MEETING NOTES

PROJECT NAME	Wake Forest Comprehensive Transportation Plan Update
PROJECT NUMBER	188672-05
DATE	06 March 2019
TIME	3:00 – 5:00 PM
VENUE	Wake Forest Town Hall – Ground Floor Meeting Room
SUBJECT	Kick-Off Meeting/Visioning Exercise/Status Update/Overview of Initial Findings from Research
CLIENT	Town of Wake Forest
DISTRIBUTION	Project File, Website

Meeting Participants:

NAME	ORGANIZATION	E-MAIL
Anne Reeve	ToWF	areeve@wakeforestnc.gov
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Ellen Turco	WF Historic Preservation Commission	ellenturco87@gmail.com
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Will Letchworth	WSP	Will.letchworth@wsp.com
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MEETING SYNOPSIS

STATUS UPDATE

- W. Letchworth opened with introductions and the purpose of the meeting
- W. Letchworth reviewed the agenda for the meeting and provided an overview of the project timeline
- S. Shelat gave a recap of the background data on which the roadway recommendations were based.

PRELIMINARY ROADWAY RECOMMENDATIONS

- S. Shelat showed the map with road segments and corresponding recommended improvements on Google Maps.
- W. Letchworth and S. Shelat explained how the upcoming slides were segregated based on the type of recommendation. The recommendations were categorized into Road Widening, New Segments, Safety considerations, and Bicycle and Pedestrian recommendations.
- Road Widening
  - S. Shelat showed the major streets where road widening would be necessary based on current safety data and Volume to Capacity ratios in 2045.
  - Majority of the recommendations constitute increasing number of lanes from 2 to 4. Some of the recommendations include adding a turn lane to existing 2 lane roads.
  - It was brought to the committee's notice that some road segments exhibit high congestion even after widening to four lanes. This is because US-1 is converted to a freeway and the road segments east of the interchanges in Wake Forest will receive more traffic due to that.
  - E. Turco mentioned that the effects of widening near historic landmarks or in historic districts should be thoroughly evaluated. There should be flexibility in the recommendations to adjust them according to Historic District guidelines.
  - K. Mallo suggested including Wake Union Church Road to the list of road widening and general improvement projects because of its propensity to become a more frequently used road after the conversion of US-1 to freeway.
- New Segments
  - W. Letchworth explained the locations and necessity of new roads based on the objective of strengthening the overall network and relieving some of the major thoroughfares.
  - New directional interchanges or right in-right out connections may be required from US-1 between Burlington Mills Road and S Main St and between S Main St and NC-98 Bypass to mitigate the traffic congestion on those roads.
  - A new road is recommended in north Wake Forest between US-1 and Averette Road to provide access to new developments.
- Safety Considerations
  - S. Shelat explained which streets require changes to improve safety based on the road safety scores and other empirical evidence.
- Bicycle, pedestrian & other improvements
  - W. Letchworth showed the road segments which require significant bicycle and pedestrian improvements in order to improve the multimodal network in the town of Wake Forest.
  - These recommendations included adding bike lanes, sidewalks, sharrows, multi-use paths and crossovers wherever applicable.
  - The committee discussed the situations under which either bike lanes or sharrows would be appropriate. The discussion centered around Elm Ave and S Franklin St with the idea of minimizing conflict between driving lanes, bike lanes and parking.
  - One of the suggestions made was to provide wide multi use paths along all roads. W Letchworth pointed out that while that suggestion would work along new roads, retrofitting all existing downtown streets to add Multi-use paths might be financially unviable.
  - The recommended design of bike lanes should take into consideration the enforceability.
- Transit
  - W. Letchworth provided a brief summary of a study titled 'Wake Forest to Raleigh Commuter Rail Conceptual Infrastructure Analysis' which recommends two commuter rail stations in Wake Forest.
  - The locations of these station may not be final, but the tentative locations are Downtown Wake Forest and NC-98. NC-98 station would most probably be designed as a park and ride station.
  - W. Letchworth suggested the town to start planning for these stations in terms of park and ride space requirements and transit-oriented-development around these stations.
  - The committee members discussed that there is a need to improve education and awareness regarding the Wake Forest loop bus route to increase ridership.

- Road Sections
  - S. Shelat explained the existing street section types in the Unified Development Ordinance (UDO) and their correlation with the 2010 Comprehensive Transportation Plan (CTP).
  - S. Morales mentioned that the endeavor of this plan should be to eliminate multiple road section types and have common definitions between the UDO and the CTP. The street types must match the NCDOT definitions.
  - The road sections should include standards for transit stops as a policy directive.
  - L. Devores suggested that there should be a minimum of 6 feet distance between the curb and the sidewalk to allow for street trees. Approximate distance between the trees is 35 feet.

NEXT STEPS

- W. Letchworth explained the next steps to be taken by WSP
  - Link cross sections with roadway recommendations
  - Complete hot spot analysis / recommendations
  - Complete policy recommendations
  - Begin developing priorities
  - Prepare public meeting displays

WRAP-UP

- W. Letchworth provided closing remarks, discussed next steps (development of draft recommendations), and asked for any additional questions or comments.
- W. Letchworth also mentioned that if required, additional interim meetings can be scheduled before the next scheduled Technical Steering Committee Meeting

NEXT MEETING

The next Wake Forest Technical Steering Committee meeting is scheduled for May 8th at 3:00 PM in Town Hall.

COMPREHENSIVE TRANSPORTATION PLAN UPDATE

TOWN OF WAKE FOREST

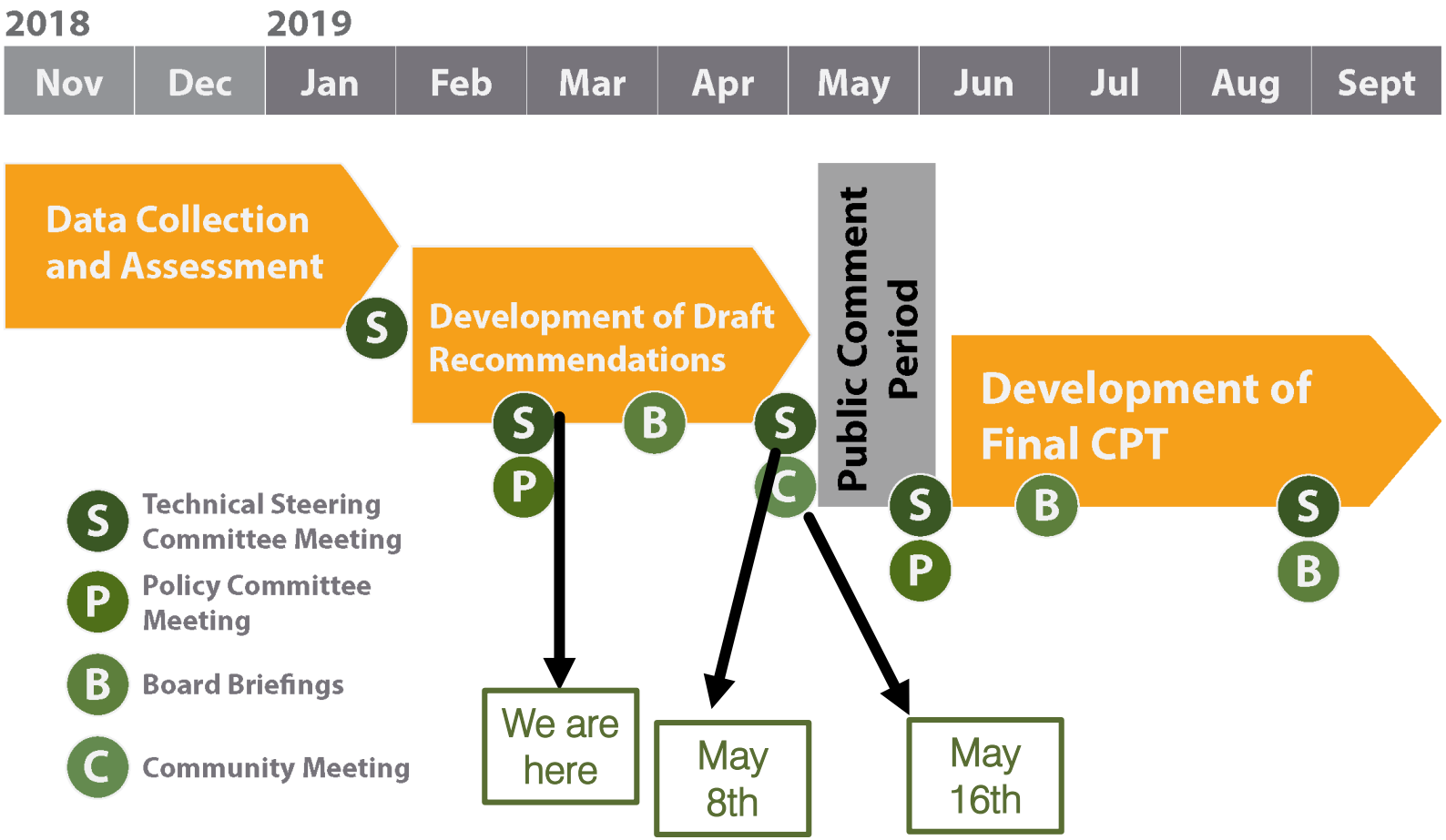
TECHNICAL STEERING COMMITTEE MEETING #2

MARCH 6 2019

TODAY'S AGENDA

- Timeline
- Vision
- Quick Recap
- Roadways and Bike-Ped
- Transit
- Next Steps

TIMELINE


2018
2019
Nov
Dec
Jan
Feb
Mar
Apr
May
Jun
Jul
Aug
Sept
Data Collection and Assessment
S
Development of Draft Recommendations
S
P
B
S
C
Public Comment Period
S
P
Development of Final CPT
B
S
B
S Technical Steering Committee Meeting
P Policy Committee Meeting
B Board Briefings
C Community Meeting
We are here
May 8th
May 16th

VISION / OBJECTIVES

The Town of Wake Forest will have a safe, efficient, flexible, innovative, and inclusive multimodal transportation system that provides residents of and visitors to the Town with a multitude of transportation options for local and regional travel while promoting a welcoming small-town charm and vibrant business environment.

Safety

- Work toward the **Vision Zero** goal.
- Focus on **safe** bicycle and pedestrian **crossings** of major roadways.
- Provide **uniform signage** and branding initiatives to address accident prevention.

Efficiency

- **Coordinate** with other jurisdictions
- **Utilize technology** to move vehicle traffic efficiently
- Promote **increased density** and commercial development
- Ensure that policies in UDO and other documents support the CTP
- Appropriate transportation improvements from **new developments**

Flexibility

- Multiple **travel options** for local and regional travel
- Promote **interconnectivity** between existing and future developments
- Focus on providing **complete streets**
- Prepare for future **commuter rail** service
- Plan for **multiple time horizons** with flexibility.
- Focus on the best use of limited **funds**

Inclusivity

- Ensure that modes serve **low income** communities
- Provide **educational support** on various modes
- Respect **previous planning** and community involvement efforts
- Plan must consider the Town as a whole
- Respect and reinforce the **history and scenic character** of the Town, the small-town charm

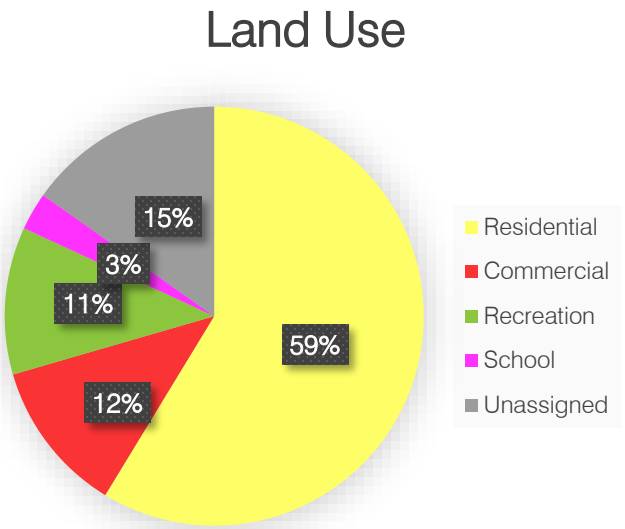
Innovation

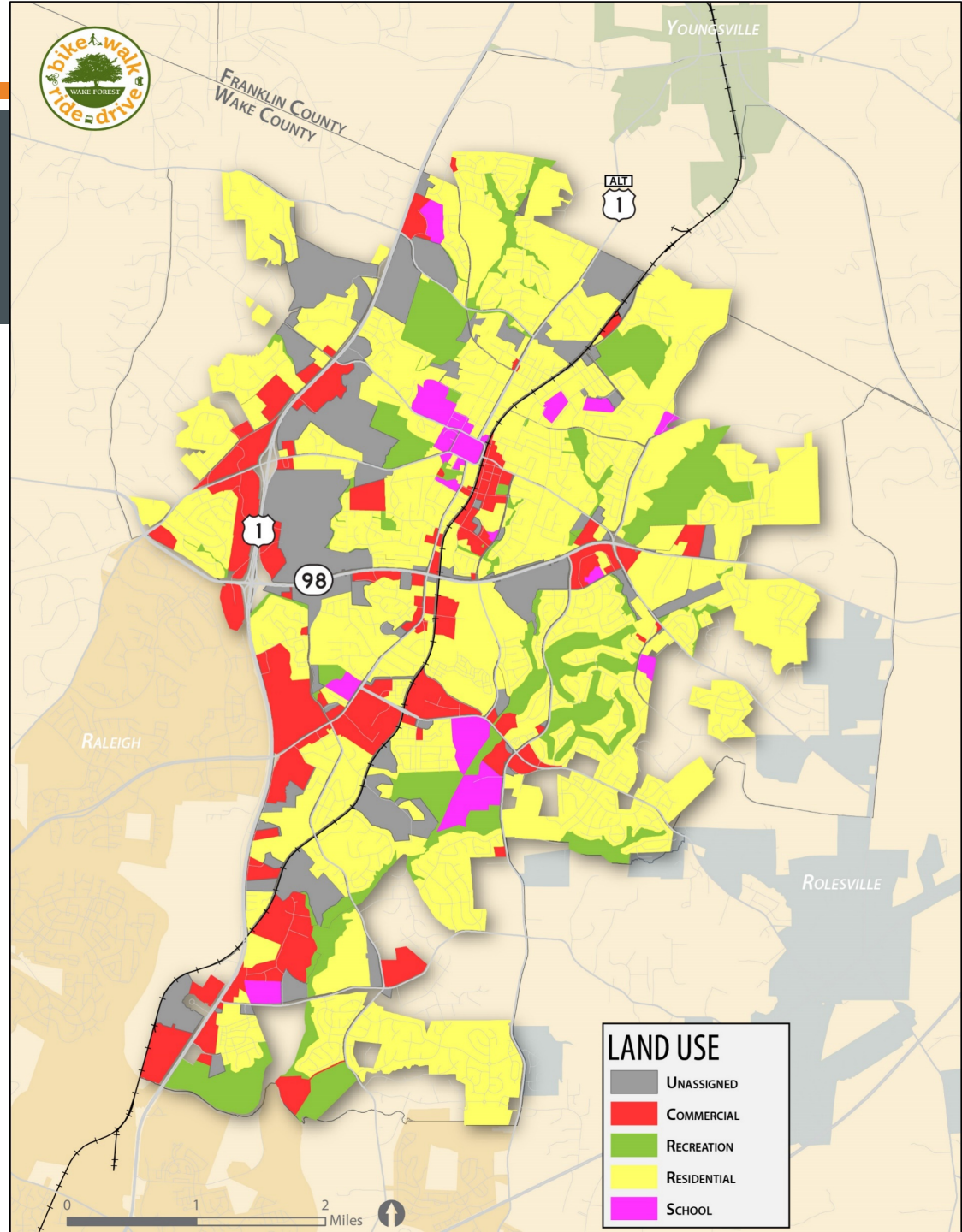
- Embrace **technology**, innovation, innovative modes of travel, and mobility as a service
- If outside agencies are not meeting the Town's needs and desires, explore a more **proactive action** by the Town in funding and operating the transportation system
- Take advantage of "**land banking**" opportunities

QUICK RECAP

LAND USE

- Primarily Residential
- Most commercial zones located along US 1 and on S Main St south of Rogers Rd
- Green spaces interspersed throughout the town.
- Large areas of unassigned land uses east of US 1 and along NC98. Potential for mixed use development





NEW DEVELOPMENTS

4.6 sq miles of active developments

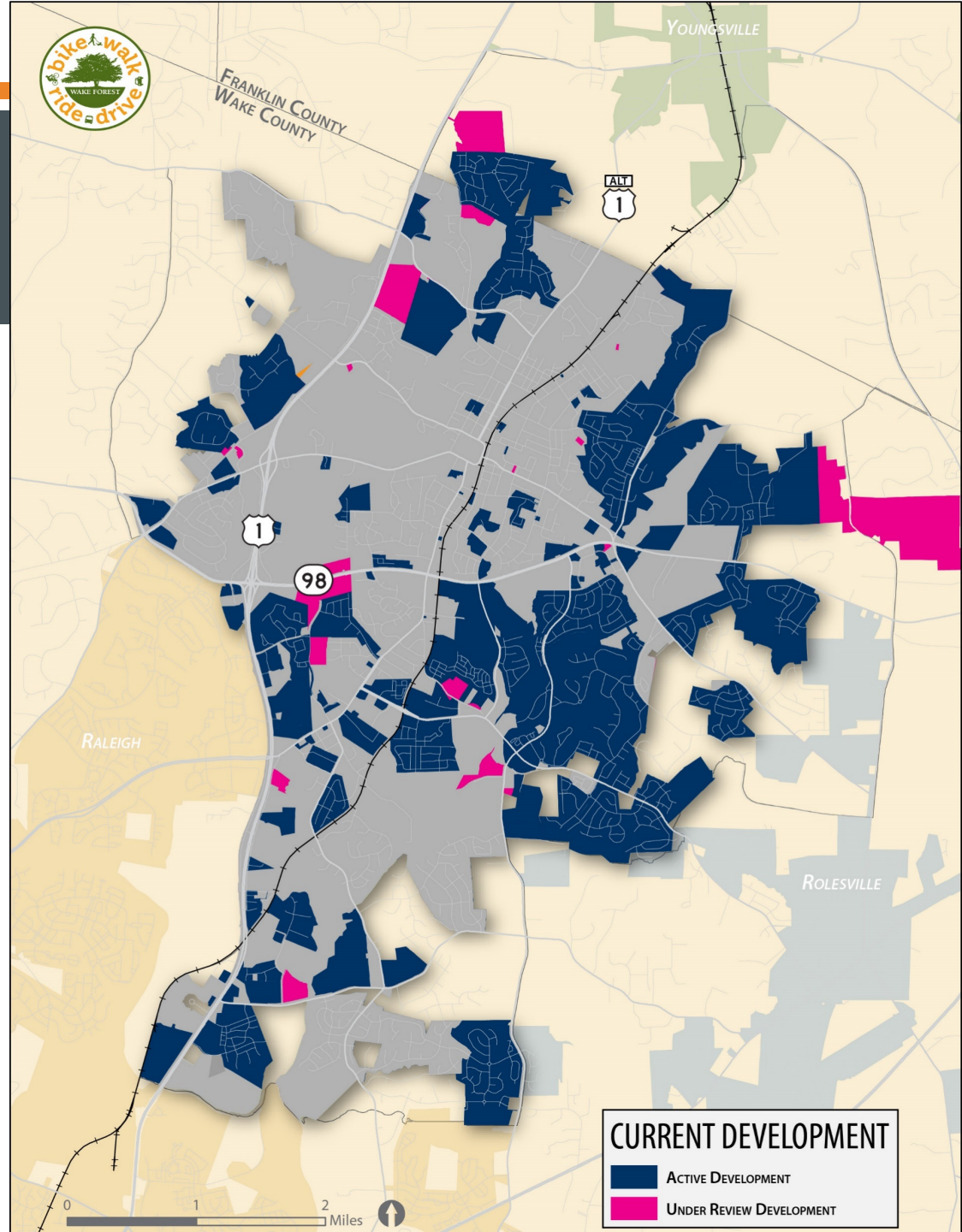
- 86% residential
- 9% commercial
- 5% institutional

1.15 sq m of under review developments

- 17% commercial
- 81% residential
- 1% institutional

Most development is towards the outskirts of Wake Forest.

Infill development just outside downtown.



ROADWAYS: SAFETY SCORES & CRASH ANALYSIS

Critical Sections

- South Main St
- Rogers Road
- Ligon Mill Road
- Parts of US 1
- Forestville Road

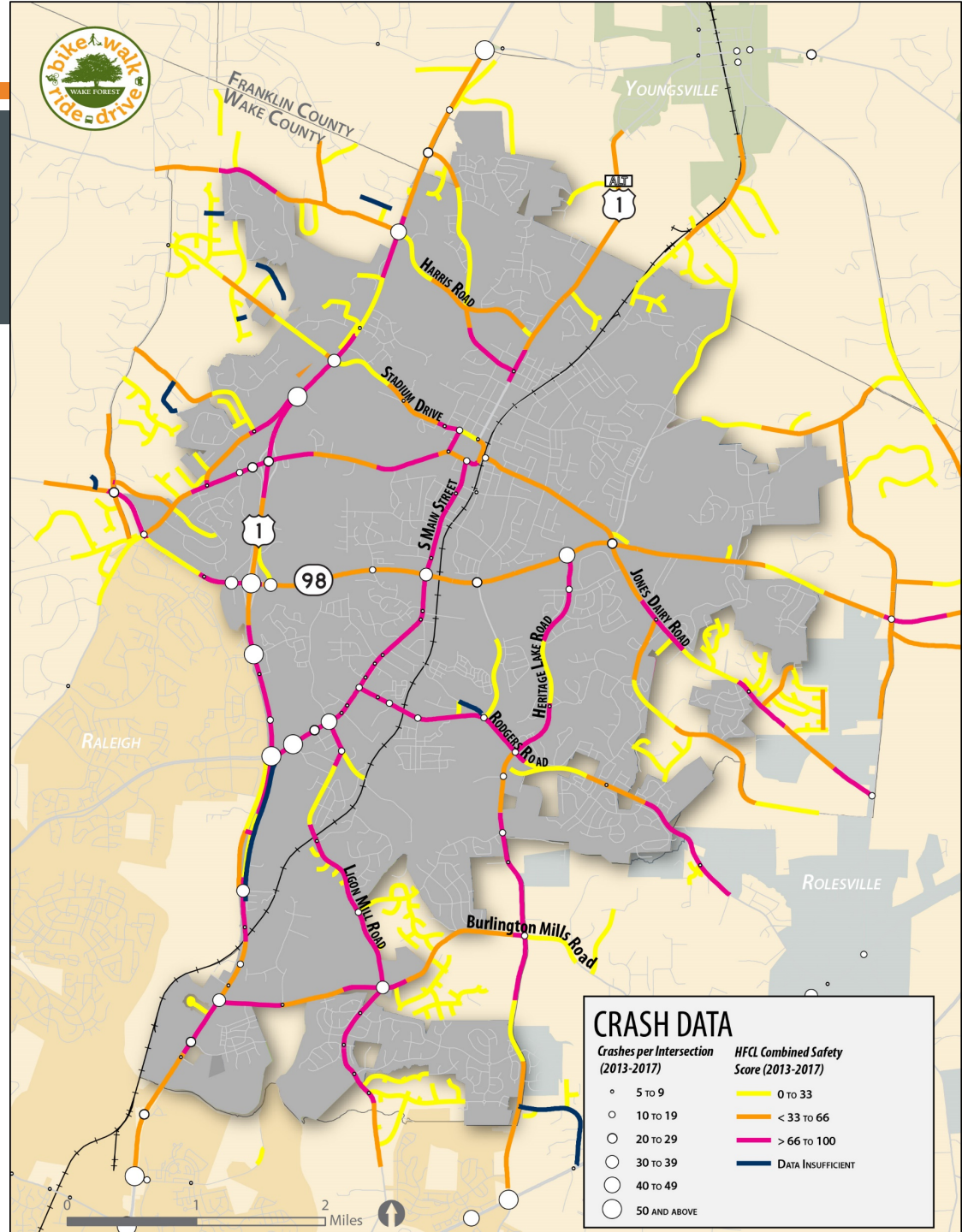
Combined Safety Score = (Crash Density x 33%) + (Severity Index x 33%) + (Critical Crash Rate x 33%)

	Crash Density Ratio		Severity Index		Critical Crash Rate	
Points	range		range		range	
100	---	1.15	76.80	4.65	---	0.80
66.7	1.15	0.55	4.65	2.85	0.80	0.45
33.3	0.55	0.20	2.85	1.20	0.45	0.20

Crash Density: Number of reported crashes per mile.

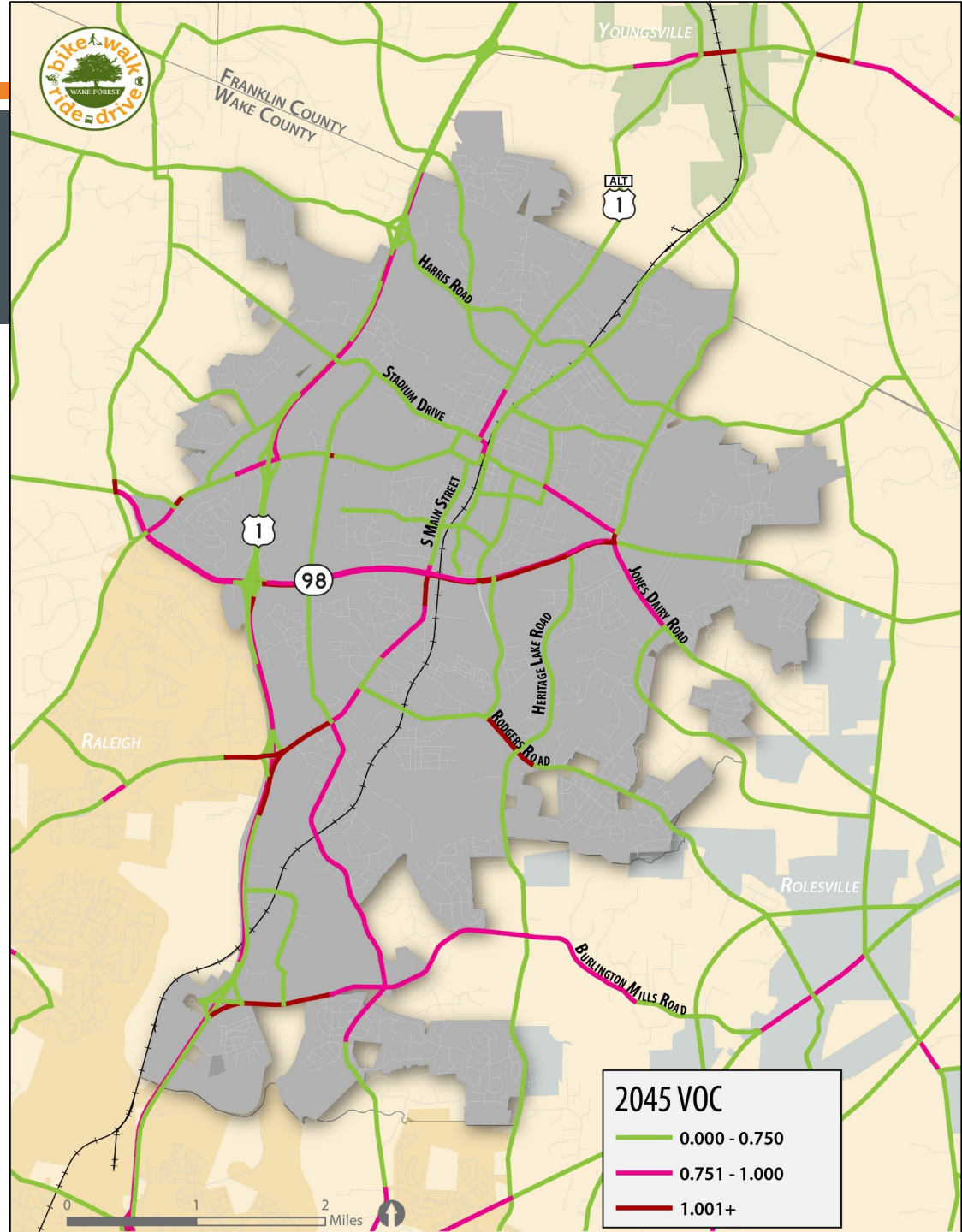
Crash Severity: Crash severity is reported based on the "KABCO" scale.

Critical Crash Rate: A statistically derived number, which is often used a screening tool to identify locations where crash rates are higher than should be expected for a given facility type



VOLUME TO CAPACITY (V/C) RATIO 2045

- Modified 2045 TAZ data
- Official 2045 TRM network
- Most roads function well
- Model suggests that Roads in Southern Wake Forest may exhibit congestion in 2045
  - US 1 – S Main St Intersection
  - NC 98
  - Ligon Mill Rd
  - Burlington Mills Rd
  - Rogers Rd – Forestville Rd intersection



PEDESTRIAN
LEVEL OF SERVICE (LOS) & CRASHES

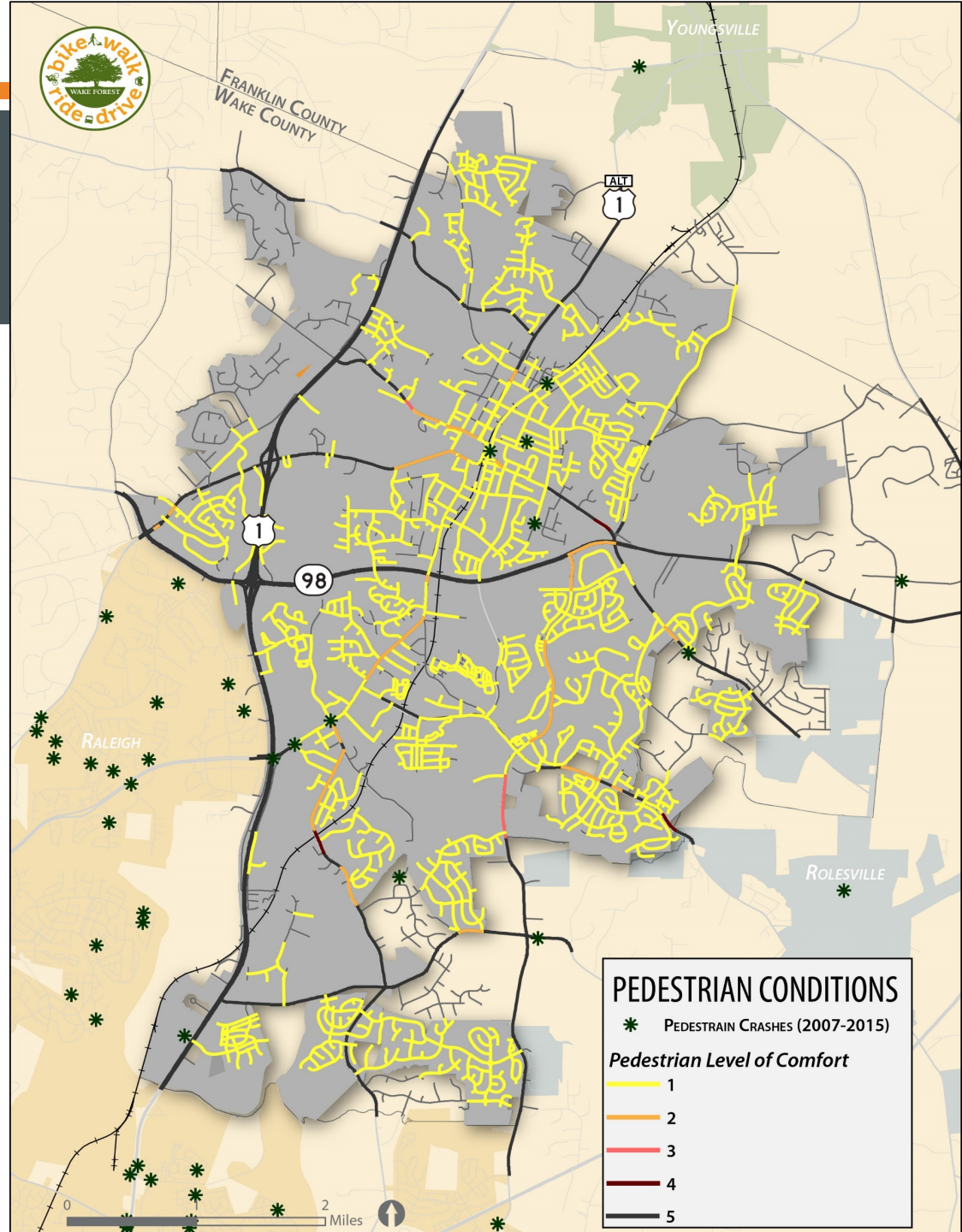
Most residential clusters have extensive internal sidewalk network.

Considerable gaps between clusters

Difficult to cross main streets

Pedestrian Level of Comfort Determination

1. Sidewalks on
    a. Both sides of a non-local street
    b. One side of a local street
    c. Greenways
2. Any one side of a non-local street
3. Continuous unpaved path
4. Intermittent unpaved path
5. Sidewalk non-existent



BICYCLE
LEVEL OF SERVICE (LOS) & CRASHES

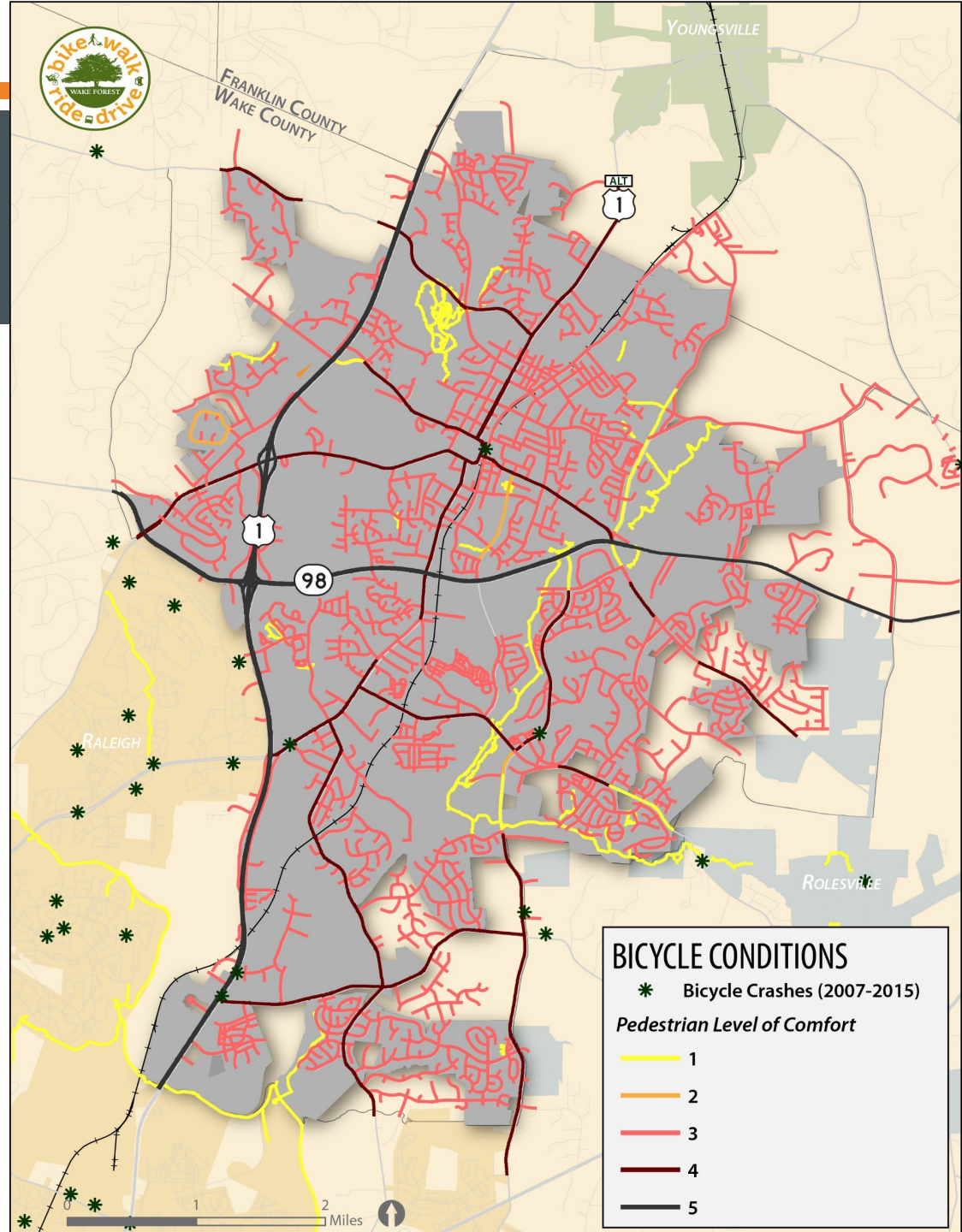
Only greenways offer a comfortable and safe bicycle ride in Wake Forest.

Intermittent bike lanes on some streets

Contiguity required

Bicycle Level of Comfort Determination

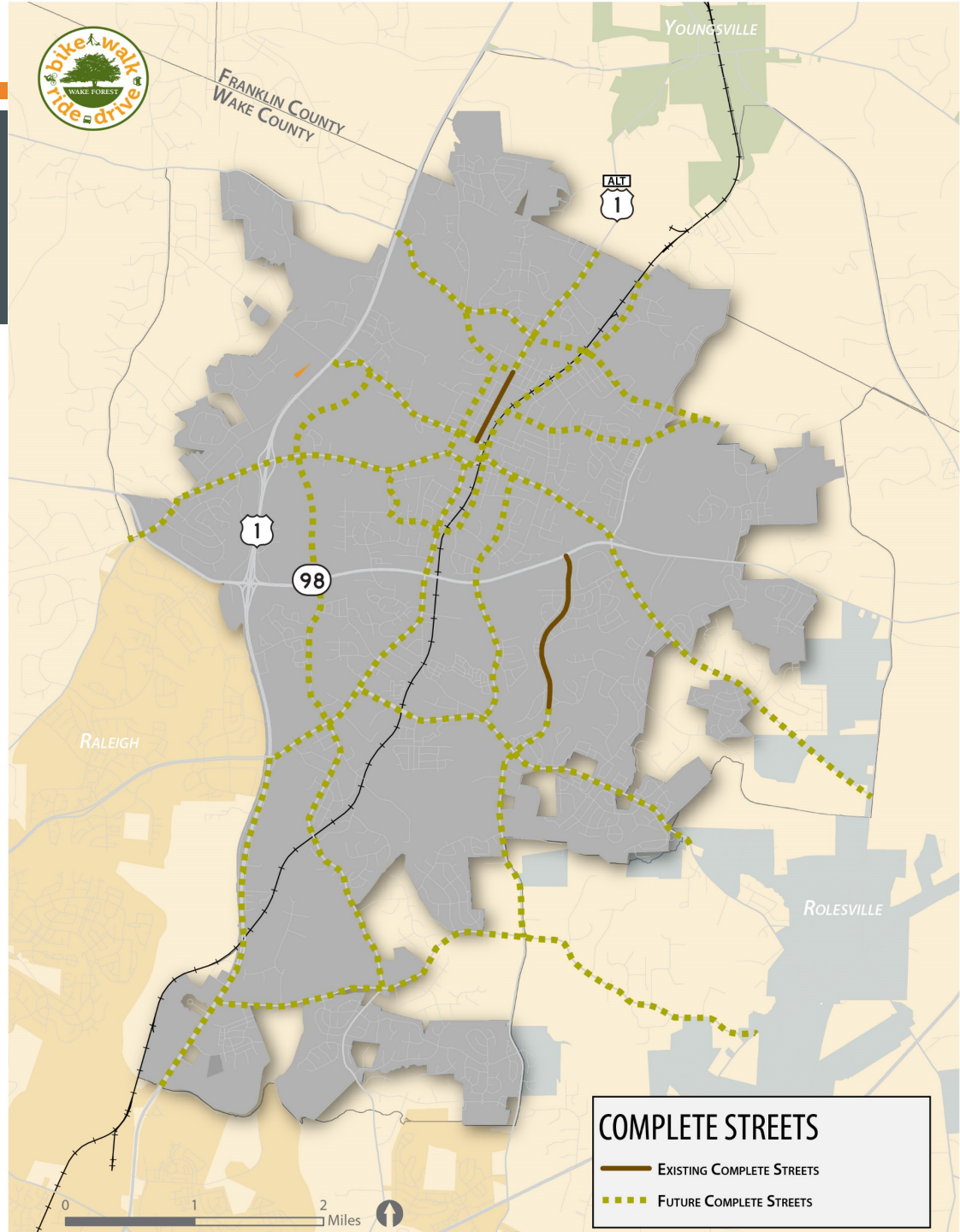
1. Easy to ride for everyone. Exclusive paths
2. Bike lane / sharrows on road
3. Wide shoulder or right lane roads
4. No bike-friendly infrastructure
5. Bikes prohibited



COMPLETE STREETS

Emphasis on Complete Streets

- Extensive complete streets network planned in Wake Forest
- Discussion on different levels of complete streets
- Possibility of enhancing existing complete streets
- NCDOT adopted complete streets policy in 2009



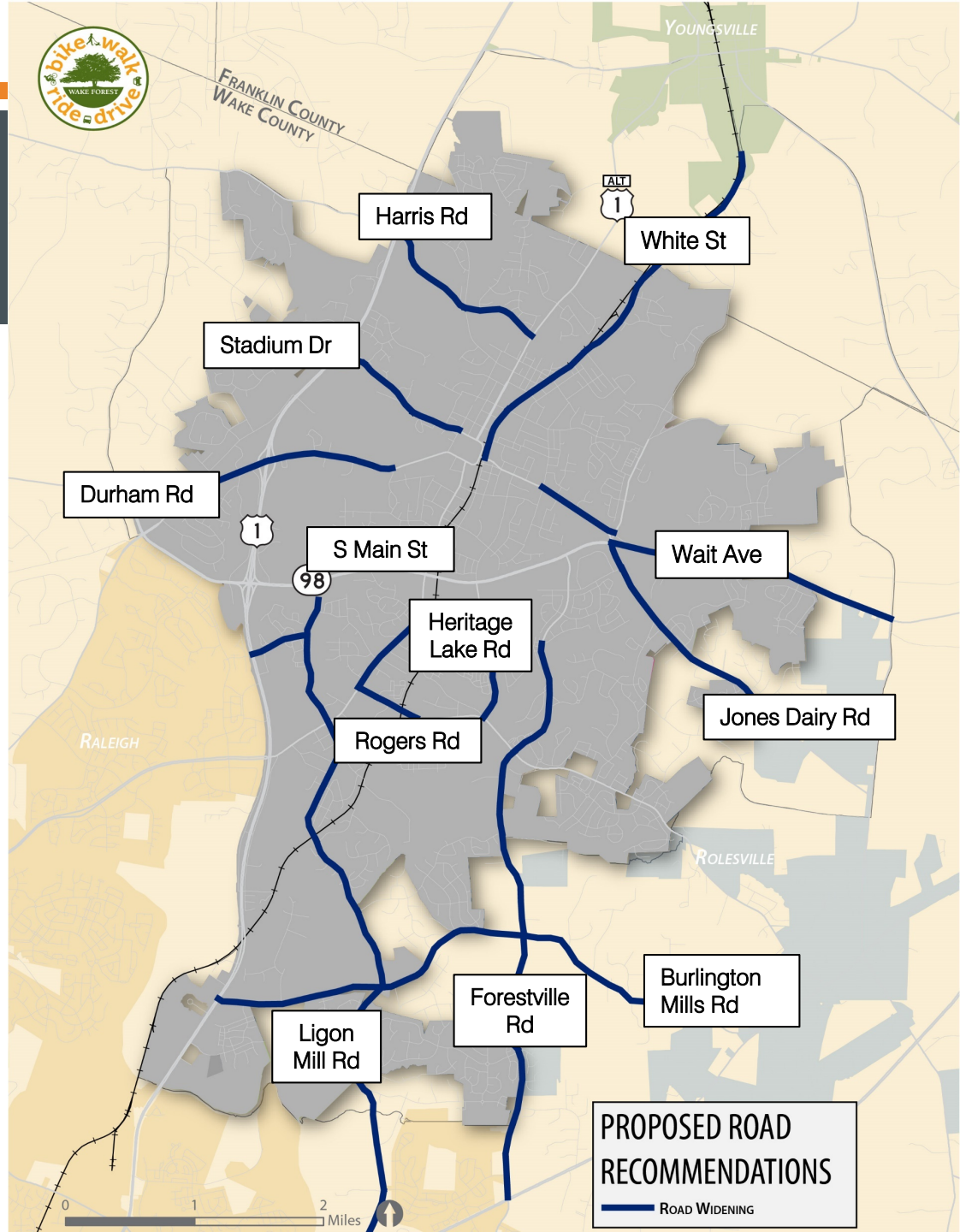
GOING AHEAD…

ROAD WIDENING (INCLUDING BIKE PED)

2 lanes to 4 lanes	Capacity or Safety concern
Burlington Mills Rd	Both
Rogers Rd	Both
Harris Rd	Capacity
Heritage Lake Rd	Both
Forestville Rd	Both
Wait Ave (partial)	Both
S Main St (partial)	Both

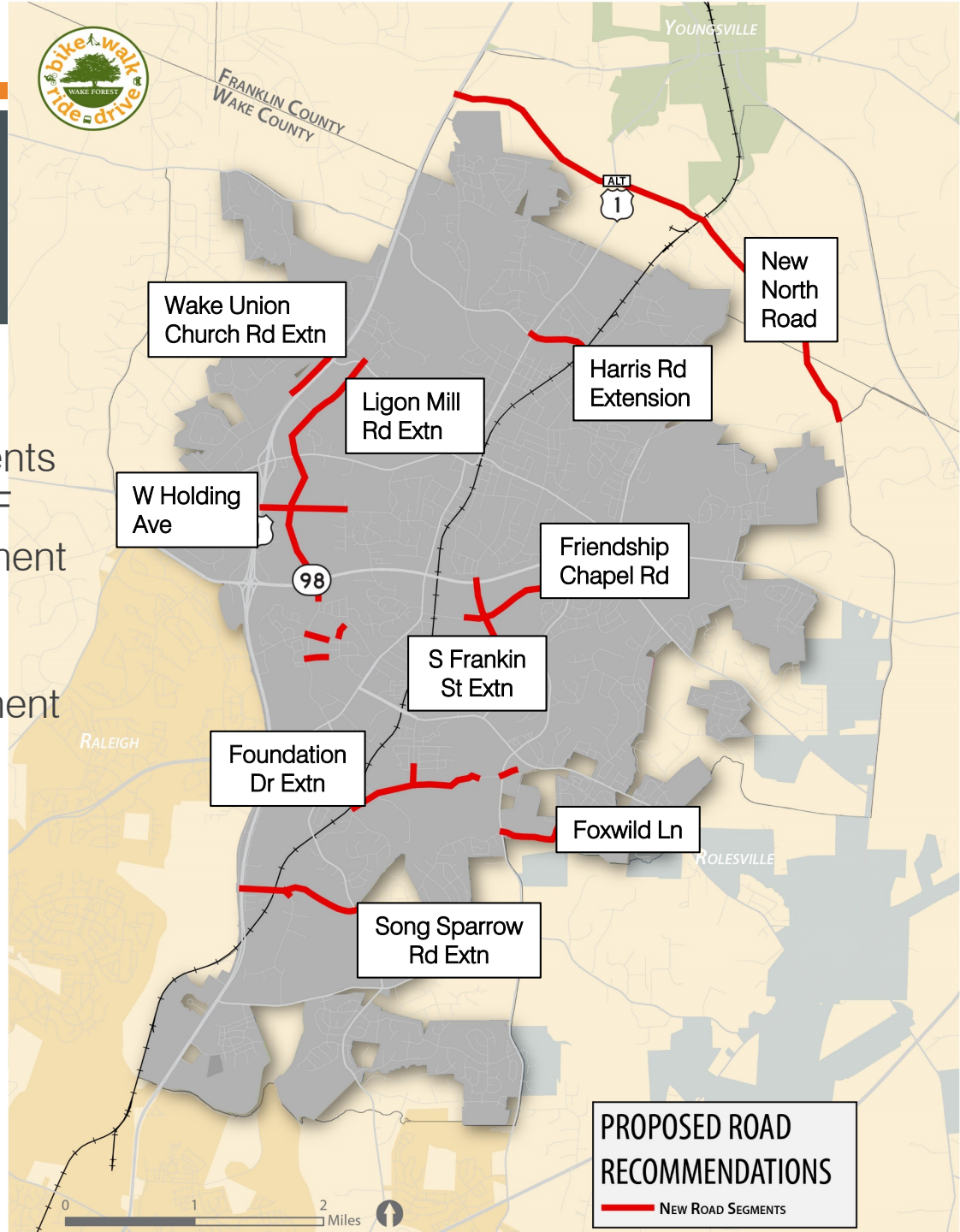
Additional Turn Lane	Capacity or Safety concern
Ligon Mill Rd	Capacity
White St	None

Google Map



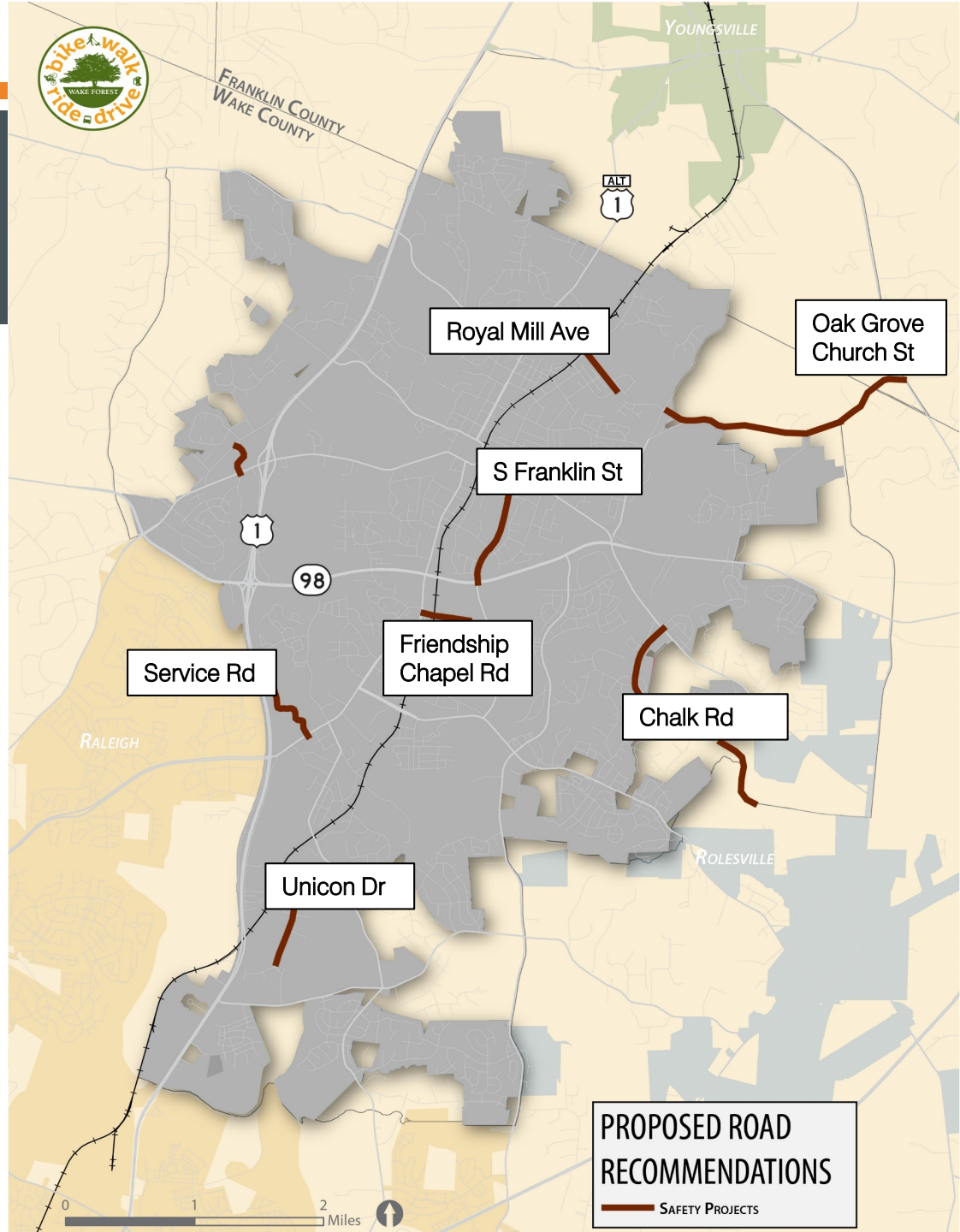
NEW SEGMENTS (INCLUDING BIKE PED)

Major New Segments	Reason
New North Rd	New Residential Developments
Harris Rd Extension	New E-W connection in NWF
Ligon Mill Rd Extension	New High Density Development
Friendship Chapel Rd Connection	Alt to NC-98 Bypass
S Franklin St Extension	N-S alt to S Main St
W Holding Ave Extension	New high Density Development
Wake Union Church Rd Extension	US-1 converted to Freeway
Foxwild Ln	Make Song Sparrow Rd
Song Sparrow Rd Extension	continuous
Foundation Dr Extension	Additional E-W connection



SAFETY

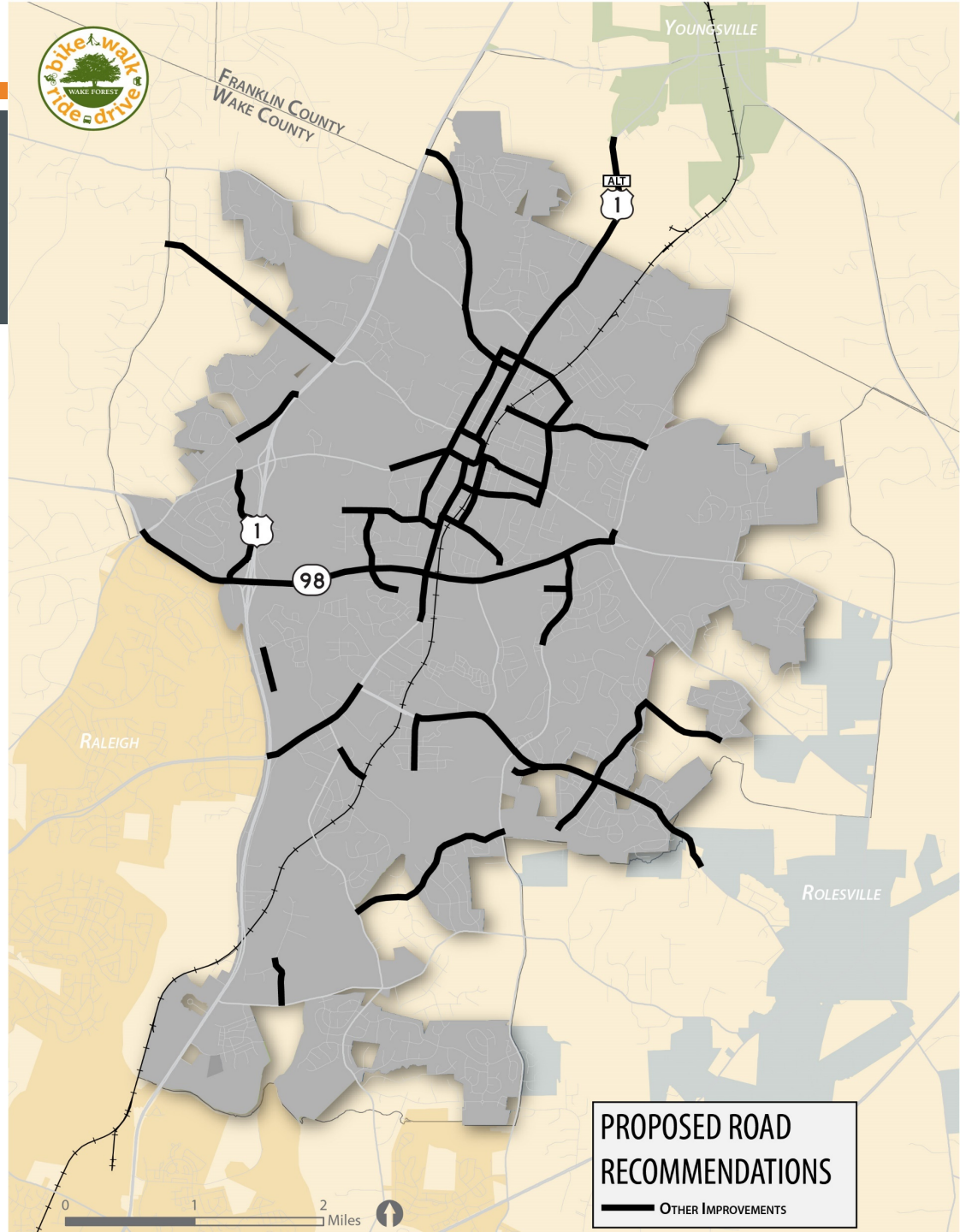
Segment	Type
Oak Grove Church St	Shoulders
S Franklin St	Intersection Improvements
Friendship Chapel Rd	Shoulders
Service Rd	Streamlining
Chalk Rd	Shoulders
Royal Mill Ave	Median



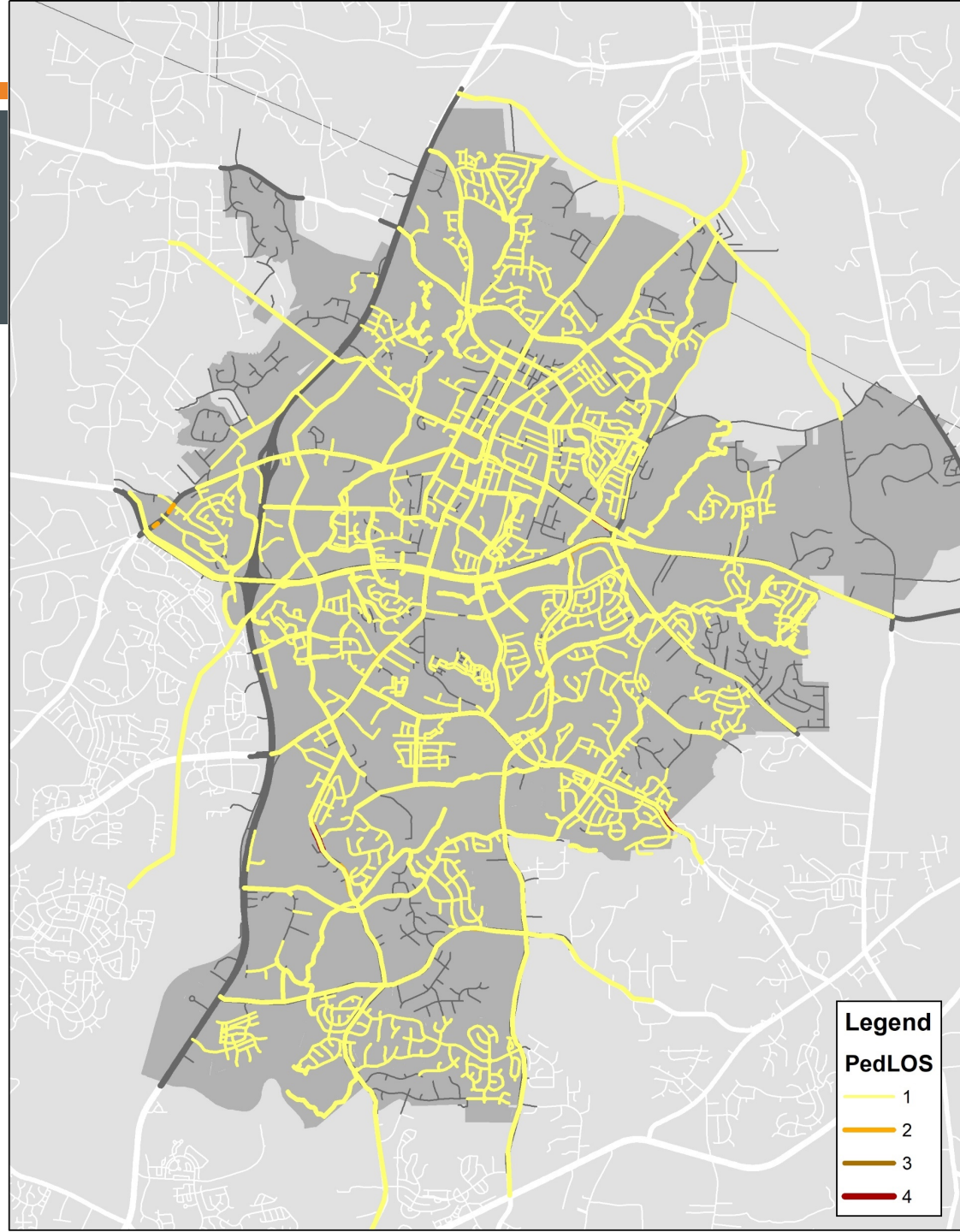
BICYCLE, PEDESTRIAN & OTHER IMPROVEMENTS

Primary improvements

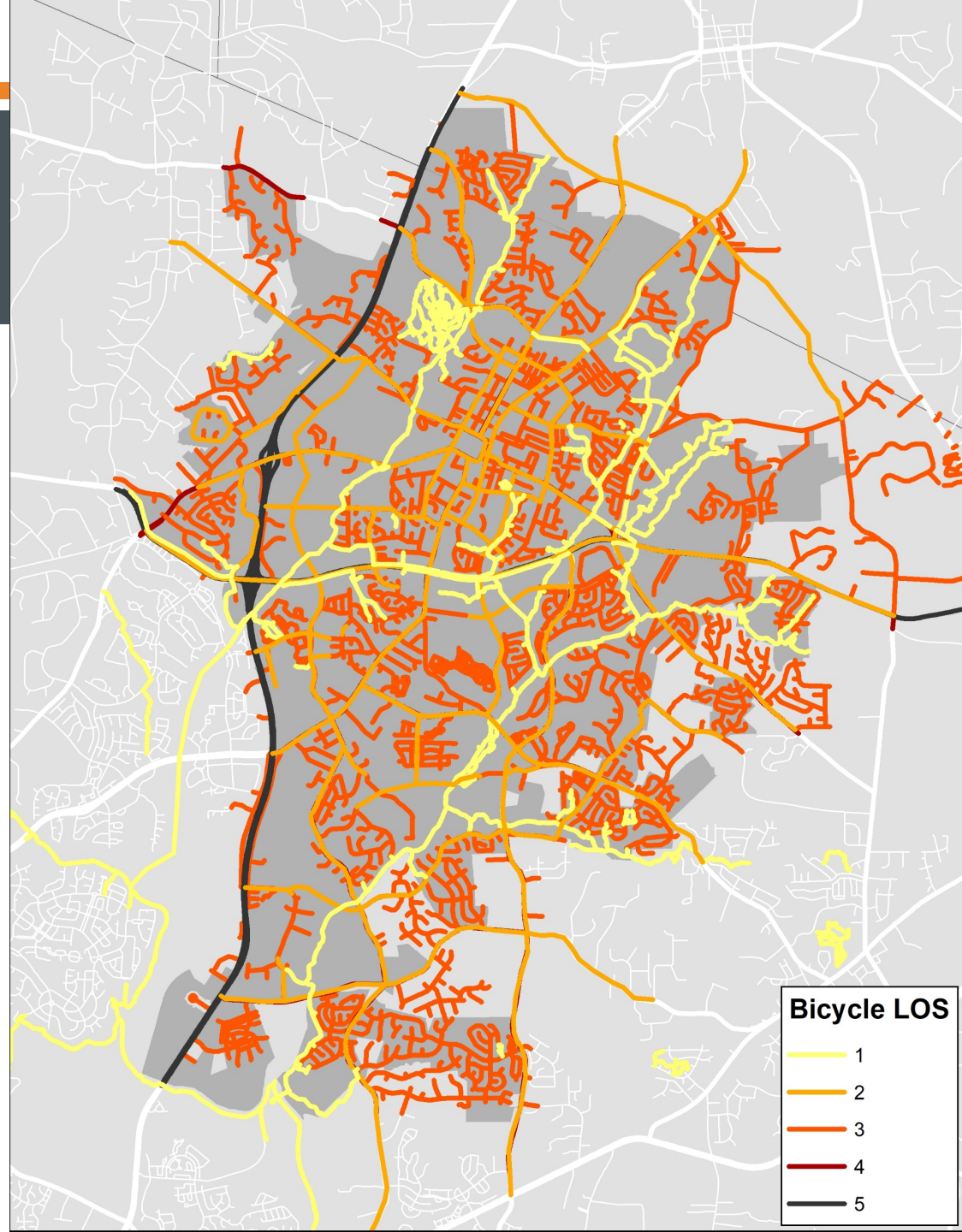
- Connecting disjoined portions of streets.
- Upgrading these streets to include bike lanes and/or sidewalks.
- Add Multi Use Paths on one or both sides
- Add more crossovers through main thoroughfares.
- Improve multimodal network along primary and secondary roads.



TARGET PEDESTRIAN LEVEL OF SERVICE



TARGET BICYCLE LEVEL OF SERVICE



TRANSIT

TRANSIT NETWORK

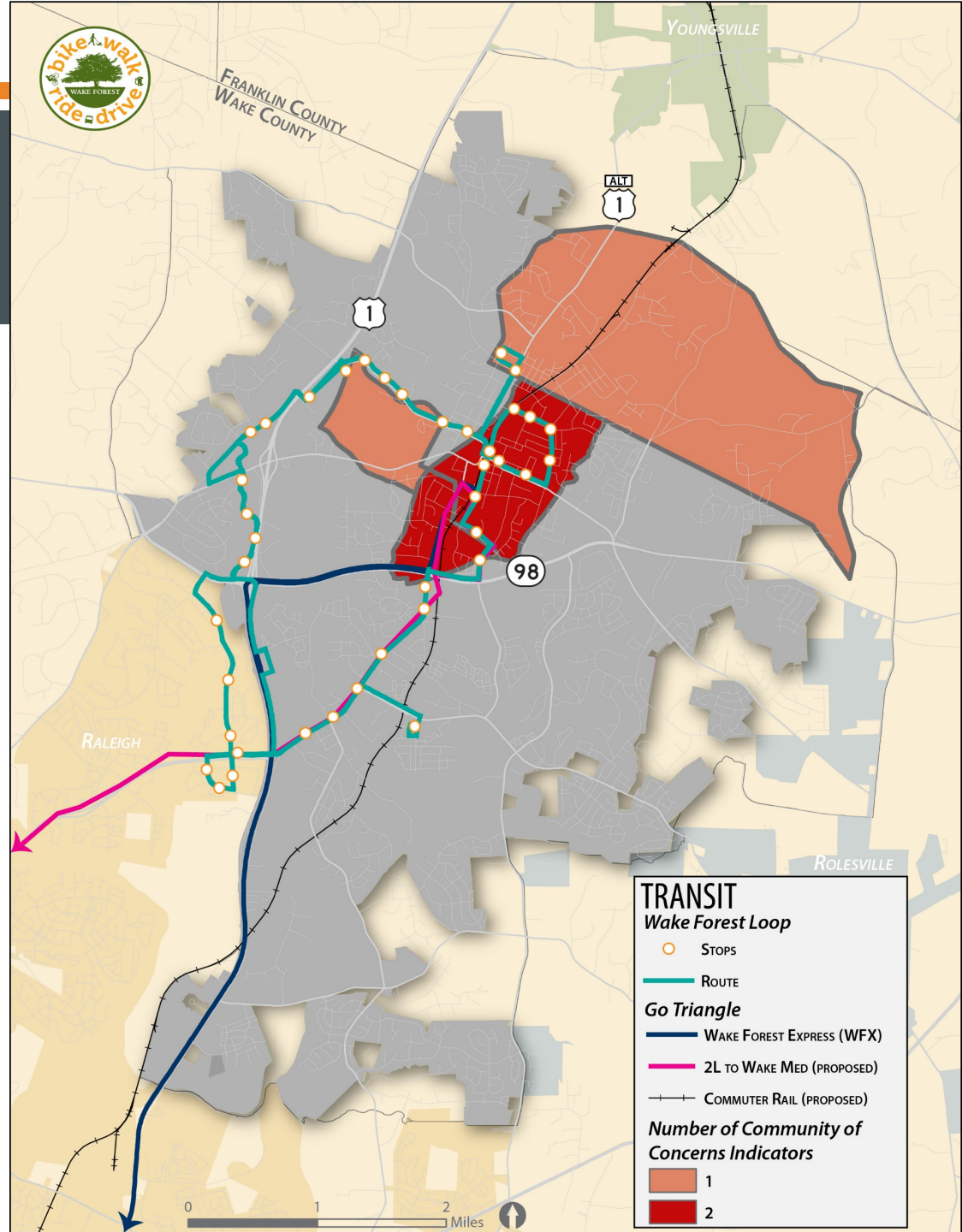
Existing Services
Wake Forest Loop (clockwise)
WRX – 5 daily trips to Raleigh
Future Services
Wake Forest Loop (cc) (planned)
2L – Wake Med

Commuter rail (MTP 2045)
Probably 2 or 3 station locations in Wake Forest

Suggested locations?
Park and Ride provisions?
Transit Oriented Development?

Considerations

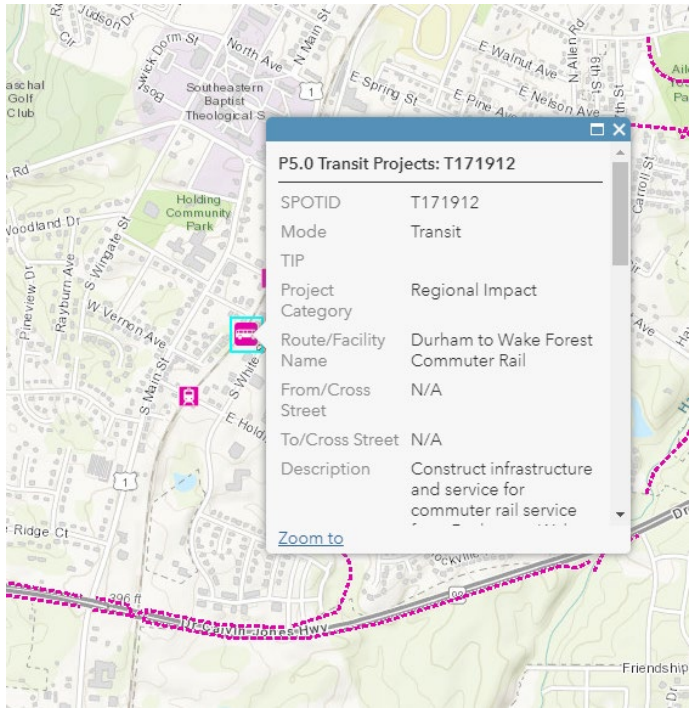
- Connections / Service to Rolesville
- Subsidizing Cab Aggregators (Uber/Lyft) to improve access to transit
- Reconsidering the loop

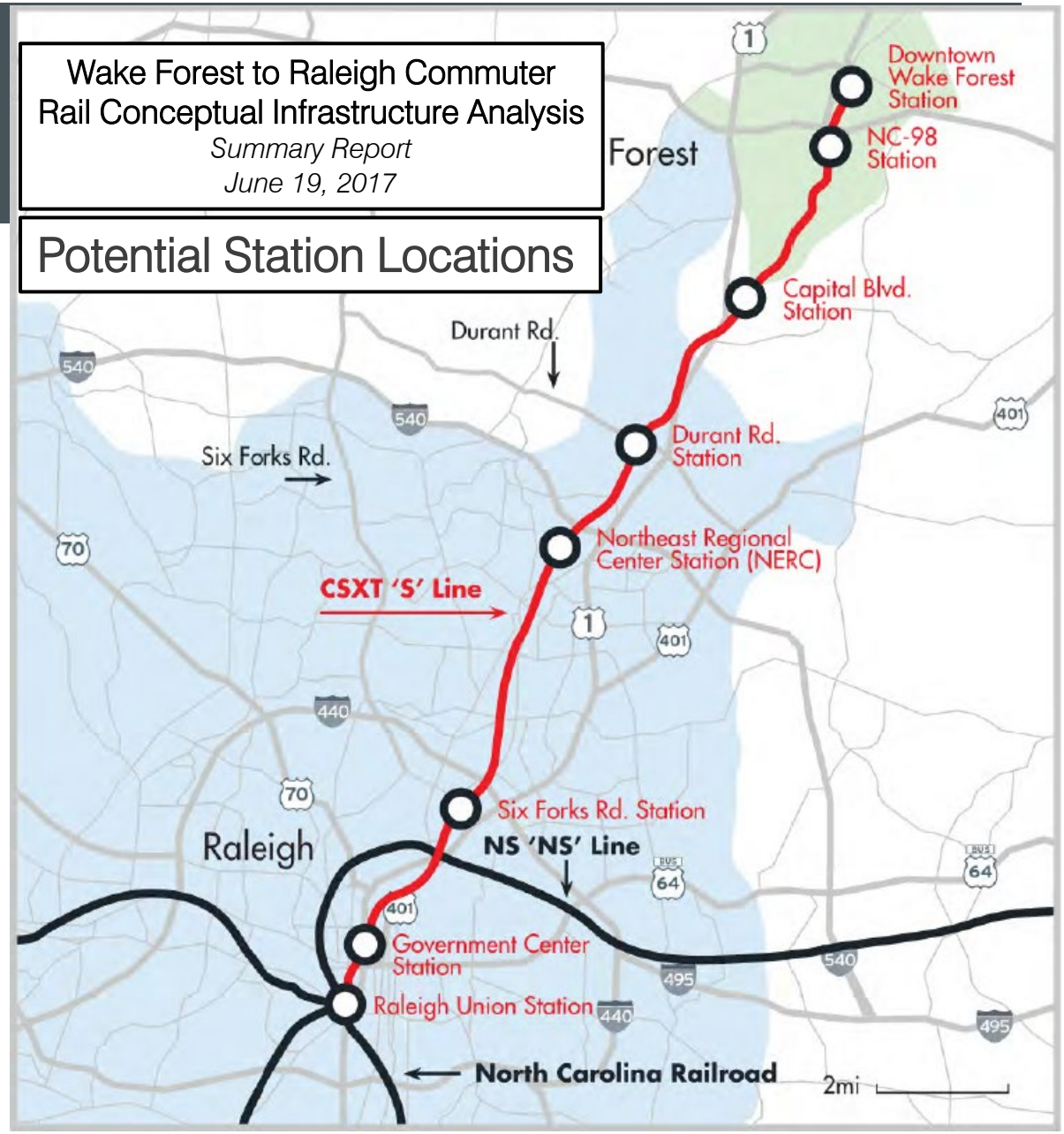


TRANSIT NETWORK

Station Locations and Number

1 or 2 stations?
Downtown or NC-98 Bypass?
Park and Ride or Walk Access Only?

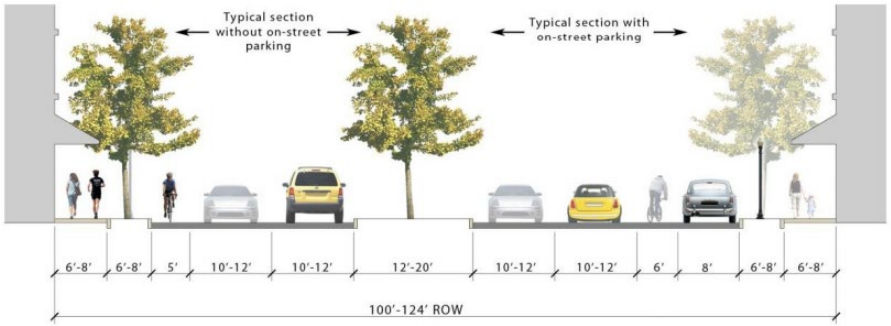




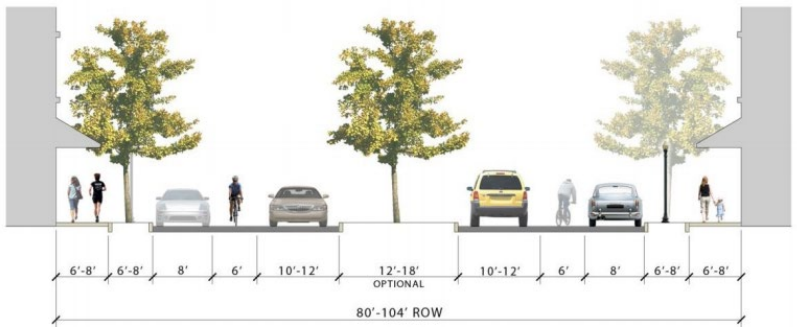
NC 98 STATION

DOWNTOWN STATION

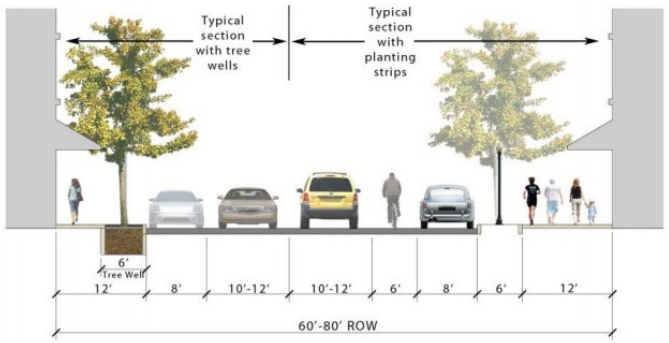
UDO STREET TYPES



Urban Boulevard
1. Right-of-Way Width 100 - 124 ft (Curb & Gutter)
2. Number of Lanes 4
3. Median Width 12-20 ft
4. Design Speed 30-35 mph
5. Walkway Type 6-8 ft sidewalk both sides
6. Bicycle Facilities 5 ft Bike Lane



Avenue
1. Right-of-Way Width 80 - 124 ft (Curb & Gutter)
2. Number of Lanes 2
3. Median Width 12-18 ft
4. Design Speed 25-30 mph
5. Walkway Type 6-8 ft sidewalk both sides
6. Bicycle Facilities 5 ft Bike Lane

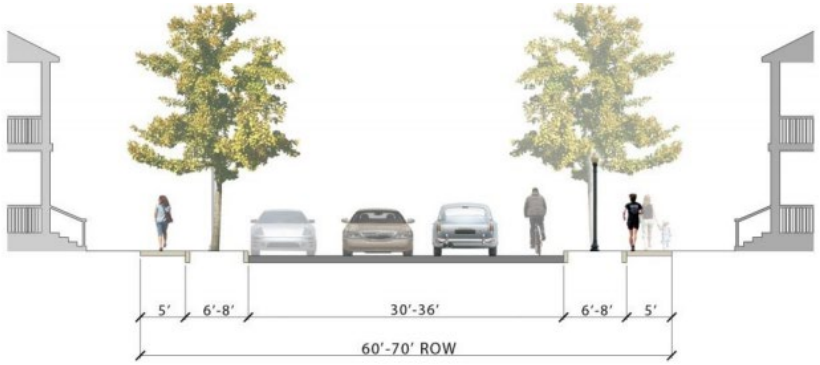


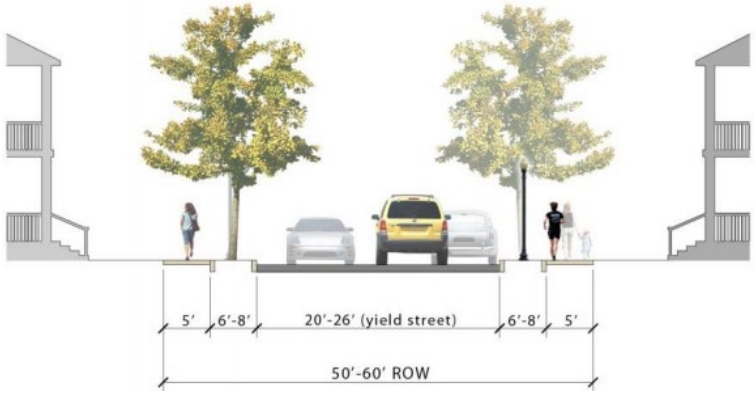
Commercial Street
1. Right-of-Way Width 60-80 ft (Curb & Gutter)
2. Number of Lanes 2
3. Design Speed 20-25 mph
4. Walkway Type 12 ft sidewalk both sides
5. Bicycle Facilities 5 ft Bike Lane

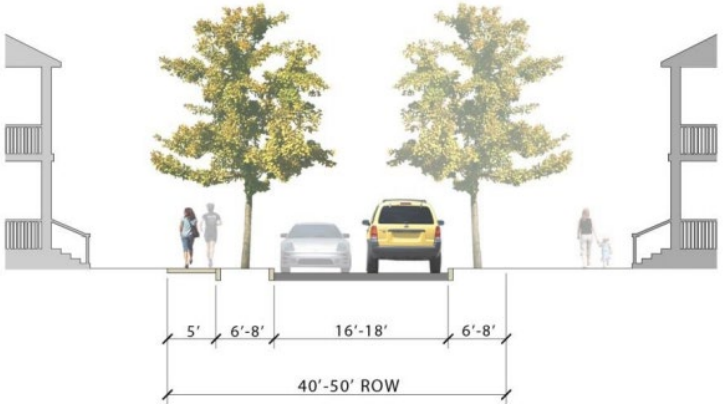
Primary Major Thoroughfare	Local Major Thoroughfare	Minor Thoroughfare
Secondary Major Thoroughfare	Minor Thoroughfare	Collector Street
Local Major Thoroughfare		
Minor Thoroughfare		

Corresponding 2010 Transportation Plan Classification

UDO STREET TYPES







Large Residential Street
1. Right-of-Way Width 60 ft(Curb & Gutter)
2. Number of Lanes 2
3. Design Speed 20 mph
4. Walkway Type 5 ft sidewalk both sides
5. Bicycle Facilities Informal or 5 ft Bike Lane

Residential Yield Street
1. Right-of-Way Width 50 ft (Curb & Gutter)
2. Number of Lanes 2
3. Design Speed 20 mph
4. Walkway Type 5 ft sidewalk both sides
5. Bicycle Facilities Informal

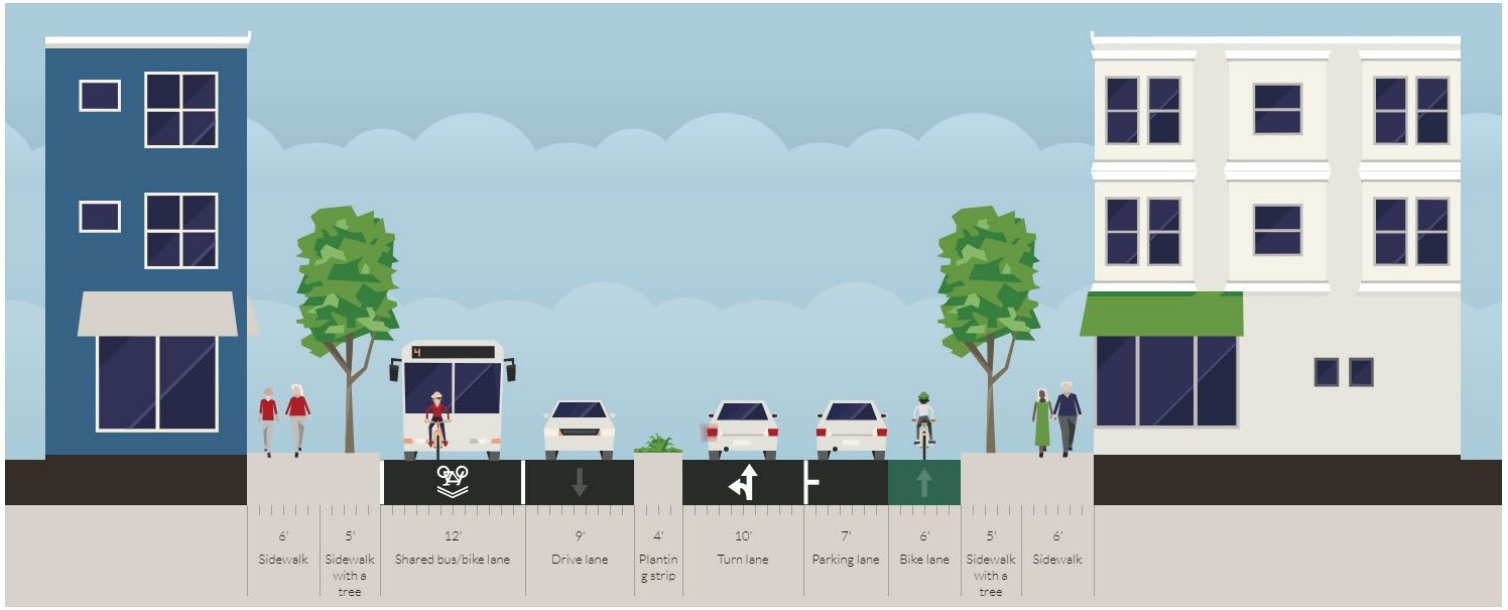
Lane
1. Right-of-Way Width 40 ft (Curb & Gutter)
2. Number of Lanes 2
3. Design Speed 20 mph
4. Walkway Type 5 ft sidewalk on one side
5. Bicycle Facilities Informal

Collector Street	Collector Street	Local Street
Secondary Major Thoroughfare	Local Street	

Corresponding 2010 Transportation Plan Classification

NEXT STEPS

- Link cross sections with roadway recommendations
- Complete hot spot analysis / recommendations
- Complete policy recommendations
- Begin developing priorities
- Prepare public meeting displays
- Next steering committee meeting May 8th
- Public meeting May 16th



QUESTIONS