

2 BIKING IN CARRBORO TODAY



Photo Credit: The Recyclery NC



PROGRESS SINCE THE 2009 BIKE PLAN

The Town of Carrboro's 2009 Bike Plan included a list of implementation action steps, the results of which are listed below.

Completed Action Steps

- » Expanded bike parking requirements in Land Use Ordinance
- » Added multiple on-road bikeways, completing several priority projects
- » Formation of the Carrboro Bicycle Coalition
- » Worked to ensure people who bicycle are incorporated into future transit service planning and design
- » Continued "Basics of Bicycling" course
- » Promoted Bike Month and created additional activities
- » Continued school crossing guard program and expansion evaluation
- » Used Census Data to determine new mode share
- » Create a maintenance request system for bicycle-specific facilities

On-Track Action Steps

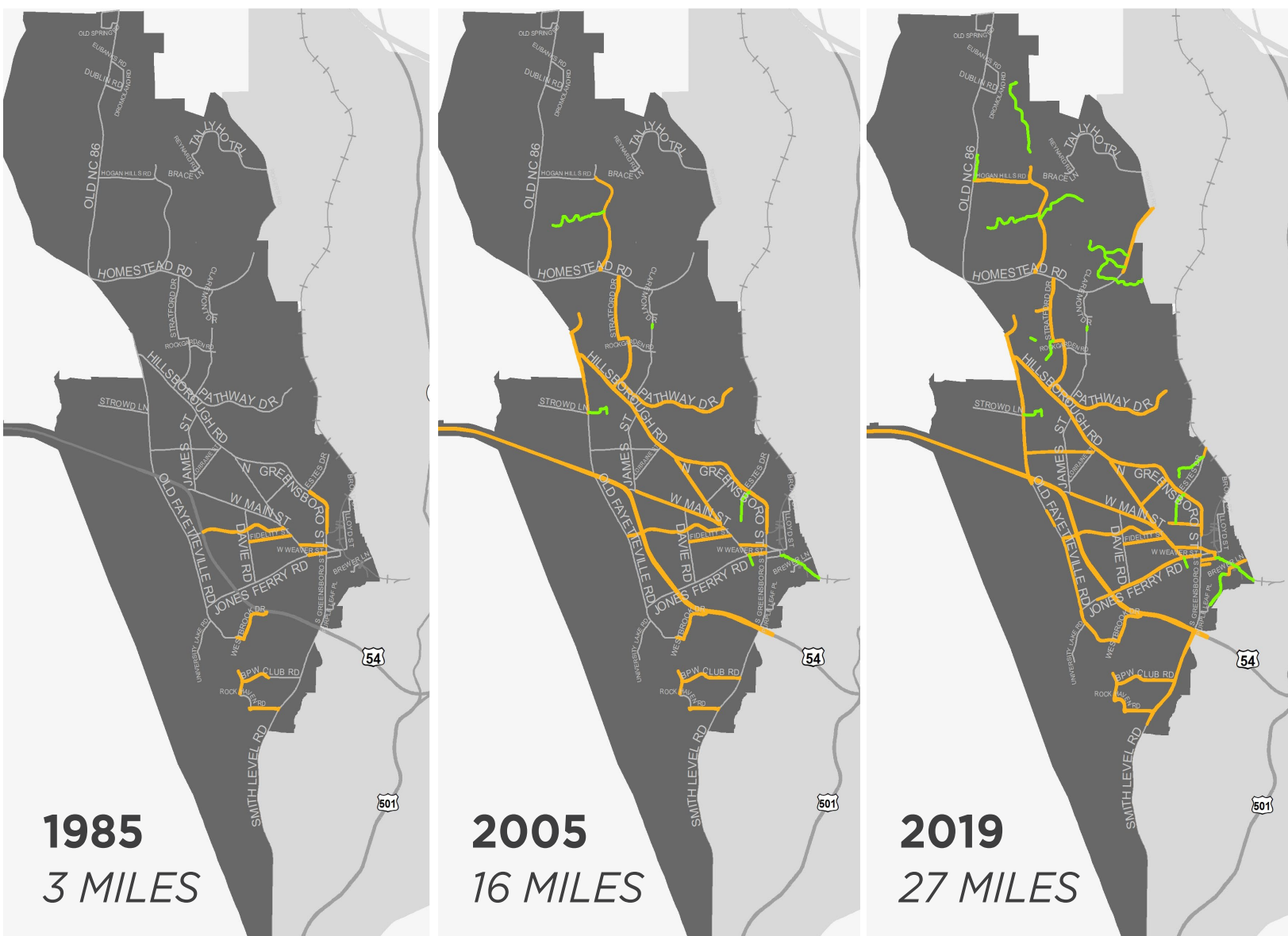
- » Hosted training sessions for Town engineers and planners
- » Partnered with DCHC MPO and other organizations for training programs
- » Ensured bike facilities are part of new bridge design
- » Improved signage and mapping
- » Launched traffic calming public education program targeting all roadway users
- » Enhanced enforcement of unsafe behavior
- » Developed educational bike map
- » Applied for additional Safe Routes to School funding
- » Developed bicycle rodeos, summer bike camps, and other bike events
- » Used greenways and bike facilities for events
- » Supported the ReCYCLERY program
- » Enforced illegal actions by people who drive related to bike safety
- » Created bike patrol positions
- » Regularly reviewed and updated bicycle-related policies
- » Completed updated Plan with 5-10 years
- » Reach out to Spanish-speaking population

Incomplete Action Steps

- » Develop brochures, articles, newsletters, and billboards
- » Initiate training sessions for local-law enforcement
- » Increase number of League Cycling Instructors
- » Host own bike riding tours/races
- » Research crashes and initiate crash reduction programs
- » Measure new facilities as constructed and report on facility quality
- » Create bicycle ambassador program
- » Provided incentives for employees who commute by bike



MAP 2: BIKEWAY NETWORK GROWTH



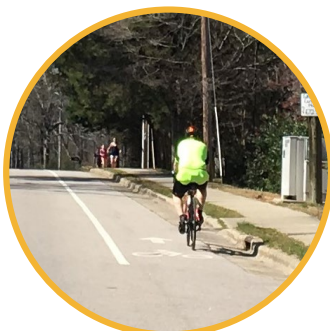
2019 NETWORK MILEAGE BY FACILITY TYPE

Shared Use Path



5 miles

Bike Lanes



16 miles

Sharrow



2 miles

Wide Shoulder



4 miles

CARRBORO BIKEWAYS TODAY

Smith Level Road - 2009



Smith Level Road - 2009 Vision



Smith Level Road - Today



Estes Drive



Wilson Park Trail



Libba Cotton Bikeway



Weaver Street



N Greensboro Street



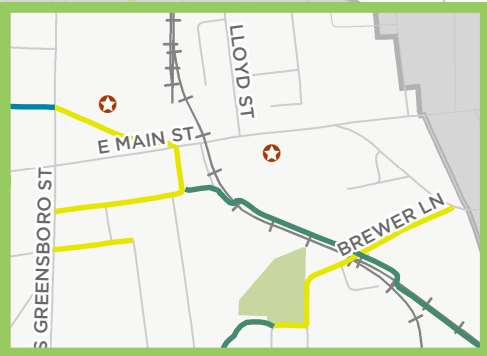
Map 3: Existing Network

Attachment D-5 of 14

EXISTING BIKE NETWORK

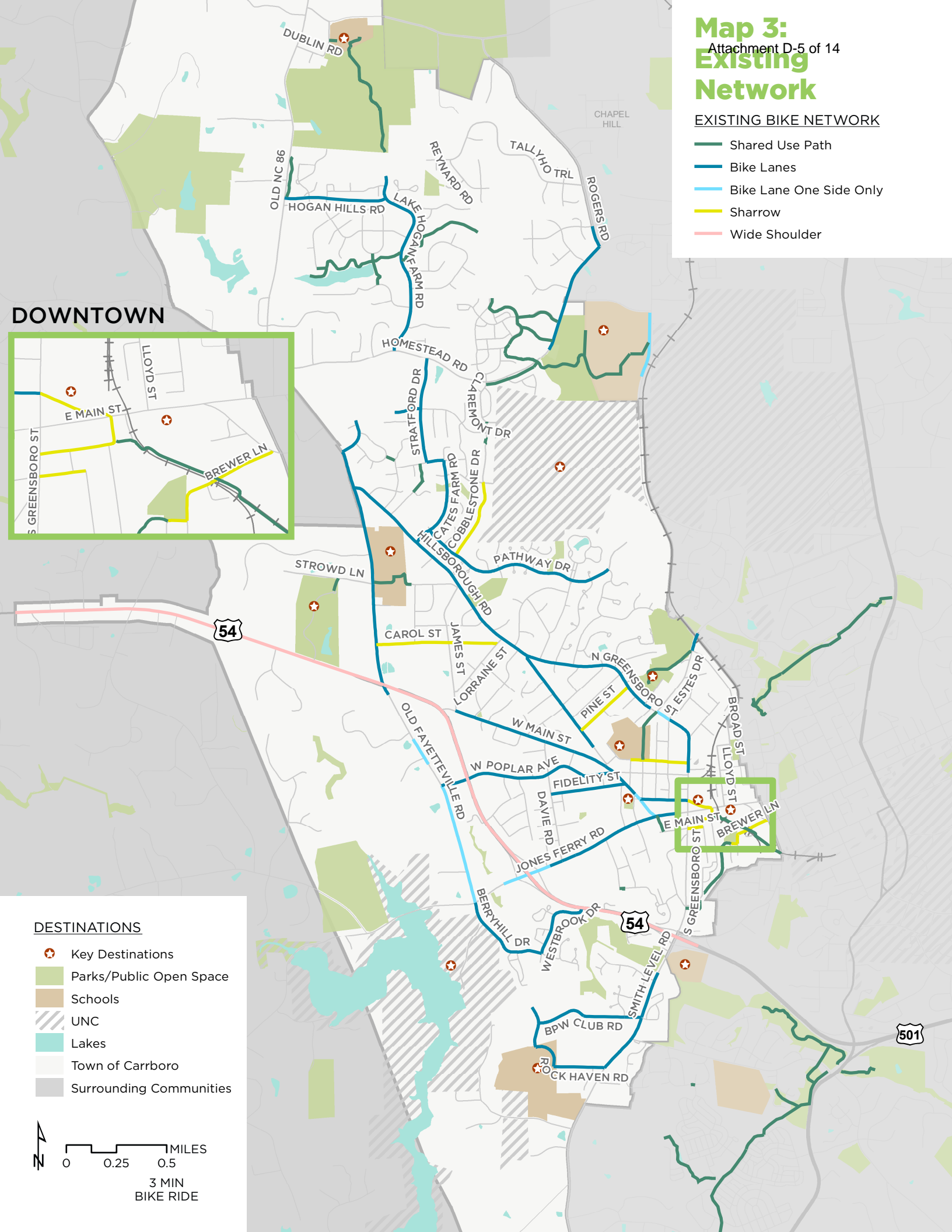
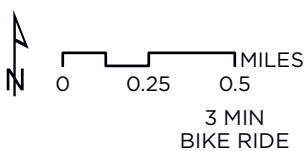
- Shared Use Path
- Bike Lanes
- Bike Lane One Side Only
- Sharrows
- Wide Shoulder

DOWNTOWN



DESTINATIONS

- Key Destinations
- Parks/Public Open Space
- Schools
- UNC
- Lakes
- Town of Carrboro
- Surrounding Communities



Map 4: Existing and In Development Network

Attachment D-6 of 14

EXISTING BIKE NETWORK

- Shared Use Path
- Bike Lanes
- Bike Lane One Side Only
- Sharrow
- Wide Shoulder

IN DEVELOPMENT NETWORK

- Separated Bike Lanes
- Bike Lanes
- Neighborhood
- Shared Use Path
- Crossing Improvement

DEVELOPMENT STATUS

- In Development

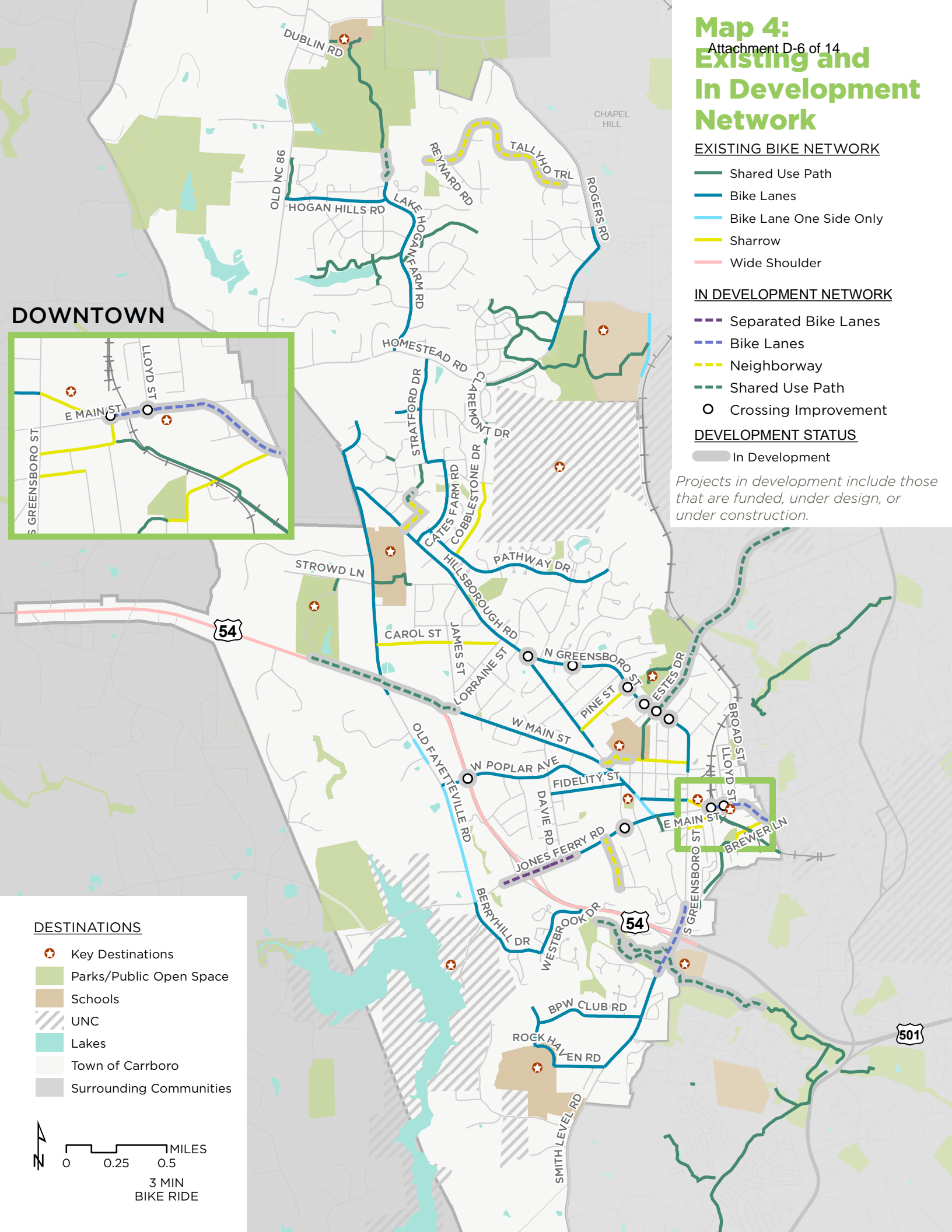
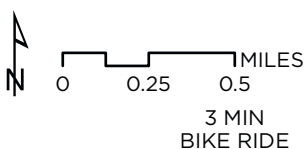
Projects in development include those that are funded, under design, or under construction.

DOWNTOWN



DESTINATIONS

- Key Destinations
- Parks/Public Open Space
- Schools
- UNC
- Lakes
- Town of Carrboro
- Surrounding Communities



EQUITY ANALYSIS

Without access to transportation, people in Carrboro will have a harder time getting to work, buying healthy food, seeing a doctor, going to school, or connecting with others.

The equity analysis considers populations that may experience poor financial, health, and housing circumstances, and/or physical or communication limitations that prevent fulfilling basic needs without safe, convenient transportation options.

The map to the right reflects the average of six equity indicators with higher concentrations of:

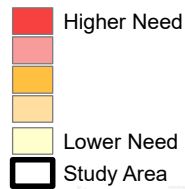
- » Households living below or near the poverty line
- » Households without access to a vehicle
- » Non-White populations
- » People with limited English proficiency
- » People without a high school diploma
- » Children and senior citizens

These groups are more likely to be dependent on multimodal transportation such as bicycling, walking, or taking public transit thus resulting in a greater need for active transportation resources. Integrating this equity analysis into the development of the bicycle network and the prioritization of the network will further Carrboro's efforts of being a welcoming and inclusive environment that enhances the overall social, physical and mental well-being of the community.

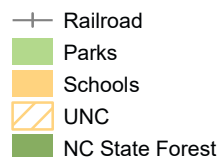
Map 5: Equity Analysis

Attachment D-7 of 14

EQUITY ANALYSIS



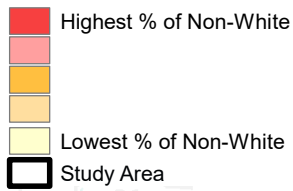
BASE LAYERS



0 1 2 MILES



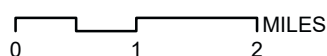
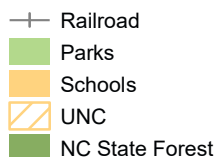
Map 6: Equity Analysis (Non-White Populations)



The Town of Carrboro is also a committed member of the Government Alliance on Race and Equity (GARE), a national network of government working to achieve racial equity and advance opportunities for all. GARE members make a commitment of achieving racial equity, focus on the power and influence of their own institution, and work in partnership with others. This commitment seeks to put racial equity at the forefront of all policies and decision-making including those involving bicycle infrastructure and associated programs.

A key wrinkle in the assessment of demographic data within Carrboro is that Census Block Groups which over low density areas tend to be quite large. Because of this, they do not fall entirely within Carrboro's Town Limits and assuming that the data for the block group is perfectly analogous to the area within Carrboro may or may not be true.

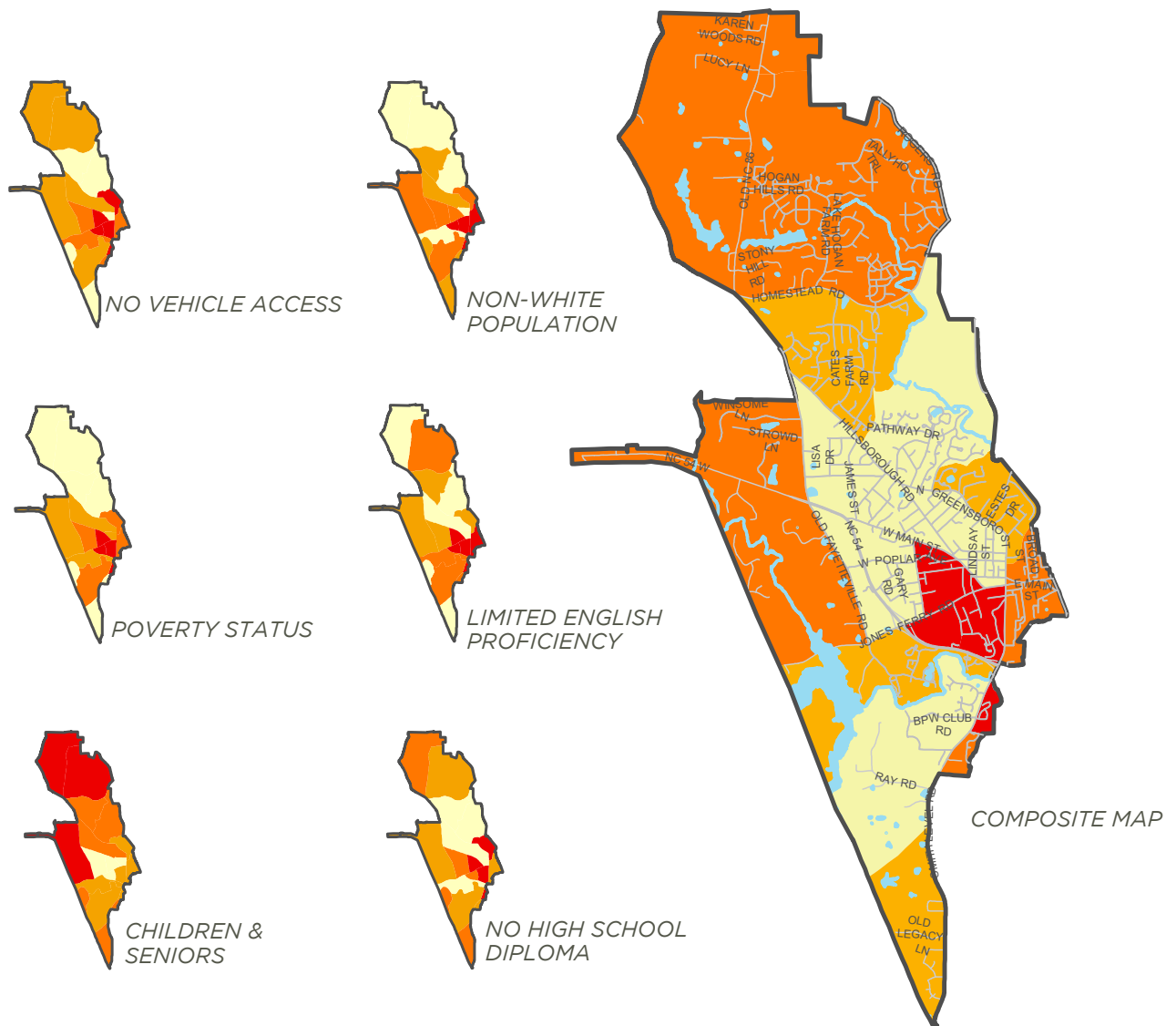
BASE LAYERS



2019 U.S. Census Data for Carrboro

Population	21,190
Race	White (70%); Black or African-American (11.8%); American Indian and Alaska Native (0.9%); Asian (10.6%); Two or More Races (4.3%); Hispanic or Latino (8.1%)
Median Age	32.3
Bicycle Mode Share	4.8% (2018 ACS)

COMPOSITE MAP INPUTS



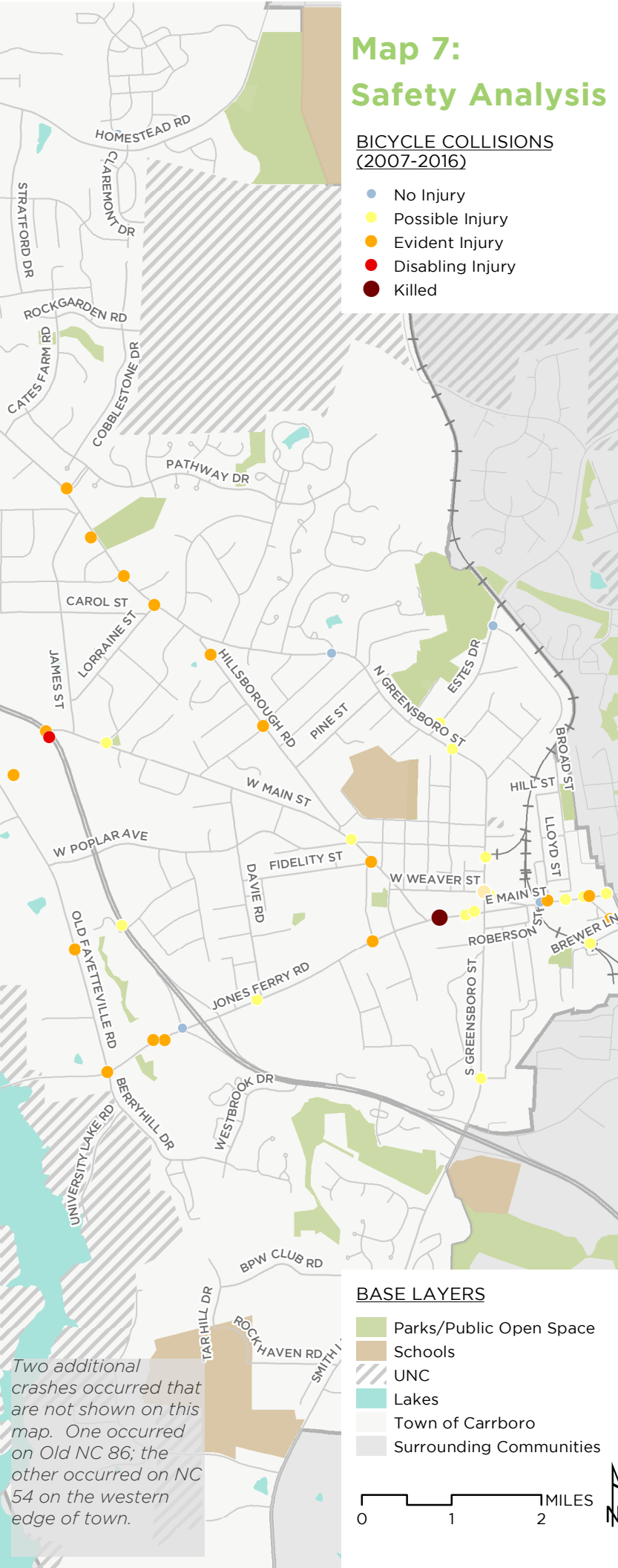
The figure above displays all six component maps (Poverty Rate, Vehicle Access, Non-white Populations, Limited English Proficiency, People without a HS Diploma, and Young and Old People). These individual maps were provided in the interest of transparency, as it can be somewhat challenging to understand the inputs for the composite map, shown on p22.

The key takeaways from the individual maps are that there are block groups with a high concentration of 5 out of 6 indicators near the center of Carrboro. The exception is Young and Old People, which tend to have higher concentrations in the north and west areas of the Town. This is reflected in the Composite map as 5 of the 6 block groups in the top two need tiers are within a mile of the center of Town. More details on the Equity Analysis can be found in the appendix.

Map 7: Safety Analysis

BICYCLE COLLISIONS (2007-2016)

- No Injury
- Possible Injury
- Evident Injury
- Disabling Injury
- Killed



SAFETY SUMMARY

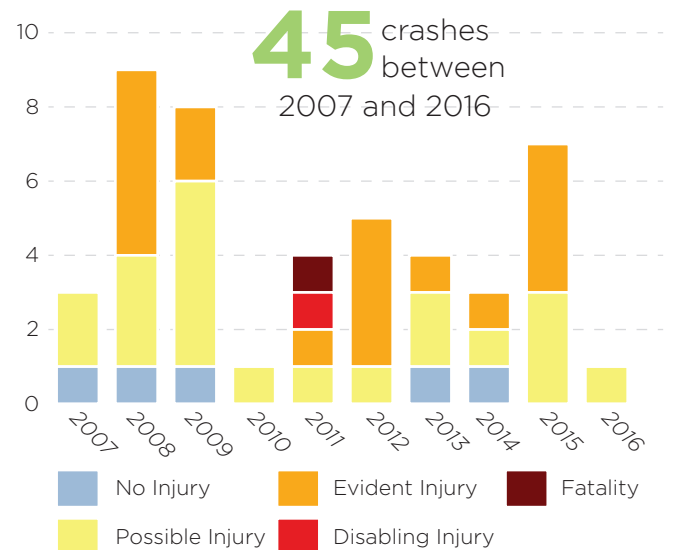
Crash data for the 10-year period from 2007 through 2016 indicates that all of the recorded accidents involving a person on a bike occurring within the downtown commercial district and surrounding residential neighborhoods.

The following corridors have the highest frequency of bicycle related crashes in Carrboro:

- » Jones Ferry Road
- » Hillsborough Road
- » West Main Street
- » W Rosemary Street
- » N Greensboro Street
- » Estes Drive

48% of all bicycle crashes occurred in or immediately adjacent to areas of Town with the highest need (top two of the five tiers as expressed in the equity analysis on p22). This represents only 25% of the land area of the Town.

REPORTED BICYCLE CRASHES BY YEAR



LEVELS OF TRAFFIC STRESS (LTS)

The level of traffic stress for people who bicycle is determined based on factors including posted speed limit, street width, and the presence and character of bicycle lanes. The pictures to the right generalize the scale of the four levels of traffic stress.

Generally, lower stress roadways can be found in the downtown core and in residential areas.

The greater number of lanes and higher posted speeds impact the ability of bicycle lanes to decrease stress. Where possible, separation should be considered, especially along high-stress corridors such as:

- » Old Fayetteville Road
- » Main Street
- » Hillsborough Road
- » N Greensboro St
- » Jones Ferry Road
- » Smith Level Road
- » Homestead Road

LTS 1: Strong separation from all except low speed, low volume traffic. Simple crossings. Suitable for children.

LTS 2: Except in low speed / low volume traffic situations, people on bikes have their own place to ride that keeps them from having to interact with traffic except at formal crossings. Physical separation from higher speed and multilane traffic. Crossings that are easy for an adult to negotiate. Tolerable for the “Interested but concerned” group (see page 33)

LTS 3: Involves interaction with moderate speed or multilane traffic, or close proximity to higher speed traffic. Tolerable for the “enthused and confident”

LTS 4: Involves interaction with higher speed traffic or close proximity to high speed traffic. Only for the “strong and fearless”

LTS 1



Comfortable for all ages and abilities

LTS 2



Comfortable for most adults

LTS 3



Comfortable for people who bicycle confidently

LTS 4



Uncomfortable for most

LTS ratings and table directly from the 2012 Mineta Transportation Institute Report 11-19: Low-Stress Bicycling and Network Connectivity

Map 8: Level of Traffic Stress

Attachment D-12 of 14

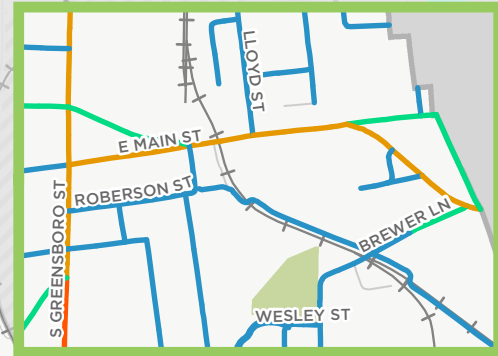
LEVEL OF TRAFFIC STRESS

- 1 (Most Comfortable)
- 2
- 3
- 4 (Least Comfortable)

OTHER STREETS

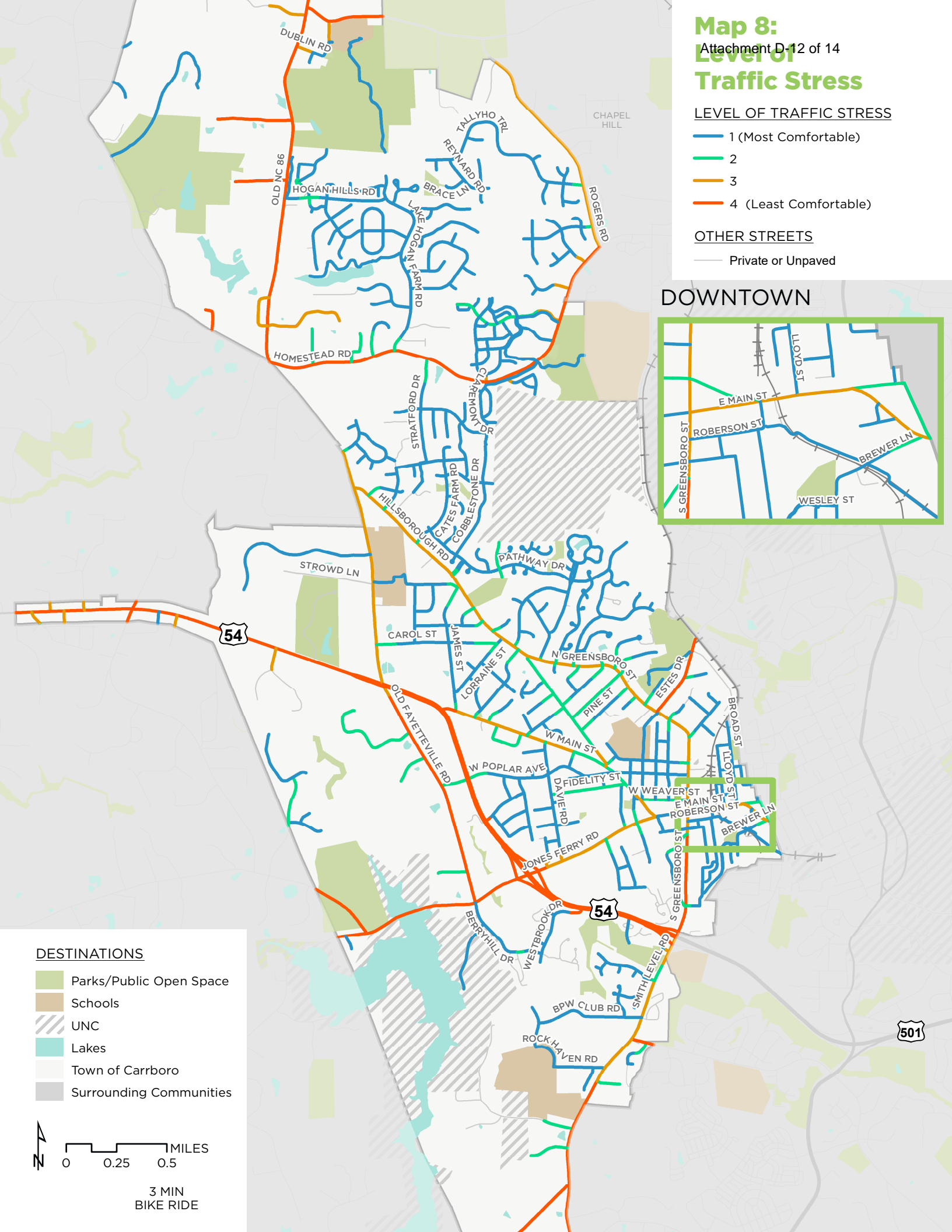
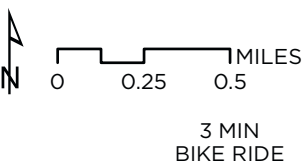
Private or Unpaved

DOWNTOWN



DESTINATIONS

- Parks/Public Open Space
- Schools
- UNC
- Lakes
- Town of Carrboro
- Surrounding Communities



KEY OPPORTUNITIES & CONSTRAINTS

A variety of physical opportunities and constraints either improve conditions for people on bikes or present barriers, respectively.

» **Overall Transportation Network:**

The majority of streets have low to moderate traffic, with notable exceptions, such as NC 54 and Main Street. The busiest section of roadway is NC 54, from Jones Ferry Road to S. Greensboro Street, with over 34,000 vehicles per day.

» **Physical Barriers:** A major barrier to bicycle travel is NC 54, as a high-traffic volume 4-lane divided state highway, with limited access to people bicycling and walking. Additionally, Jones Ferry Road and Main Street intersect in the heart of downtown Carrboro and feed traffic to E Main Street and onto W Franklin Street, the main corridor in Chapel Hill. The railroad that runs north/south through the eastern side of Town is also challenging to bicycle connectivity.

» **Topography:** The presence of steep or challenging terrain may discourage some bicycle riders. Roads such as Estes Drive, Spring Valley Road, Cates Farm Road, Cobblestone Drive, S Greensboro Street, and Barrington Hill Road have challenging topography.

» **Regional Connectivity:** Orange County offers a variety of biking experiences including several bike routes suitable for day rides. Primary routes near Carrboro include Old Greensboro Road and Dairyland Road. The opportunity exists for Carrboro to develop a bikeway connection to both the Town of Chapel Hill and the Town of Hillsborough. NC 2 (Mountains to Sea State Bike Route) connects through downtown Carrboro as well.



NC 54 through Carrboro



Steep hills on Cates Farm Rd



Connections to County and State Bike Routes

Map 9: Destinations

DESTINATIONS

- **Bike Shop**
 - 1 - PARcycles, Inc
 - 2 - The Clean Machine
 - 3 - Back Alley Bikes
- **Shopping Center**
 - 1 - Carrboro Plaza
 - 2 - 300 E Main
 - 3 - Harris Teeter
 - 4 - Weaver Street Market/
Carr Mill Mall
 - 5 - Food Lion/
Willow Creek Shopping Center
- **Library**
 - 1 - OC Public Library/
Century Center
 - 2 - OC Southern Branch Library
(Future)
- **Points of Interest**
 - 1 - Carrboro Town Hall
- **Post Office**
 - 1 - Carrboro Post Office

- Lakes
- Parks
- Schools
- UNC
- Railroad
- Streets

