



# Transportation & Mobility

## Our Transportation Legacy

### IN THE BEGINNING

In 1768, when Charlotte was established by European settlers the transportation choices available to residents were limited to walking or horseback and horse drawn carriages. The limited number of transportation options meant proximity was important and therefore, the town was developed along a compact and well-connected grid of streets.

### Did you know?

Look at a map of Center City Charlotte today and you'll see the grid of square blocks that points to its time under Colonial influence. Tryon, the city's main street, still carries the name of North Carolina's Colonial governor William Tryon.

Tryon Street, however, does not align to the compass, as in many Colonial towns. Instead, it runs along a low ridgeline with a diagonal slant. That's because it predates European settlement. Tryon Street follows the Nations Path, the great trading route of the Catawba and other Native American tribes, which ran from Georgia up to the Chesapeake Bay.

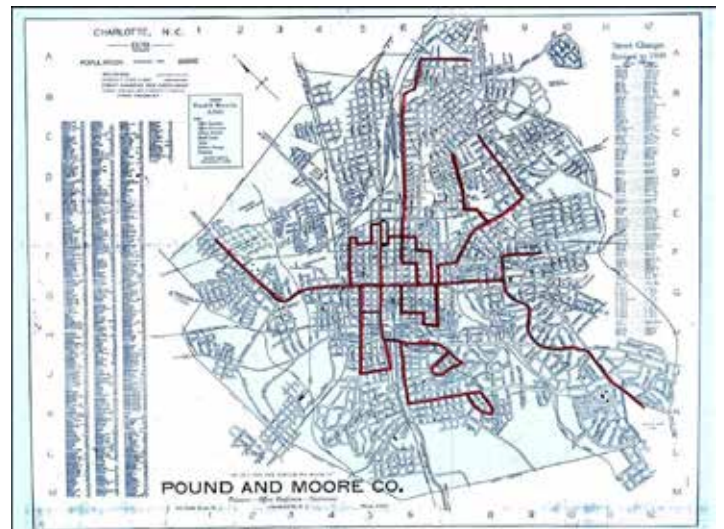
*(Source: The History of Charlotte from Old South to the New South to Newest South by Dr. Tom Hanchett)*

### THE STREETCAR

In 1891, the first streetcar opened from Uptown to the new suburb called Dilworth. Streetcar technology allowed people to begin spreading out from the central business district to streetcar suburbs. However, residents still only had a few transportation options to get to the streetcar so while new streetcar suburbs radiated outward from town the suburbs were still organized around a compact grid of streets.



Above: In 1768, Charlotte's land area was only 0.7 square miles and the town's population was less than 500 people. The illustration of Tryon Street features the only two modes of transportation available at the time, walking and horseback.



Above: By 1928, Charlotte's population grew to 80,690 people. The streetcar technology made development beyond the central district possible. Streetcar lines highlighted in red include Dilworth, Elizabeth, Belmont, Plaza Midwood, Villa Heights, Wesley Heights, and Biddleville.

### THE AUTOMOBILE

In 1908, the Ford Motor Company began producing the Ford Model T; it was generally regarded as the first affordable automobile and opened travel to the common middle-class American. The automobile played a critical role in reshaping settlement patterns as it allowed development to evolve away from the traditional, compact, grid pattern to a more suburban, spread out, curvilinear pattern.



Above: On Tryon Street, horseback and horse drawn carriages are replaced by the streetcar and automobile. Walking, however, was and will continue to be an important mode of transportation.

Throughout the early 20th Century, the automobile influenced how planners thought about and planned for the built environment. A few examples include:

- 1929: Radburn, New Jersey was founded as "a town for the motor age." The planners, Clarence Stein and Henry Wright, aimed to incorporate many of the Garden City planning principles but designed the community to explicitly separate different modes of transportation. For example, the pedestrian paths did not cross any major roads at grade.
- 1932: Frank Lloyd Wright introduced a suburban development concept called Broadacre City in his book, Disappearing City. With availability of modern technologies such as the automobile, Broadacre City proposed the antithesis of the city and recommended each family be given one acre of land from the federal lands reserves. Private lots and the central business district would be connected and accessible by car.

After World War II (1939 - 1945), both in Charlotte and nationwide, a large number of returning servicemen took advantage of federal housing programs to purchase new, mass produced homes that were constructed in suburbs. Vehicle ownership also grew exponentially at this time and Charlotte's transportation planners focused their efforts on expanding the city's road network to accommodate the growing number of cars.

Throughout the second half of the 20th Century, as the city's population continued to grow and Charlotte expanded its road network the community came to understand some important lessons. A transportation network that only focused on one mode of transportation, the automobile, not only excluded people who couldn't or didn't want to drive but created conditions that were unsafe for anyone who wasn't in a car. It also meant the city would inevitably experience serious traffic congestion.

Therefore, in the 1990s, planners started to think differently about Charlotte's growth and transportation goals, and by 1994 the city adopted a growth framework known as *Centers and Corridors*. The intent of *Centers and Corridors* was to establish a strong link between land use and transportation in order to guide growth into areas that could support new development and away from areas that could not support growth. This growth framework was eventually updated and is now known as the Centers, Corridors and Wedges Growth Framework and provides an overarching policy basis for other growth-related initiatives.

## Transportation Policies Today

There are a number of coordinating agencies responsible for planning and maintaining the various components of our city's transportation system:

- **State of North Carolina Department of Transportation (N.C. DOT):** As one of the state's largest government agencies, N.C. DOT is responsible for maintaining approximately 80,000 miles of roadways and 18,000 bridges and culverts across the state, as well as regulating and implementing programs to support rail, aviation, ferry, public transit, and bicycle and pedestrian transportation. N.C. DOT maintains approximately 20% of the freeways or major thoroughfares in Charlotte.
- **Charlotte Regional Transportation Planning Organization (CRTPO):** A federally designat-

ed Metropolitan Planning Organization for the Charlotte Urbanized Area which includes parts of Iredell County, Union County and Mecklenburg County. CRTPO is responsible for coordinating transportation policy for local government jurisdictions within the tri-county planning area and for prioritizing regional projects for federal and state funding.

- **Charlotte Area Transit System (CATS):** CATS builds and maintains Charlotte's transit system which includes bus, light rail, services for disabled, and vanpools. The Metropolitan Transit Commission (MTC) is the policy board for CATS and is responsible for reviewing and recommending all long-range public transportation plans.
- **Charlotte Department of Transportation (CDOT):** CDOT is committed to enhancing the driving, bicycling, and walking experience through planning, operating and maintaining the city's transportation choices for residents and visitors. An important objective for CDOT is to sustain, maintain, and enhance the city's transportation infrastructure. Approximately 80% of the city's streets are owned and maintained by CDOT.

The above-mentioned agencies are responsible for the developing the following long-term and short-term policies that help guide the development of our transportation network and ultimately how residents get around the community.

#### **1. 2040 Metropolitan Transportation Plan (MTP):**

CRTPO oversaw the planning process for the 2040 Metropolitan Transportation Plan which was adopted in April 2014. This plan defines the policies, programs and projects to be implemented over the next twenty-five years in order to reduce congestion, support land use plans, and provide mobility choices throughout the tri-county planning area. The MTP contains recommendations for: streets and roads, transit routes, guideways, greenways, and bicycle and pedestrian facilities.

**2. Transportation Action Plan (TAP):** The Transportation Action Plan was developed by CDOT and adopted February 2017. The TAP is the Charlotte's long-range, comprehensive multimodal transportation plan which defines: the city's transportation goals, objectives and policies, strategies for addressing challenges and opportunities over the next 25 years, and the types of investments needed to reduce today's deficiencies and keep pace with growth. The TAP recommends funding to maintain street resurfacing, operate signalized intersections, construct roadway projects, sidewalks, bike facilities, and traffic-calming projects.

**3. 2030 Transit System Plan:** In 2002 and 2006, CATS developed and MTC adopted the 2030 Transit Corridor System Plan, a long-rang plan which consists of multiple rapid transit improvements in five corridors, a series of Center City improvements, and bus service and facility improvements throughout the region. Once complete the system will consist of 25 miles of commuter rail, 35 miles of light rail, 16 miles of streetcar and an expanded network of buses and other transit services.

**4. Urban Street Design Guidelines (USDG):** The Urban Street Design Guidelines, developed by CDOT and adopted in 2007, are applied to the planning and design of new and modified streets in Charlotte and its Sphere, including State-maintained surface roads. The guidelines define five street classifications (Main Streets, Avenues, Boulevards, Parkways and Local Streets), and provide design standards for the cross-sections, speeds, and functional and aesthetic design elements of each classification. The guiding principles of the USDG are to build a "complete street" network that: establishes the image and identity of the city and provides a safe, convenient, and comfortable network for all users to support the city's livability and economic development.



**5. Charlotte WALKS:** The Charlotte WALKS Pedestrian Plan, developed by CDOT and adopted in 2017, is a five-year plan which brings together a number of existing walkability initiatives and identifies new strategies for meeting the pedestrian safety and walkability goals described in the city's Transportation Action Plan. The plan lays out a number of action items, including 3 key action items that require near-term attention: 1. Address back-of-curb sidewalks as redevelopment occurs; 2. Amend the 50% Rule sidewalk exemption; 3. Provide more crossing opportunities on thoroughfares.

**6. Charlotte BIKES:** The Charlotte BIKES Plan, developed by CDOT and adopted May 2017, is the city's blueprint to becoming a bicycle-friendly city. Charlotte BIKES provides the vision, goals, strategies and recommended efforts to both expand the city's physical network of bicycle facilities with a corresponding growth in a culture which recognizes and welcomes the bicycle as a means of transportation for cyclists of all ages and abilities.

## A Transportation Network of Choices

As mentioned earlier, Charlotte's focus throughout the 1950s and 1960s was to build a road network that quickly and swiftly moved cars. During this time, the city stopped building sidewalks and investing in public transit. As a result, about a third of the city's thoroughfares and many of the subdivisions built during this time do not have sidewalks.

Many of the policies identified in the last section are aimed at rectifying these conditions and creating a well-connected network that serves all modes of transportation. In particular, the "complete street" policy adopted in 2007 as a part of the Urban Street Design Guidelines plays an important role in ensuring our future transportation network supports all users. A street is "complete" when it is designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists, and transit riders of all ages and abilities. Complete streets

include facilities for all modes of transportation: sidewalks for pedestrians, bike lanes for cyclists, and travel lanes for automobiles and transit. The complete street policy requires any new road constructed within the city to include multimodal facilities.

Complete streets are important because approximately 30% of Charlotte's population (250,000 residents) don't drive so complete streets give these residents safe access for getting around. And for the 70% of residents who do drive, complete streets still offer these residents with transportation choices so they can walk to the park or grocery store if wanted.

An easy way to chart the city's progress in constructing complete streets is to track the emergence of our bicycle network:

- 2001 – 1 mile of bike lane
- 2006 – 36 miles of bike lanes
- 2015 – 91 miles of bike lanes

In order to retrofit the incomplete streets, those built prior to 2007, the city can either purchase additional right-of-way (ROW) and widen the street or resurface the existing ROW and incorporate new facilities. Resurfacing is the most cost-effective way to retrofit incomplete streets, but it means working with certain constraints and limitations.



*Above: East Boulevard was redesigned as a complete street to provide safe and comfortable facilities for pedestrians, cyclists, and automobiles. The street still carries the same amount of traffic, but residents now have a chance to cross the street in more places, bicyclists have dedicated space, and there is more green space within the right-of-way.*