



# NC 98 CORRIDOR STUDY REPORT



[www.nc98corridor.com](http://www.nc98corridor.com)



# WHERE & WHAT

## Project Study Area:

- 27-miles from U.S. 70 in Durham Co. through Wake Co. to U.S. 401 in Franklin Co. (approximately a quarter mile (1/4) on either side of N.C. 98)

## This study will evaluate:



Safety & Mobility



Planned & Existing  
Roads



Transit



Bicycle/ Pedestrian  
Facilities

# N.C. 98 STUDY SCHEDULE

Project  
Kick-Off



DEC 16 | JAN 17 | FEB | MAR | APR | MAY | JUN | JUL | AUG | SEP | OCT | NOV | DEC | JAN 18 | FEB | MAR | APR | MAY | JUN | JUL

REVIEW EXISTING INVENTORY & PLANS

TRANSPORTATION ANALYSIS

CONCEPTUAL DESIGN

IMPLEMENTATION PLAN

SOT



PUBLIC INVOLVEMENT

SOT



Conceptual Design  
Preference Public Events  
Public Meetings  
Pop-up Events

SOT



Informational Session on  
Recommendations  
Public Meetings

Visioning Public Events  
Public Meetings  
Pop-up Events

★ Study Oversight  
Team (SOT) Meeting



# EXISTING CONDITIONS

## Environmentally Sensitive Areas



- Falls Lake, Little River, & Neuse River Watersheds
- Shinleaf Recreation Area
- Parks
- Trails

## Several Types of Land Uses



- Transportation
- Recreational
- Agricultural
- Residential
- Educational Institutions
- Natural Environment
- Commercial

## Traffic Generating Facilities



- Schools
- Churches
- Shopping centers
- Activities

## Recreation

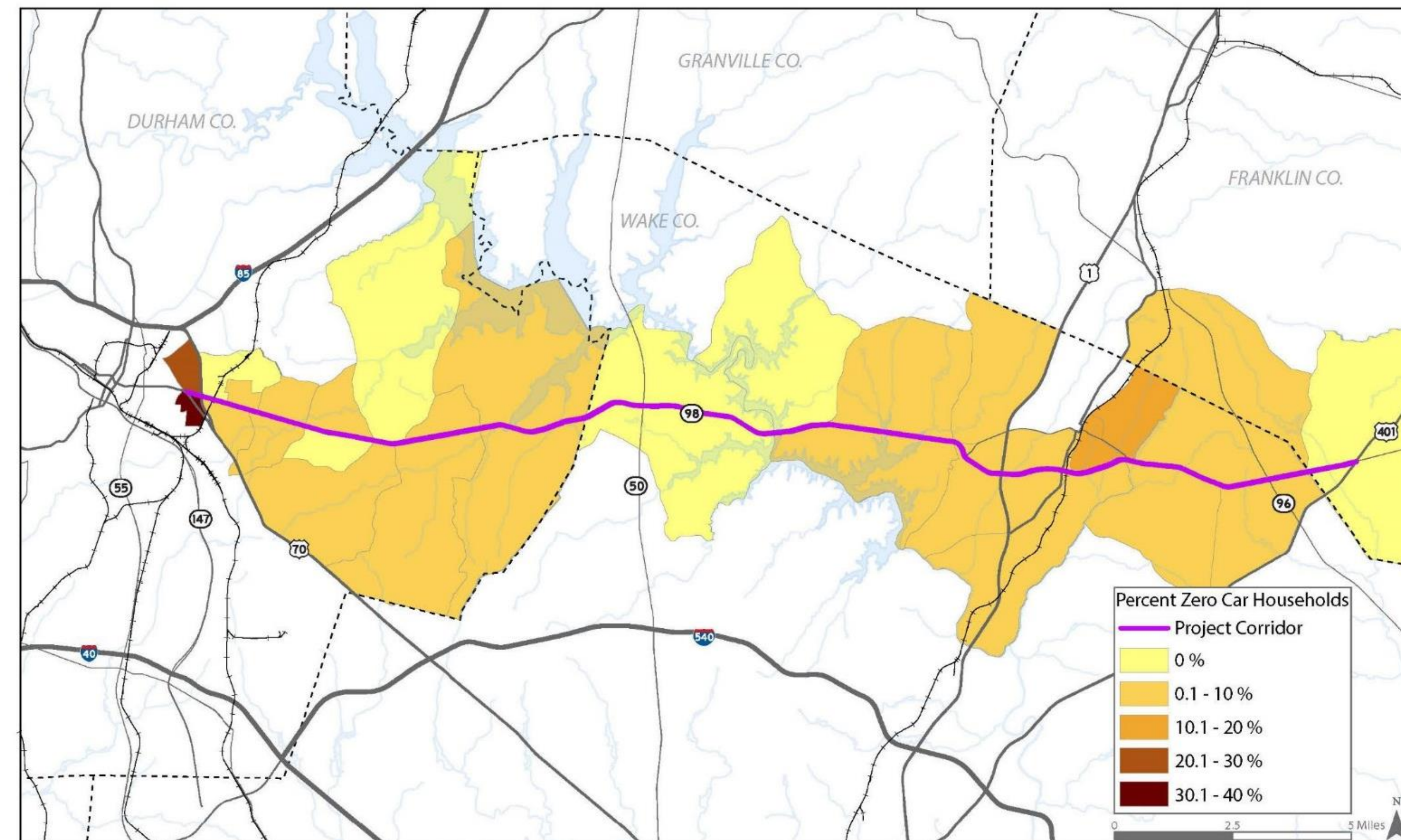


- Cycling
- Boating
- Camping
- Parks & Trails
- Golf

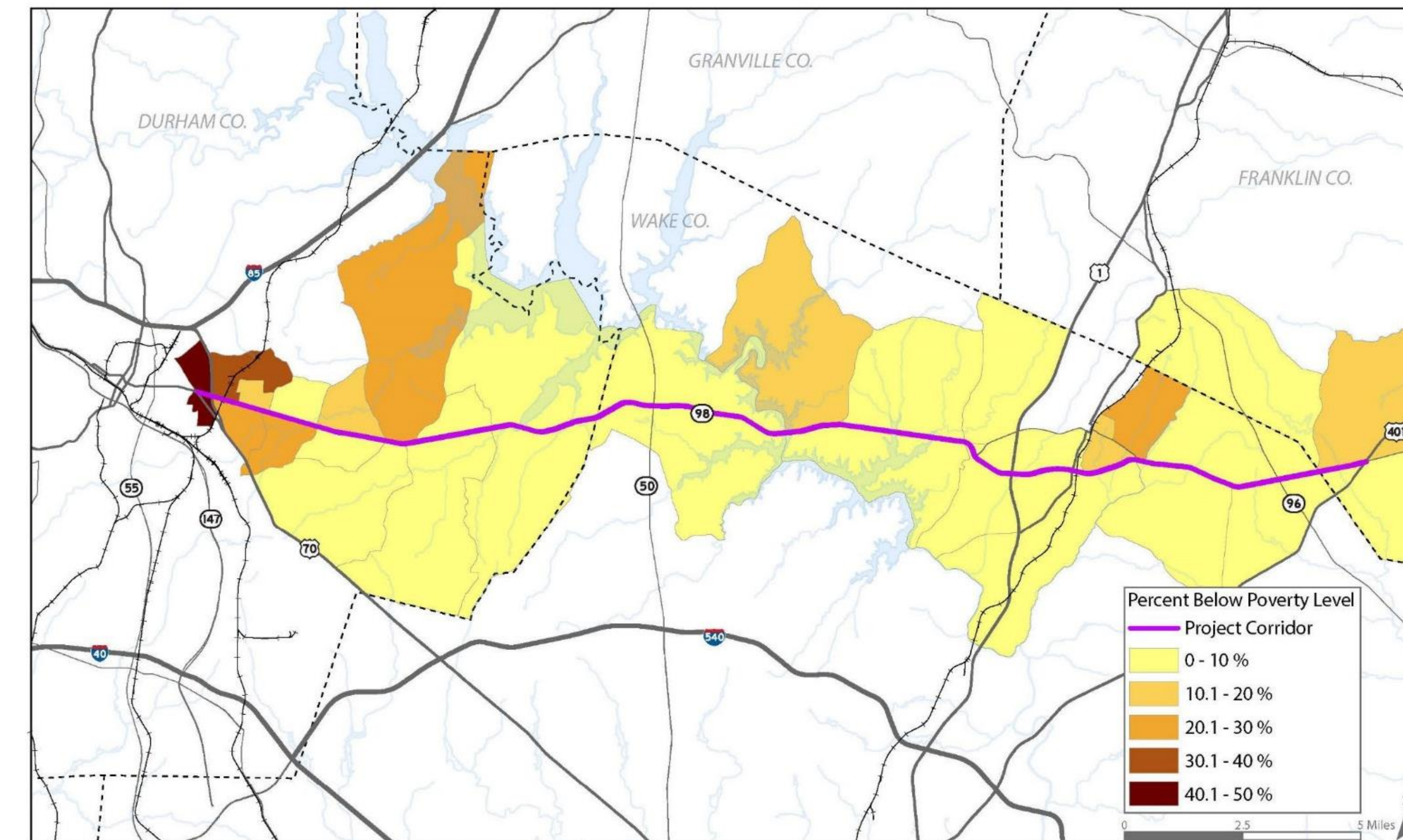


# Demographics

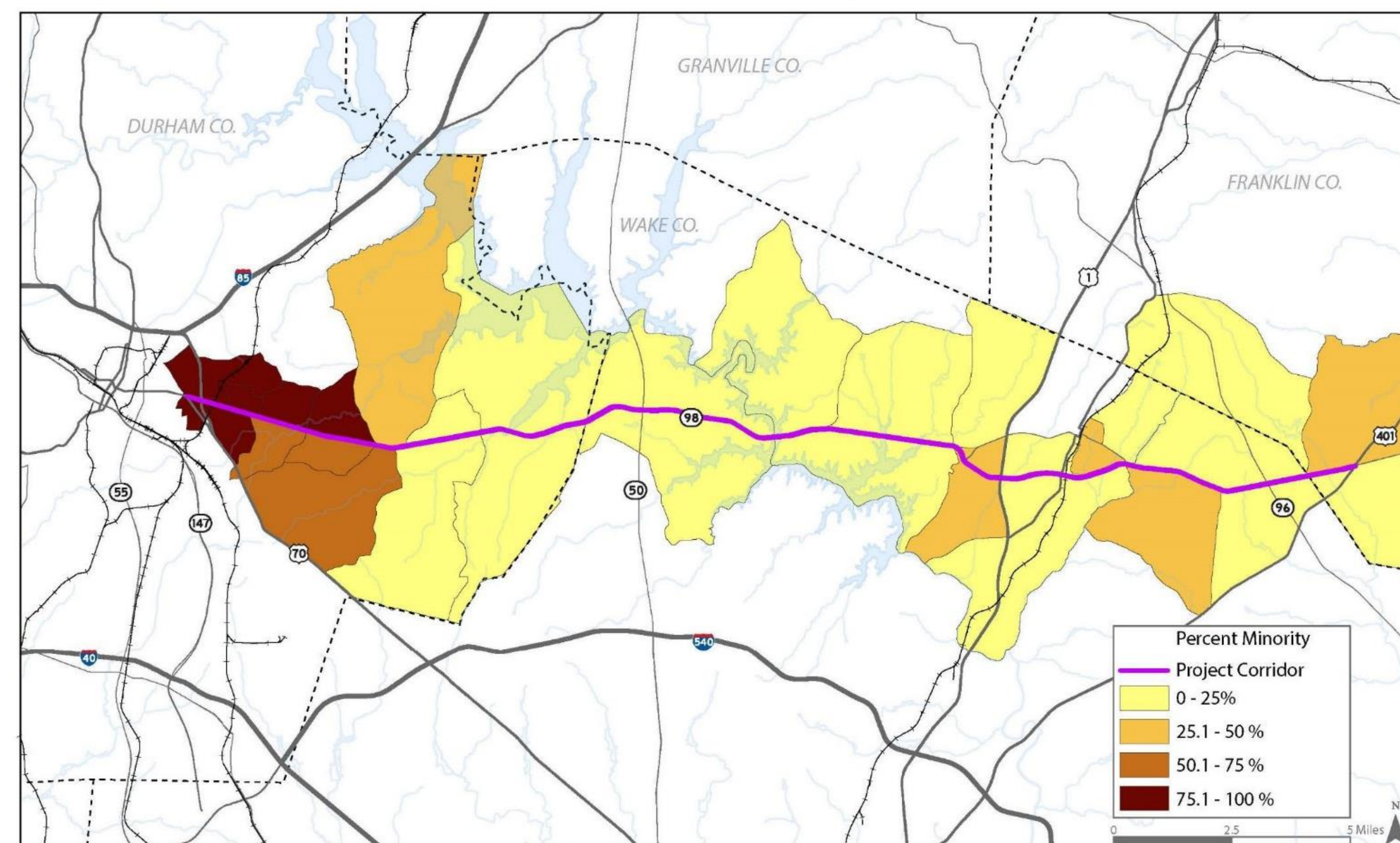
Percent Zero Car Households



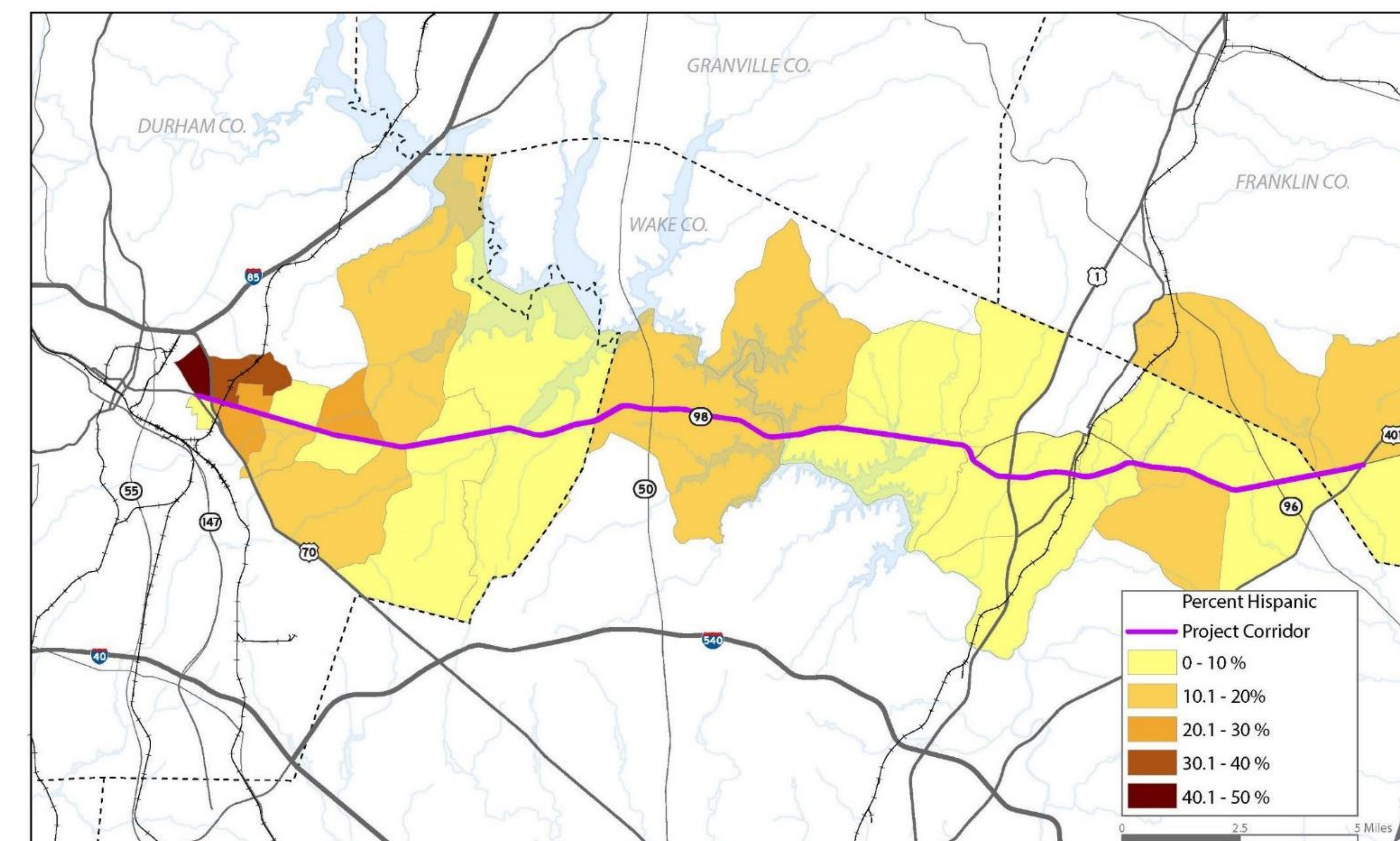
Percent Below Poverty Level



Percent Minority

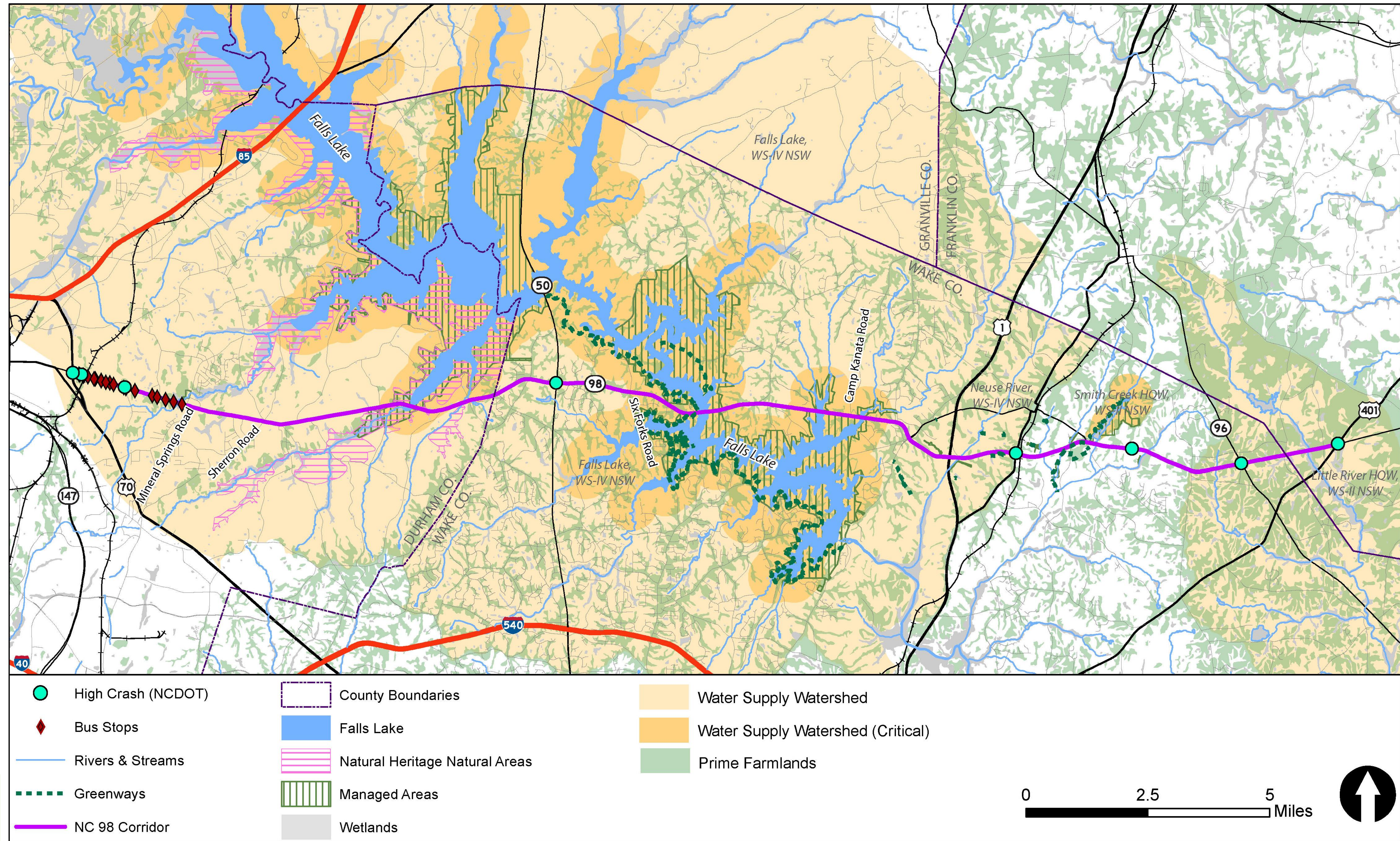


Percent Hispanic



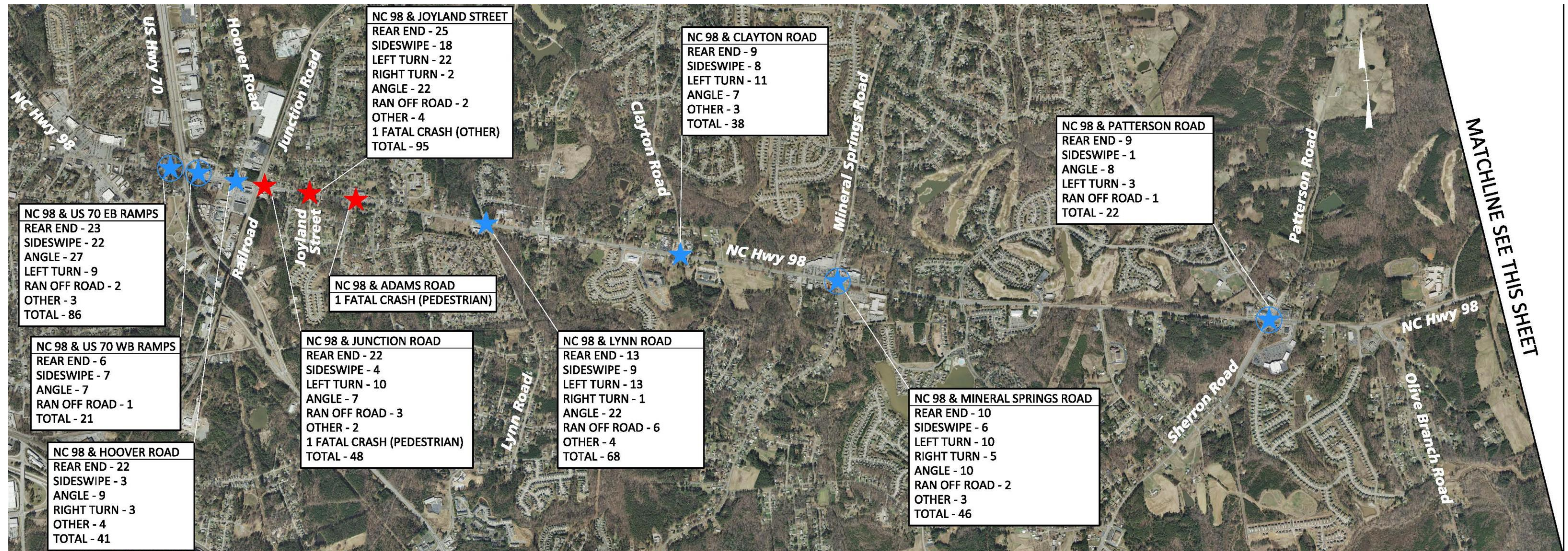


# Environmental Constraints



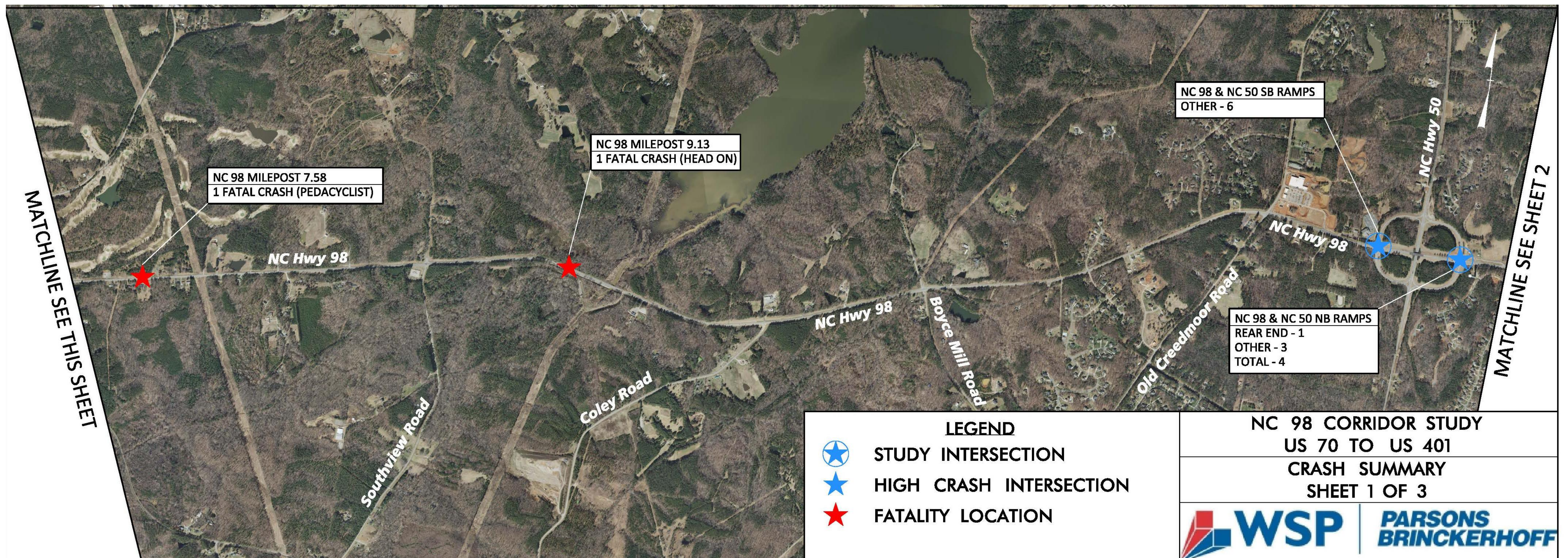


# CRASH DATA



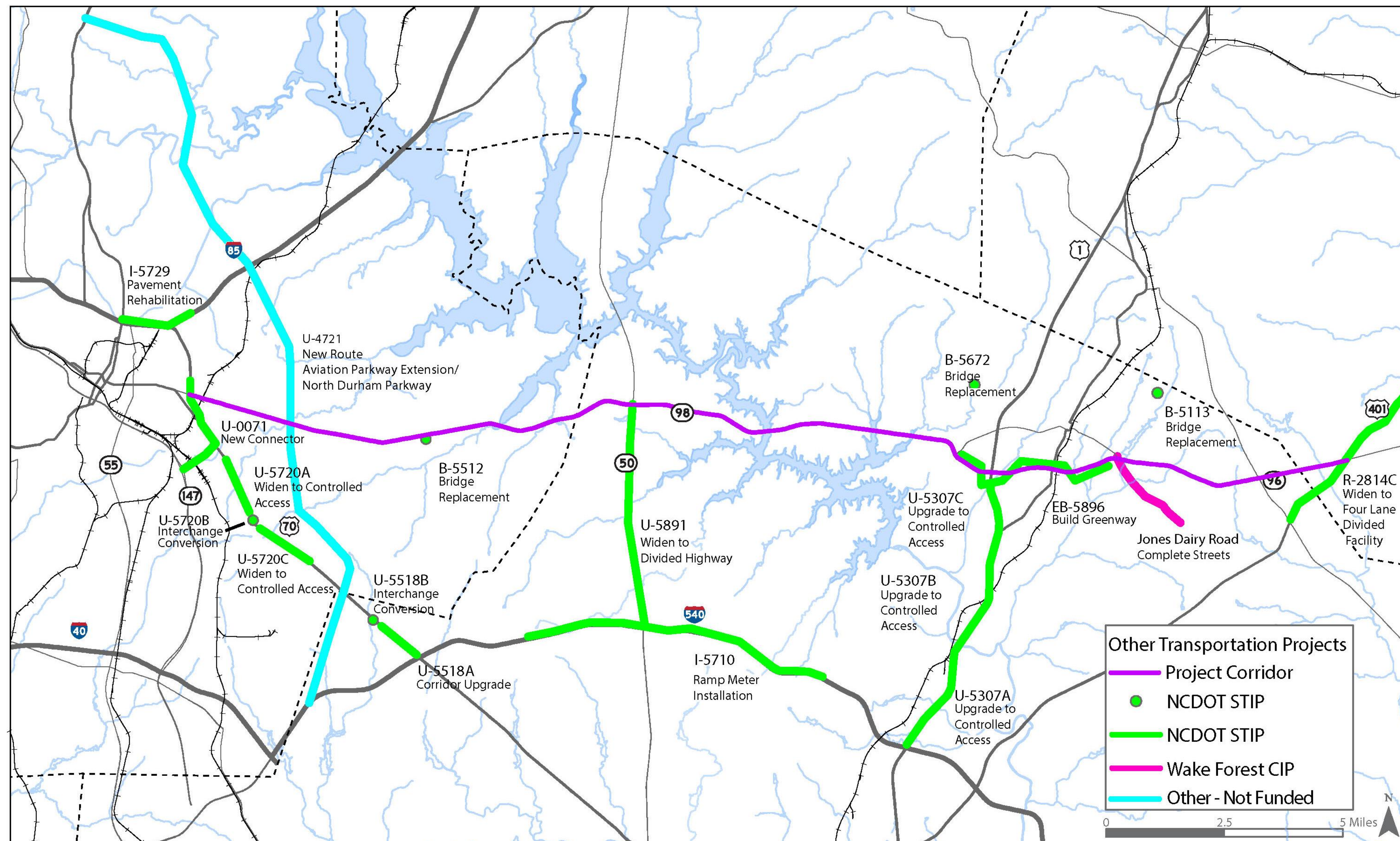


# CRASH DATA





# AREA PROJECTS ALONG NC 98



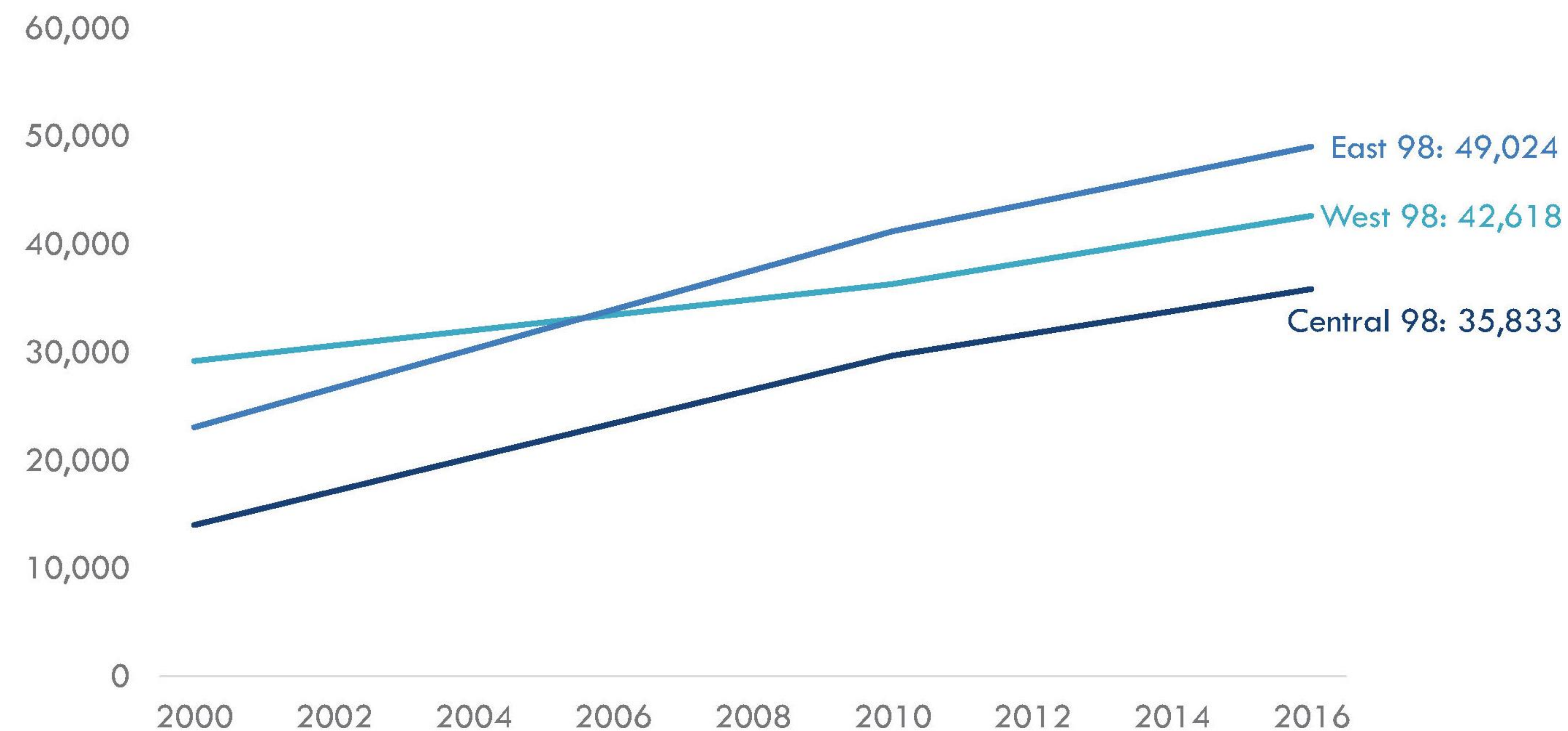


# ECONOMIC ANALYSIS

## POPULATION GROWTH

The NC 98 Corridor has seen significant growth since 2000, most notably in the Central and East sections.

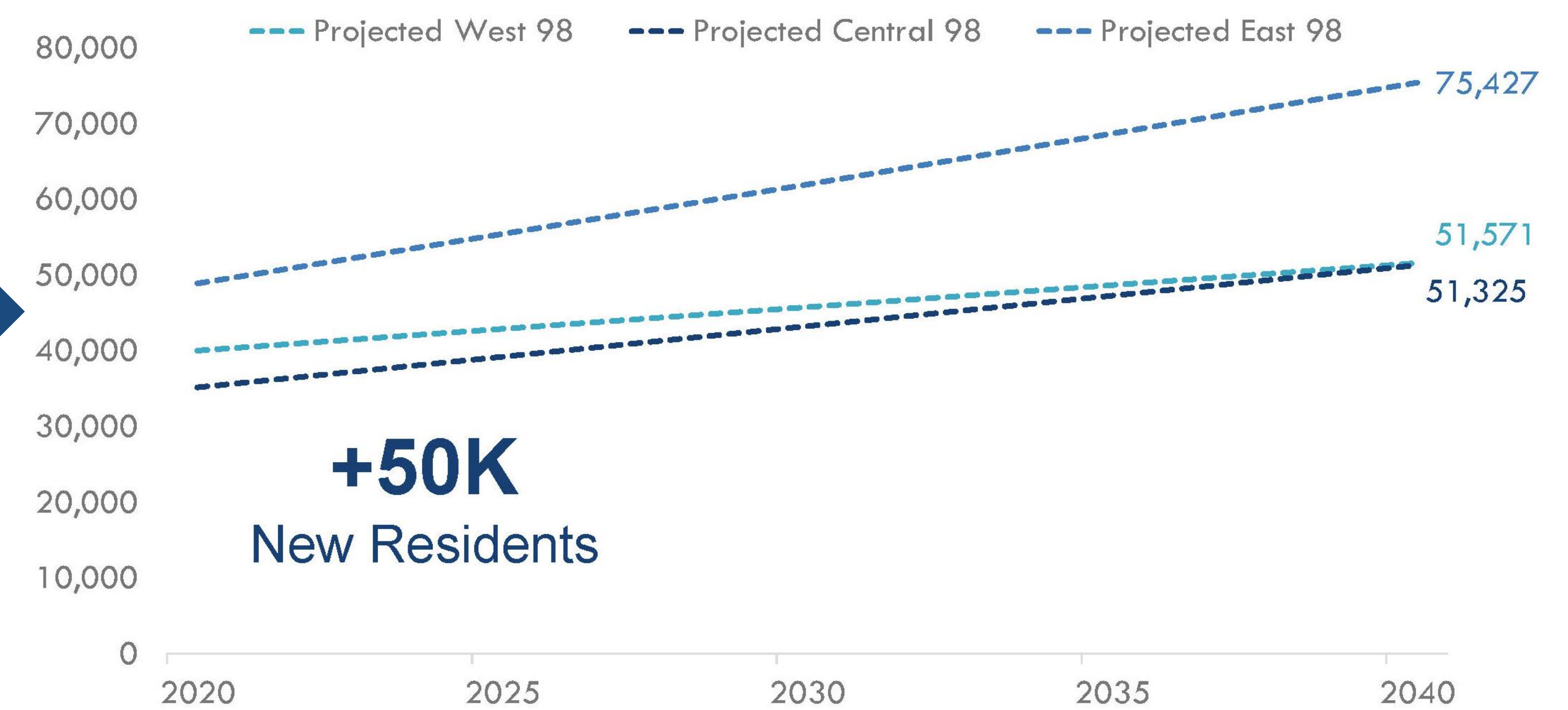
Total Population, 2000-2016



Source: ESRI Business Analyst

Based on CAMPO projections, the corridor is expected to add over 50,000 people by 2040.

Projected Population, 2015-2040



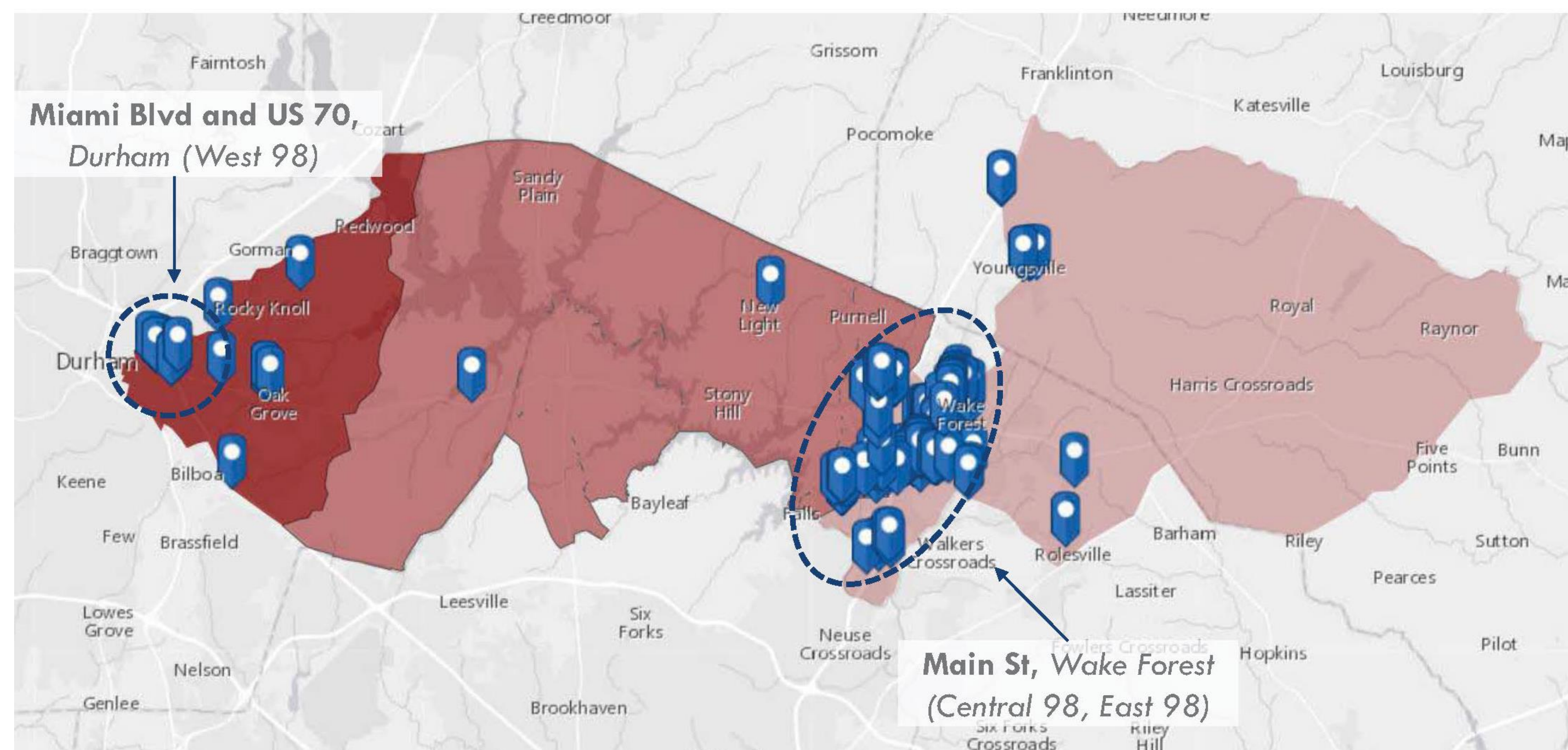
Source: ESRI Business Analyst, CAMPO, DCHC



# ECONOMIC ANALYSIS

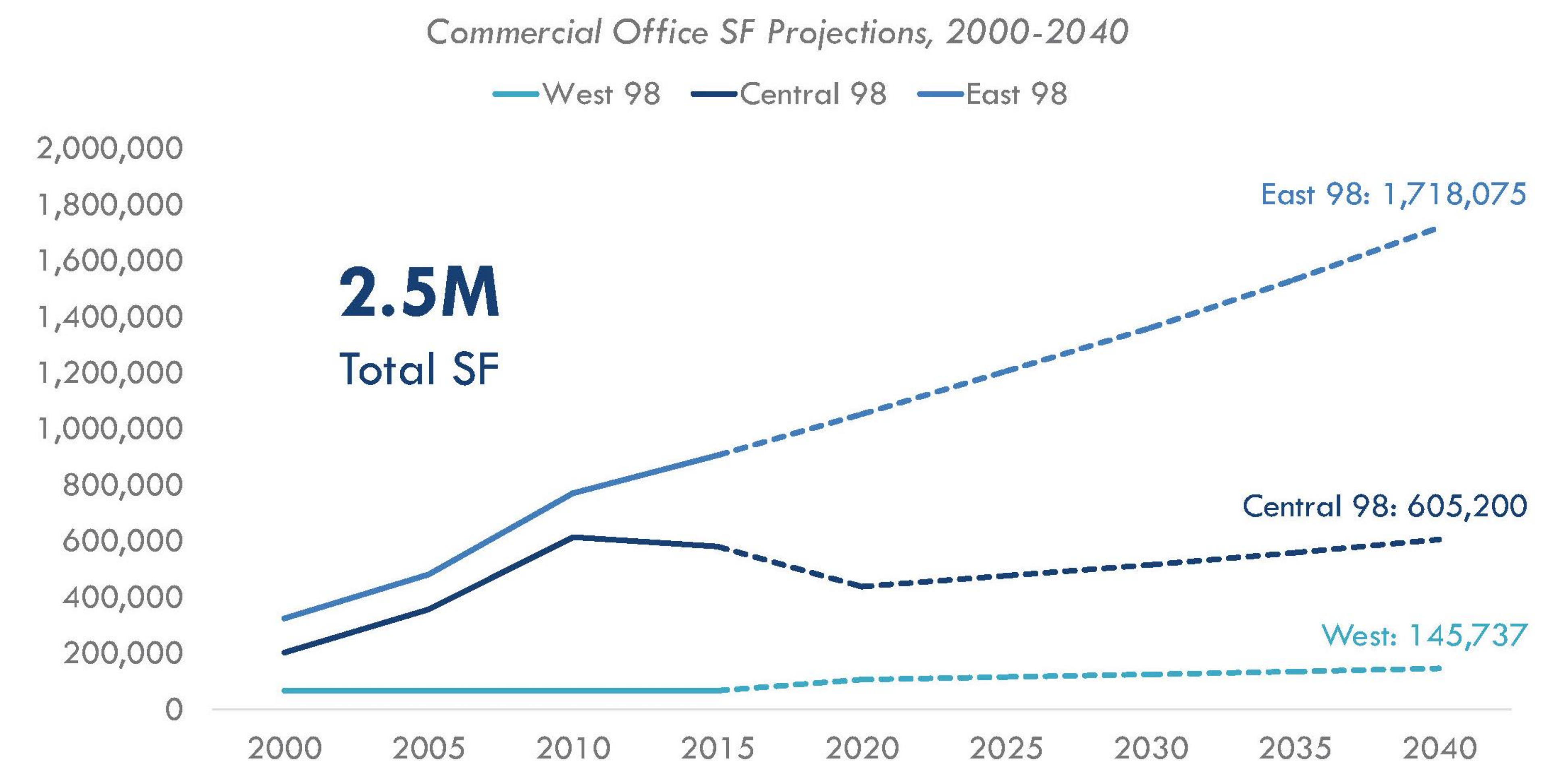
## COMMERCIAL GROWTH

Existing commercial office buildings have clustered along Miami Boulevard in Durham and Main Street in Wake Forest.



Source: CoStar, ESRI

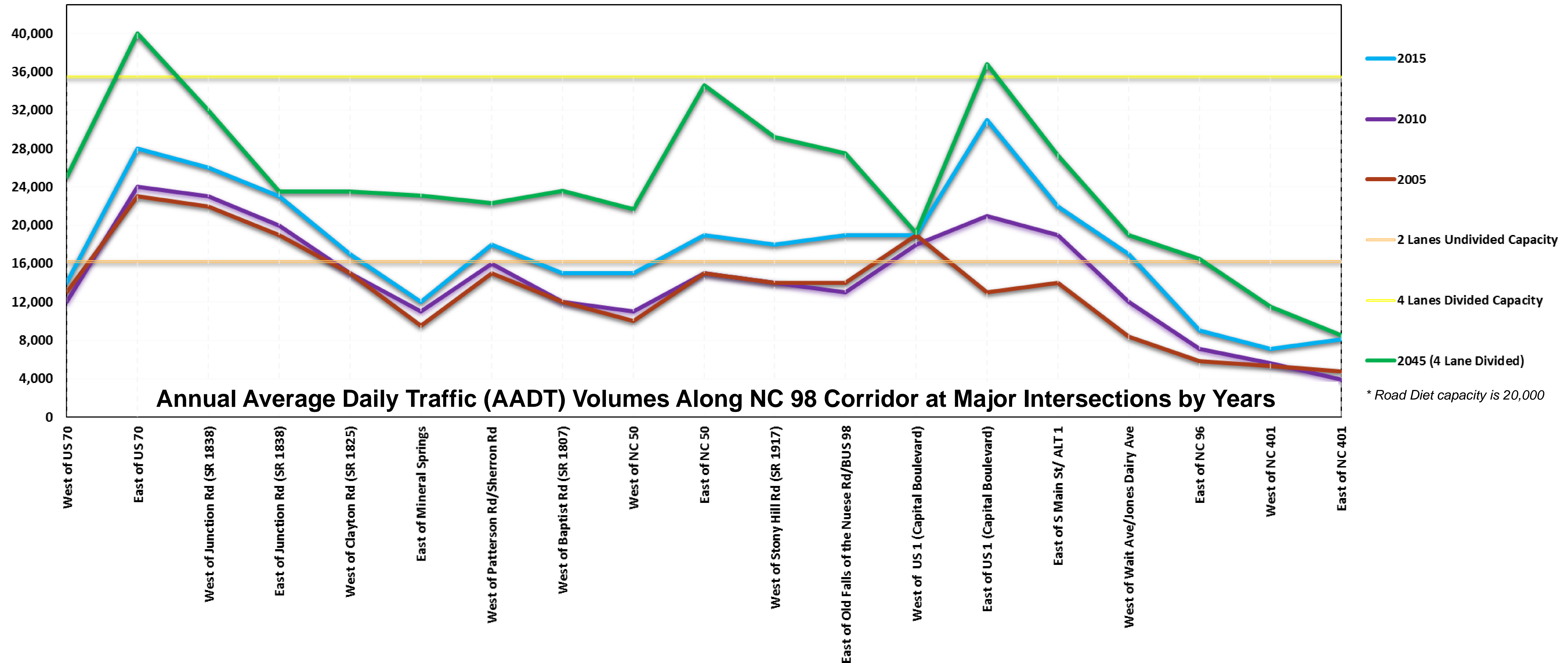
The Study Area could add an additional 1 million SF in commercial office space by 2040, primarily owing to growth in East 98.



Source: CoStar, CAMPO



# TRAFFIC ANALYSIS





# PUBLIC PARTICIPATION



**5** pop-up events



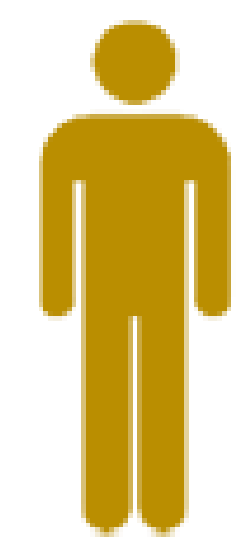
**558** crowdsourcing comments



**6** public meetings



**168** comment forms/online surveys



**221** attendees



**121** online comment submissions/web sign-ups



## Corridor Outreach

(Durham Southern High School Football Game, Businesses and Churches along the corridor)



# PUBLIC PARTICIPATION



8,017 sessions



6,496 Users (10.6%  
returning users)



16,473 Impressions

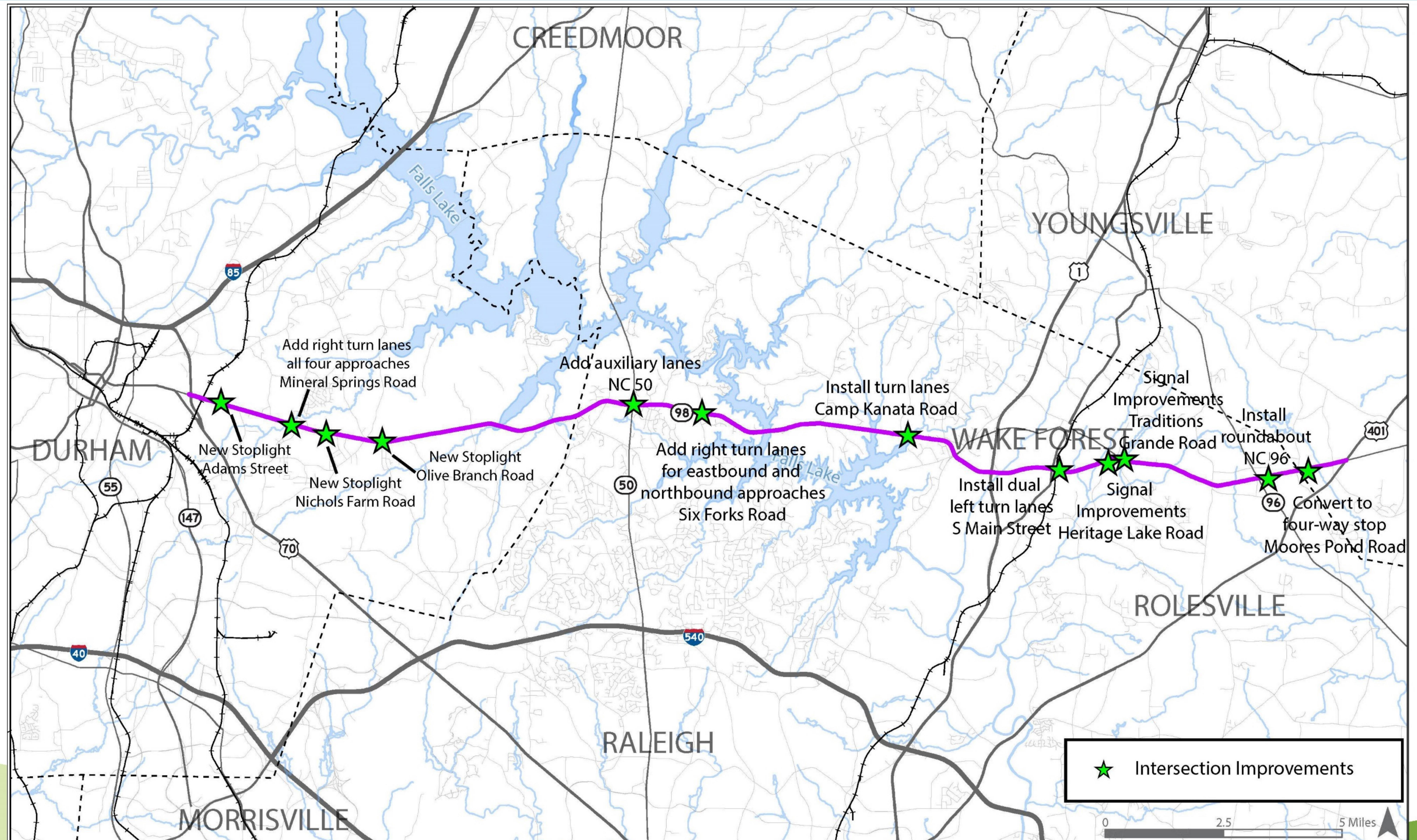


3,206 Reaches

## NC98Corridor.com



# SHORT-TERM IMPROVEMENTS



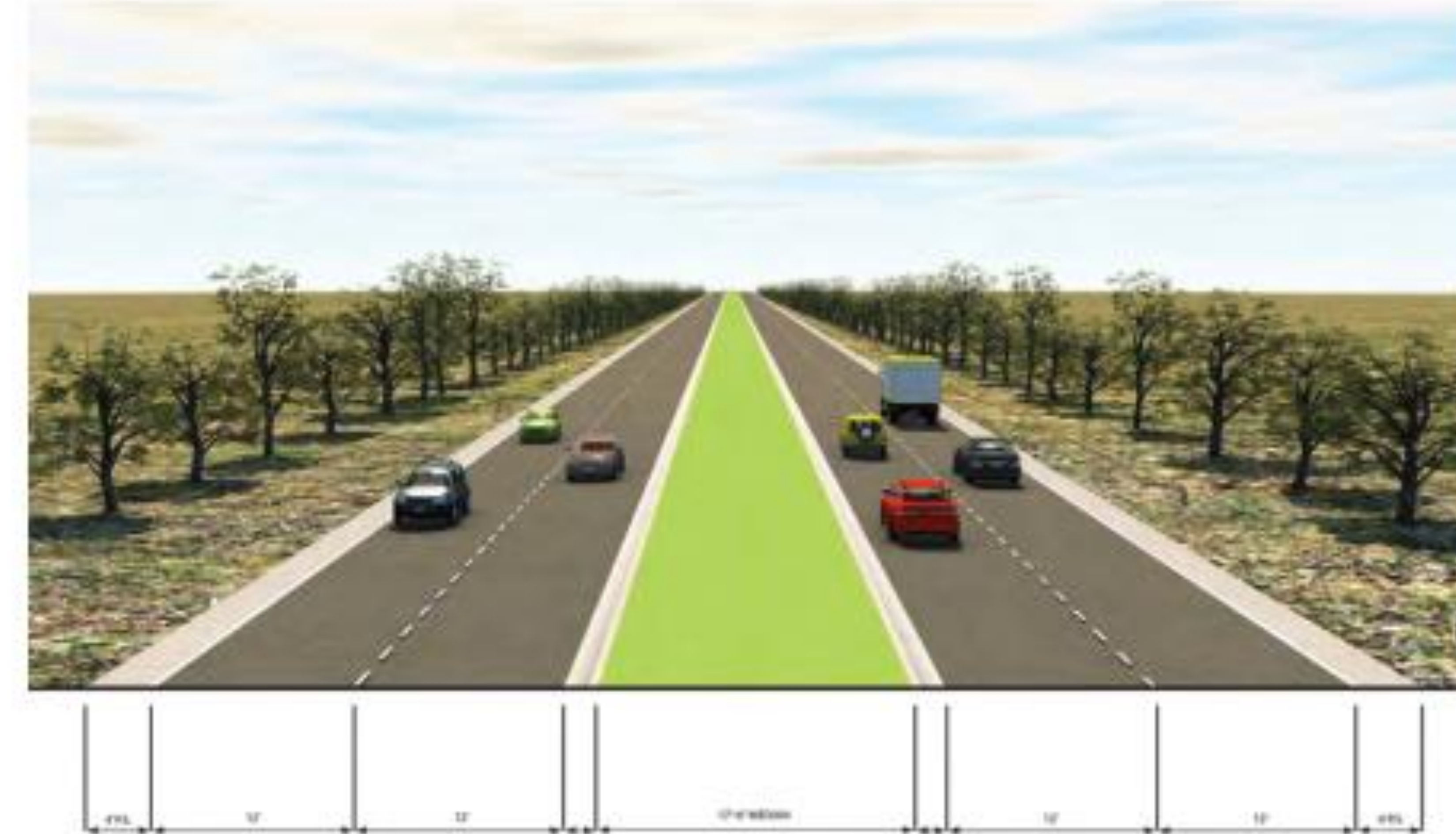


# LONG-TERM IMPROVEMENTS



***Junction to Sherron – Access Management***

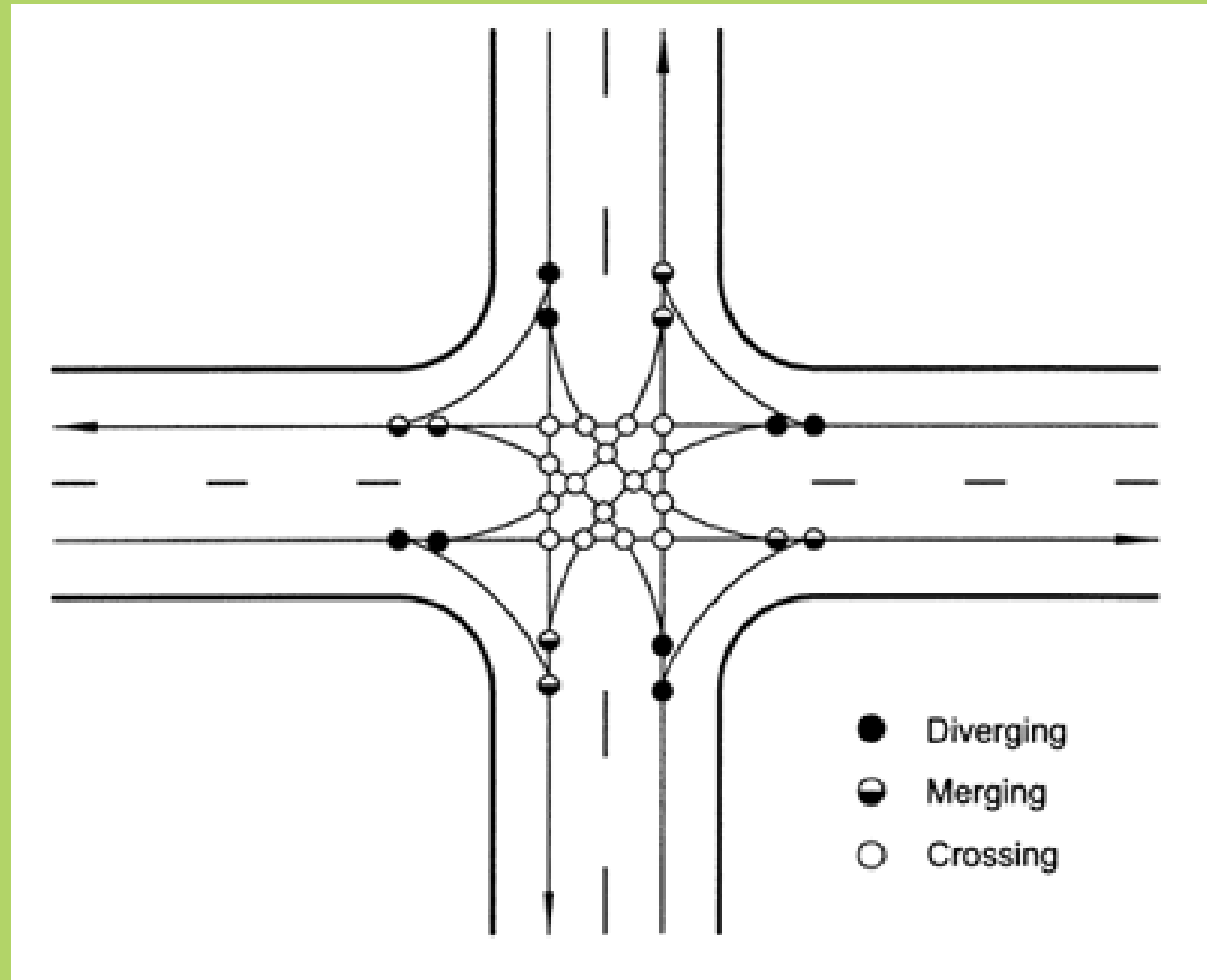
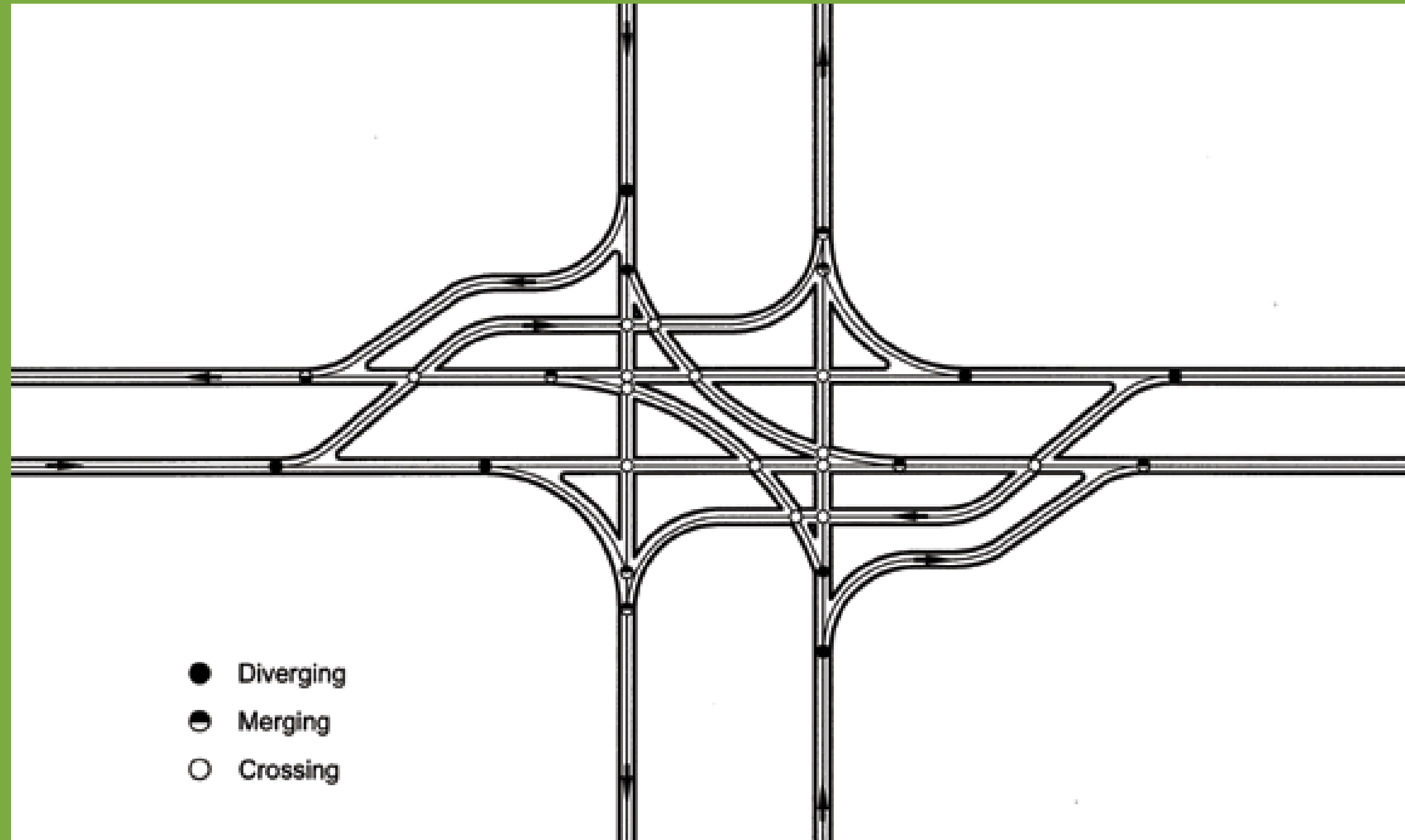
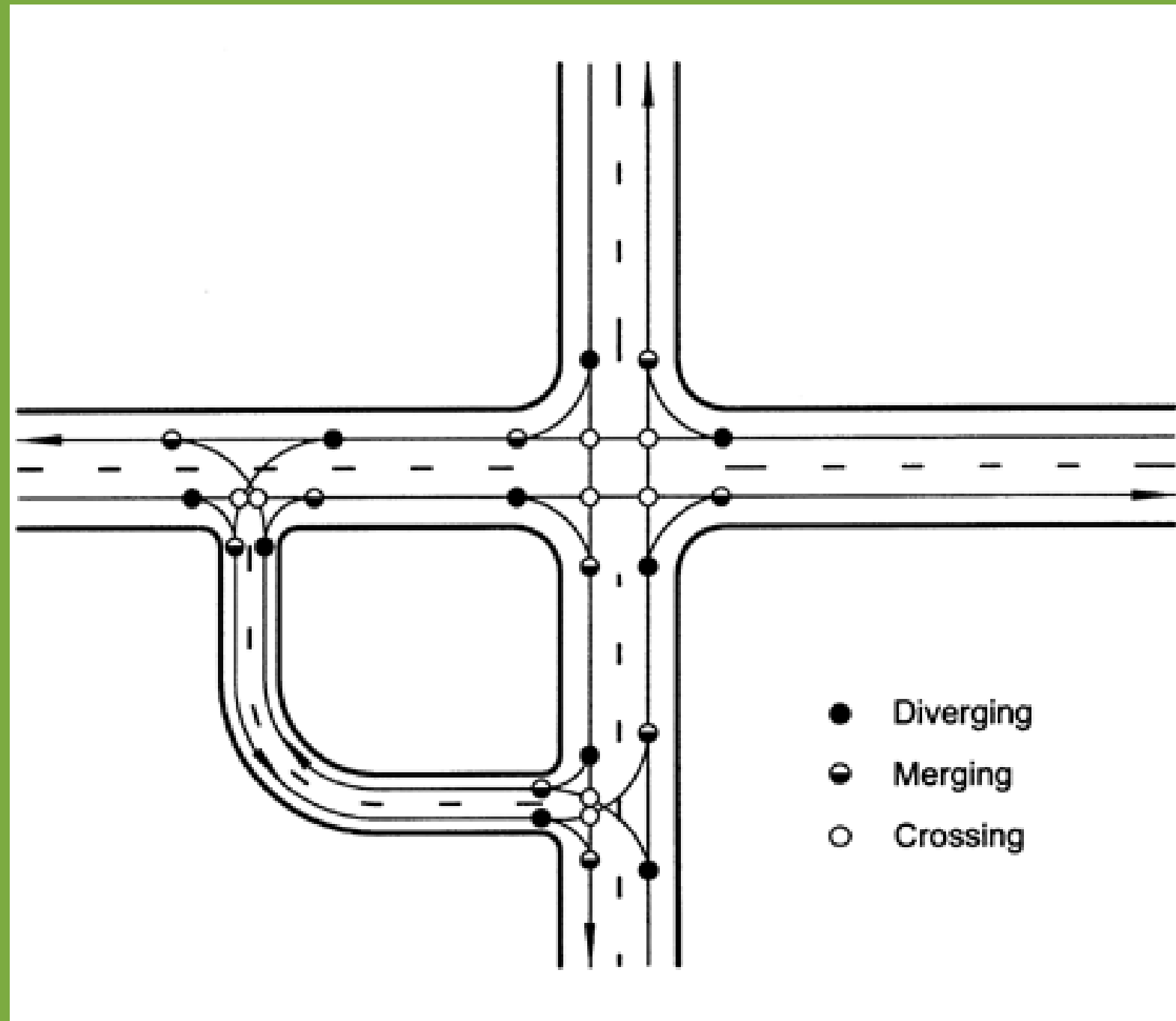
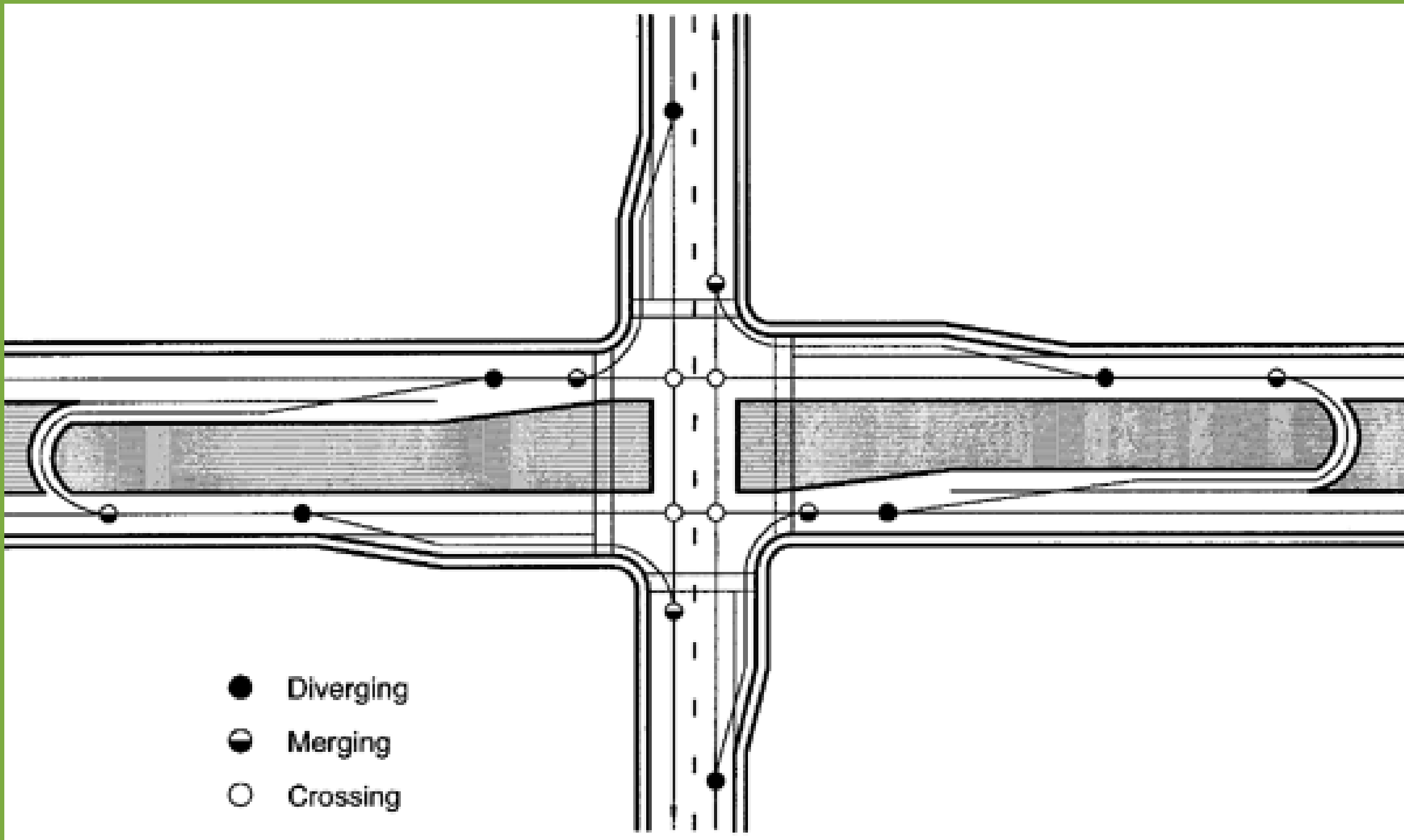
***4 Lane Widening – Potential Cross Section***





# INTERSECTION TREATMENTS

## INTERSECTION CONFLICT POINTS

				
	<b>Traditional Intersection</b>	<b>Continuous Flow Intersection</b>	<b>Quadrant Intersection</b>	<b>Median U-turn</b>
<b>Total Conflict Points</b>	<b>32</b>	<b>30</b>	<b>28</b>	<b>16</b>

### Indirect Left-Turn Treatments:

- Remove the left-turning vehicles from the flow of traffic without causing them to stop in a through-traffic lane (as a traditional intersection may)
- Improve safety by reducing the number of conflict points as shown above
- Reduce the number of signal phases to provide more green time for traffic
- Increase capacity



# PEDESTRIAN & BICYCLE

## POTENTIAL BICYCLE AND PEDESTRIAN FACILITIES

### Facility Type

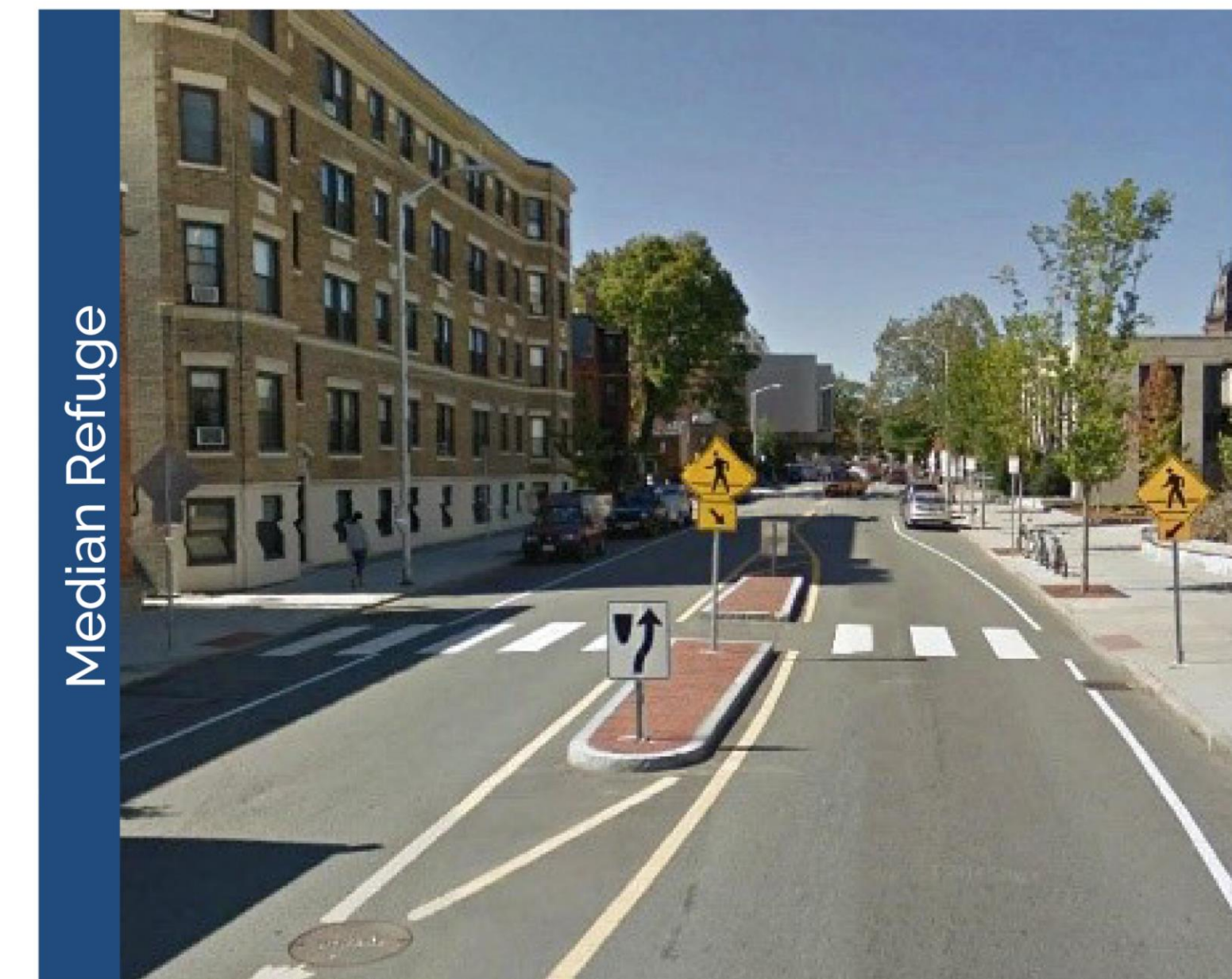


Shared-Use Path

### Description

- A shared-use path is defined as a trail permitting more than one type of user. Paths serve as part of a transportation circulation system and support multiple recreation opportunities, such as walking, bicycling, and inline skating. A shared-use path is physically separated from motor vehicular traffic with an open space or barrier.

### Facility Type



Median Refuge

### Description

- A median refuge or island provides in-street refuge along the route of a pedestrian crossing.
- The refuge width is ideally 7'+ to fit bicycles.
- The approach to vehicle travel lanes must be ADA-compliant.



Bike Lane

- Bike lanes designate an exclusive space for bicyclists through the use of pavement markings, striping, and signage. The bike lane is located adjacent to motor vehicle travel lanes and flows in the same direction as motor vehicle traffic. Bike lanes are typically on the right side of the street. Benefits include providing obvious space on the road for cyclists and sending a message to other road users to expect cyclists.



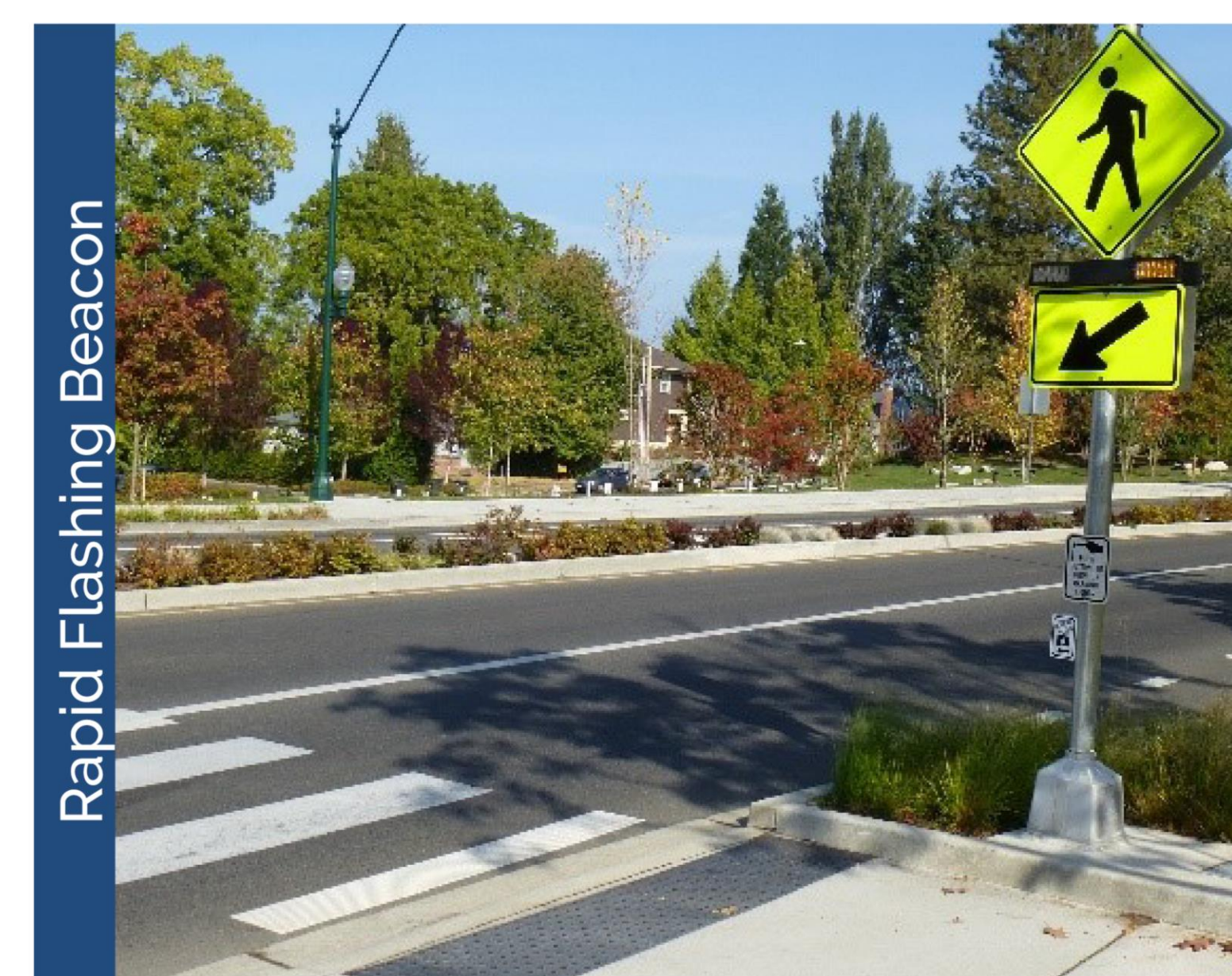
ADA Compliant Crossing

- High visibility striping should be used at crossing areas.
- A 4' minimum width should be used for ADA-accessible curb ramps.
- A push button with audible status should be present at the crossing.
- A pedestrian countdown signal should be present.



Buffered Bike Lane

- A buffered bicycle lane is a bike lane with additional striping or hatching (buffer) adjacent to it.
- The buffer may separate the bicycle lane from motor vehicle travel, parking, or both.
- The buffer width is typically 2'-3'.

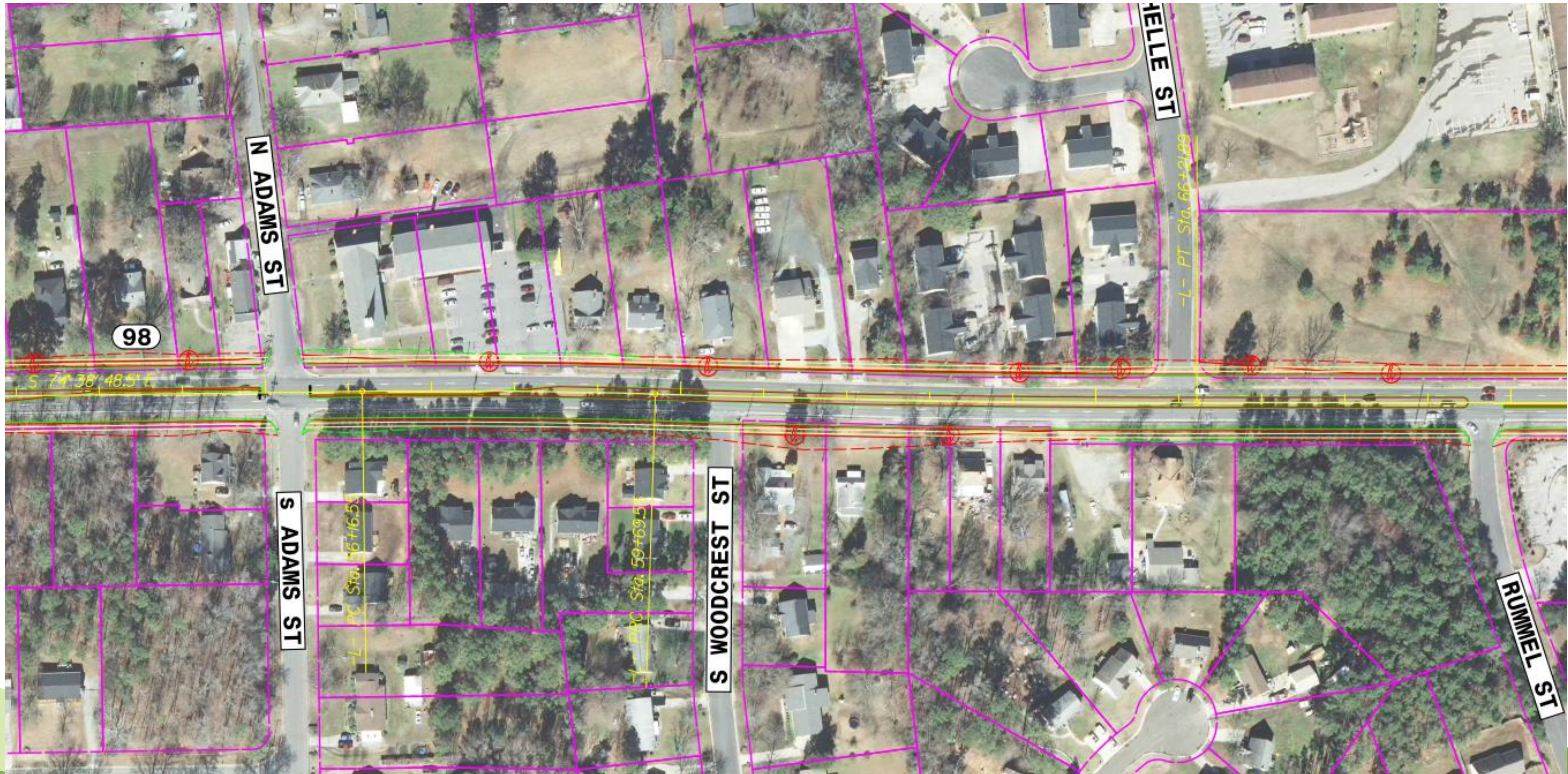


Rapid Flashing Beacon

- Rapid flashing beacons are used to increase visibility of pedestrians as they cross the roadway at uncontrolled crosswalks.
- This beacon is pedestrian-activated (i.e., the signal will only flash if a pedestrian has pushed a button, indicating that they need to cross the street).



# Conceptual Designs

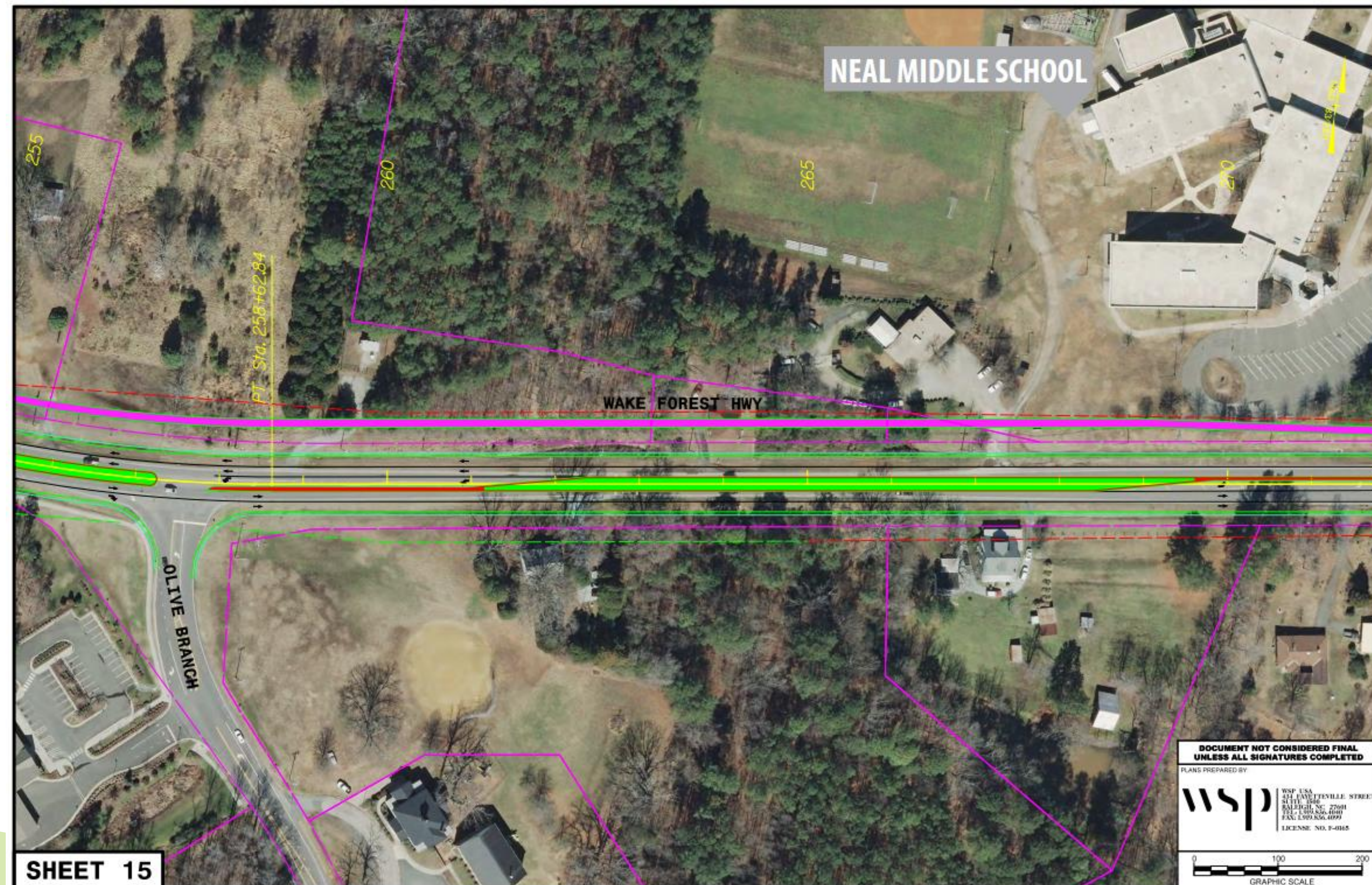








# Conceptual Designs





# POTENTIAL FUNDING SOURCES

NCDOT Transportation Improvement Program	Other NCDOT Funds	MPO Local Project Funds	Municipal Funds	Grants	Developer
<ul style="list-style-type: none"> <li>Sherron Road to Old Falls of Neuse Widening</li> <li>Old Falls of Neuse Road to Jones Dairy Road Intersection Upgrades</li> <li>Jones Dairy Road to US 401 Widening</li> <li>Sherron Road Widening NC 98 to US 70 (needed for road diet)</li> <li>Northern Durham Parkway NC 98 to US 70 (needed for road diet)</li> </ul>	<ul style="list-style-type: none"> <li>Left turn lanes at Camp Kanata</li> <li>Left turn lanes at Six Forks Road</li> <li>Turn lanes at Mineral Springs Road</li> <li>Traffic signal at Adams Street</li> <li>Auxiliary Lanes on NC 98 at NC 50</li> </ul>	<ul style="list-style-type: none"> <li>Sidewalk improvements from US 70 to Sherron Road</li> <li>Sherron Road to Neal Middle School Multi-use Path</li> <li>Intersection improvements at S. Main Street</li> <li>Intersection improvements at Jones Dairy Road and Traditions Grande</li> <li>Intersection improvements at Old Falls of Neuse Road</li> <li>Turn lanes at Six Forks Road</li> </ul>	<ul style="list-style-type: none"> <li>US 70 to Sherron Road road diet option</li> <li>Signal improvements at Heritage Lake Road and Traditions Grande</li> <li>Pedestrian bridge over NC 98</li> <li>Oak Grove Elementary School Sidewalk Gap</li> <li>Transit stop improvements</li> </ul>	<ul style="list-style-type: none"> <li>Pedestrian bridge over NC 98</li> <li>Sidewalk improvements from US 70 to Sherron Road</li> <li>Transit stop improvements</li> </ul>	<ul style="list-style-type: none"> <li>Quadrant Roadway at Sherron Road</li> <li>Turn lanes at Camp Kanata Road</li> <li>Intersection improvements from Old Falls of Neuse Road to Jones Dairy Road</li> <li>Friendship Chapel Road extension</li> </ul>

\* Projects may be funded via a variety of sources and/or led by varying agencies



# Questions

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#NC98study