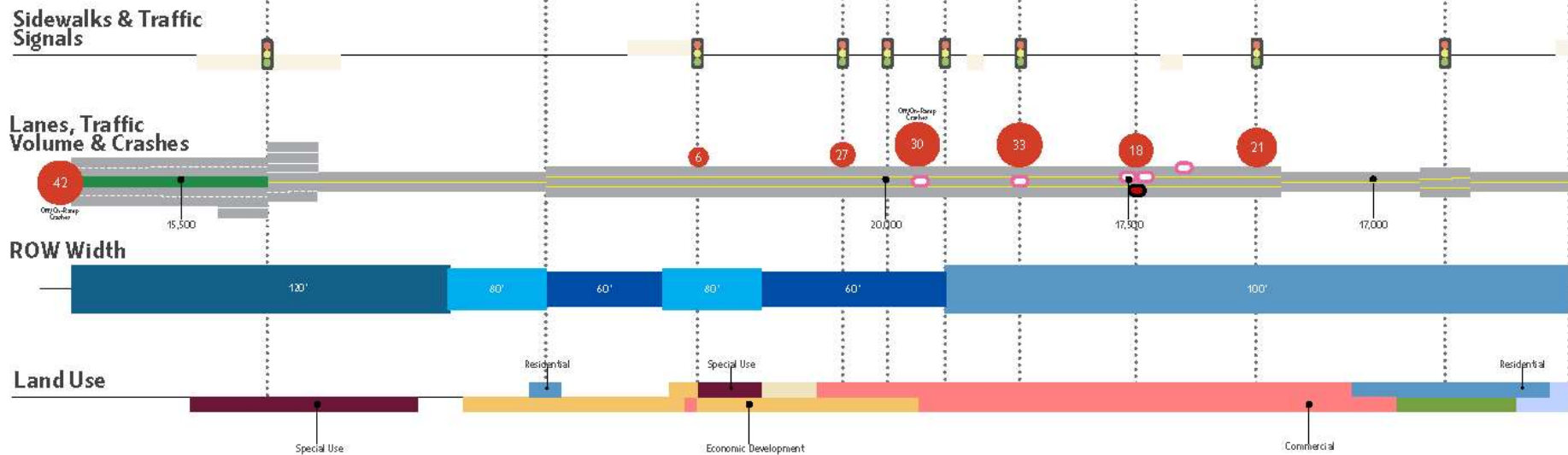
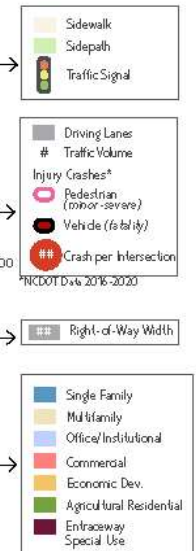


Sidewalks & Traffic Signals

Lanes, Traffic Volume & Crashes

ROW Width

Land Use



Corridor Background

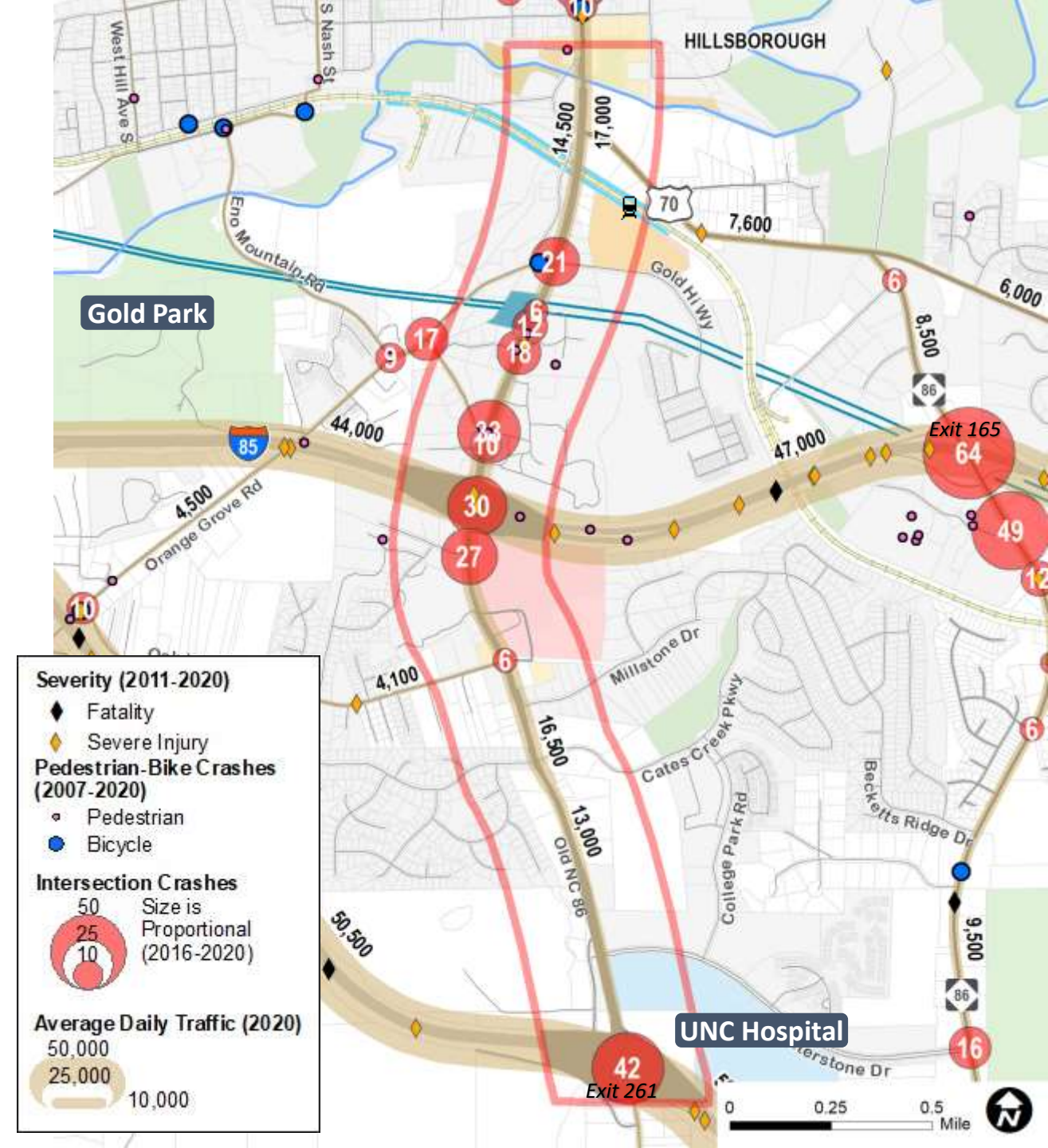
- **Crash / Safety Review**

(2011-2020 & 2021-2022 data sets)

- Intersection crashes (#)
Highest concentration around Mayo St
- Fatal Crash Rate:
1.34x the State Average

- **Churton Street daily traffic**

- 13k (I-40) to 21k (I-85 exits)



Survey Results

926
Total Responses
(General Survey)

14
Total Responses
(Spanish Survey)

26
Total Responses
(Business Survey)

Drivers feel safe, but others?
Not so much.



Drivers

50%
Felt **safe** driving
during the day



Pedestrians
& Bicyclists

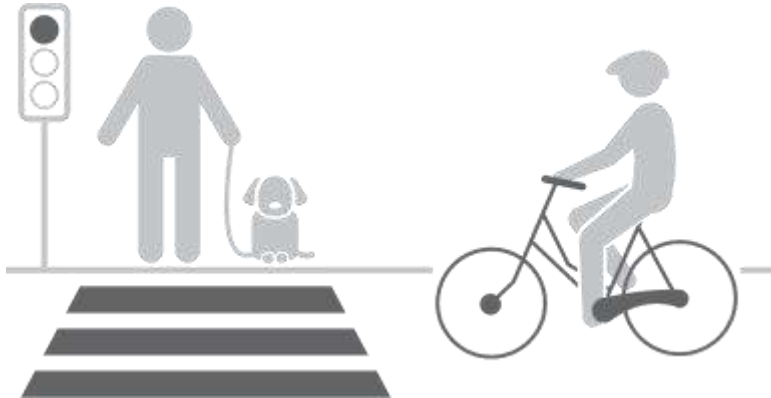
23%
Felt **safe** walking or
biking during the day

Felt **unsafe** along
the corridor

91% Pedestrians

77% Bicyclists

Biggest
problem?



Lack of **Mobility Options** **29%**

17%

Lack of sidewalks /
safe pedestrian
crossings

12%

Lack of
mobility choices

Residents want to
RELIEVE CONGESTION. How?
Not widening:

**Better
Connectivity**

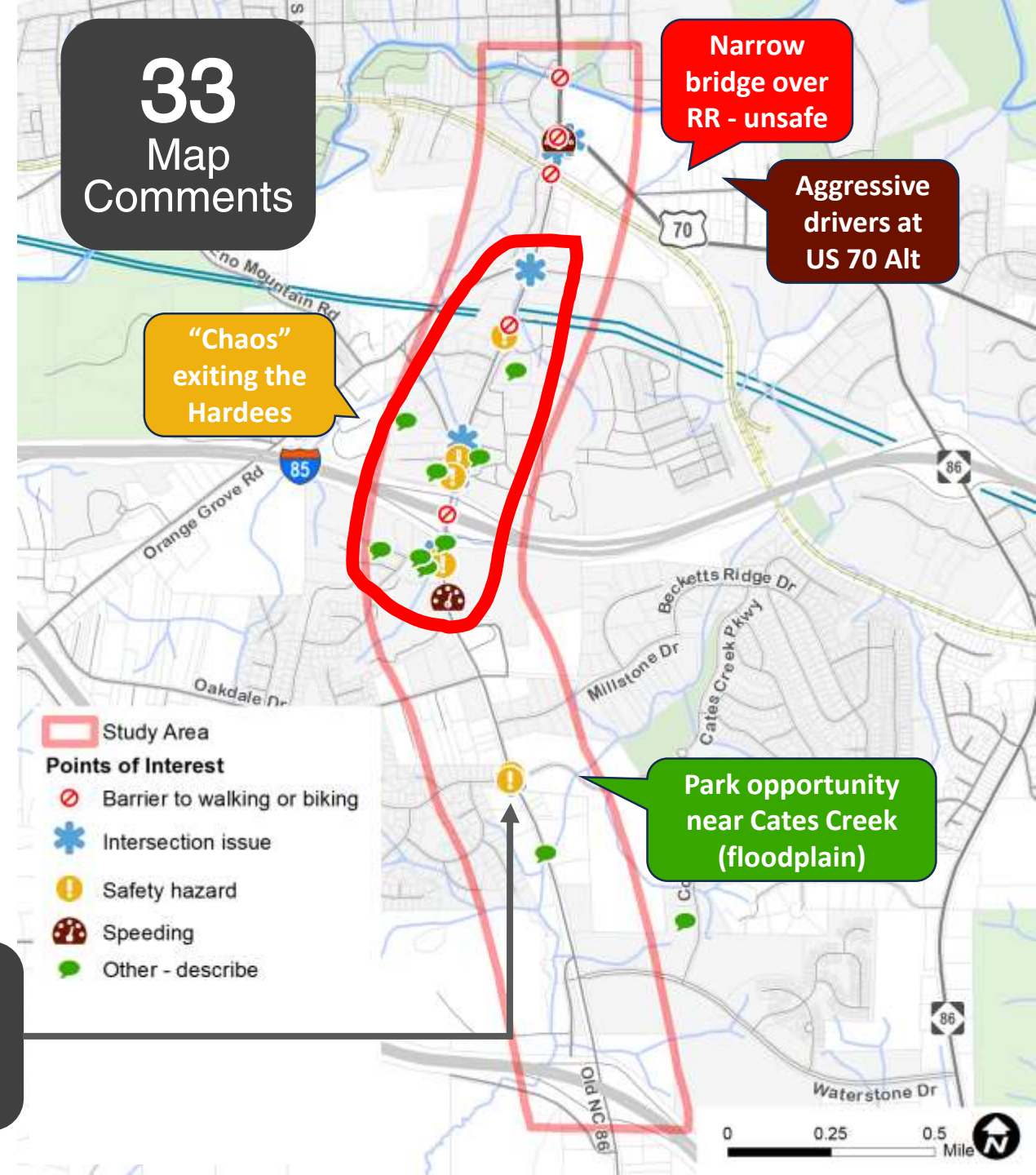
**Better Access
Management**

**More Multimodal
Improvements**
in the STIP

Interactive Map

- **9** Intersection Issues
- **7** Safety Hazards
- **5** Barriers to Biking or Walking
- **2** Speeding Issues
- **10** Other(s)

"It's dangerous for pedestrians to cross here to reach the park."



Open Houses #1 & #2

40+
Total
Attendees

Two sessions:

- June 15th, 2023
- June 20th, 2023

Takeaways:

1. Residents agree: walking & biking need help
2. Safety and connectivity are currently lacking



Design Workshop

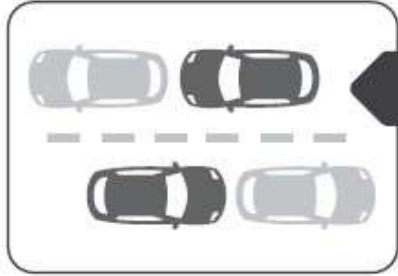


Takeaways



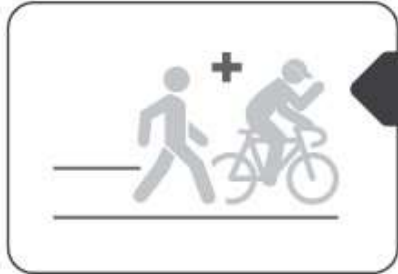
1

The corridor is unsafe for biking and walking.



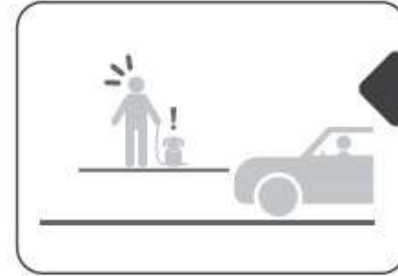
2

Reoccurring congestion issues, especially at intersections, hamper traffic operations.



3

Missing facilities are forcing users to drive.



4

Safe crossing opportunities are missing and prevent walking activity.



5

Expected future growth will further worsen conditions on the corridor.

Design Considerations



Optional Intersection Design:

- Mayo Street: Partial dual lane roundabout or traditional signalized intersection



Roundabout Design:

- Consider partial dual-lane roundabout at Mayo Street
- Consider single-lane roundabout at Rebecca Drive (southern)
- Consider single-lane roundabout at Orange Grove Road



Intersection Redesign:

- Add new traffic signal for Cates Creek Parkway
- Reconfigure intersection at John Earl Street



Non-signalized Intersections:

- Proposed midblock crossing with Pedestrian Hybrid Beacon (PHB) between Waterstone Drive and Cates Creek Parkway intersections

Design Considerations



Design Vehicle:

- WB-40 truck (tractor-trailer, with 42' long box)



Lane Width:

- Standard 11 foot travel lanes



Bike Facilities:

- Continuous 10 foot shared-use path along east side of the corridor (I-40 and Orange Grove Road)



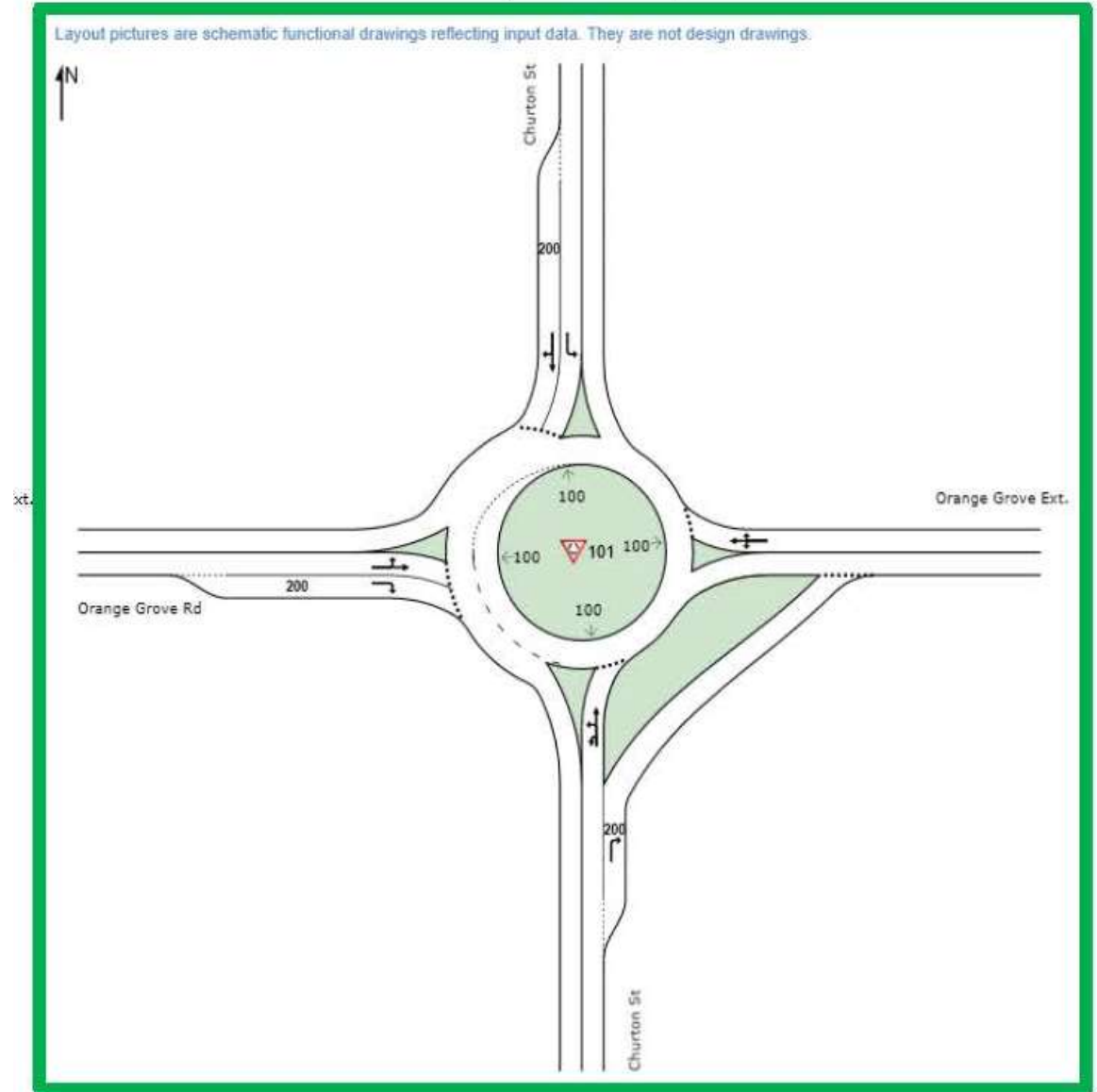
Pedestrian Facilities:

- Continuous sidewalk (minimum 5 foot width) along west side
- Sidepath (minimum 10 feet wide) along east side between I-40 and Orange Grove Road
- Connect with planned Ridgewalk Greenway near Cates Creek Parkway and Orange Grove Road

Traffic Analysis

- We started with U-5845 (NCDOT)
- Traffic operations for intersections (2016 & 2040):
 - Mayo Street
 - Orange Grove Road
- Tested the roundabouts
- Revised laneage as needed
- *Note: two options for Mayo Street to address potential spillback issues from proposed I-85 interchange*

Needed for Acceptable Operations in 2040



Preferred Access Plan (PAP)



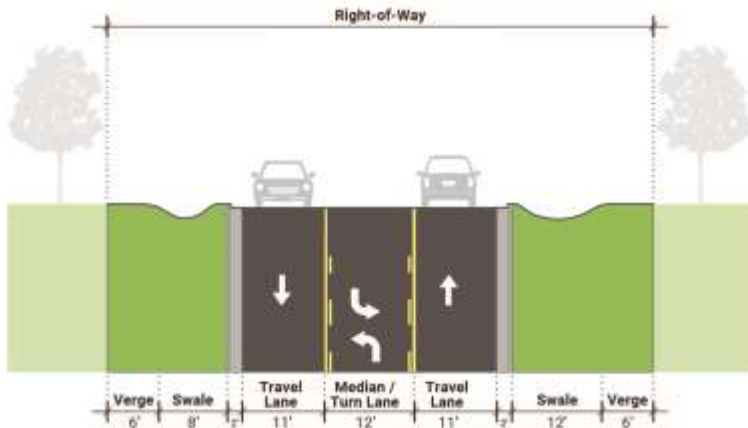
LEGEND

- Existing Signal
- Proposed Signal
- Intersection/Interchange Redesign
- High Quality Intersection
(High visibility crosswalks, pedestrian countdowns, mast arm signals, pedestrian-level lighting, ADA ramps, street trees)
- Potential/Future Mid-Block Crossing
(Rectangular Rapid Flashing Beacon (RRFB) or HAWK signal)
- Planted Median
- Cross Access (Redevelopment)
- Potential Driveway Closure
- Proposed Street Connection
- Riverwalk Trail
- Proposed Ridgewalk Greenway
- 1/8-Mile Walkshed (2.5 min. distance)
- Potential Acquired Properties
Due To Interchange Redesign

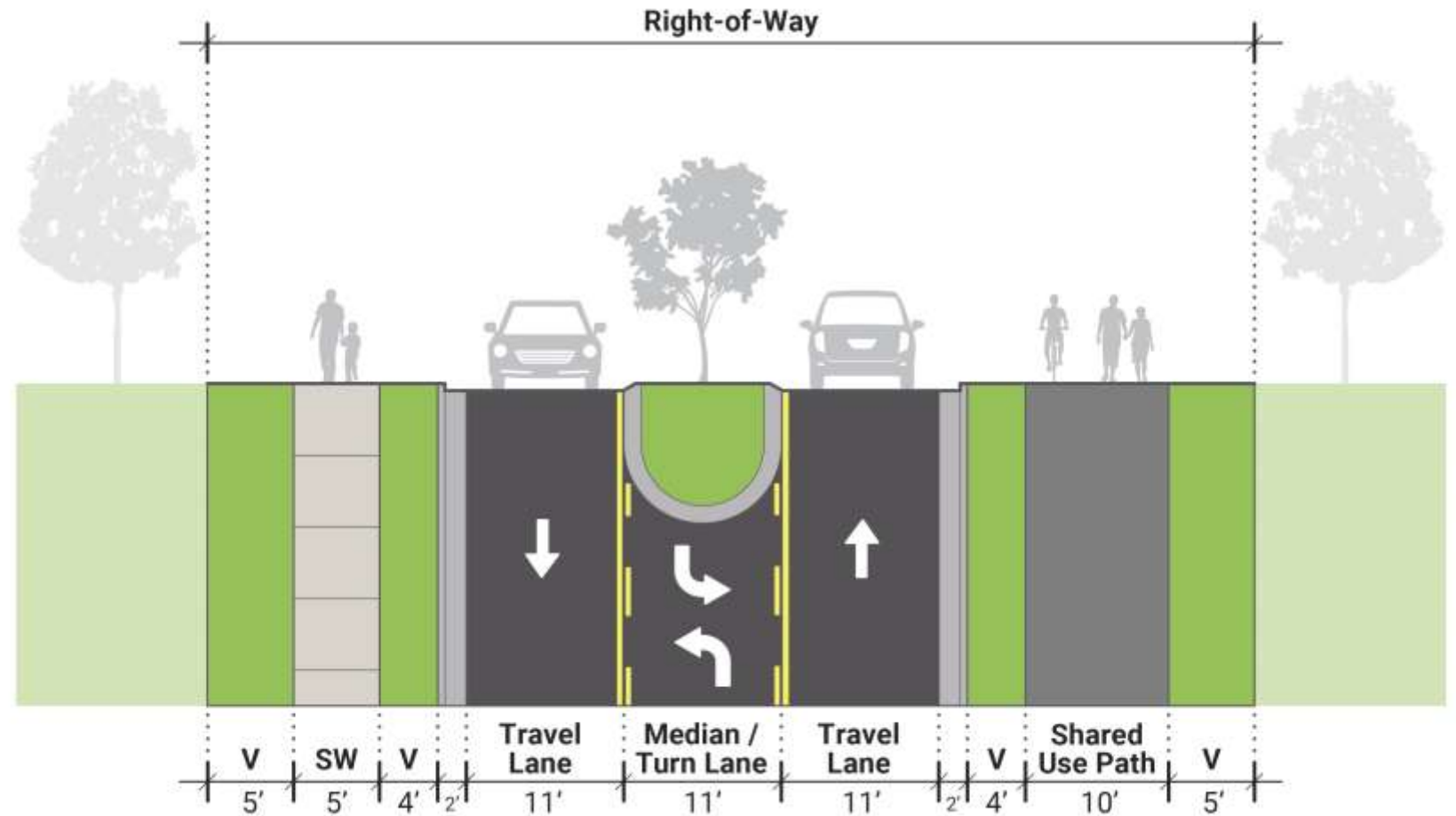
Proposed Cross-Sections

Existing three-lane section:

**Downtown to
Mayo Street**



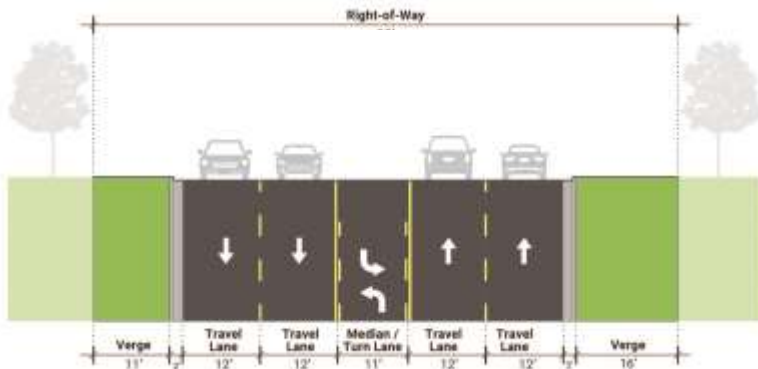
PROPOSED



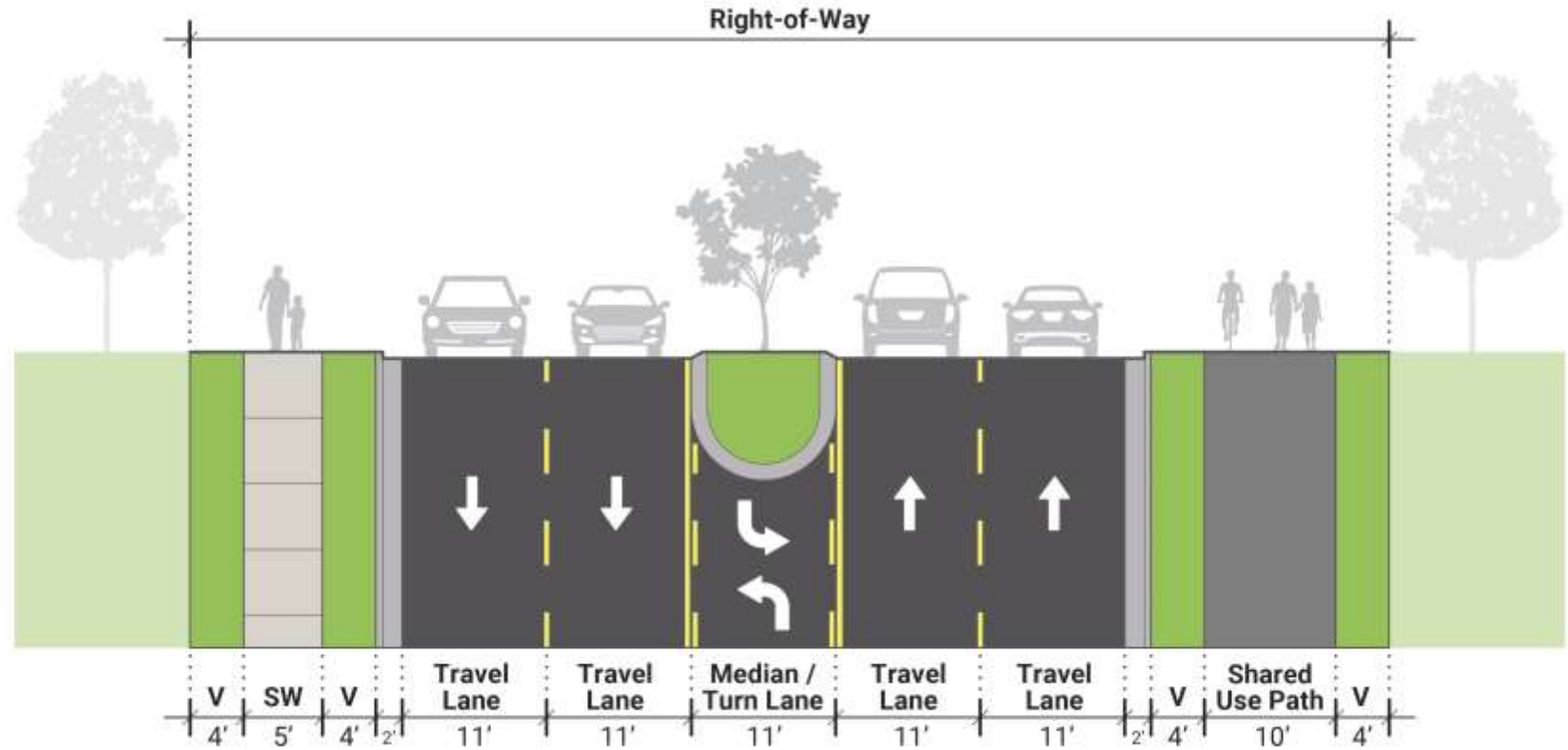
Proposed Cross-Sections

Existing four-lane section:

Mayo Street to I-40



PROPOSED

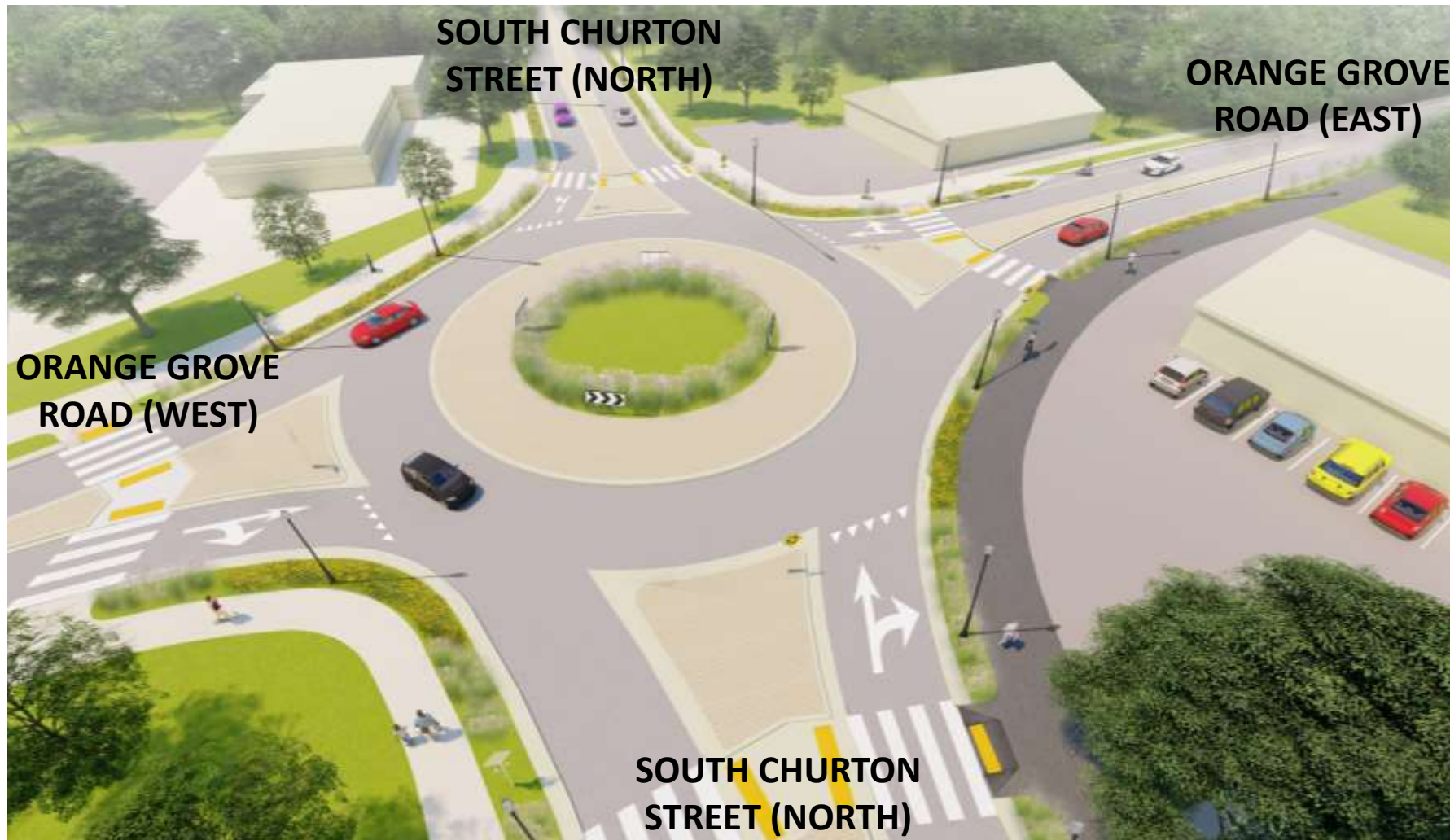


Final Concept Design



Photosims

Roundabout at Orange Grove Road



PROPOSED (Conceptual – Not for construction)

Centerline at John Earl Street / Ford Dealership



EXISTING



PROPOSED (Conceptual – Not for construction)

Intersection at Cates Creek Parkway



EXISTING



PROPOSED (Conceptual – Not for construction)

Midblock Crossing along South Churton Street



EXISTING



PROPOSED (Conceptual – Not for construction)

Construction Cost

<i>Planning-level Cost Estimate</i>	<i>Northern Segment</i>	<i>Southern Segment</i>
Approximate location	North of I-85	South of I-85
Segment length	1.0 miles	1.6 miles
Estimated material costs	\$13,200,000	\$12,900,000
Design, construction, inspection costs	\$8,600,000	\$7,800,000
<i>Cost Estimate Range</i>	<i>\$22M - \$23.8M</i>	<i>\$20M - 21.7M</i>
<i>Potential utilities impact</i>	<i>High</i>	<i>Low</i>
<i>Potential ROW impact*</i>	<i>1.5 acres</i>	<i>6.5 acres</i>

Policy Considerations

<i>Topic / Consideration</i>	<i>Timeline</i>	<i>Lead Department</i>	<i>Supporting Partners</i>	<i>Relates with</i>
Complete Streets Policy	Near-term	Public Space and Sustainability	Town Board	UDO Chapter 7 – Streets and Sidewalks – Appendix A
Traffic Calming Program	Mid-term	Public Space and Sustainability	Town Board, Public Works Division	Street Standard – Appendix B
Vision Zero Policy	Near-term	Public Space and Sustainability	Town Board, NCDOT Division 7	Commitment to safety
Safety Action Plan	Mid-term	Planning and Economic Development	Public Works Division	Vision Zero Policy
Dedicated funding for South Churton Street	Near-term	Town Board	NCDOT Division 7 - U-5845 project	Local funding plan and strategy
UDO re-write	Near-term	Planning and Economic Development		Private development requirements, and review process
Access Management Policy	Mid-term	Public Space and Sustainability	Town Board, Public Works Division	UDO re-write, Complete Streets Policy
Maintenance agreements	Mid-term	Public Space and Sustainability	Public Works Division	UDO re-write, Streets Standard
Sidewalk payment in lieu	Mid-term	Planning and Economic Development	Planning and Economic Development	UDO re-write, Complete Streets Policy
Street tree planting requirements	Mid-term	Planning and Economic Development	Planning and Economic Development	UDO re-write, Streets Standard
Utility placement	Long-term	Planning and Economic Development	Public Works Division	UDO re-write, Streets Standard

A collage of several hands giving thumbs up, with the text "THANK YOU!" overlaid in the center. The hands are of various skin tones and are positioned at different angles, creating a sense of collective approval or gratitude. The background is a light, neutral color.

THANK YOU!