



Charlotte WALKS

Pedestrian Plan



City of Charlotte
Department of Transportation







From the Office of the Mayor

Dear Fellow Charlotteans,

We are all pedestrians. Every Charlottean, no matter how we choose to travel, begins and ends every trip as a pedestrian. Hundreds of thousands of people walk along Charlotte's streets every day. Walkable streets and neighborhoods are vital to the economic, physical, social, and environmental health of Charlotte – now and in the future.

Since the late 90's Charlotte has made impressive progress building Complete Streets. We've been recognized as a national model for delivering transportation projects that accommodate all users – pedestrians, bicyclists, transit riders, and drivers. Despite that progress, we continue to face significant challenges.

Prior to my tenure as Mayor, Charlotte received an unfortunate trio of acknowledgements. In 2014 we were ranked:

- ▶ “The 10th most dangerous metropolitan area in the country for pedestrians,” (*National Complete Streets Coalition and Smart Growth America. 2014.*)
- ▶ “The 5th most sprawling large metropolitan area in the country,” (*Smart Growth America. 2014.*); and
- ▶ “The least walkable big city (population 250,000 or more) in America.” (*Walkscore.com. 2014.*)

Now there are plenty of reasons why these statistics are bit misleading. (*For example, the first two statistics have as much to do with other municipalities in our region as they do with Charlotte. And the least walkable big city ranking doesn't take into account Charlotte's enormous land area compared to other big cities.*) That said, rather than making excuses and poking holes in the methodology behind these studies, I believe it's a lot more useful to accept this criticism and acknowledge that the work we are doing on walkability is very important and very necessary.

Charlotteans deserve better. Active transportation, like walking and bicycling, has been a priority in Charlotte for the past two decades and will continue to be a priority of my administration.

Now is the right time for the Charlotte WALKS Pedestrian Plan. I am thrilled to support this pedestrian plan – Charlotte's first – to make our city a city of streets and neighborhoods where people love to walk; a city where every address is accessible on foot; a city where all Charlotteans have the choice to walk and enjoy a safe, useful, and inviting pedestrian experience.



Sincerely,

Jennifer Roberts
Mayor
City of Charlotte



Make a Pedestrian Decision Today

pe-des-tri-an (\pə-ˈdes-trē-ən\)

noun – a person on foot; somebody walking

adjective – ordinary; routine; commonplace

Dear Fellow Pedestrians,

We are a bipedal species. We evolved to walk upright between 6 Million and 4 Million years ago. It wasn't until the past 100 years or so – a geologic blip in time – that modes of travel like bicycling and driving came onto the scene. That means that for about 99.998% of human history, walking has been our primary mode of moving from place to place and experiencing the world. In other words – **walking is normal.** It's one of the most normal things humans can do. Whether you believe we are a product of simple genetics, a divine creator, or something else entirely, **we are a species made to live life on foot.**

So what if we all acted like it? What if we made just one pedestrian decision every day? The word pedestrian, as an adjective, means “ordinary,” “routine,” or “commonplace.” What would happen if walking was really a routine activity for every Charlotte family? If everyone in Charlotte replaced just one trip in the car each day with a trip made on foot, **this is what would happen:**

- ▶ We'd have **500,000 fewer car trips** on our roads every day.
- ▶ We'd **save \$1.3 Billion every year** in fuel costs, vehicle maintenance, and time spent in traffic. (**That's over \$4,200 per household!**)
- ▶ We'd **prevent 770,000 tons of CO2 and 2,000 tons of VOCs** (volatile organic compounds) from leaving our tailpipes each day and polluting the air we breathe.
- ▶ We'd all have **83 more hours** to spend with friends and family each year.
- ▶ We'd be **more productive at work and school** and **more engaged in our community.**
- ▶ We'd have **lower blood pressure and obesity rates** and **fewer pedestrian deaths.**

In short, **we'd start being more like the people we aspire to be – happier, healthier, more productive, more engaged, and better neighbors.**

Making a decision to walk should not be an extraordinary event. The goal of Charlotte WALKS is to make that pedestrian decision easier for all Charlotteans – to make walking a matter of everyday routine. So make a pedestrian decision today! A decision to walk is a decision to save money, to protect the environment, to improve your personal health, and to immerse yourself more fully in your community. **Together, the very ordinary act of walking for transportation can help us all create a better Charlotte.**



Sincerely,

Scott Curry
Urban Designer & Pedestrian Program Manager
City of Charlotte



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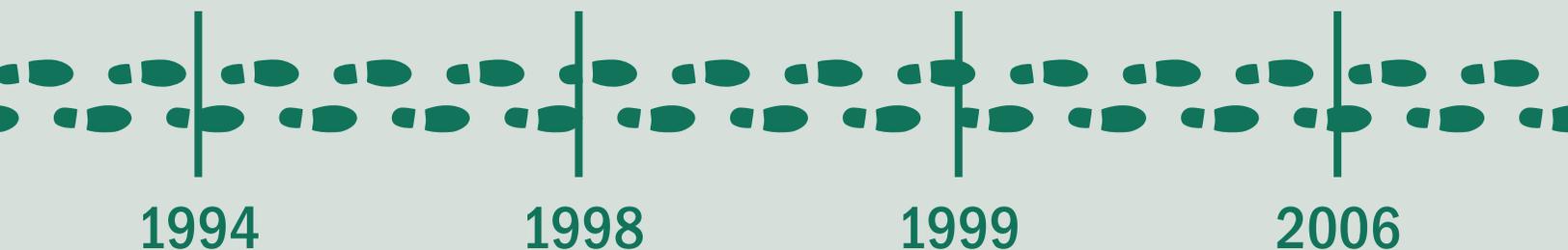
Working on Walkability

Charlotte City Council adopts the Centers, Corridors, and Wedges growth framework which identifies walkable activity centers

Charlotte City Council adopts regulations requiring sidewalks on both sides of all streets

CDOT begins operating the Pedestrian Program which installs sidewalks and pedestrian crossings throughout the City

Charlotte City Council adopts the Transportation Action Plan which sets goals for making Charlotte a more pedestrian-friendly community



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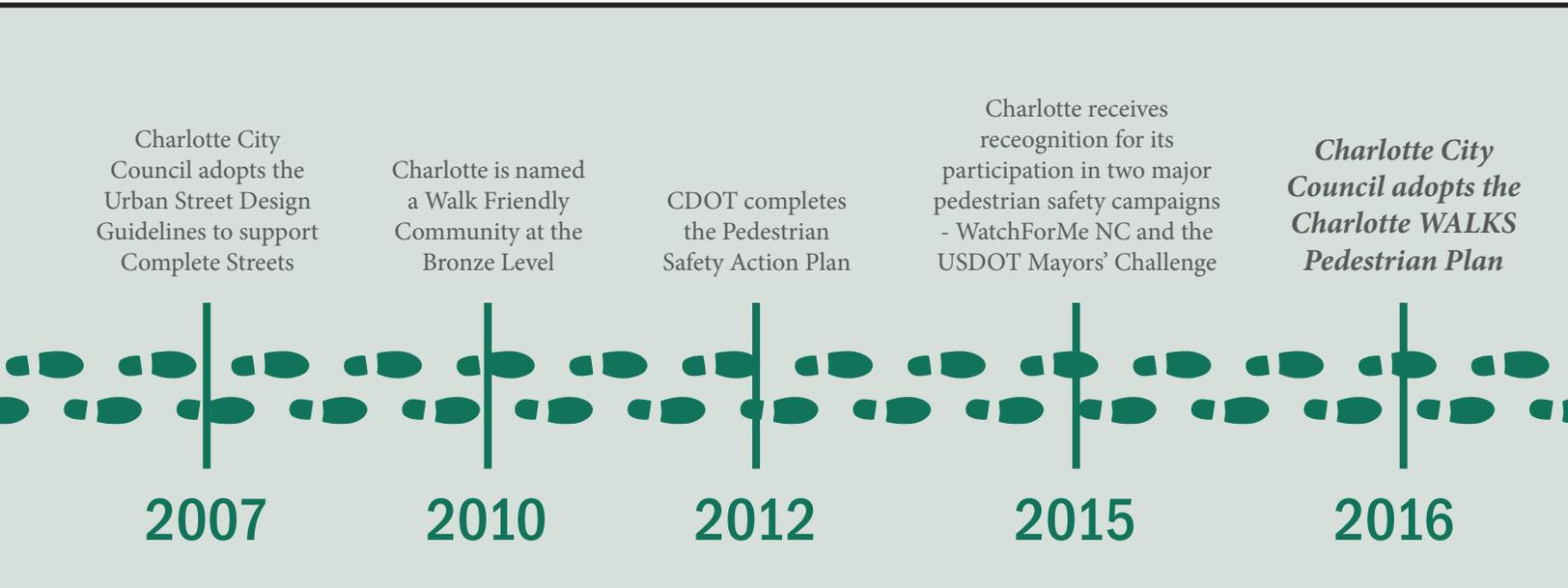
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1. INTRODUCTION

Charlotte will be a city of streets and neighborhoods where people love to walk. Charlotte will provide a pedestrian experience that is safe, useful, and inviting.



What is Charlotte WALKS?

Charlotte WALKS is Charlotte's first Pedestrian Plan. It brings together a number of previously existing walkability initiatives and identifies new strategies for meeting the pedestrian safety and walkability goals described in the city's Transportation Action Plan.

The Charlotte WALKS Pedestrian Plan is the guiding document for the city's ongoing efforts related to walkability. It is a 5-year plan, and it will be reevaluated in 2021 based upon progress over that 5-year timeframe and the future needs of Charlotteans.

An important precursor to the Charlotte WALKS Pedestrian Plan is the interdepartmental Walkability Scan. *(See Appendix __)* The Walkability Scan is a recently completed investigation of City policies and practices impacting walkability. The report, prepared by staff from several city departments, includes recommendations for addressing obstacles to walkability.

The Charlotte WALKS Pedestrian Plan was originally adopted by Charlotte City Council on _____.

"A civilized city is not one where the poor are forced to use cars. It's one where the rich choose to walk, bike, and use transit."

**Enrique Penalosa -
Commissioner of Parks (Bogota, Colombia)**

What is Charlotte WALKS?



an ADOPTED DOCUMENT

- Charlotte’s first Pedestrian Plan
- Adopted by City Council
- Necessary to support the City’s Transportation Action Plan



INTERACTIVE

- Includes web-based resources at www.charlottenc.gov/CharlotteWALKS
- Periodically updated (at least every 5 years)
- Based on a wide variety of community engagement platforms
- Demonstration/pilot projects offer real-world illustrations of Charlotte WALKS principles



ASPIRATIONAL

- Describes what walkability means to Charlotteans
- Focused on 3 main themes - Safe, Useful, & Inviting



COMPREHENSIVE

- Offers a toolbox of strategies to improve walkability
- Organizes/references existing city policies & initiatives related to walkability
- Highlights case studies of recommended/completed pedestrian projects in Charlotte



ACTION-ORIENTED

- Recommends changes needed to support the Transportation Action Plan
- Identifies short- and long-term implementation actions
- Defines success by providing measurable targets

Vision

Charlotte’s vision is to be a city of streets and neighborhoods where people love to walk.

That vision is all about providing better transportation choices. Often we think about “alternative” modes of transportation (walking, bicycling, riding public transit) as what people use to get around when they don’t have any other choice. For the past 15 years the Charlotte Department of Transportation (CDOT) has pursued a different narrative - one focused on creating “Complete Streets” that provide mobility choices to all users (pedestrians, bicyclists, transit riders, and motorists) of all ages and abilities.

Our city shouldn’t be a place where the poorest and most vulnerable citizens walk because they *have to*. Charlotte should be a city where all of our citizens *choose to* walk on a regular basis.

This isn’t just the vision that the CDOT and City Council has for Charlotte. This is a vision of walkability that’s shared by many Charlotteans. We are all pedestrians. Hundreds of thousands of Charlotteans walk our streets every single day. In preparing the Charlotte WALKS Pedestrian Plan, city staff spoke with over **800** people to find out what walkability means to Charlotteans (*See “Planning Process” on page 8 for more.*)

Collectively, those Charlotteans told us that they are looking for something very simple, a pedestrian experience that is

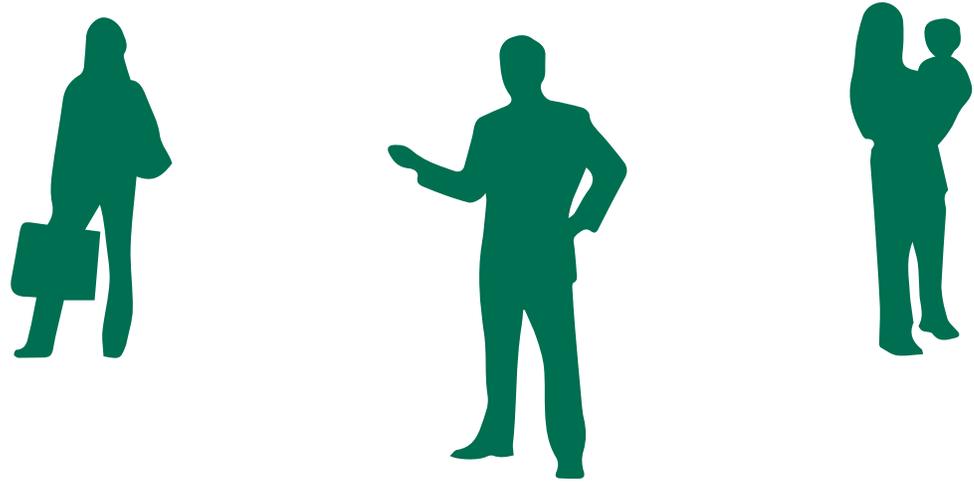
- › **Safe,**
- › **Useful,** and
- › **Inviting**

Throughout the Charlotte WALKS Pedestrian Plan you will find sections of text like this one (at left) called “Foot”notes. These “Foot”notes explain important walkability principles, highlight interesting projects and case studies, and offer a glimpse into some of Charlotte’s pedestrian stories.





Charlotte's vision for walkability is to be
**A city of streets and neighborhoods
 where people LOVE to walk.**



Collectively, Charlotteans told us that there are 3 primary characteristics that contribute to places like this...

SAFE

Pedestrians are the most vulnerable users of our roadways. Charlotte is committed to providing a safe pedestrian environment as the foundation of any walkable place. *(See page ____.)*



USEFUL

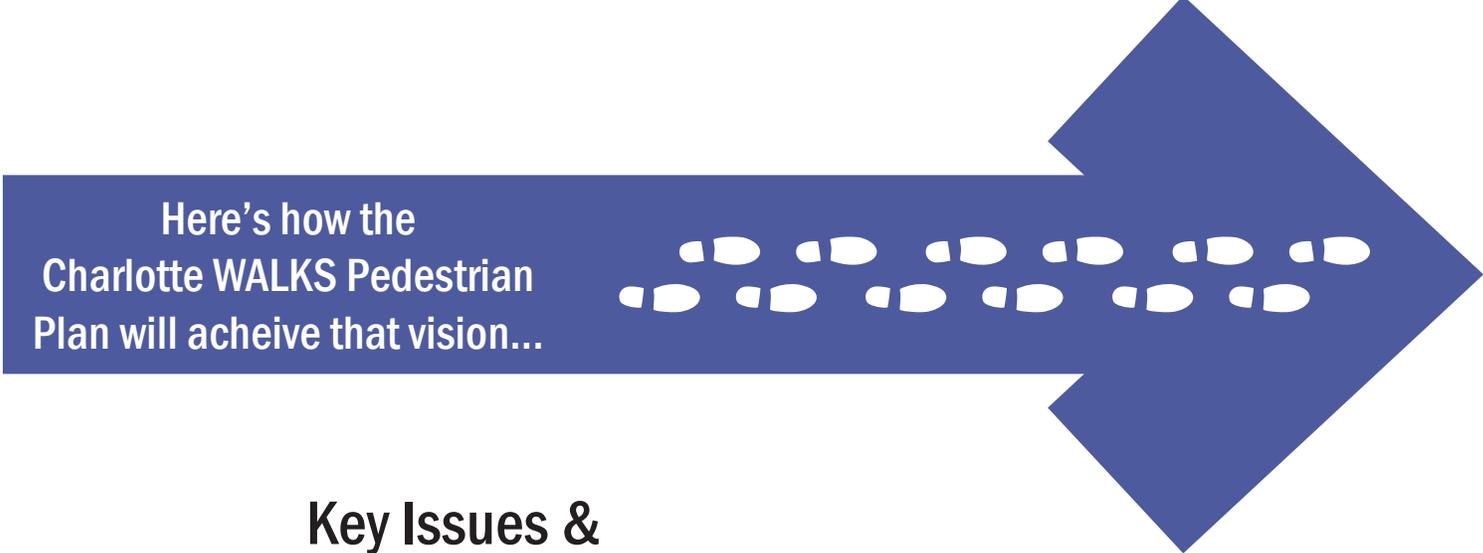
People need a reason to walk - whether it's to work, to the store, or just to relax after a long day. Charlotte strives to provide for its citizens daily needs within a convenient walkable proximity and to offer pedestrian pathways that connect those places. *(See page ____.)*



INVITING

The best walks are along streets that are comfortable, attractive, well-proportioned, and lined with interesting activities. The design of Charlotte's streets should offer a beautiful and stimulating pedestrian experience. *(See page ____.)*





Here's how the
Charlotte WALKS Pedestrian
Plan will achieve that vision...

Key Issues & Action Items

The Key Issues on the opposite page are the most important and require the most immediate attention in order to ensure a safe, useful, and inviting walking experience for all Charlotteans. They were identified and vetted through the interdepartmental Walkability Scan (*See Appendix ___*), an important precursor to the Charlotte WALKS Pedestrian Plan. The action items related to these key issues are the highest priority action items for Charlotte City Council and city staff to address in the short term.

Chapter 5, “Steps Toward a More Walkable Future” provides more detail and specific guidance for completing these high priority action items, and *Appendix ___* includes proposed language for amendments to city ordinances that are necessary to implement them.

High Priority Action Items

- ▶ Address back-of-curb sidewalks in private development/redevelopment. (*See page ___.*)
- ▶ Amend the 50% rule sidewalk exemption. (*See page ___.*)
- ▶ Provide more crossing opportunities on busy thoroughfares. (*See page ___.*)
- ▶ Provide space for walkability elements in the public realm. (*See page ___.*)

In addition, an update to the following City policies has been completed as part of the Charlotte WALKS plan in order to support the high priority action items, improve responsiveness to citizen requests, and better reflect current best practices.

- Midblock Pedestrian Crossing Guidelines (*See Appendix ___*),
- Sidewalk Installation Policy (formerly called the Sidewalk Retrofit Policy) (*See Appendix ___*), and
- School Zone Policy (*See Appendix ___*).

Additional Action Items

Charlotte is committed to making our streets and neighborhoods more walkable by moving forward with the Action Items identified in the Charlotte WALKS Pedestrian Plan. See Chapter 5 “Steps Toward a More Walkable Future” for a summary of all the action items recommended by this plan.

As a reflection of the city's commitment to improve pedestrian mobility, City staff will track progress using a variety of performance metrics. See page ___ for more details about these performance metrics.



#1 Address Back-of-Curb Sidewalks in Private Development/Redevelopment

(See Page __)



#2 Amend the 50% Rule Sidewalk Exemption

(See Page __)



#3 Provide More Crossing Opportunities on Busy Thoroughfares

(See Page __)



#4 Provide Space for Walkability Elements in the Public Realm

(See Page __)



Planning Process & Public Input

We are all pedestrians, so all Charlotteans have a voice in this plan. To ensure that the planning process for Charlotte WALKS reflected the diverse range of pedestrian experiences in Charlotte, city staff utilized multiple ways to collect input from residents over the course of 18 months.

Public outreach for the Charlotte WALKS Pedestrian Plan included:

- ▶ **Transportation Fair** – a large public meeting with a variety of ways to gather input on all modes of transportation (___ events with ___ participants)
- ▶ **Pop-Up Meetings** – smaller community conversations focused on what walkability means to Charlotteans (___ events with ___ participants)
- ▶ **Walking Audits** – mobile meetings that encouraged participants to reflect on different walking conditions throughout Charlotte (___ events with ___ participants)
- ▶ **Telephone Survey** – a statistically-valid, comprehensive survey that collected results from 406 respondents.

This portion of the Charlotte WALKS Pedestrian Plan briefly summarizes the thoughts and ideas received throughout the process.

What We Heard

Walkability means three important things to most Charlotteans – SAFE, USEFUL, and INVITING. We asked over 800 Charlotteans at 18 different public meetings, “What does walkability mean to you?” Here are some of things people said.

SAFE

- ▶ “Separation from cars”
- ▶ “Well-lit sidewalks”
- ▶ “A place for my children to play”
- ▶ “Comfortable street crossings”

USEFUL

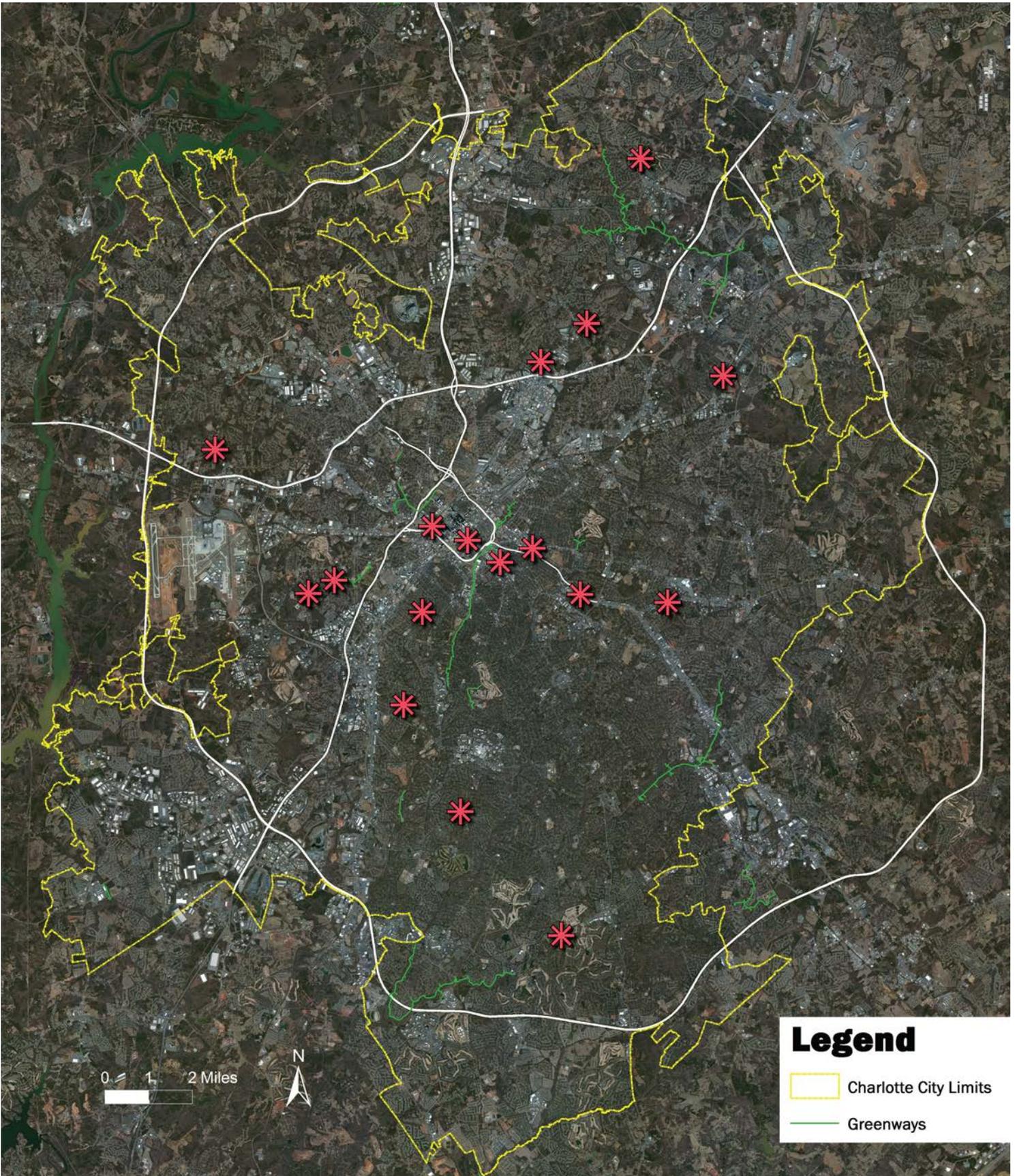
- ▶ “Connections to greenways and transit”
- ▶ “Walking to my grandma’s house”
- ▶ “Walking for exercise”
- ▶ “Freedom and independence”

INVITING

- ▶ “Sidewalks wide enough to walk with my wife”
- ▶ “Big street trees”
- ▶ “Places to sit”
- ▶ “Water fountains”

Nearly all of the things Charlotteans told us fit into those three categories. First and foremost, Charlotteans want a SAFE walking experience. They want connections that provide more USEFUL reasons to walk. Finally, they want their experience to be INVITING, fun, and comfortable.





An important goal of the public outreach process for Charlotte WALKS was to meet people in their own neighborhoods, making it easier for residents to provide input within a familiar context. City staff hosted outreach events all over the city, allowing more residents to participate in the process and creating more meaningful opportunities for connections with citizens. In all, staff talked to over ___ residents at ___ different public input events. The map above shows the location of each event.

Walking is an exercise people can do instead of using cars.

Explore more !!

I love walking with my mom and Dad ♡

you have fun while you do it

I like walking because you can meet more people.

I like to walk with my family

EXERCISE!

Going to the pool & my Dance studio ♡ ♡



What does walkability mean to you? City staff asked nearly 100 summer campers at a Youth Sustainable Transportation Fair on July 31, 2015 at the Arbor Glen Outreach Center. This is what they told us.



We dug a little deeper into those three themes to figure out exactly what makes a walk SAFE, USEFUL, and INVITING. Here's what we found out.

Safe

Charlotteans believe the most important things for creating a safe walking environment are **sidewalks, planting strips, and streetlights**.

At every public outreach event we heard about two things, gaps in the sidewalk network and crummy, narrow sidewalks without any buffer from moving traffic. More than anything else, walkability for Charlotteans means wide, well-lit sidewalks, with generous planting strips that buffer pedestrians from cars and provide a space for street trees. That is a baseline expectation that Charlotteans hold in common.

Useful

The destinations that Charlotteans would most like to walk to are **grocery stores, restaurants/bars, and parks/greenways**.

The ability to walk to work and school is an important aspiration for Charlotteans. Even more important than those primary daily trips however, is the ability to walk for the secondary trips like a quick run to the grocery store or to grab lunch with a friend. Charlotte covers a huge geographical area (approx.. 300 square miles), and many work commutes are simply too long to

make on foot. The non-commuting trips are where people saw the greatest potential for creating a more useful walking environment. Because of this Charlotteans prioritized pedestrian connections to grocery stores, restaurants, and parks more than work.

Inviting

The characteristics that are most important for making a walk comfortable and attractive are **wide sidewalks, street trees, and buildings/activities near the street**.

Width of the sidewalk was something we heard a lot about. Lots of people mentioned the social aspect of walking, and told us that sidewalks should be wide enough for 2 or 3 people to walk together side-by-side. Walking can be an important family activity, and our sidewalks need to be wide enough to support that.

It was also interesting to learn that, for Charlotteans, walkability is as much about the vertical street edge as it is about pavement. Over and over again people mentioned things like café seating, shopping, front porch conversations, and other activities along the sidewalk. Buildings and activities that create visual interest along the streetscape are crucial to an inviting walking experience.

All of the Action Items in Charlotte WALKS support one or more of the three main themes we heard from Charlotteans.

“Walkability means some kind of buffer between the sidewalk and moving traffic.”

“Walkability means community, family, and safety.”

“Walkability means wide sidewalks. I want to be able to walk side-by-side with my wife.”



What does walkability mean to Charlotteans?

Over 500 people participated in a visual preference survey to help determine the specific characteristics of a Safe, Useful and Inviting walk. Participants were asked to choose from among 11 different options in each category, or write in their own. The percentages listed below indicate the percent of participants who voted for that option as their top choice in each category. In each case, the top three images in each category - Safe, Useful, and Inviting - account for over half of the total vote.

SAFE - What types of treatments make you feel safest when you walk?



#1 Sidewalks: (36%)



#2 Planting Strip
(buffer from cars): (13%)



#3 Streetlights: (13%)

USEFUL - If you could, what places and activities would you walk to?



#1 Grocery Store/Market: (20%)



#2 Restaurant/Bar: (19%)



#3 Park/Greenway: (15%)

INVITING - What types of features make a walk comfortable and attractive?



#1 Street Trees: (25%)



#2 Wide Pathways: (22%)



#3 Buildings and Activities near
the Sidewalk: (14%)

Components of Walkability: Safe, Useful, and Inviting

Sometimes, when people think of walkability, they think of a high intensity urban environment, like Tryon Street in Uptown Charlotte. Tryon Street is Charlotte's signature Main Street environment, with skyscrapers, plentiful street furniture, wide sidewalks, outdoor dining, a consistent street wall, and beautiful street trees. While Tryon Street is a wonderful example of urban walkability, creating a Safe, Useful, and Inviting walk is not about enforcing a singular condition of urban walkability. It's about creating walkable streets and neighborhoods in all kinds of contexts - from high-rise commercial centers to low density residential neighborhoods. The diagrams (below and on the following page) illustrate many of the components of walkability within different land use contexts.

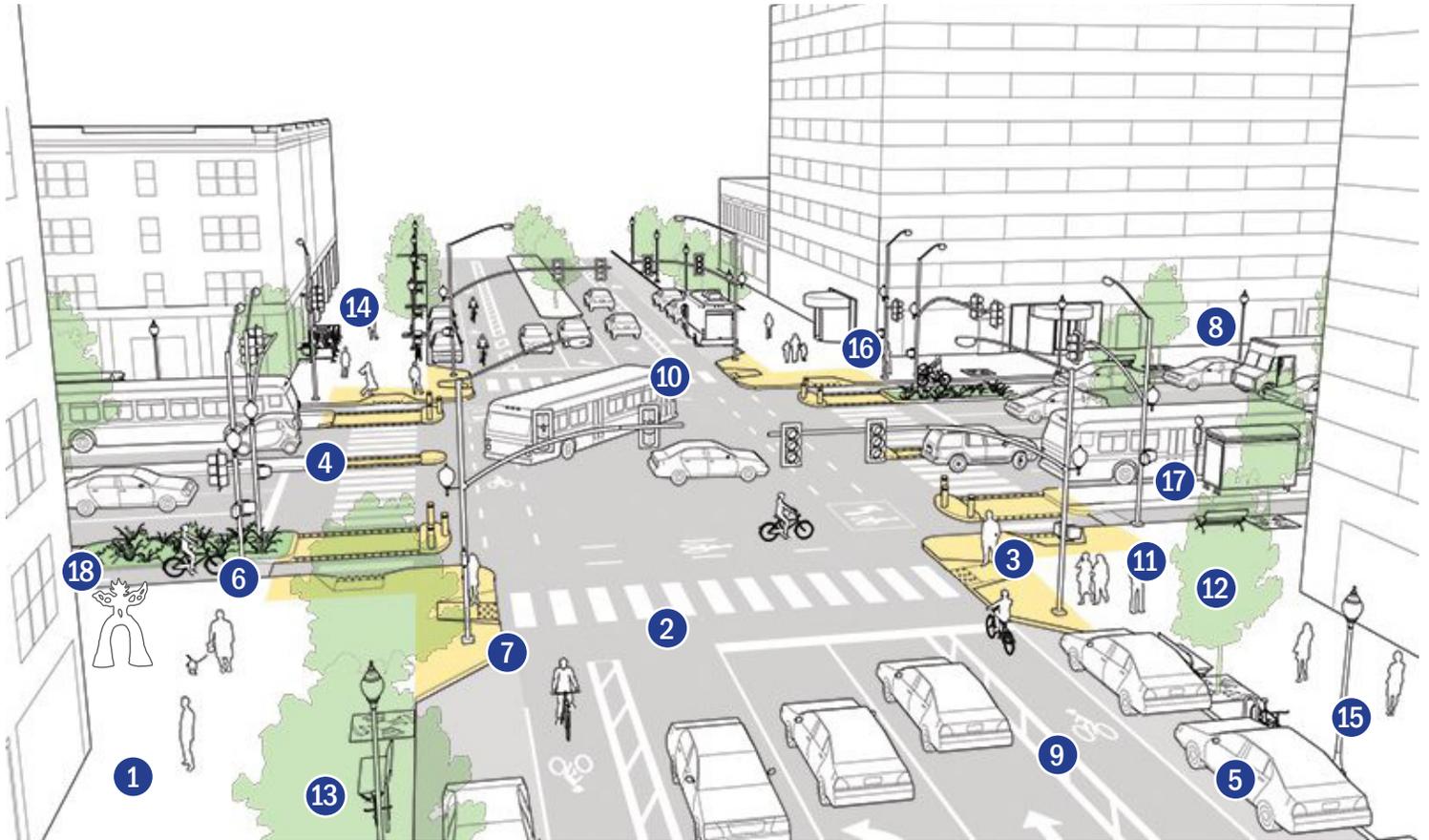


Image Source: National Association of City Transportation Officials

SAFE

USEFUL

INVITING

1. Sidewalks
2. Crosswalks
3. Sidewalk extensions shorten crossing distance
4. Median refuge islands
5. On-street parking as buffer
6. Pedestrian crossing timers
7. Curb ramps with tactile dome panels

8. Variety of destinations within a walkable proximity
9. Connections to bike parking and facilities
10. Connections to transit stops
11. Wayfinding signage

12. Large maturing street trees
13. Street furniture
14. Cafe seating
15. Pedestrian-scale lighting
16. Ground floor awnings and windows
17. Transit shelters
18. Places for public art



Image Source: National Association of City Transportation Officials

SAFE

1. Well-maintained sidewalks free from obstructions
2. Wide planting strip buffer
3. Clear and level pedestrian path across driveways

USEFUL

4. Connections to greenways and parks
5. Connections to transit
6. Connections to neighborhood schools

INVITING

7. Large maturing street trees
8. Porches and windows facing the street
9. Pedestrian-scale lighting
10. “Little Free Libraries” and community bulletin boards

Why Walkability?

Transforming Charlotte's streets and neighborhoods to be more walkable really matters. Charlotte is a growing, vibrant, successful city, but we will not reach our full potential if we aren't a city of walkable places. The best places in Charlotte tend to be our most walkable places.

Improving walkability offers significant benefits on a wide variety of issues – citizen needs, public health and safety, growth management, transportation efficiency, environmental stewardship, economic competitiveness, fiscal sustainability, social justice, etc. **It is very rare that a single goal, like improving walkability, provides solutions to so many of the important challenges that cities face.**

Here are some of the challenges Charlotte is facing, and how improved walkability helps us meet those challenges.

Citizen Demand

No matter how people get around, they want more transportation choices. A recent statewide study found “walking for pleasure” to be the most common outdoor recreational activity, enjoyed by 82% of respondents.¹

In Charlotte, 86% of residents believe our streets should be designed to serve all users, and 81% believe sidewalks should be provided on thoroughfares.²

We have consistently heard from Charlotteans that they want Complete Streets which accommodate all modes of travel. People are increasingly interested in living in neighborhoods where they can choose to walk for at least some of their trips. Charlotte should be a place where owning a car is a choice, not an absolute necessity. More people want to live a “car-optional” lifestyle, and better walkability is the key.

“...the walkable city is not just a nice, idealistic notion. Rather, it is a simple, practical-minded solution to a host of complex problems we face as a society”

Jeff Speck -
Urban Planner, Author



By 2040 Charlotte will grow by another 400,000 people. That's like adding the entire City of Raleigh, NC. Our citizens have told us that they want growth to accommodate all modes of travel - pedestrians, cyclists, transit riders, and drivers.

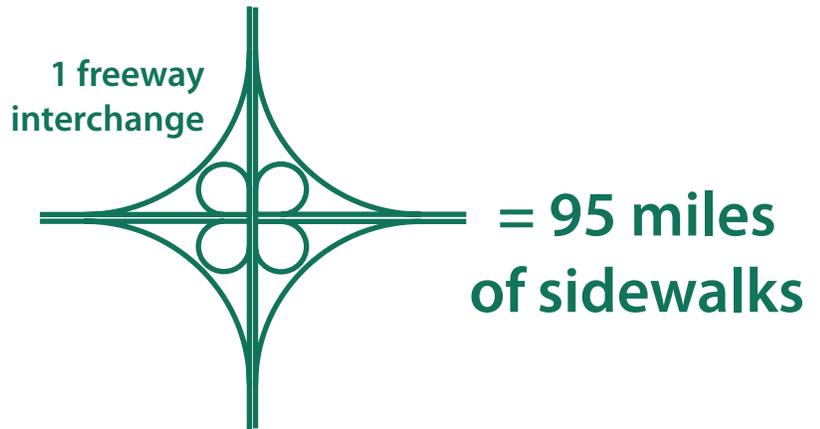


Growth Management & Transportation Efficiency

From 2015 to 2040 Charlotte is projected to grow by 400,000 people. That's nearly the entire population of Raleigh, NC. Put another way, Charlotte is growing by roughly 44 new people every day! Most of those people are bringing cars with them, but they aren't bringing new roads.

We can't keep widening our roads, so we need to broaden our thinking and invest in infrastructure that gives existing and future residents more transportation choices - like walking. Walkable neighborhoods are good for drivers and non-drivers alike because they mean fewer cars on our roads. Charlotte needs more walkable places where a "car-optional" lifestyle can be achieved. In this way, walkability helps accommodate growth and manage traffic congestion by maximizing the capacity of our existing roads.

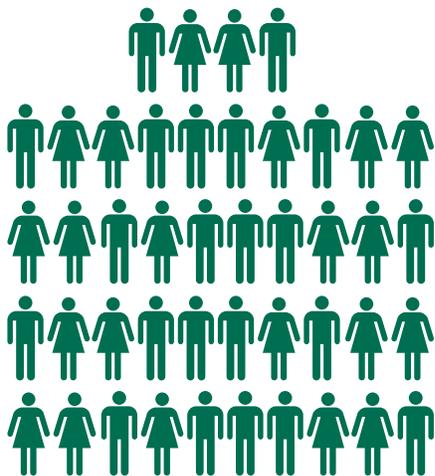
Investing in walkability is not only an efficient use of our existing road infrastructure; it's an efficient use of our taxpayer dollars. Building pedestrian networks is typically many times cheaper than building new roads or widening existing ones. \$1M can build nearly 1 mile of sidewalks, but only 1,000 feet of a typical 4-lane thoroughfare, and for the amount of money it takes to build one highway interchange in North Carolina, we could build roughly 95 miles of sidewalk in Charlotte.



\$1M =

 **1,000 feet** of roadway
(typical 4-lane divided thoroughfare)

5,000 feet of sidewalk



44 PEOPLE

Charlotte's current growth rate is roughly 44 people per day. We can't keep widening our roads, so we have to broaden our thinking about how to accommodate growth and encourage "car-optional" lifestyles.

PER



DAY

Public Health & Safety

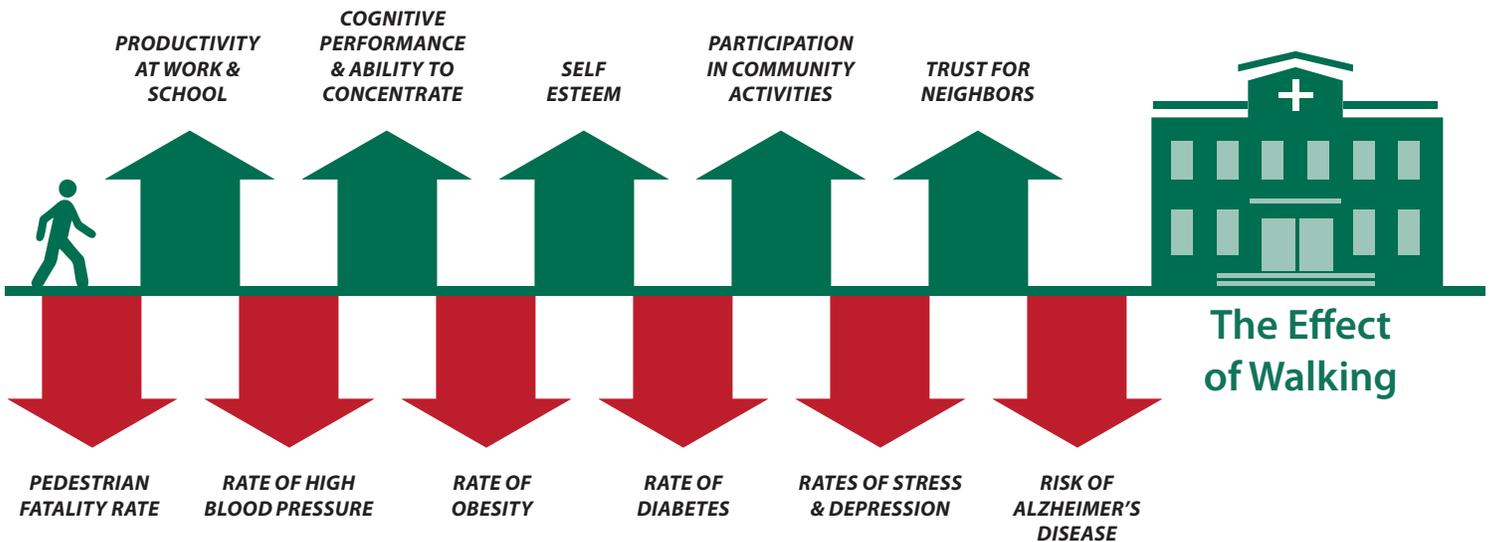
The Effect of Walking

Walkability is an increasingly significant public health and safety issue. We know that about 1/2 of Charlotteans don't get enough exercise, and as a consequence, more than 1/4 of us struggle with high blood pressure and obesity.³ North Carolina has the 5th highest rate of childhood obesity in the country.³

There is a very strong link between the design of our city and public health outcomes. Studies have demonstrated the following results when more people walk more often (*see graphic below*).

In a 2007 survey by the State Center for Health Statistics, 60% of North Carolinians reported that they would increase their level of physical activity if they had better access to walking and bicycling facilities such as sidewalks and trails.⁴

There is also a startling cost component to the public health effects of car-dependent neighborhoods. Recent reports have estimated the annual direct medical cost of physical inactivity in North Carolina at \$3.67 billion, plus an additional \$4.71 billion in lost productivity.⁵ While these financial figures are bleak, researchers have found that every dollar invested in accessible pedestrian and bicycle trails can result in a savings of nearly \$3 in direct medical expenses.⁶



“The sum of the whole is this: walk and be happy; walk and be healthy. The best way to lengthen out our days is to walk steadily and with a purpose.”
Charles Dickens

Walking/Bicycling Rates vs. Adult Obesity

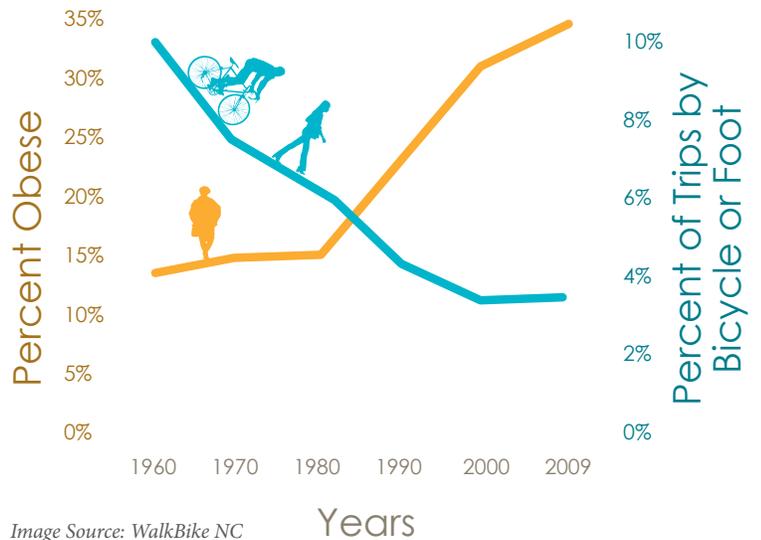


Image Source: WalkBike NC



The Greatest Toll

Finally, streets that are designed for walkability and pedestrian safety help to eliminate the tragic pedestrian deaths and injuries that occur in communities across the country. In the decade from 2003 through 2012, more than 47,000 people died while walking on streets in the United States. That is 16 times the number of people who died in natural disasters during the same ten years.⁷ Between 2011 and 2015, Charlotte averaged 342 pedestrian crashes per year, with 65 of the crashes during that time period resulting in a pedestrian's death. The only acceptable number for these statistics is zero. Investing in walkability helps us get to zero.

“All efforts to create a healthier North Carolina deserve our total support. We live in a wonderful country and a fantastic state. Each of us is needed to be at our best all the time. When we walk, run and bicycle, we are saying to ourselves and to each other, we care enough to be the best for our self and for each other.”

Maya Angelou

“The number of people who need the services of Metrolina Association for the Blind has doubled in the past 10 years. In the next 10, it will double again.”

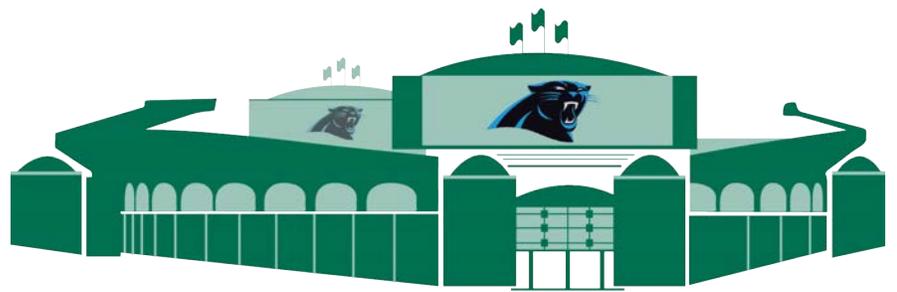
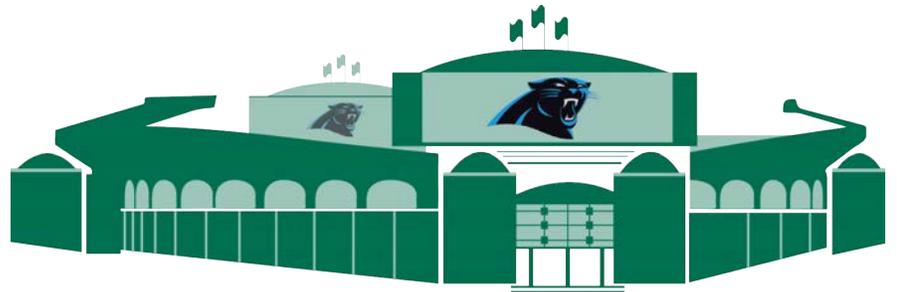
**Laura Park-Leach -
Metrolina Association for the Blind**

Social Justice

Not everyone drives a car. In fact, over 250,000 Charlotteans don't drive. That's 30% of our population.

It's enough people to fill Bank of America stadium 3.5 times! Some don't drive because they choose not to, others don't drive because they don't have access to a car, or their age or abilities prevent them from driving safely. For those people, and others, walkability is the key to mobility, independence, and quality of life. Our transportation system should be safe and functional for all Charlotteans.

Over 250,000 Charlotteans don't drive - enough people to fill Bank of America Stadium 3.5 times. For those people, and others, walkability is the key to mobility, independence, and quality of life.



Economic Benefits

Investing in walkability is good for Charlotte's economy. From 2010 to 2014, pedestrian and bicycle crashes cost North Carolina \$649 Million.⁸ Investing in pedestrian and bicycle infrastructure projects helps reduce that number, it raises property values, and it creates more jobs for the same amount of money as road infrastructure projects. Every \$1M spent on sidewalks and bikeways creates 9 to 12 jobs, more than any other mode of travel.⁹

Shifting Preferences

Beyond direct economic impacts, investing in walkability is an important part of competing in a global marketplace. American preferences are shifting toward walkability. Demographic changes suggest that the Millennial and Baby Boomer generations (the two age cohorts that will drive the economy over the coming decades) are increasingly attracted to walkable neighborhoods and cities. In fact, surveys

conducted by the National Association of Realtors show that the preference for walkable neighborhoods is now more significant than the preference for house size when people are deciding where to live.¹⁰

Those preferences translate into higher home values in walkable neighborhoods. Walk Score is a measurement of walkable proximity to nearby destinations. In Charlotte, a study found that a one-point increase in Walk Score corresponds to an average increase in residential housing value of nearly \$2,000.¹¹ That translates to a total difference in value of \$200,000 across the scale from a "Car Dependent" neighborhood to a "Walker's Paradise."

These preferences tell us that people have bought into the idea that life is what happens when you're outside your car, and they are starting to make that clear in the places they're choosing to live, work, and spend money. If we're not focused on walkability, we're going to have trouble competing with other cities for the jobs and talent that will carry Charlotte into the next century.

\$2,000

The home value increase associated with a 1-point increase in Walk Score.¹¹

85%

The amount of money spent on cars and gas that leaves the local economy. Driving less and walking more means more of our dollars stay local.¹³

12

The number of jobs created for every \$1M spent on sidewalks, greenways, and bikeways - more than any other mode of travel.⁹

"The biggest tax cut we could give someone in our community is a balanced transportation system that makes car ownership optional."

Vi Lyles -
Charlotte Mayor Pro Tem



According to the National Association of Realtors, people now care more about neighborhood than house size when deciding where to live.¹⁰



Fiscal Sustainability

Walkable connected neighborhoods also cost less for the City to maintain and service. A 2008 CDOT study found that fire stations in walkable, connected neighborhoods were able to serve a greater area at a lower cost than fire stations in disconnected, auto-oriented neighborhoods.¹² Improving walkability is good for fiscal sustainability because it means that we can spend less to do more. Investing in walkability is common sense fiscal policy because it helps our limited tax dollars go further.

Household Savings

Finally, the ability to live a walkable lifestyle can generate significant savings for families, and much of those savings are spent locally. 85% of the money we spend on cars leaves the local economy.¹³ Walking more and driving less means that more of our money stays in Charlotte. A study in Portland, OR found that, after decades of investing in walking, biking and transit, people in Portland's citizens are able to drive an average of 20% less (or about 4 miles per person per day) than other major metropolitan areas. That translates to roughly \$2.6 Billion in savings each year for the region (fuel cost, vehicle purchases/maintenance, time spent in traffic, etc.).¹⁴

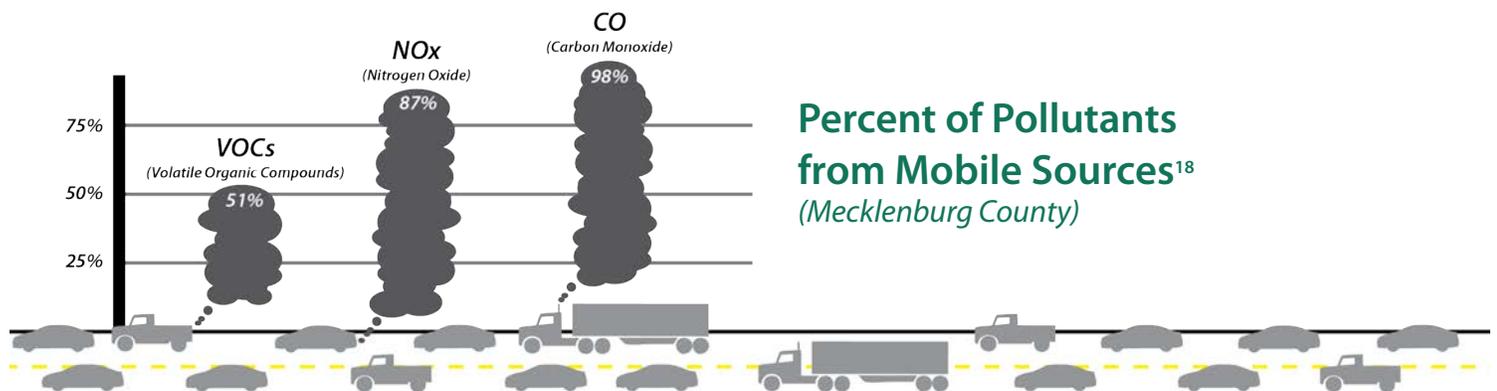
A similar calculation for Charlotte reveals that the average savings in Charlotte of taking just one less trip by car each day would be over \$4,200 per household per year.¹⁵

Environmental Stewardship

Mecklenburg County has a history of problems with air and water pollution from “mobile sources,” like cars and trucks.

- ▶ From 1997 to 2013 ground-level ozone concentrations in Mecklenburg County were above the national limit set by the EPA.
- ▶ In 2013 Charlotte was designated as one the 19th smoggiest city in the country.¹⁶
- ▶ Stormwater runoff from polluted roads and parking lots is a big reason why so many streams in Mecklenburg County are impaired.
- ▶ We're also consuming a lot more land and resources than we used to. Mecklenburg County residents now use more than twice the land they used to in the 1970's.¹⁷

All of these troubling statistics share something in common – our overwhelming dependence upon the car for transportation. Investing in walkability helps us to be better stewards of the environment by giving Charlotteans the opportunity to make different, less polluting, lifestyle choices.



Development Footprint¹⁷ (Mecklenburg County)



Percent of Pollutants from Mobile Sources¹⁸ (Mecklenburg County)

History & Existing Conditions¹⁹

Since the late 1990s, Charlotte has experienced a major policy shift toward creating more walkable streets. The evidence is seen in infrastructure investments all over the City that are making Charlotte a better place to walk. The result of incremental sidewalk improvements and major investments like the Lynx Blue Line, the BCycle Bike sharing program, the CityLynx Gold Line streetcar, and Little Sugar Creek Greenway, is that Charlotte is supporting more transportation choices today than it ever has before. Charlotte is offering more ways for people to get around, making the City a better place to live, work, and play.

Yet Charlotte still faces significant challenges for walkability. To understand Charlotte's current pedestrian challenges, it's necessary to understand a little about Charlotte's story of growth and development over nearly two and a half centuries.



Charlotte is supporting more transportation choices today than it ever has before.

Early History (1768 to 1887)

Early in Charlotte's history, the city was designed at a pedestrian scale. Charlotte was founded in 1768, and until the middle of the 20th century, everything in the city was based on walkable proximity. Most citizens accomplished all of their daily needs on foot, while some used horses. Merchants, churches, and workplaces were located close to residences because people walked between those uses. Automobiles weren't a part of city life yet, so there was no other choice. For thousands of years of human history, this is how our cities functioned. Walking distance, typically between ¼ and ½ mile radius, was the natural yardstick for urban growth and design.



Above: The intersection of Trade Street and Tryon Street in 1880.

Below: Streetcar on Trade Street in 1910.

(Images source: Lunsford, Brandon. Charlotte: Then and Now. Pavilion Publishing. July 1, 2013.)



Streetcar Era (1887 to 1938)

Around the turn of the 19th century a new transportation technology changed the way Charlotte's streets and neighborhoods looked. Private streetcar companies built transit lines extending out of Center City (See map below). Horse drawn streetcars were installed first, but they were quickly replaced with electric trolleys as the new electric technology swept the nation. Streetcars meant that residents could live a little further from Center City and still have convenient access to the mixture of grocers, merchants, and workplaces they needed each day. Walkable proximity was still the natural yardstick for urban design, but now walkable proximity to a streetcar line could replace direct proximity to every part of city life.

Private developers capitalized on the streetcar lines by building new residential neighborhoods with a fine-grained street network to allow folks to walk to streetcar stops. Streetcars became the backbone of Charlotte's transportation system for the next several decades. They offered residents more choices and extended the walkable urban fabric of Charlotte. Some of our most walkable neighborhoods continue to be our old streetcar suburbs.

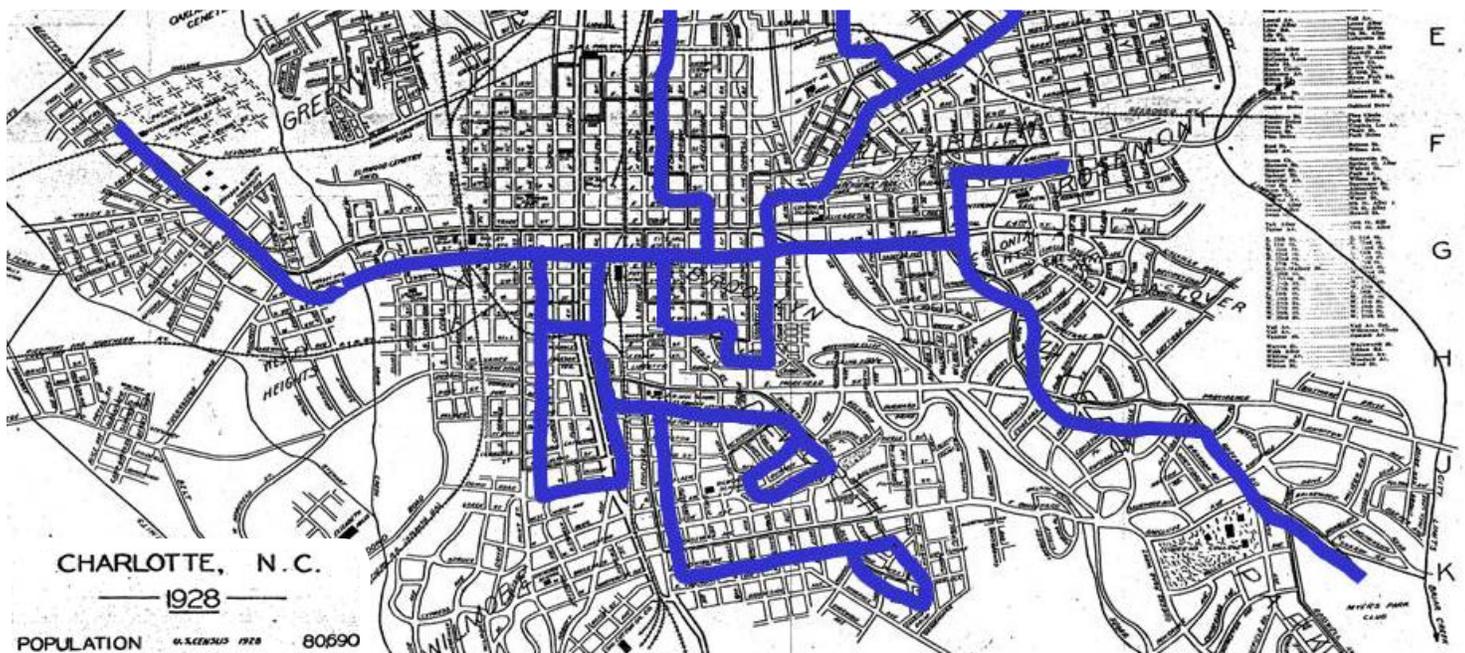
Post WWII (1938 to 1990)

Following World War II everything changed. Private automobiles had been around since the beginning of the 20th century, but it wasn't until after WW II that private car ownership became the norm for most American households. In cities across the country, the auto industry bought up streetcar lines and dismantled them. They invented terms like "jaywalking" to help convince people that streets were primarily for cars. Auto sales boomed, streets were flooded with cars, and walkable proximity was no longer a limiting factor for most households. As a result, growth exploded further from city centers than previously possible. Federal, state, and municipal governments supported that suburban expansion by enacting growth and transportation policies that focused almost entirely on accommodating the automobile.

It was a period of dramatic success in terms of growing the American middle class and making home ownership far more accessible to the masses. It was not a period of great success for walkability and urban centers. For thousands of years of human history the natural yardstick for city growth and design was walkable proximity to daily needs. In the span of roughly 50 years, all that changed.

1928 Charlotte Streetcar System Map

(Image source: Pound and Moore Co.)



In Charlotte, these auto-oriented policies were in place at precisely the same time that we experienced the greatest growth in population and area in our City's history. From 1950 to 2000, Charlotte's population doubled, then doubled again. Even more significant, the City's boundaries expanded by nearly 220 square miles. (To compare, that 220 square-mile-expansion is like adding 4 times the area of present-day Boston.) Today Charlotte is roughly 300 square miles in area.

With primarily auto-oriented policies in place, that huge growth in population and area left Charlotte with a legacy of streets and neighborhoods designed primarily for access by cars and an overall lack of pedestrian accessibility. Charlotte continues to be a challenging place for pedestrians because we, like many, many other cities, forgot about walkability.

Recent History (1990 to Present)

Charlotte is in the midst of another historic development boom. Charlotte is the second fastest growing large urban area in the country. Current projections estimate that the City will grow by another 400,000 people over the next 25 years. That's a growth rate of roughly 44 people every day.

This time, we want to grow differently.

For thousands of years of human history the natural yardstick for city growth and design was walkable proximity to daily needs. In the span of roughly 50 years, all that changed.

The automobile continues to be a crucial part of Charlotte's transportation system, but it's not the only part. We may have chosen to put the automobile first in the past, but our history is grounded in walkable communities. We got away from that history for a few decades after WWII, but since 1990 we've been making different choices.

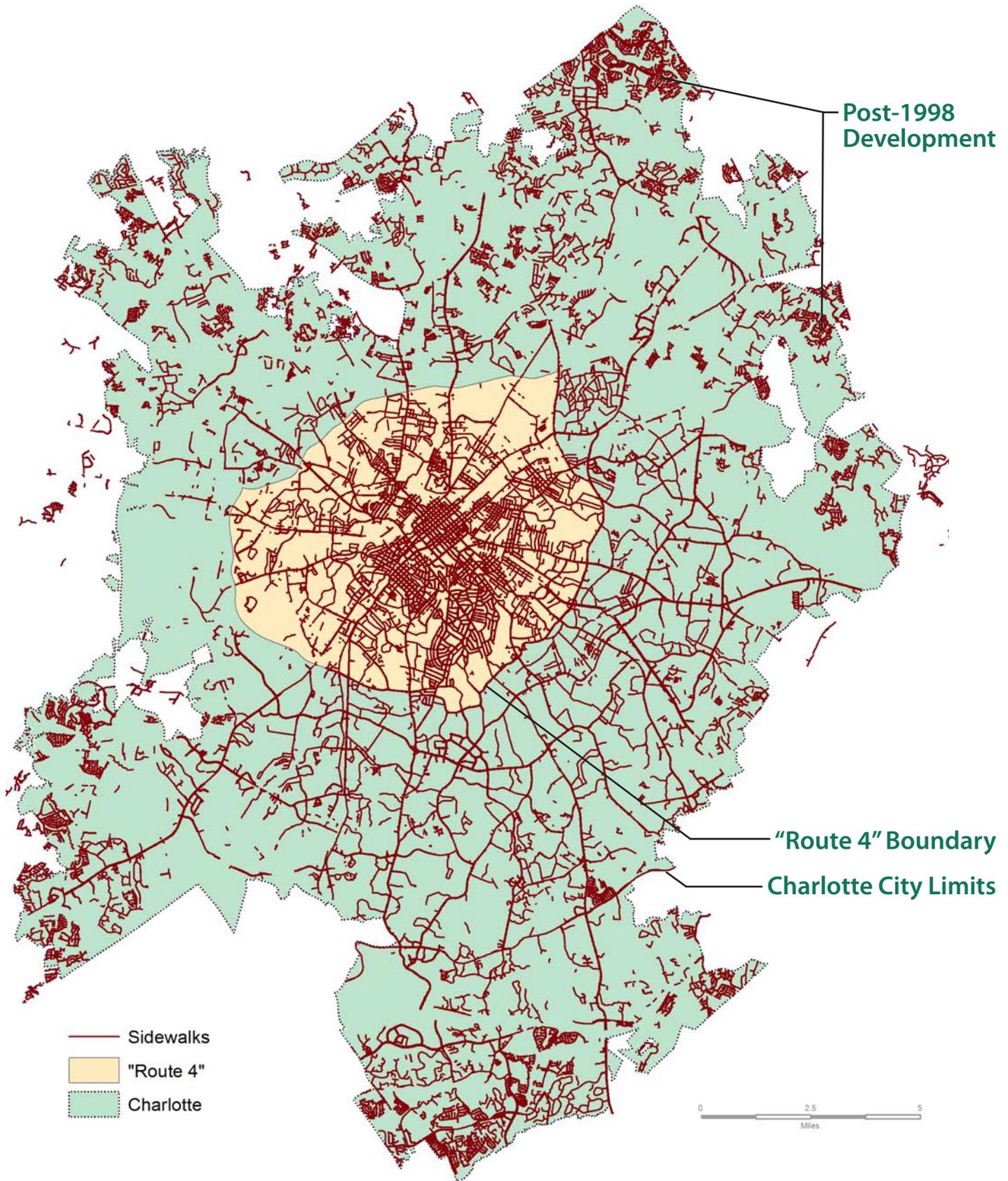
In 1994 Charlotte adopted a Growth Framework that identifies walkable activity centers. In 1998 city ordinances were amended to require developers to install sidewalks on both sides of every street. In 1999 the City established a Pedestrian Program to build new sidewalks and pedestrian crossings throughout the City. In 2006 the City adopted the Transportation Action Plan which sets goals for making Charlotte a more pedestrian friendly community. A year later, in 2007, Charlotte adopted the Urban Street Design Guidelines to support Complete Streets that accommodate walking for transportation.

Those policies and practices have resulted in investments, both public and private, that add up to a much better pedestrian experience in Charlotte.

Walking in Charlotte Today

Because of our mixed legacy of development, in Charlotte today we have neighborhoods that are very walkable, neighborhoods that are very challenging for pedestrians, and everything in between. Charlotte has one of the most walkable downtowns in the Southeast and many neighborhoods with streets that offer a delightful walking experience. The City also has over 360 miles of missing sidewalks along busy thoroughfare streets. Charlotte is supporting more transportation choices than it ever has before, but we still have lots of work to do to create a more balanced, walkable transportation network. The Charlotte WALKS Pedestrian Plan represents the next step in a series of choices aimed at creating a more walkable Charlotte.





The map above illustrates Charlotte’s historic pattern of growth with regard to sidewalk construction. Route 4 is comprised of a series of thoroughfares that create a circumferential route around center city Charlotte. It has an approximate radius of 4 miles and includes most of Charlotte’s pre-WWII neighborhoods. These neighborhoods were built with pedestrian connectivity in mind, and as a result, include many sidewalks. The neighborhoods on Charlotte’s periphery were mostly built after the city’s ordinances were amended in 1998 to require sidewalks on both sides of every new street. In between these neighborhoods and Route 4, the density of sidewalks is much lower.

Other Resources

The Charlotte WALKS Pedestrian Plan is one of several important planning documents that provide a framework for growth and transportation in Charlotte. Together these documents answer some very important questions.

- ▶ How will we grow?
- ▶ How will we travel?
- ▶ What will we look like?

Centers, Corridors, and Wedges Growth Framework

The Centers, Corridors, and Wedges Growth Framework is the foundational document that sets the stage for the rest of Charlotte's growth and transportation policies. It provides guidance for public infrastructure investment and private development. Originally introduced in 1994, the CCW Growth Framework was most recently updated and adopted in 2010. Charlotte WALKS reinforces the CCW Growth Framework by offering Action Items that support walkable corridors and activity centers.

Transportation Action Plan

The Transportation Action Plan (TAP) is the City's multi-modal transportation plan. The plan considers the transportation challenges and opportunities facing Charlotte over the next 25 years, and establishes the overall vision, programs, projects, and funding necessary to keep Charlotte moving. First adopted in 2006, the TAP is currently being updated in conjunction with Charlotte WALKS and the Charlotte BIKE Bicycle Plan. Charlotte WALKS is an extension of the TAP specific to pedestrian mobility.

Charlotte BIKES Bicycle Plan

The Charlotte BIKES Bicycle Plan is the bicycle mobility counterpart to Charlotte WALKS. Since adopting the 1999 Bicycle Plan, Charlotte has installed over 93 miles of bike lanes and paved shoulders and 51 miles of signed bike routes. The plan is currently being updated and rebranded, in conjunction with the Charlotte WALKS Pedestrian Plan, to power Charlotte into the next generation of active transportation investment.

Urban Street Design Guidelines

Charlotte's Urban Street Design Guidelines document is the implementation tool for planning and designing a network of Complete Streets in Charlotte. The USDG provide context-sensitive guidance for creating Complete Streets based upon different street types – Boulevards, Parkways, Main Streets, etc. The USDG assigns street types to every street in Charlotte based upon expected transportation and land use context. The street types include detailed requirements for multi-modal characteristics such as sidewalk and planting strip width, bike facilities, medians, and pedestrian amenity zones.

2030 Transit Corridor System Plan

Adopted by the Metropolitan Transit Commission in 2006, the 2030 Transit Corridor System Plan consists of multiple rapid transit improvements in five major corridors, as well as bus service and facility improvements throughout the region. The plan envisions 25 miles of commuter rail, 21 miles of light rail, 16 miles of streetcar, 14 miles of bus rapid transit and an expanded network of buses and other transit services. The plan has been incredibly successful in creating more mobility options and



revitalizing lagging industrial corridors. The foundation of any good transit network is a good pedestrian network. Charlotte WALKS supplements the 2030 Transit Corridor System Plan by offering Action Items that support transit investment in key corridors and activity centers.

Community Character Manual & Unified Development Ordinance (UDO)

The Community Character Manual is an important precursor to the rewrite of the Charlotte land development regulations. Building upon guidance from the regional

CONNECT Our Future initiative, the Community Character Manual examines place types vetted by thousands of people in the CONNECT process and tailors them for use in Charlotte's Unified Development Ordinance. This ongoing effort will support many of the Charlotte WALKS recommendations related to amendments in Charlottes' zoning and subdivision ordinances. The Community Character Manual and UDO will be the most significant overhaul of Charlotte's development regulations in decades. The UDO will include form-based design standards that create more walkable streets/neighborhoods and streamline development approval processes.

Endnotes

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2. SAFE

Pedestrians are the most vulnerable users of our roadways. Charlotte is committed to providing a safe pedestrian environment as the foundation of any walkable place.



A Safe Walk

Providing safe walking choices is the first priority of the Charlotte WALKS Pedestrian Plan. It's not just the actual safety of a street or intersection (in terms of crash statistics) that is significant. Perceived safety is also very important. If someone doesn't feel that they are safe walking along a street, they'll be much less likely to choose that walking trip. Charlotte's streets should be designed to **be safe** and **feel safe** for pedestrians.

Pedestrian safety is about walking conditions **along** and **across** Charlotte's streets. It's necessary to have adequate sidewalks along city streets as well as pedestrian crossings that offer connectivity between destinations. According to a survey of 16,000 North Carolina residents, the most commonly reported safety issues for walking and bicycling are inadequate infrastructure (75%) and lack of connectivity between activity centers/commercial centers and residential neighborhoods (70%).¹

The focus of this chapter is to explore practices for improving pedestrian safety along and across Charlotte's streets.

“Walkability means small blocks, large sidewalks, and traffic buffers.”

“Walkability means a better quality of life.”

“Walkability means my 8-year-old can use walkways safely.”

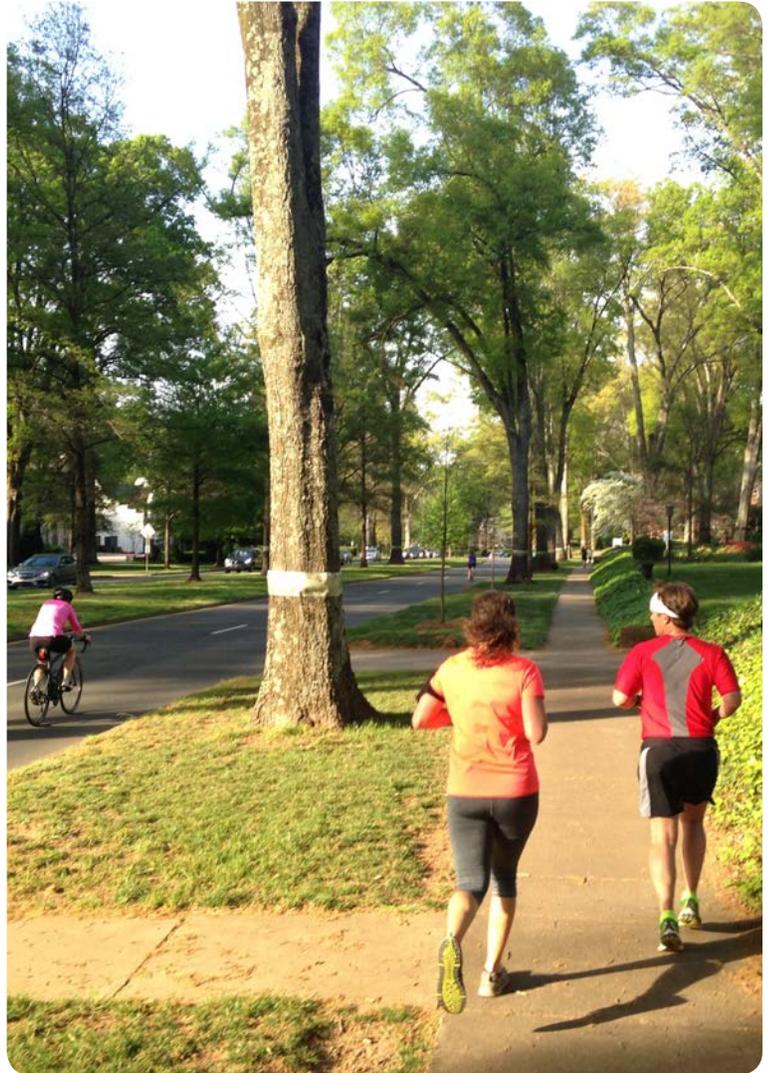
Over a thousand public comments were collected during the preparation of the Charlotte WALKS plan. Many of the comments focused on the need for a pedestrian environment that is safe for people of all ages and abilities. Throughout the Charlotte WALKS document, you will see “Walkability means...” quotations, like the three above, that highlight input from Charlotteans.

If our current rate of sidewalk construction through both capital and private projects continues, Charlotte will have sidewalks on both sides of every thoroughfare within roughly 15 years.

The Challenge

- ▶ Charlotte, together with other cities in our region, was recently ranked the 10th most dangerous metropolitan area in the country for pedestrians.
- ▶ Between 2011 and 2015, Charlotte averaged 342 pedestrian crashes per year, with 65 of the crashes during that time period resulting in a pedestrian's death.

Complete Streets mean different things in different contexts. In high-intensity urban environments, Complete Streets may include more pedestrian amenities, on-street parking, and protected bike facilities. In single-family, residential neighborhoods, Complete Streets may include large maturing street trees, and shared bicycle lanes (sharrows) or signed bike routes. Charlotte's Urban Street Design Guidelines provide the guidance for a context-sensitive approach to creating Complete Streets throughout the city. (Also see the "Foot" note on page 72.)



Complete Streets

Complete Streets are streets that are designed to accommodate all users - pedestrians, bicyclists, transit riders, and drivers - safely and comfortably. Charlotte has been building Complete Streets for 20 years. In fact, Charlotte was building Complete Streets years before the term was invented to describe balanced transportation systems.

According to Smart Growth America, “Complete Streets are streets for everyone. They are designed and operated to enable safe access for all users, including pedestrians, bicyclists, motorists and transit riders of all ages and abilities. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from train stations.”

The City of Charlotte uses a Complete Streets approach in all of its transportation projects – considering the needs of all modes, all users, and all ability levels. This is a fundamental commitment in Charlotte’s growth and transportation policy that will help create more walkable streets / neighborhoods, provide more mobility choices, and support car-optional lifestyles.

One way that the City measures how complete a street is for pedestrians is by using a Pedestrian Level of Service metric. (See “Foot” note at right.)



“Foot” notes

Pedestrian Level of Service

Level of Service (LOS) is a measure of the quality of service for transportation facilities. Traditionally applied to the movement of cars, Charlotte’s Urban Street Design Guidelines (*also see page 72*) establish a method for evaluating pedestrian and bicycle movement.

Charlotte’s Pedestrian and Bicycle LOS methodology has been recognized by the Institute for Transportation Engineers (ITE) as a national model for multimodal performance measures.² The methodology uses variables like crossing distance, crosswalk treatment, and allowing right-turns-on-red to assign an overall letter grade (A to F) for pedestrian mobility at signalized intersections.

Using this methodology, the City should consider using a Pedestrian LOS target to evaluate all proposed public and private projects, based their location within Charlotte’s Centers, Corridors, and Wedges Growth Framework. For example,

- Signalized intersections within Centers, like Uptown or Transit Station Areas, should have a minimum Pedestrian LOS of A,
- While signalized intersections within Wedges should have a minimum Pedestrian LOS of C.

This context-sensitive approach will focus on improving Pedestrian LOS at the signalized intersections that are most likely to carry high pedestrian traffic.

Complete Streets accommodate all users - pedestrians, bicyclists, transit riders, and drivers - safely and comfortably.



In some cases, like dense urban centers and rail transit corridors, it may be appropriate to prioritize pedestrian mobility as the primary consideration for city streets. In Chicago, IL, for example, city policy assigns modal priority to pedestrians first, followed by transit riders, then bicyclists, and finally, private automobiles. That kind of policy may not be appropriate for all of Charlotte, but in places like Uptown and SouthEnd, the City should consider assigning specific modal priority to pedestrians in all public and private projects.

Action Items

In order to create Complete Streets that support walkability, the City will:

- ▶ Use context-appropriate Pedestrian Level of Service metrics to evaluate all proposed projects.
- ▶ Assign modal priority to pedestrians in Uptown and Transit Station Areas.

The “Complete Streets Chicago Design Guidelines” adopted a pedestrian-first modal hierarchy. The guidelines specify that, “all transportation projects and programs, from scoping to maintenance, will favor pedestrians first, then transit riders, cyclists, and automobiles.”

Sidewalks

Sidewalks seem like such a simple and necessary part of our streets today, but that wasn’t always the case. In fact, Charlotte didn’t require sidewalks on both sides of every street until 1998. On very low volume, low speed, residential streets it may be safe and comfortable to walk without sidewalks. In most cases however, sidewalks are absolutely critical to ensure pedestrian safety.

In 1999, Charlotte established the Pedestrian Program with a specific focus on installing more sidewalks throughout the City. Since that time, the Pedestrian Program has completed over 95 miles of independent sidewalk projects. City roadway, stormwater, and neighborhood improvements projects have also installed many miles of new sidewalks. Between 2010 and 2015, nearly 300 miles of sidewalk gaps were filled through a combination of Pedestrian Program projects, other City projects, and private development. A primary goal of the Pedestrian Program is to install sidewalk on both sides of all thoroughfares. If our current rate of sidewalk construction through both capital and private projects continues, Charlotte will have sidewalk on both sides of every thoroughfare within roughly 15 years.

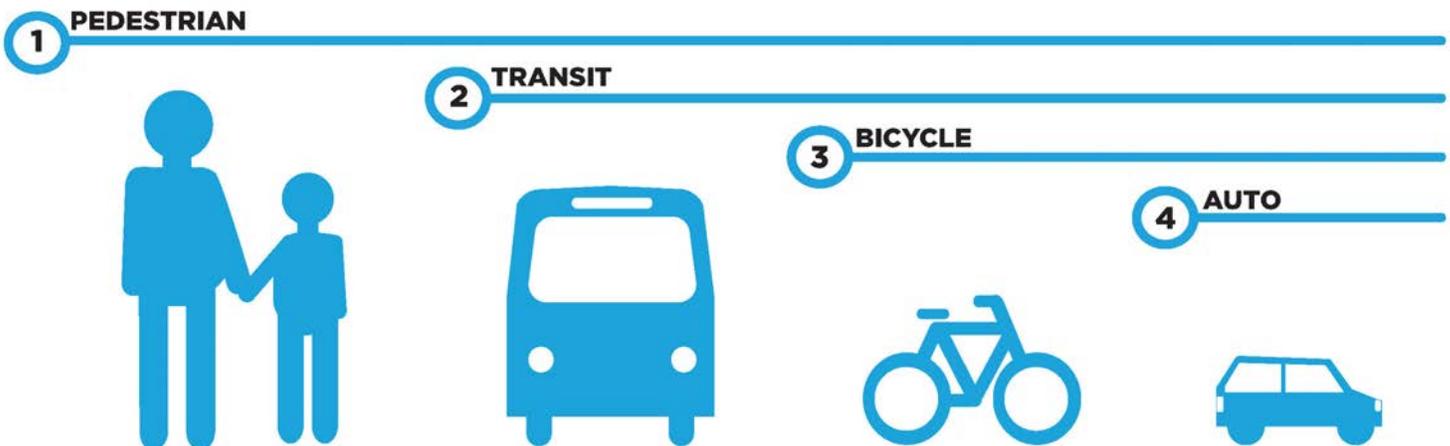


Image Source: Complete Streets Chicago Design Guidelines. 2013.



Back-of-Curb Sidewalks

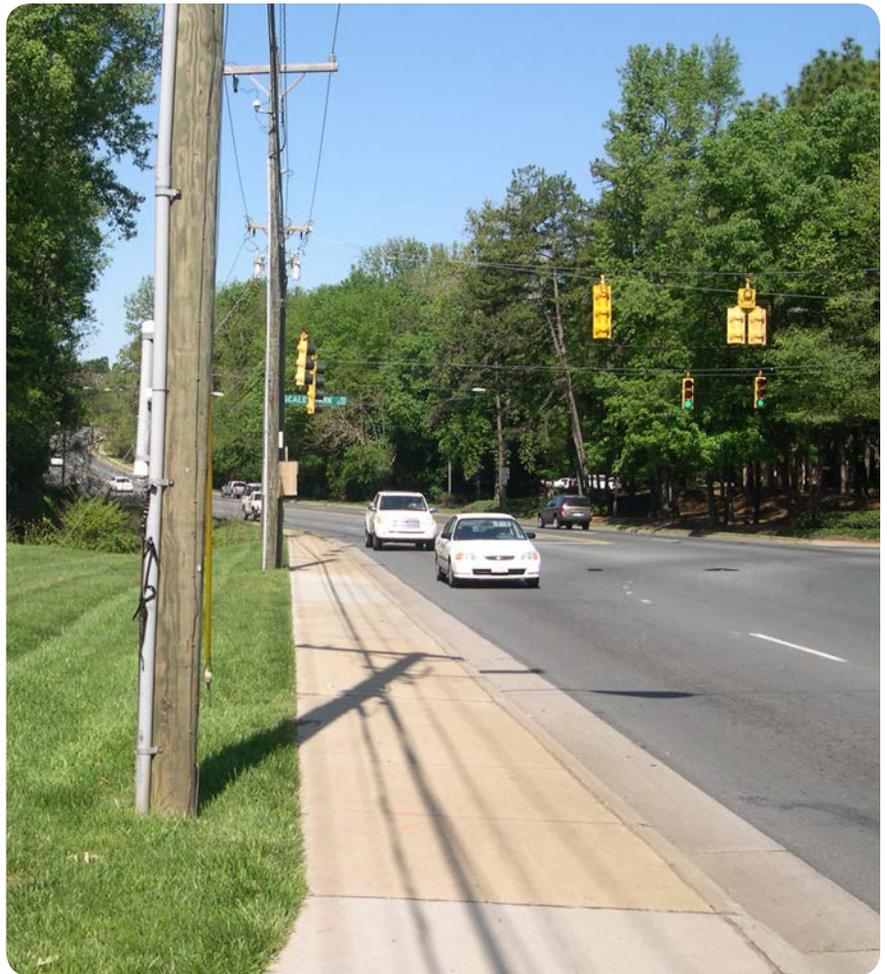
Sidewalks that are immediately adjacent to vehicular travel lanes are called “back-of-curb” sidewalks. Although better than no sidewalk at all, back-of-curb sidewalks have no buffer between moving cars and pedestrians. They do not provide a safe and comfortable walking experience, especially along busy, higher-speed thoroughfares. In a statistically valid survey of Charlotte residents, 80% agreed that pedestrians on thoroughfares should be separated from traffic by a grass strip with trees.

Back-of-curb sidewalks make pedestrians feel vulnerable, and they have been recognized as substandard for decades. Instead of back-of-curb sidewalks, Charlotte’s Urban Street Design guidelines call for a planting strip along all street types to separate sidewalks from moving vehicles. Unfortunately Charlotte still has over 130 miles of substandard, back-of-curb sidewalk along busy thoroughfare streets.

Back-of-curb sidewalks also create serious accessibility problems. The standards of the Americans with Disabilities (ADA) Act require sidewalk ramps with a maximum cross slope of 2% at all driveways and intersections. (See “Accessibility” on page 41.) This allows people with wheelchairs and strollers to navigate the sidewalk more easily.

In an ideal situation, a wide planting strip offers plenty of room for sidewalk ramps and driveways to slope up to the level of the sidewalk. Without a planting strip, back-of-curb sidewalks do not have sufficient room to meet ADA standards in many cases.

Addressing back-of-curb sidewalks is one of the key issues of the Charlotte WALKS Pedestrian Plan. It was identified as a critical issue by the Walkability Scan and confirmed as a top priority by Charlotteans during public outreach for Charlotte WALKS. Put simply, back-of-curb sidewalks aren’t good enough. Charlotteans demand and deserve better.



Charlotte has over 130 miles of back-of-curb sidewalks. They are better than no sidewalk at all, but not by much. In the public outreach for Charlotte WALKS, residents indicated a strong preference for sidewalks buffered from moving cars by wide planting strips with street trees.



Back-of-curb sidewalks and driveways create serious accessibility problems for people with wheelchairs and strollers due to the curbs and cross-slopes created by driveways.

Pedestrian Shy Distance

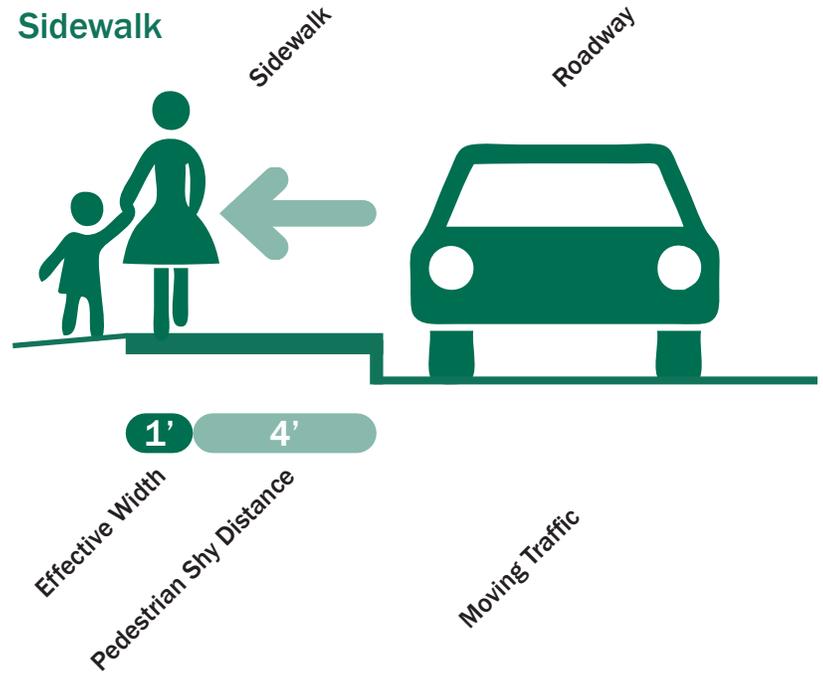
Perception of safety is extremely important in encouraging people to walk more often. Back-of-curb sidewalks provide some pedestrian space, but Charlotteans consistently identified back-of-curb sidewalks as unsafe and uncomfortable during public outreach for the Charlotte WALKS Pedestrian Plan.

Without any buffer from moving traffic, pedestrians on back-of-curb sidewalks are subject to exhaust, noise, dirt, water, and windblast from passing vehicles. Back-of-curb sidewalks also create a real safety risk because there is no planting strip with street trees to guard pedestrians from crashes which may cause a car to leave the roadway.

All of those things contribute to a phenomenon called “pedestrian shy distance.” This is the distance that pedestrians tend to put between themselves and moving traffic. Typically it’s about 4 feet. This means that the effective width of a 5-foot back-of-curb sidewalk is only 1 foot - better than no sidewalk, but not by much.

Charlotte’s current streetscape standards on thoroughfares include a 6-foot sidewalk and an 8-foot planting strip - sufficient room to create an effective buffer and support mature street trees.

5' Back-of-Curb Sidewalk



6' Sidewalk with Planting Strip



Action Items

In order to address back-of-curb sidewalks, the City will:

- ▶ Continue to apply the Urban Street Design Guidelines (USDG) to determine recommended sidewalk locations and widths.
- ▶ Amend the City Code to reflect an appropriate/flexible approach to upgrading substandard sidewalks as development occurs.

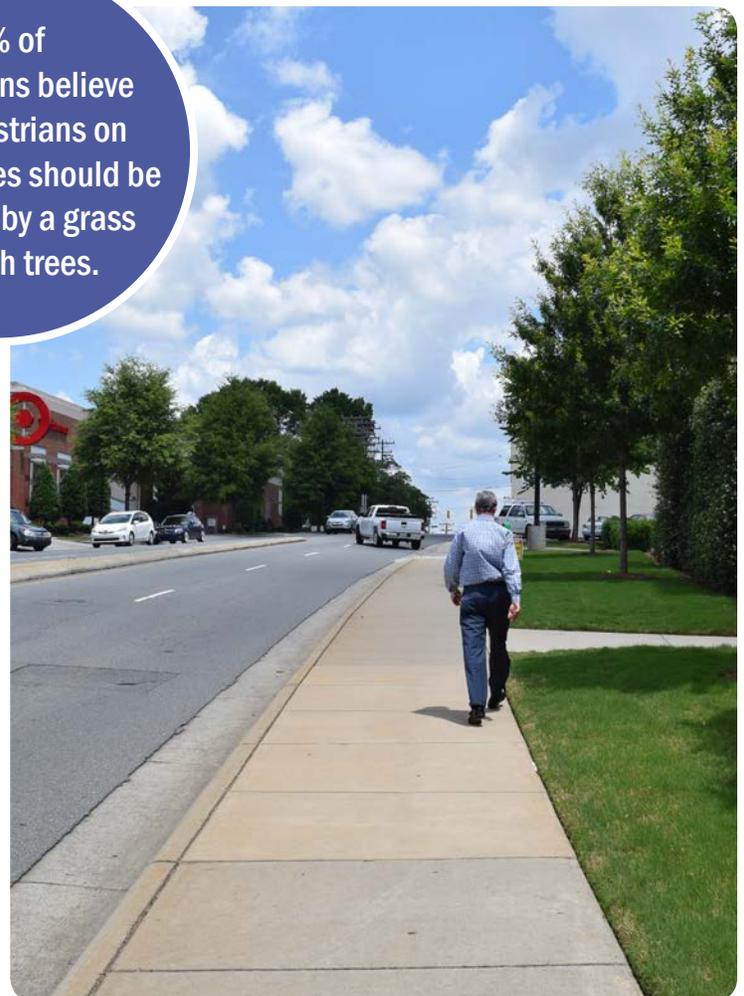
Also see Key Issue #1 on page 87 for more specific recommendations.

“Walkability means tree-lined, car-free walkways.”

“Walkability means a place to walk separated from cars.”



80% of Charlotteans believe that pedestrians on thoroughfares should be separated by a grass strip with trees.



Pedestrian Shy Distance: These images, taken from either side of Kings Drive in Midtown, illustrate the concept of pedestrian shy distance and the importance of planting strips. On the left, a generous planting strip with street trees creates a welcoming pedestrian environment. On the right, a pedestrian clings to the edge of a back-of-curb sidewalk, shying away from moving traffic. Charlotteans perceive back-of-curb sidewalks as unsafe and uncomfortable. For more on how Charlotte will address back-of-curb sidewalks see page 87.

Sidewalk Installation Policy

Charlotte has hundreds of miles of streets without sidewalks. Because this problem is too big & expensive to handle all at once, City Council adopted the Sidewalk Installation Policy (formerly called the Sidewalk Retrofit Policy) to guide sidewalk investment to the places where sidewalks are most critical to safety & walkability.

Pedestrian Program staff use the criteria in the Sidewalk Installation Policy to rank potential sidewalk projects. The criteria focus on safety, cost, and filling sidewalk gaps in the areas that are best positioned to support walkability.

The typical cost for a City sidewalk project is roughly \$1.1M per mile. That figure is based on the 12-year history of the Pedestrian Program. It accounts for all costs associated with a sidewalk project including, survey, design, real-estate acquisition, grading, drainage, utility relocation, materials, and labor.

Over 95 miles of sidewalks have been built through the Pedestrian Program since 2002. The map below illustrates the geographic distribution of those sidewalk projects throughout the city. **See Appendix ___** for more.



Sidewalk Gaps

Sidewalks are obviously the most important component of the pedestrian network. Gaps in the network create safety and accessibility issues and disrupt pedestrian connectivity. Sidewalk gaps are especially problematic for people using strollers, wheelchairs, walkers, canes, or other assistive devices.

Sidewalk gaps are filled through a variety of mechanisms. The City’s Pedestrian Program has installed nearly 100 miles of new sidewalks since it began in 2002. City roadway, transit corridor, and neighborhood improvements projects frequently build sidewalk. In addition, private development installs miles of new sidewalks each year. Since 1998 Charlotte has required sidewalks on both sides of all new streets, however some notable exceptions to that requirement still exist. Certain land uses are not required to build sidewalks at all, and some developments can avoid building sidewalks and drainage facilities if they are built in phases. (See Key Issue #2 on page ____.) This can lead to missed opportunities to fill important sidewalk gaps. These exemptions also fail to anticipate changes in land use and growth patterns that lead to more pedestrian traffic.

Action Items

In order to fill sidewalk gaps and improve the pedestrian network, the City will:

- Continue to construct **at least 10 miles** of new sidewalk each year through the Pedestrian Program and other city projects/processes.
- Amend the “50% Rule” sidewalk exemption in the City Code.
- Consider requiring sidewalks for more land uses.
- Require appropriate/flexible streetscape improvements for buildings renovations.

Also see Key Issue #2 on page ____ for more specific recommendations.

“Walkability means never having a sidewalk that just stops.”

Existing sidewalks map

(\$1.1M/mile infographic/caption)?

Charlotte Sidewalk Mileage Estimates 2010

Street Type	“Target”*	Existing Sidewalk	Sidewalk Gap	Percent Complete
Thoroughfares	1,063 miles (both sides)	584 miles	479 miles	55%
Non-Thoroughfares	2,651 miles (one side)	1,016 miles	1,635 miles	38%
Total	3,714 miles	1,600 miles	2,114	43%

Charlotte Sidewalk Mileage Estimates 2015

Street Type	“Target”*	Existing Sidewalk	Sidewalk Gap	Percent Complete
Thoroughfares	1,080 miles (both sides)	713 miles	367 miles	66%
Non-Thoroughfares	2,703 miles (one side)	1,180 miles	1,523 miles	44%
Total	3,783 miles	1,893 miles	1,890 miles	50%

*NOTE – The “Target” mileage for sidewalks includes sidewalks on both sides of all thoroughfares and on one side of all non-thoroughfares in accordance with the Sidewalk Retrofit Policy Statement adopted by City Council.

Pedestrian Crossings

Pedestrian safety depends upon safe and comfortable accommodation for walking along and across Charlotte's streets. Safe pedestrian crossings are especially problematic on thoroughfares with multiple vehicle lanes, high speeds, and a higher volume of traffic. (See "Thoroughfares" on page 42.)

Charlotte has been working to install safer and more frequent pedestrian crossings for years. In the two-year period from July 1, 2014 to June 30, 2016, the City of Charlotte installed 55 new pedestrian crossings and improved 72 existing pedestrian crossings (see map, opposite). Those investments, in over 60 unique locations throughout the city, occurred through a variety of City stormwater, roadway, and pedestrian safety projects. Despite that significant progress,

installing more frequent and safer pedestrian crossings continues to be one of the primary concerns of the Charlotte WALKS Pedestrian Plan. It is one of the four Key Issues in this plan.

The City already has goals, processes and funding in place, through the Pedestrian Program, to address this issue over time. The City will continue to use a variety of tools to install new pedestrian crossings.

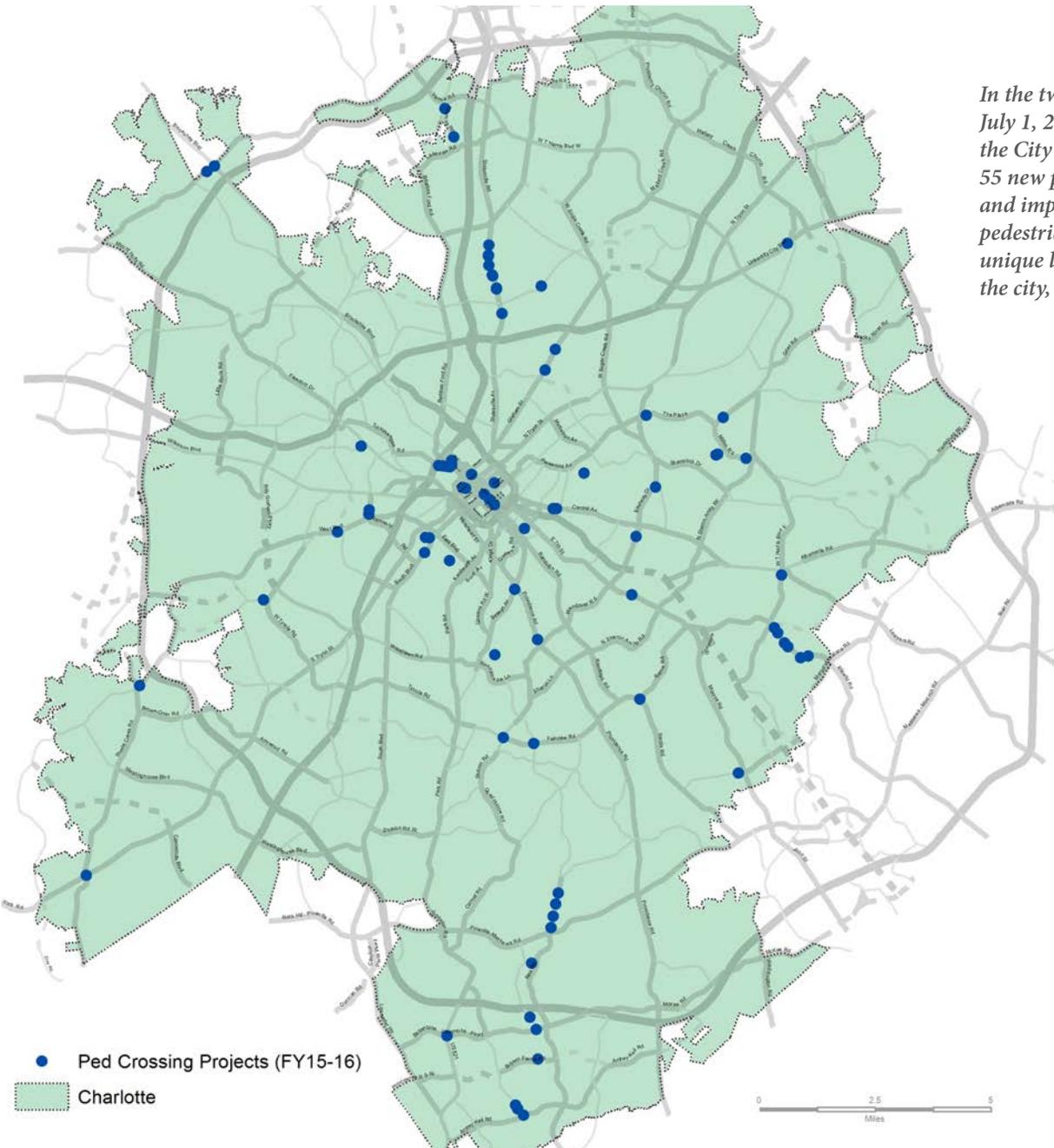
At traffic signals, the installation of pedestrian crossing treatments is fairly straightforward. Treatments typically include crosswalks, curb ramps, and accessible pedestrian signals with countdown timers as well as audible and tactile cues for the visually impaired.

At midblock locations, the application of crossing treatments is more nuanced and may include pedestrian hybrid beacons (sometime called HAWK signals),

*On thoroughfares, long distances between traffic signals mean that there are relatively few pedestrian crossing opportunities. The City will install **at least 20 new pedestrian crossings** every year to help pedestrians avoid situations like the one below.*



Pedestrian refuge islands (left) and pedestrian hybrid beacons (right) are two crossing treatments in Charlotte's toolbox for installing more frequent pedestrian crossings. Other tools include high visibility crosswalks, curb ramps, traffic signals, curb extensions, and signage. The application of those treatments is guided by Charlotte's Midblock Pedestrian Crossing Guidelines.



In the two-year period from July 1, 2014 to June 30, 2016, the City of Charlotte installed 55 new pedestrian crossings and improved 72 existing pedestrian crossings in over 60 unique locations throughout the city,

Leading Pedestrian Intervals

Leading pedestrian intervals (LPIs) are a traffic signal timing strategy that CDOT uses to help create a safer walking experience. LPIs give the “Walk” sign to crossing pedestrians several seconds before allowing traffic to proceed through the intersection. This allows the pedestrians to step out into the intersection, where they are more visible to turning vehicles. In this way, LPIs enhance the visibility of pedestrians in the intersection and reinforce their right-of-way over turning vehicles, especially in locations with a history of conflict. LPIs have been shown to reduce pedestrian-vehicle collisions as much as 60% at treated intersections.³

The CDOT Traffic Signals Section recently piloted a new treatment combining LPIs with a restricted “No Turn on Red” signs that light up when a pedestrian pushes a button to request the walk signal. This on-demand “No Turn on Red” restriction provides even more protection for crossing pedestrians with minimal impact on overall vehicular capacity.

Giving pedestrians extra time and limiting hazardous turning movements are two ways that CDOT is trying create a safer pedestrian experience in Charlotte. The CDOT Traffic Signals section has developed criteria to prioritize these types of treatments in Charlotte and is beginning to implement them more frequently.

pedestrian refuge islands, crosswalks and curb ramps, rapid flashing beacons, etc. Charlotte’s application of these tools is guided by our Midblock Pedestrian Crossing Guidelines (See Appendix __). This research-based document draws from experience across the country to establish context-based criteria for pedestrian crossing treatments in between traffic signals. Those criteria include traffic volume, vehicular travel speed, adjacent land use context, and distance between other crossing opportunities. The Midblock Pedestrian Crossing Guidelines were updated as part of this Charlotte WALKS Pedestrian Plan to reflect current best practice.

Action Items

Installing safer and more frequent pedestrian crossings is one of the key issues of the Charlotte WALKS Pedestrian Plan. In order to accomplish this, the City will:

- Install **at least 20 new pedestrian crossings per year** through City programs/processes.
- Seek out opportunities to install new/improved pedestrian crossing through private land development approvals.

Also see Key Issue #3 on page ____ for more specific recommendations.

Leading Pedestrian Intervals (LPIs)

Phase 1 (left) - Pedestrians are given a minimum 3 to 7 second head start entering the intersection.

Phase 2 (right) - Traffic is given the green light, turning traffic yields to pedestrians already in the intersection.

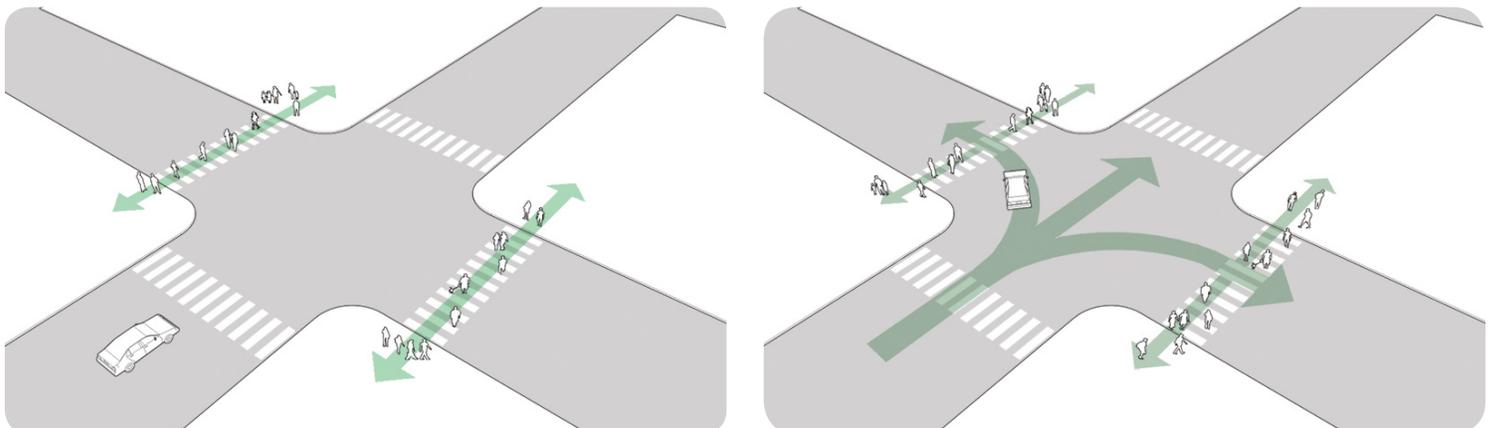


Image Source: National Association of City Transportation Officials



Accessibility

Charlotte is committed to building an accessible pedestrian network for people of all abilities. The landmark Americans with Disabilities Act (ADA) was passed in 1990 and guarantees that people with disabilities have the same opportunities as everyone else. Among many other important rights, the ADA guarantees the right to accessible pedestrian facilities for those who use wheelchairs, canes, or other assistive devices.

The U.S. Access Board has developed Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG). The guidelines provide technical assistance to ensure that sidewalks, pedestrian street crossings, pedestrian signals and other facilities are usable for all pedestrians, including those with disabilities.

Designing pedestrian facilities for accessibility helps everybody. The goal is to optimize the pedestrian experience, to provide safe and usable pedestrian facilities for all pedestrians, and to assure compliance with all federal, state and local regulations and standards. Features like curb ramps, wide sidewalks, audible pedestrian signals, and detectable warnings (like truncated domes) at street crossings make the pedestrian environment safer for everyone. Anyone who has pushed a stroller or walked with a grandparent understands that improving pedestrian accessibility isn't just a legal requirement; it's the right thing to do.

“Walkability means rollability - for wheelchairs and strollers.”



“Foot” notes

Accessibility for all Charlotteans

Hi, I'm Sherri the “Professional Pedestrian.” I love living in a city where shops, restaurants, museums, music and art are connected by safe sidewalks, trails, light rail, and city buses. As part of the Walkable Urbanism movement in Charlotte, I fully appreciate the sights and sounds of the city and all the wonderful people I encounter on my daily outings.

I am a visually-impaired pedestrian, and I depend on walking and public transit. Many parts of Charlotte are walkable. I'm able to go to medical appointments, participate in volunteer activities, and enjoy music venues, movies and other forms of entertainment. I have easy access to the airport, Amtrak, and bus station via light rail and city buses.

However there are frustrations. Charlotte still has areas with missing or obstructed sidewalks, cars blocking pedestrian crossings, speed limits that are too fast, businesses that are only accessible by car, and distracted drivers who ignore our “Yield to Pedestrians” law.

Help me and other “Professional Pedestrians” move Charlotte forward as a walkable place. Start WALKING more, and contact the City when you encounter areas that need improvement. If we all work together we can transform Charlotte into a truly Walkable City.

- Sherri Thompson, Pedestrian Advocate



City projects that affect sidewalks and pedestrian crossings are using PROWAG to upgrade those facilities. The Charlotte WALKS initiative is a recommitment of that effort to ensure that 100% of City projects are ADA compliant.

In 2016 CDOT hired a full-time ADA Coordinator to focus exclusively on accessibility issues. In addition, Charlotte is currently in the process of preparing and implementing an ADA Transition Plan. The “Public Right-of-Way” section of that plan will provide specific guidance and resources for upgrading Charlotte’s existing pedestrian facilities to meet ADA requirements.

Action Item

In order to improve accessibility throughout Charlotte, the City will:

- ▶ Update the citywide sidewalk inventory to catalog accessibility issues.
- ▶ Continue preparation of an ADA Transition Plan.
- ▶ Continue to address accessibility issues through CDOT’s “Minor Gaps and Ramps” program.

Thoroughfares

Thoroughfares present a unique safety concern for Charlotte pedestrians. Thoroughfares are characterized by a combination of issues that can be problematic for pedestrians. Thoroughfares typically have:

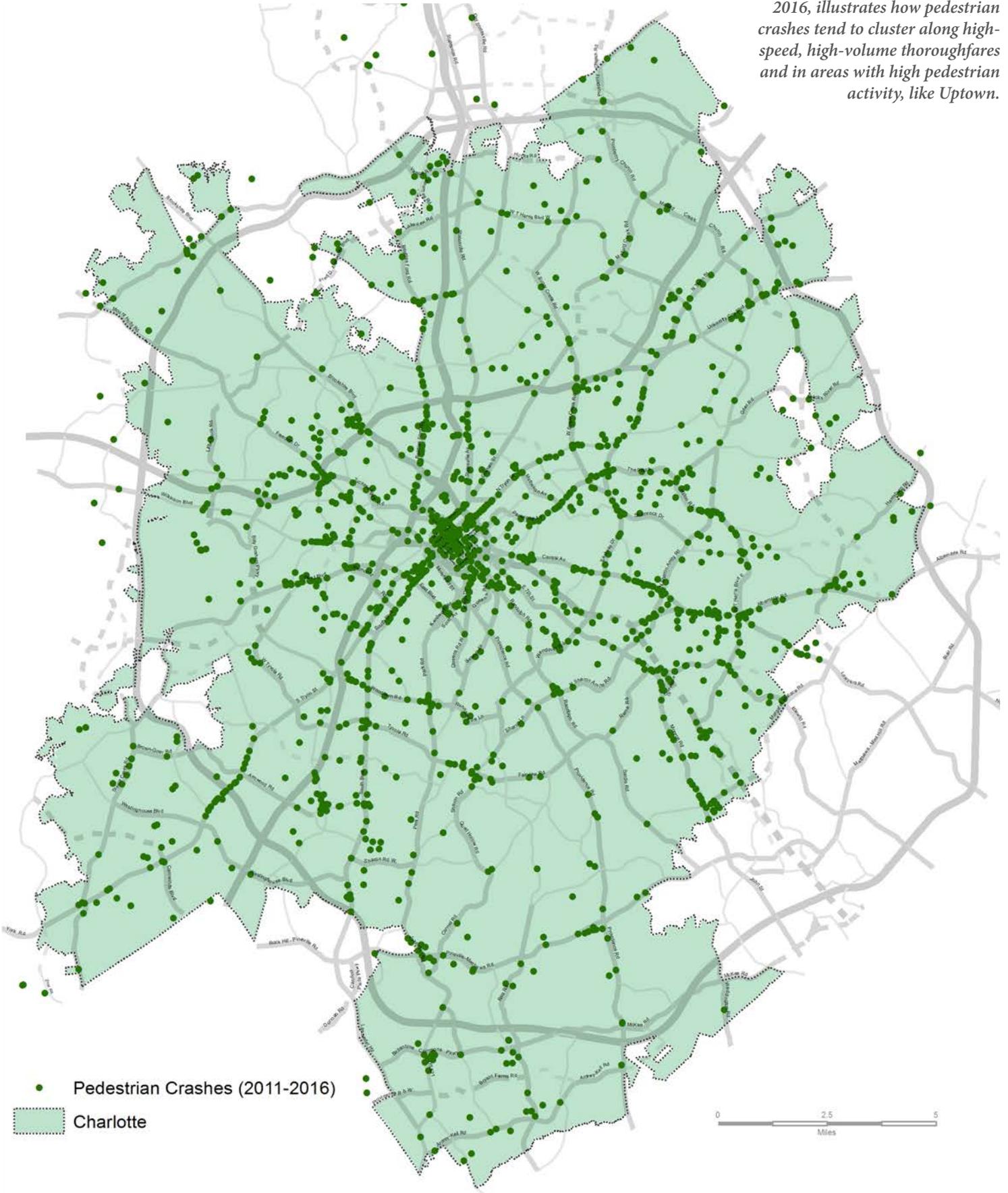
- ▶ High peak traffic volumes (usually 7am-9am and 4pm-6pm)
- ▶ High speeds (speed limits are typically 35mph or greater)
- ▶ Wide crossing distances for pedestrians (usually 4 lanes or more of traffic)
- ▶ Limited crossing opportunities (due to Charlotte’s legacy of auto-oriented street design).

Thoroughfares account for just 17% of Charlotte’s streets, but over 70% of the pedestrian accidents. For the 9-year period from 2005 to 2013, Charlotte had the 18th worst pedestrian fatality rate among the 50 largest U.S. cities.⁴ Nearly all of those accidents happened on high-speed, high-volume thoroughfares. In fact, 97% of the pedestrian fatalities from 2008 to 2012 occurred on thoroughfares.



97% of pedestrian fatalities from 2008 to 2012 occurred on thoroughfares.

The map below, with all the pedestrian crashes from 2011 - 2016, illustrates how pedestrian crashes tend to cluster along high-speed, high-volume thoroughfares and in areas with high pedestrian activity, like Uptown.



Design Treatment / Intervention	Crash Reduction Rate
Provide a minimum 4' paved shoulder to avoid walking along roadway	71% (pedestrian crashes)
Increase enforcement to reduce speed	70% (pedestrian crashes)
Install sidewalk to avoid walking along roadway	65-89% (pedestrian crashes)
Install pedestrian refuge islands	56% (pedestrian crashes)
Install raised median + crosswalk	46% (pedestrian crashes)
Improve lighting at intersections	42% (pedestrian injury crashes)
Add exclusive pedestrian phasing to signalized intersection	34% (pedestrian crashes)
Restrict parking near intersections	30% (pedestrian crashes)
Convert unsignalized intersection to roundabout	27% (pedestrian crashes)
Improve/Install pedestrian crossing	25% (pedestrian crashes)
Install pedestrian countdown signal heads	25% (pedestrian fatal/injury crashes)
Increase enforcement related to motorist yielding in marked crosswalks + public education campaign	23% (pedestrian crashes)
Install pedestrian overpass/underpass at unsignalized intersection	13% (pedestrian crashes)

The table above outlines a number of design treatments that Charlotte uses to improve pedestrian safety, as well as the crash reduction rate that the FHWA has found to be associated with those techniques.

(Image Source: WalkBike NC and Federal Highway Administration⁷)

The severity of pedestrian accidents on thoroughfares in Charlotte is consistent with other studies linking just slight increases in vehicular speed to dramatic changes in the pedestrian injury and fatality rates. Research indicates that only 5% of pedestrian collisions at 20mph result in death, versus 85% at 40mph.⁵

For those reasons, Charlotte is especially focused on improving the pedestrian environment along thoroughfares. The city's Pedestrian Program focuses the great majority of its investment toward projects on thoroughfares. The criteria City staff use to evaluate potential projects purposefully prioritize investment along thoroughfares. In the two-year period from July 1, 2014 to June 30, 2016, the City completed over 14 miles of new sidewalks along thoroughfares and installed new pedestrian crossings in over 50 locations along thoroughfares.

As part of the Charlotte WALKS plan, three important policies have been reevaluated and amended to ensure an appropriate focus on thoroughfares and reflect current best practices in street design.

“Walkability means accessibility for all people.”

“Walkability means pedestrian islands.”

“Walkability means crossing the street safely.”

“Walkability means walk buttons at intersections.”



Those policies are:

- ▶ **The Sidewalk Installation Policy** (formerly called the Sidewalk Retrofit Policy) (See [Appendix__](#)),
- ▶ **The Midblock Pedestrian Crossing Guidelines** (See [Appendix__](#)), and
- ▶ **The School Zone Policy** (See [Appendix__](#)).

Charlotte will continue to proactively address pedestrian safety issues along thoroughfares as a part of the ongoing implementation of the Charlotte WALKS Pedestrian Plan. City staff will also consider reducing speed limits on thoroughfares near major activity centers, rail transit stations, and in Uptown Charlotte.

Action Items

In order to improve pedestrian safety on thoroughfares the City will:

- ▶ Consider implementing a Vision Zero strategy. (See “Foot”note [on next page](#))
- ▶ Consider setting a 25mph speed limit throughout all of Uptown. (See “Foot”note [at right](#))
- ▶ Continue to focus Pedestrian Program spending on challenging thoroughfares.

Logos for Vision Zero campaigns in (clockwise from top left) Seattle, New York City, San Antonio, Portland, and Washington D.C.



Drive safe. Bike safe. Walk safe.



“Foot”notes

Vision Zero

Over the past 5 years 169,734 people have died on US streets and highways.⁶ Charlotte’s share of that unfortunate statistic is 208 people. Nationwide, automobile crashes are now the leading cause of death among people ages 13 to 25.⁶

Vision Zero is a growing, and relatively recent, movement within the transportation field. The premise of Vision Zero is simple - no loss of life acceptable, and the ultimate goal for traffic safety should be zero deaths or serious injuries. Vision Zero began as a nationwide movement in Sweden in the late 1990’s. More recently, city’s like Chicago, San Francisco, New York City, Seattle, San Antonio, Philadelphia, and Portland have adopted Vision Zero goals.

Vision Zero strategies are ambitious, as no major U.S. city has achieved this goal in modern history. However, the Vision Zero goal is one that resonates strongly with citizen advocates, elected leaders, planners, and engineers. Whether it is stated through formal policy or not, the only acceptable statistic for traffic deaths and injuries is “zero.”

New York City’s Vision Zero Action Plan puts it this way.

“The City of New York must no longer regard traffic crashes as mere ‘accidents,’ but rather as preventable incidents that can be systematically addressed. No level of fatality on city streets is inevitable or acceptable.”

Streetlights

Other than sidewalks and planting strips, Charlotteans identified streetlights as the most important feature of a safe walk.

The Duke Energy Company owns and maintains street lights in Charlotte, and the City pays the electric bill. The City also coordinates and pays for the installation of new street lights. There are currently over 70,000 streetlights throughout the city.

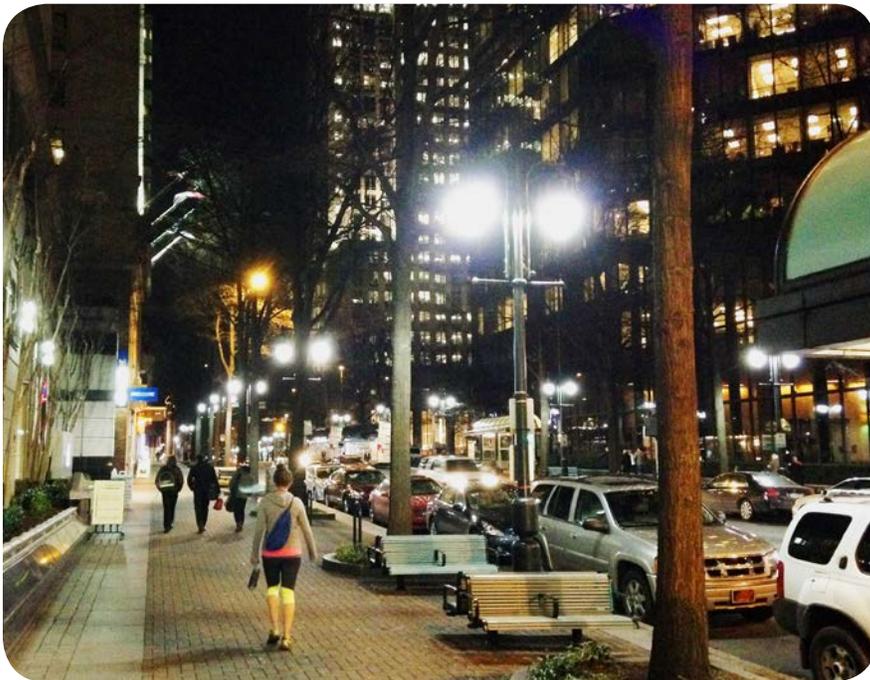
The City has processes in place for residents to request individual street lights and for entire neighborhoods to request new street lighting. Over the past three years Charlotte installed an average of over 500 new street lights each year.

CDOT employs a full-time Street Lighting Coordinator to manage all the requests the city gets for repairs and new/upgraded street lights.

Action Item

In order to improve safety, the City will:

- ▶ Continue to evaluate and respond to resident requests for new street lights.



Well-lit sidewalks are an important part of pedestrian safety. There are over 70,000 streetlights in Charlotte.

Education and Enforcement

Education and enforcement efforts also play a significant role in improving pedestrian safety along thoroughfares and elsewhere. Initiatives like increased enforcement of speeding and public education campaigns have been shown to reduce pedestrian crashes by up to 70% and 23% respectively.⁷ Over the past two years, two major education and enforcement programs were conducted in Charlotte, the USDOT Mayors' Challenge and the WatchForMe NC campaign.

USDOT Mayor's Challenge

In January 2015, US Transportation Secretary, and former Charlotte Mayor, Anthony Foxx challenged city leaders across the country to raise the bar for bicyclist and pedestrian safety. Secretary Foxx issued seven key Challenge Activities to create safer streets. The challenge is based on the 2010 USDOT Policy Statement on Bicycle and Pedestrian Accommodation. The City of Charlotte accepted the challenge, and under the leadership of a Local Action Team, the City created a Framework to Action to guide its participation. Accomplishments under Charlotte's Framework for Action include:

- ▶ The installation of over ___ new/improved pedestrian crossings throughout the city;
- ▶ The installation of 22 bike racks at CMS schools;
- ▶ The launch of a new pedestrian/bicycle counting program on key ped/bike corridors;
- ▶ Coordination of the Charlotte WALKS and Charlotte BIKES plans;
- ▶ Walkability Audits conducted at 10 intersections in association with the local chapter of AARP;

- The participation of 16 area schools in International Walk to School Day; and
- The development of a Complete Streets orientation course for all CDOT employees.

In April 2016 Charlotte was recognized by USDOT as a model participant in the Mayors’ Challenge, and a representative from the Local Action Team was asked to speak about Charlotte’s efforts at a national conference on traffic safety.

The City of Charlotte adopted a Mayoral Proclamation, published websites, and held a press conference to publicize participation in these two important initiatives. Charlotte will again participate in the NCDOT WatchForMe NC campaign beginning in Summer 2016. Charlotte’s participation in the USDOT Mayors’ Challenge will run through the end of the campaign in Fall 2016.

“Walkability means slowing down and making civic life better.”

“Foot”notes

20 is Plenty

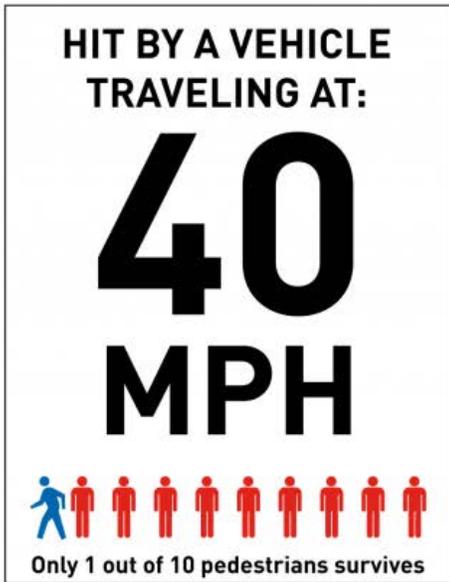
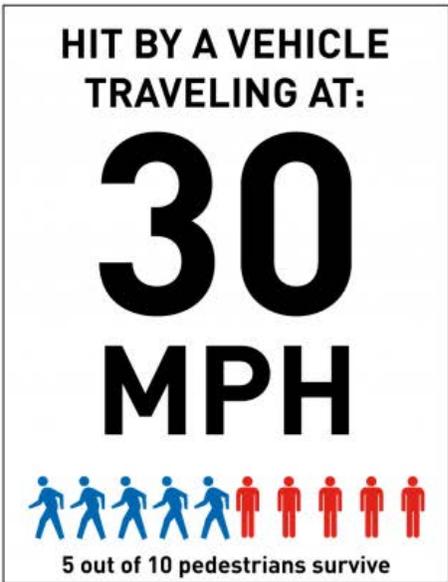
Only 5% of pedestrian collisions at 20mph result in death, versus 85% at 40mph.⁵ Age makes a big difference in these statistics. The older a pedestrian is, the more likely they are to be hurt or killed by a collision with a car traveling at speeds above 20mph.

Spurred on by this research, and by personal associations with people affected by pedestrian/bicycle collisions, groups around the United States and Europe have begun to form under the slogan “20 is Plenty.”

For the past decade these groups have successfully advocated for a reduction of speed limits to 20mph in the name of pedestrian safety.

The “20 is Plenty for Us” group in the United Kingdom has been especially successful. Over 50 communities in the UK have now adopted town-wide default speed limits of 20mph.

In addition, cities like Seattle and New York have adopted 20mph speed zones in many areas as a part of pedestrian safety campaigns. Such campaigns are typically supported by aggressive education and enforcement efforts to ensure compliance at the outset.



Seattle Vision Zero Plan. City of Seattle. 2015.

Promoting Walkability

Sustainability means meeting our needs today without compromising the ability to meet our needs in the future. When a city builds a safe, useful, and inviting experience for pedestrians, everyone wins! Walkable communities maximize economic potential, generate jobs, protect the environment, and reduce air and water pollution. Walkability also advances social equity by reducing the time and money spent on driving, which impacts the lives of low-income community members the most.

Education and advocacy organizations serve as a critical link between citizens and government. Many people are interested in creating a more walkable community, but don't know how to interact with city leaders. Through our Sustainable Neighborhoods Program, we train residents to become advocates for improving the walkability of their own streets. Our recent Walk Your Neighborhood event celebrated the walkability of the Plaza Midwood Business District by guiding people to walkable destinations using a network of pedestrian wayfinding signs. We also attend government transportation meetings each month so that we can share opportunities for engagement with the public. Our goal is to help the public understand the issues so they can be better advocates for a more walkable Charlotte.

- Meg Fencil, Sustain Charlotte



Sustain Charlotte's recent #WalkCLT initiative encouraged people in Charlotte's Plaza Midwood neighborhood to get out and walk. Event organizers put up temporary signs with the walking times to nearby attractions. Local businesses gave discounts to patrons who arrived on foot.

According to Sustain Charlotte, "Through this project, we hope to raise awareness of the role that walking can play as a mode of transportation and the many social, environmental, and economic benefits walking generates for ourselves and our community."



WatchForMe NC

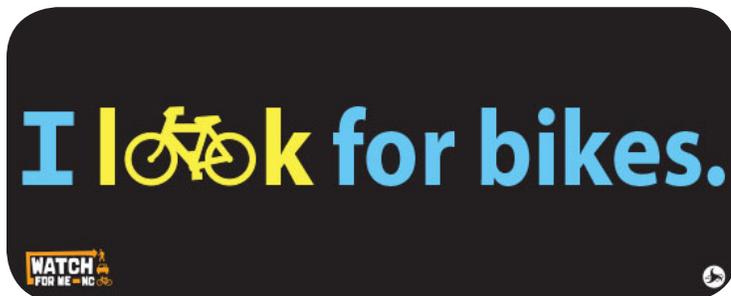
Driver inattention or distracted driving was a contributing factor in over 22% of crashes in Charlotte last year. That's roughly the same as alcohol, drug use, aggressive driving, running stop lights, and speeding combined. No text, tweet or call is worth someone's life. The WatchForMe NC campaign fights back against distracted driving, and encourages safe driver, cyclists, and pedestrian behavior. The campaign, sponsored by NCDOT, uses focuses on both education and enforcement.

► **Education:** The educational component of WatchForMe NC is a comprehensive multi-lingual, multi-media campaign. Communications during the 2015 campaign included press conferences, billboards, bus ads, banner ads on bridges, social media, flyers in utility bills, Spanish radio interviews, bumper stickers, bicycle light giveaways, public meetings, and a bicycle safety meet up. Communications materials reinforced

key messages like "I look for bikes." and "Yield to people in crosswalks."

► **Enforcement:** CMPD conducted 10 police enforcement events resulting in 826 warning citations given to drivers, cyclists, and pedestrians. The enforcement events were conducted in areas known to have a high degree of pedestrian traffic. The warning citations were intended be educational, as opposed to punitive. They included information on appropriate yielding behavior at intersections. CMPD also issued 203 actual citations to motorists for reasons such as expired registration and/or tags, no seatbelt, driving while license revoked, etc.

The Charlotte Department of Transportation is the lead local agency for WatchForMeNC. CDOT is supported through partnerships with CMPD, Carolinas Healthcare Systems Injury Prevention, Novant Health Injury Prevention, Mecklenburg County Health Department, and AARP.



Pedestrian and Bicycle Counts

Collecting traffic counts has been a standard part of transportation planning for decades. More recently, detailed counts of pedestrian and bicycle traffic in urban areas has become an important part of planning and building Complete Streets.

Counting pedestrians and bicyclists is important because:

- ▶ Ped/bike counts help identify high volume corridors where more ped/bike infrastructure and amenities might be necessary and critical gaps in the network.
- ▶ Long term ped/bike counts also illustrate where ped/bike traffic is increasing/decreasing relative to expected growth and new development.
- ▶ This helps to inform the prioritization of future capital projects.
- ▶ Ped/bike counts also quantify demand and help make the case for investment in ped/bike infrastructure.
- ▶ Finally, conducting ped/bike counts sends a message to pedestrians and bicyclists that they matter. Essentially - you count what you care about - and Charlotte recognizes that pedestrians and cyclists are a critical part of the transportation network.

CDOT currently completes pedestrian counts at signalized intersections every two years. Those efforts are supplemented by manual pedestrian and bicycle counts conducted on a case-by-case basis to evaluate potential infrastructure improvements, like new pedestrian crossings. In addition, local advocacy groups like Charlotte Center City Partners and Sustain Charlotte have completed ped/bike counts to help raise awareness and make the case for more investment in ped/bike infrastructure. (See images on opposite page.)

These important efforts will be expanded in the near future through a local partnership with NCDOT and the Institute for Transportation Research and Education (ITRE). Those organizations are leading an effort to start a statewide Non-Motorized Volume Data Program. As a participant in that program, Charlotte will receive and install between 15 and 20 continuous ped/bike counters in key locations throughout the city. These counters will provide 24-7 data on major ped/bike mobility corridors.

In at least two locations, the counters will be supplemented by live-display units that illustrate daily and yearly use by pedestrians and cyclists. These tall, totem-like displays have been used in cities like San Francisco, Portland, and Copenhagen to celebrate active transportation and promote public health. (See illustration on opposite page.)

The counters and displays represent a significant expansion of Charlotte's current ped/bike counting program. Together they will offer a visible demonstration of Charlotte's commitment to improve pedestrian and bicycle mobility.

Action Items

In order to improve education and enforcement, the City will:

- ▶ Continue ongoing education and enforcement efforts through opportunities like the Mayors' Challenge and WatchForMeNC programs.
- ▶ Develop a distracted driving & walking campaign.
- ▶ Expand and improve pedestrian data collection and analysis.



7:28

Trail Users today

23532

Trail Users this year

523530

Rail Trail

CHARLOTTE



Left: CDOT is partnering with NCDOT and ITRE to expand Charlotte’s pedestrian and bicycle counting program. This illustration shows an “EcoTotem” that will give people on Charlotte’s Rail Trail a live display of trail usage. (Image source: EcoCounter)

Above and Right: Sustain Charlotte organized volunteers to count all of the pedestrians and cyclists traveling in to and out of Uptown Charlotte over two days in the Fall of 2015. (Image source: Sustain Charlotte)

Endnotes

1. Institute for Transportation Research and Education. *Bicycle and Pedestrian Safety Survey*. North Carolina State University. 2011.
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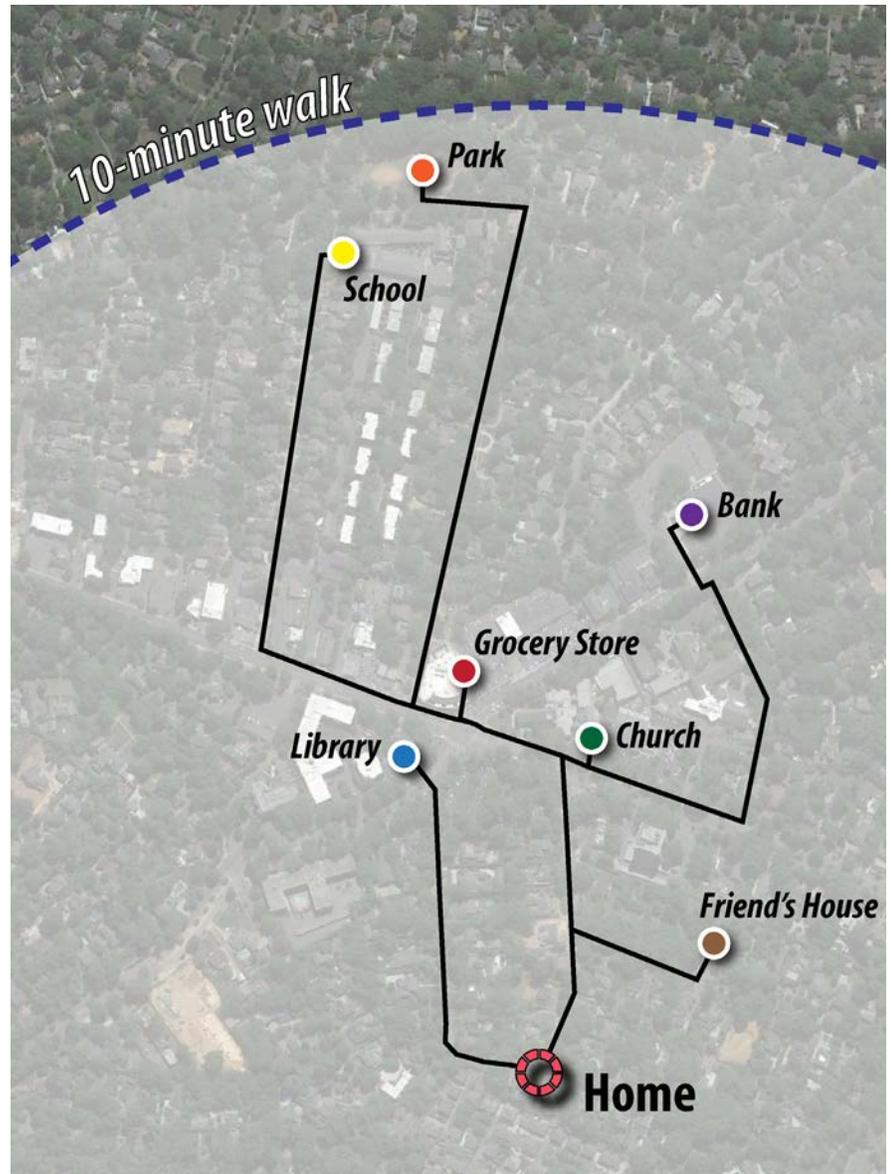
3. USEFUL

People need a reason to walk - whether it's to work, to the store, or just to relax after a long day. Charlotte strives to provide for its citizens daily needs within a convenient walkable proximity and to offer pedestrian pathways that connect those places.



A Useful Walk

A useful walk is all about getting where you need to go on foot. That means two things 1) walkable proximity to a variety of destinations, and 2) sidewalks and pedestrian pathways that connect to those destinations.



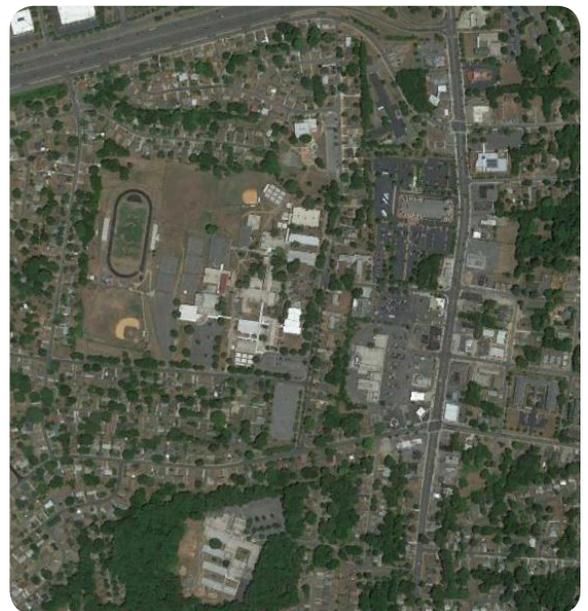
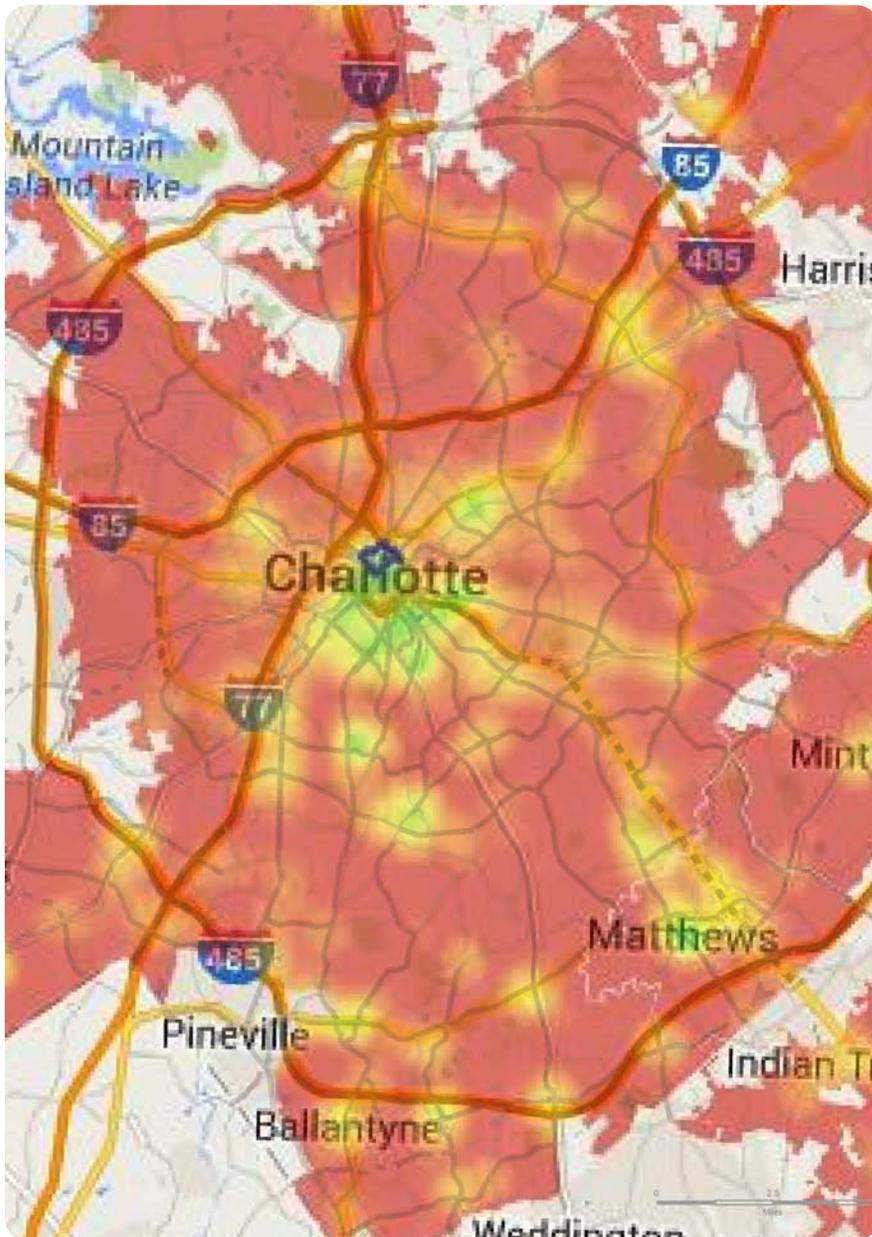
“Walkability means connecting neighborhoods to retail and parks.”

Neighborhoods that offer a variety of destinations within a 10-minute walkable proximity (roughly 1/2 mile) provide the most useful walking experience. These types of “complete neighborhoods” are preferred by Charlotte residents and help make car-optional lifestyles possible.

The Challenge

In 2014 Charlotte had the worst overall Walk Score of the 50 largest metro areas in the country (see map, below left). Walk Score is a measurement of walkable proximity to nearby destinations. It is based solely on land uses, and doesn't consider pedestrian infrastructure. As such, Walk Score might not be a reliable indicator of overall walkability, but it is a helpful measure for evaluating how useful

a walk might be based upon mixture of land uses. The overwhelming success of the Walk Score website within the real-estate industry is evidence of the growing demand for walkable streets and neighborhoods. Charlotte's low Walk Score rating is indicative of a pattern of urban development that creates car-dependent neighborhoods and struggles to provide useful walking environments.



Above: Outside a handful of compact walkable centers (in green), most places in Charlotte don't offer walkable mixture of land uses.

Top Right: Neighborhoods built as disconnected, single-use pods don't offer a variety of opportunities for useful walks.

Bottom Right: Complete neighborhoods allow people to accomplish a variety of daily needs within a 10-minute walkable proximity.



Complete Neighborhoods: Enabling Car-Optional Lifestyles

Complete Streets are streets that accommodate all users (pedestrians, bicyclists, transit riders, and drivers) of all ages and abilities. Similarly, Complete Neighborhoods are neighborhoods that accommodate a variety of land uses and allow residents to accomplish daily needs with a convenient, walkable proximity. Complete Neighborhoods are necessary to enable a “car-optional” lifestyle, sometimes called a “10-Minute” lifestyle because these neighborhoods allow residents to walk to many destinations within 10 minutes. For the average American, a 10-minute walk translates to roughly ½ mile of walking distance. Over half of Americans would prefer to live in this kind of Complete Neighborhood where they do not need to use a car very often.¹

Charlotte has a handful of Complete Neighborhoods that offer offices, grocery stores, churches, coffee shops, and restaurants within a 10-minute walkable proximity. However, most neighborhoods in Charlotte do not enjoy this useful mix of destinations. The key to creating Complete Neighborhoods is a balanced land use mix. That doesn’t mean that all Complete Neighborhoods have huge apartment buildings and office skyscrapers. Some of the most walkable neighborhoods in the world have a density of just 10 dwelling units per acre or less. Neighborhoods at that density typically include a balanced land use mix of primarily single family homes, limited multi-family homes (like townhomes), and neighborhood commercial uses (like pharmacies, coffee shops, and grocery stores).



“Foot” notes

Car-Optional Lifestyles

After our move to Charlotte a little over a year ago, we began to brainstorm on how we could become invested and immersed in the culture and concerns of Charlotte, while simultaneously raising a family. We discovered that transportation was key. When raising young children, carving out additional time to interact deeply with neighbors is nearly impossible. We found that we encountered our community in a more meaningful way outside of our car.

Considering that we live in such a vibrant, bikeable and walkable region of Charlotte, we realized that the majority of our trips were short distances that could easily be accomplished by foot or by bicycle. So we sold our cars and embraced a lifestyle full of bikes, buses, streetcars and an abundance of walking.

This choice has been nothing short of transformative, not only in our pocket books and waistlines, but more deeply in our understanding of equity, inclusion and community living. Despite Charlotte’s car-centric history and sprawling suburbs, we feel incredibly fortunate to live in a place that is so enjoyable for walking and biking. We encourage our neighbors to experience Charlotte without tints or barriers. The reward of knowing the city and its beauty is immeasurable.

- Paul, Anna, and James Benton



The Zoning Ordinance rewrite provides an excellent opportunity to address many of the challenges Charlotte faces with regard to creating more walkable environments, like providing a more balanced mix of walkable destinations.

Action Items

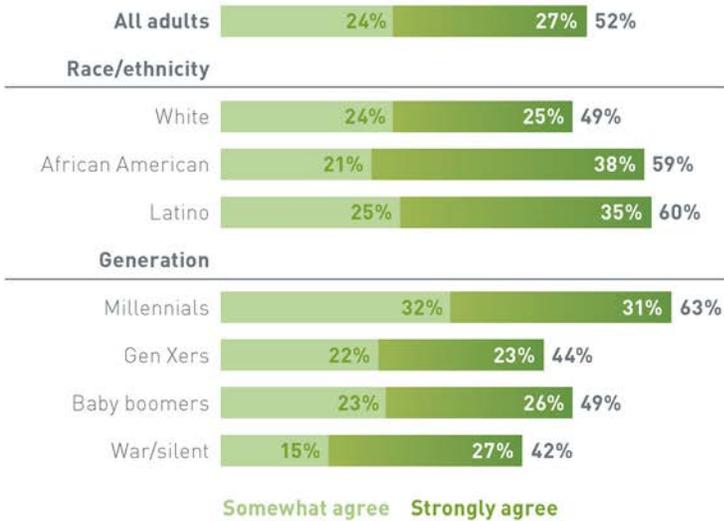
The best way to encourage a balanced land use mix is simply not to prohibit it in City codes and ordinances. Charlotte is currently undergoing a process to define a variety of walkable place types in a Community Character Manual. The Community Character Manual is an important precursor to the rewrite of the Charlotte land development regulations in a Unified Development Ordinance (UDO). The Community Character Manual and UDO will be the most significant overhaul of Charlotte’s development regulations in decades. In order to support Complete Neighborhoods in the UDO, the City will:

- ▶ Include land use flexibility in more zoning districts to allow for a healthy mixture of neighborhood commercial uses;
- ▶ Implement design standards that require the kinds of high quality development which support walkable streets and neighborhoods.

52%
of Americans would like to live in a place where they do not need to use a car very often.

Preference for Car-Optional Places

Percentage of respondents indicating “somewhat” or “strongly” agree, analyzed by major group



A majority of Americans prefer car-optional places. That preference is even stronger among Millennials. (Image Source: Urban Land Institute¹)



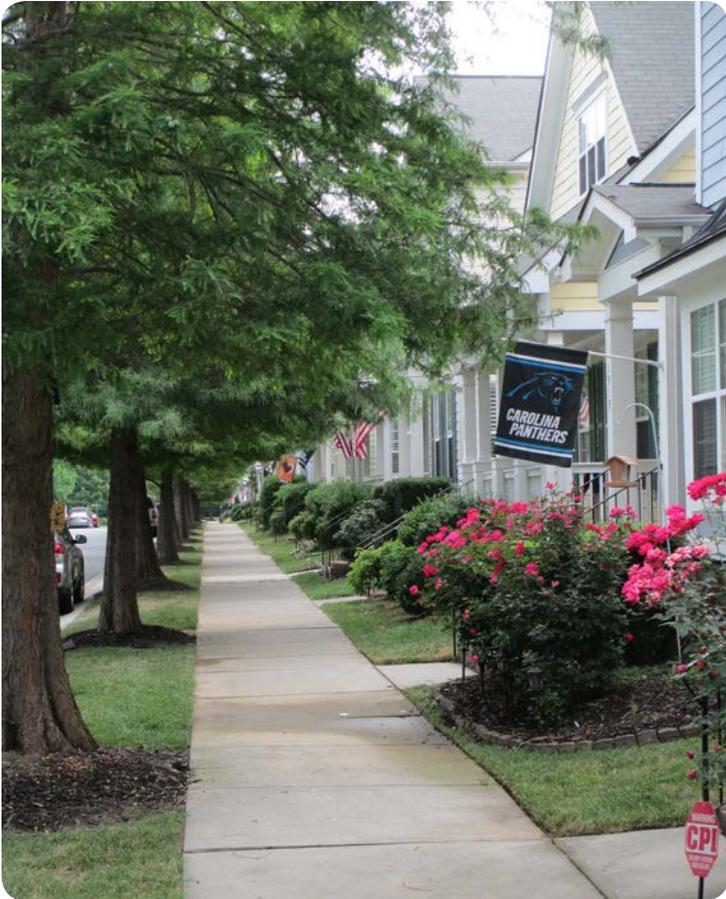


“Every address in Charlotte should be accessible on foot.”

Danny Pleasant -
Charlotte
Transportation
Director

With the right design, a corner store can fit into an existing residential neighborhood. A diverse land use mix requires careful attention to design details to ensure that different uses are compatible with the context of the neighborhood. “Form-Based Codes” are a zoning tool intended to encourage a healthy mix of land uses while protecting community character.

The key to creating neighborhoods that offer a useful walk is a balanced mix of land uses. That can occur in low-density, single-family neighborhoods (below left), or in high-density urban centers (below right).



Charlotte, NC (Uptown) - 160 intersections per mi²



Savannah, GA (Historic District) - 600 intersections per mi²



Los Angeles, CA (Downtown) - 150 intersections per mi²



Irvine, CA - 15 intersections per mi²



Above: Street network diagrams illustrate how small blocks create a more useful walking experience.

Connectivity & Wayfinding

To have a useful walk, you need a basic knowledge of your destination and a means to get there. Neighborhood connectivity is a crucial consideration for walkability. A fine-grained street network:

- ▶ disperses automobile traffic so that cars aren't forced onto a small number of high-volume thoroughfares, which creates a more pleasant walking experience;
- ▶ provides more crossing opportunities for pedestrians; and
- ▶ creates a more efficient, comfortable, and useful pedestrian and bicycle network.

Intersection density is essentially a measure of accessibility to destinations. Intersection density is the number of intersections in an area. It corresponds closely to block size — the greater the intersection density, the smaller the blocks. Smaller blocks provide more connections and make an area more walkable. Some studies have shown that, of all the built environment measurements, intersection density has the largest effect on walking — more than other common walkability indicators like population density or distance to a store.²

Venice, Italy - 1,500 intersections per mi²



The block diagrams above and opposite illustrate this principle. Intersection density measurements for each of these images are listed below.

- 15 intersections per square mile – Irvine, CA
- 60 intersections per square mile – Salt Lake City, UT (Downtown)
- 80 intersections per square mile – Charlotte, NC (Citywide Average)
- 150 intersections per square mile – Los Angeles, CA (Downtown)
- 160 intersections per square mile – Charlotte, NC (Uptown)
- 500 intersections per square mile – Portland, OR (Downtown)
- 600 intersections per square mile – Savannah, GA (Historic District)
- 1,500 intersections per square mile – Venice, Italy

Charlotte has an intersection density of roughly 80 intersections per square mile. An intersection density of 150 intersections per square mile is generally considered to be the minimum threshold for a truly walkable place. Charlotte achieves this level of connectivity in a few places, but the majority of the city does not offer this level of pedestrian accessibility.

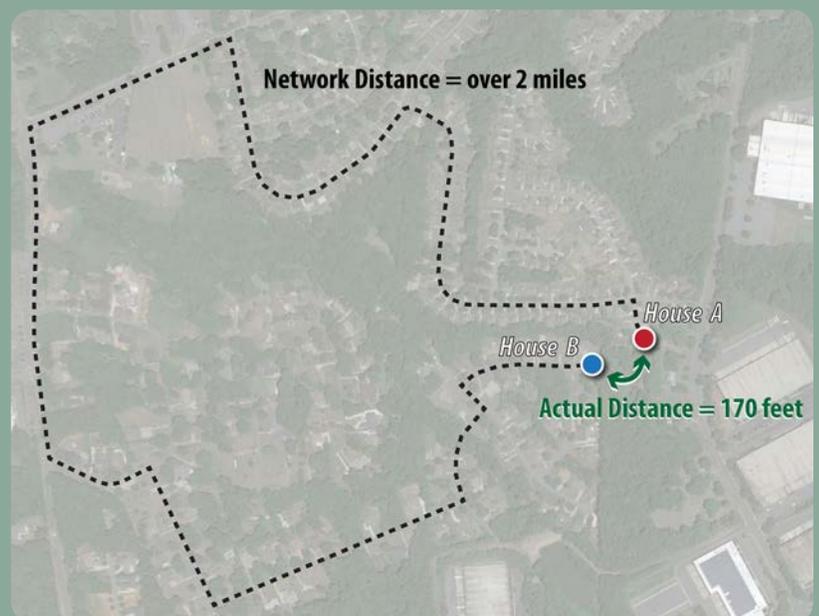
“Foot” notes

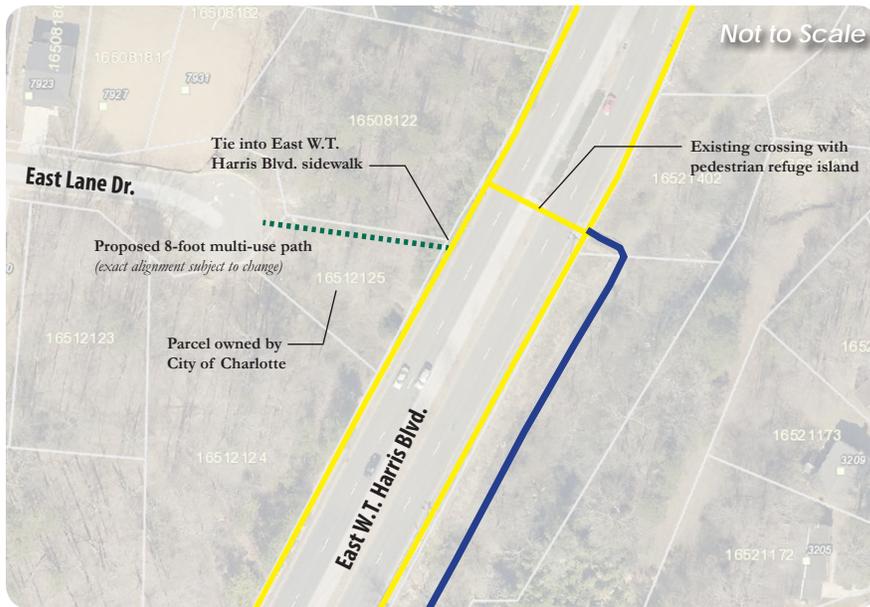
“Cup of Sugar” Test

Neighborhood connectivity is frequently a function of subdivision design. Subdivisions with lots of cul-de-sacs and few connections to adjacent streets, neighborhoods, and activity centers create very challenging walking environments. These kinds of neighborhoods have a low connectivity ratio and a high pedestrian network distance.

A useful real-world measurement of this principle is the question, “How long does it take to borrow a cup of sugar?” In many Charlotte neighborhoods, the answer to that question is longer than you might think. In the example below, the physical distance between two homes at the end of cul-de-sac streets is only 170 feet, but the pedestrian network distance is 11,500 feet. That’s over two miles! In this situation it would take the person in house A approximately two hours (using the street network) to walk to her backyard neighbor in house B, borrow a cup of sugar, and walk home.

Better neighborhood connectivity is crucial for creating a useful walking environment.





LEGEND

- = Campbell Creek Greenway
- = Existing sidewalks on East W.T. Harris Blvd.
- - - = East Lane Dr. cul-de-sac connection

Pedestrian/bicycle connections at the end of cul-de-sac streets are a low-impact way to improve neighborhood connectivity. This project at the end of East Lane Drive is currently in design. When it is complete, the project will provide a new pedestrian and bicycle connection to Harris Boulevard and the Campbell Creek Greenway. The current pedestrian network distance from the end of East Lane Drive to Campbell Creek Greenway is 1.5 miles. When the project is complete, that distance will be reduced to a few hundred feet.

There are a few ways that the City can improve connectivity, from large-scale projects that build new roads to small ped/bike connections between cul-de-sacs.

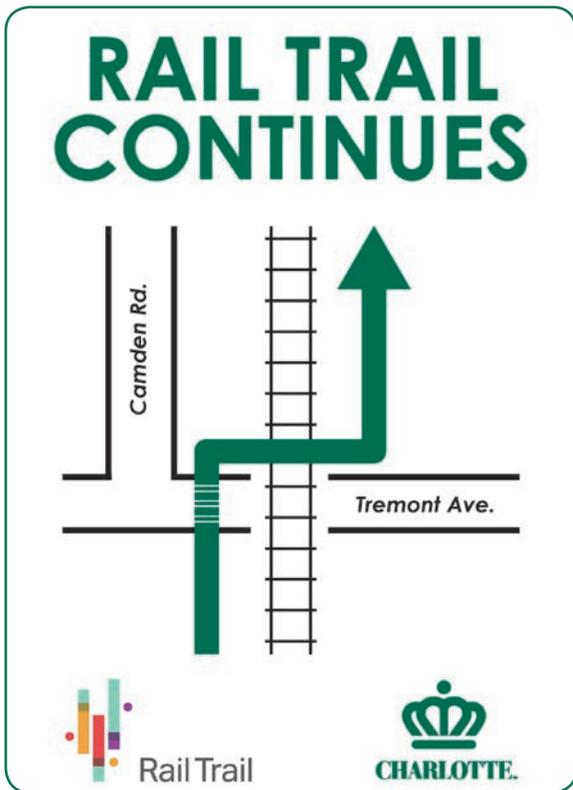
Just as important as connectivity is the knowledge of place that helps guide pedestrians to a variety of destinations. Wayfinding – in the form of signage, pavement markings, and maps (both digital and traditional) – is a key component of successful pedestrian and bicycle networks. This is an especially useful amenity for visitors who may be unfamiliar with major pedestrian and bicycle corridors/districts. Effective wayfinding also communicates the proximity of nearby destination and encourages people to walk or bike instead driving.

Uptown Charlotte has a comprehensive pedestrian wayfinding system with colorful maps and signposts to important destinations located at key intersections. Wayfinding is also important for overcoming small gaps in an otherwise contiguous pedestrian/bicycle network.

Action Items

In order to improve connectivity and wayfinding, the City will:

- Seek out opportunities to create pedestrian and bicycle connections that reduce the overall network distance for non-motorized transportation. Such opportunities may include connections to cul-de-sacs, connections to greenways, midblock connections between long blocks, and connections across barriers (such as creeks and railroads).
- Continue to install wayfinding signage as appropriate to support high-volume pedestrian and bicycle corridors (e.g., the Rail Trail, the Cross Charlotte Trail) and districts (e.g. Uptown).



Pedestrian connections should be clear and obvious to all users, especially along signature facilities like greenways and rail trails. This wayfinding signage on the Charlotte Rail Trail helps pedestrians and cyclists navigate a tricky spot. Wayfinding should be provided so that first-time visitors have no problem sticking to the path.



Access to Schools

Improving pedestrian access to schools is a critical issue for schools, for students, and for the parents who don't feel comfortable encouraging their children to walk. Of the 250,000+ people in Charlotte who don't drive, nearly 200,000 are school-aged children. In previous generations walking to neighborhoods schools was the norm. Auto-oriented development and school consolidation have both played a role in making pedestrian access to schools very difficult. The number of children who walk to school has fallen from 50% in 1969 to less than 15% today.³ It should come as no surprise that since 1980 the nationwide childhood obesity rate has almost tripled and the adolescent obesity rate has more than quadrupled.⁴

In North Carolina, we have the 5th highest rate of childhood obesity in the country,⁵ partially because it is so difficult for students to incorporate a walk to school as part of their everyday physical routine. On the flip side, walking to school has been shown to improve self-confidence and cognitive function in students.⁶

“Walkability means community and connectivity”

Dick Winters (right) pictured with his granddaughters and US Secretary of Transportation Anthony Foxx (Charlotte's former Mayor)



“Foot” notes

Safe Routes to School

It was the probability of my granddaughters not being able to walk to Cotswold Elementary School that got me interested in the national Safe Routes to School initiative. While only living 5 blocks from school, the major arterials they would have to cross all but eliminated walking as an option. Our local partnership secured a grant to make walking to school safer. Our first major event was International Walk to School Day, held the 1st Wednesday of every October. Turnout was exceptional and led the Cotswold PTA to create a permanent work group that holds monthly walking events. Many other schools in CMS have followed suit and now hold regular walk days. The sheer fun of walking with your classmates, coupled with the positive effects of physical activity on classroom performance, make walking to school a critical part of our children's lives.

- *Dick Winters, Safe Routes to School Coordinator (Mecklenburg County Health Dept.)*



School Zone Policy

The safety of students walking to and from school is the joint responsibility of parents, school administrators, other public officials, and the general public. School crossings and school speed zones are intended to offer an extra measure of traffic control and pedestrian safety in areas around schools. However, traffic control devices can accomplish nothing unless they generate an appropriate response on the human level. The effectiveness of school speed zones depends in a large measure upon public understanding of accepted methods for effective traffic control and enforcement by public safety officials.

In order to create consistent expectations for traffic control within school zones, the Charlotte Department of Transportation maintains the “School Zone Policy” with guidelines for the establishment of school speed zones and school crossings in the City of Charlotte.

The School Zone Policy sets out the most appropriate type and placement of traffic control device for pedestrian safety around schools. The type of school area traffic control used, either warning or regulatory, must be related to the volume and speed of traffic, street width, and the number and age of children crossing. For example, the traffic controls necessary for a school located on a major highway are different than those needed on a residential street.

The School Zone Policy was simplified and updated, as part of the Charlotte WALKS Pedestrian Plan, to incorporate the latest best practices for school crossings and school speed zones. It is included as Appendix __ at the end of this plan.

Each year, CDOT will update school zone treatments through regular street resurfacing and roadway projects, as well as independent school zone projects on a rotating basis.

Action Items

In order to improve pedestrian access to schools, the City will:

1. Complete **at least 4** school zone upgrades every year. School Zone projects update signage, flashers, pavement markings, and pedestrian crossings. The city’s School Zone Policy was updated in conjunction with the preparation of this Charlotte WALKS plan to reflect current best practices in pedestrian and traffic safety. (See the School Zone Policy “Foot”note at left.)
2. Continue to prioritize new sidewalks and pedestrian crossings projects based upon proximity to schools. The Pedestrian Program routinely funds independent projects that are intended to provide better access to schools. The Pedestrian Program has an overall goal of installing 10 miles of sidewalk and 15 new pedestrian crossings each year. Of those projects, **at least two sidewalk projects and three new pedestrian crossings** will be within ¼ mile of a school.
3. Coordinate with Charlotte-Mecklenburg Schools, Mecklenburg County Greenways, and Mecklenburg County’s Safe Routes to School program to identify and pursue collaborative projects that improve pedestrian and bicycle access to schools.



Access to Transit

The average weekday ridership of the Charlotte Area Transit System is 86,200. That number is expected to grow rapidly as Charlotte’s population, transit system, and the demand for car-optional lifestyles are all growing rapidly.

The foundation of any good transit system is a connected pedestrian network that provides convenient access to bus, light rail, and streetcar stops. This is often referred to as the “First and Last Mile” issue. The first and last mile of nearly all transit trips depends on walkable environments. Barriers to walkability are often barriers to successful transit systems. The easier it is to access the transit system on foot or bike, the more likely people are to use it.

The Charlotte Department of Transportation and the Charlotte Area Transit System collaborate continually to improve walkability and address first/last mile issues. The City of Charlotte supports its investments in public transit with investments in pedestrian infrastructure like sidewalks and pedestrian crossings. In addition, the City’s Pedestrian Program focuses its work on transit access by using proximity to transit stops as a key factor in prioritizing standalone pedestrian projects.



Good transit options extend the pedestrian network. By the end of the decade, Charlotte will have 18.9 miles of light rail and 4 miles of streetcar in place through the recent Blue Line Extension and CityLYNX Gold Line projects. The Charlotte Area Transit System outlines a vision for further expansion of the rail network in its 2030 Transit Corridor System Plan.

One area where the city could improve its approach to transit accessibility is the city’s Sidewalk Retrofit Policy. The goal of the policy is to install sidewalks on both sides of all thoroughfares and one side of all non-thoroughfares. The City should consider amending that policy to include a sidewalk installation goal on both sides of all streets within ½ mile of rail transit stations. That would permit more flexibility in dedicating resources to first/last mile barriers and improve access to major transit stations.



Action Item

In order to improve pedestrian access to transit, the City will:

- ▶ Amend the City's Sidewalk Installation Policy to pursue sidewalk on both sides of all streets within ½ mile of rail transit stations.
- ▶ Continue to prioritize new sidewalks and pedestrian crossings based upon proximity to transit stops.

"Walkability means freedom from car ownership."

"Walkability means running trails."

Access to Parks & Greenways

Parks and greenways are among the most desirable community assets in Charlotte. Mecklenburg County is home to 210 park facilities located on more than 17,600 acres. Charlotte residents indicate that parks/greenways are their 3rd most important walking destination, behind grocery stores and restaurants/bars. Providing safe and convenient access to parks is an important part of creating a more livable and economically competitive city.

Greenways are a critical to Charlotte's pedestrian network. Support for greenways as recreational and commuter corridors is at an all-time high. Greenways frequently fill gaps in the pedestrian network and offer safe and comfortable alternatives to walking along busy thoroughfares. There are currently 37 miles of developed (paved) and 150 miles of undeveloped (dirt or crushed gravel) greenways in Mecklenburg County. Regionally, the Carolina Thread Trail is network of over 500 miles of greenways and trails that reaches 15 counties and 2.3

EXTENDING THE PEDESTRIAN NETWORK

By the end of this decade Charlotte will have...



4 miles of streetcar

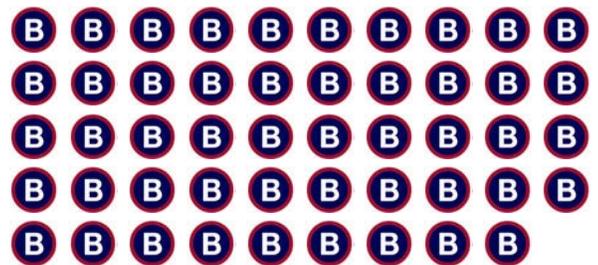


18.9 miles of light rail

26-mile Cross Charlotte Trail

62+ miles of total greenways

49 bike share stations



million citizens. An important addition to that network over the next 5-10 years will be the Cross Charlotte Trail. (See “Foot”note at right.)



Action Items

In order to improve pedestrian access to parks and greenways, the City will:

- Improve pedestrian access to public trails.
- Improve the intersections of high-volume urban trails and city streets.
- Continue to prioritize new sidewalks and pedestrian crossings based upon proximity to parks and greenways.
- Collaborate with Mecklenburg County Park & Recreation to identify cost-share opportunities for new greenway connections and sidewalks.

Endnotes

1. *Urban Land Institute. America in 2015: Survey of Views on Housing, Transportation, and Community. 2015.*
2. *Ewing, Reid and Robert Cervero. Travel and The Built Environment: A Meta-Analysis. Journal of the American Planning Association. 2010.*
3. *Peirce, Neal. Biking and Walking: Our Secret Weapon? Intelligent Cities Initiative. 2009.*
4. *Gotschi, Thomas and Kevin Mills. Active Transportation for America: The Case for Increased Federal Investment in Walking and Bicycling. Rails to Trails Conservancy. 2008.*
5. *U.S. Department of Health and Human Services, Centers for Disease Control and Prevention. Behavioral Risk Factor Surveillance System data. 1995-2010.*
6. *British Psychological Society. Walking to school gives boost in class. 2013.*

“Foot”notes

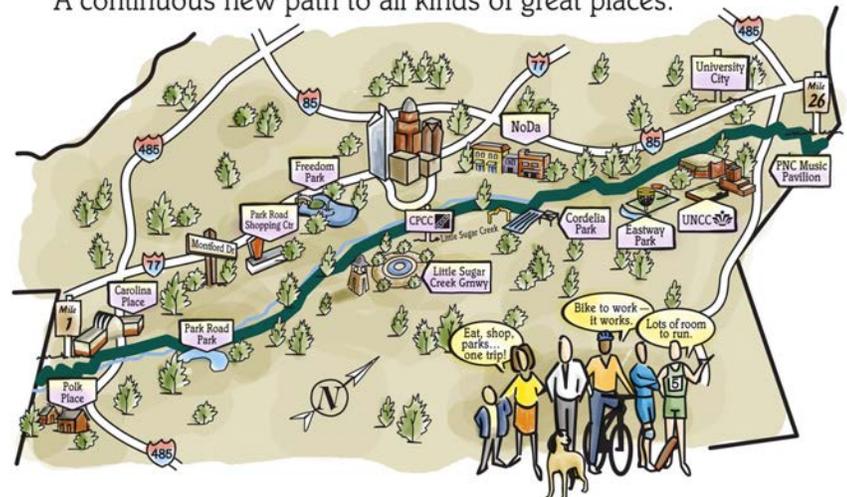
The Cross Charlotte Trail

The 26-mile Cross Charlotte Trail (XCLT) project has captured the imagination and excitement of Charlotte residents. Once completed, the XCLT will stretch from one end of Mecklenburg County to the other - from the South Carolina line through the City of Pineville, Center City, and UNC Charlotte campus to the Cabarrus County line. The trail will connect to many neighborhoods, employment centers, cultural institutions, parks, and other treasured places. Approximately 98,000 jobs and 80,000 residents will be within ½ mile of the proposed trail!

The XCLT is a partnership between the City of Charlotte and Mecklenburg County Greenways. It will be a transformative project and an incredibly valuable extension of the on-street pedestrian and bicycle network. The Cross Charlotte Trail Master Plan was published in October 2015, and various segments of the trail are already complete and under construction. Important links to Cordelia Park, the NoDa neighborhood, Marion Deihl Community Park, and the Park/Selwyn area will be the next segments finished.

CROSS CHARLOTTE TRAIL

A continuous new path to all kinds of great places.





4. INVITING

The best walks are along streets that are comfortable, attractive, well-proportioned, and lined with interesting activities. The design of Charlotte's streets should offer a beautiful and stimulating pedestrian experience.



An Inviting Walk

Streets are our primary public spaces. 13% of all land in Charlotte is streets. That accounts for over half of Charlotte's public space. To encourage walkability, it's necessary for our streets and public spaces to be safe and useful for pedestrians - but they also have to be more. Our streets must provide an inviting pedestrian experience – a comfortable, interesting, and attractive walking environment that makes walking a pleasure.

There are places in Charlotte that do this very well, but many of our streets and neighborhoods do not offer an environment that invites people to walk. Of the three characteristics of walkability discussed in the Charlotte WALKS plan – Safe, Useful, and Inviting – creating an inviting pedestrian experience is probably the most elusive. It might also be the most frequently overlooked.

Creating an inviting pedestrian experience is all about the quality of the place. It's the characteristic of walkability that reveals a broader truth – walkability isn't just about sidewalks, crosswalks, and planting strips; it's about creating great places.

That can mean different things in different parts of Charlotte. In leafy residential neighborhoods an inviting walk may entail large maturing streets, sidewalks, front porches, and interactions with friendly neighbors. In Uptown an inviting walk may involve food trucks, flowering planters, public art, street-front retail, windows, and awnings. Creating an inviting walk is not about creating a singular condition of urban walkability throughout all of Charlotte. It is about a context-sensitive approach that identifies what elements are necessary to make walking more pleasant in every neighborhood.

“Walkability means being able to get around in an inviting environment.”

“Walkability means sidewalks with interesting streetscapes.”

“Walkability means a friendlier, more peaceful city.”

The Challenge

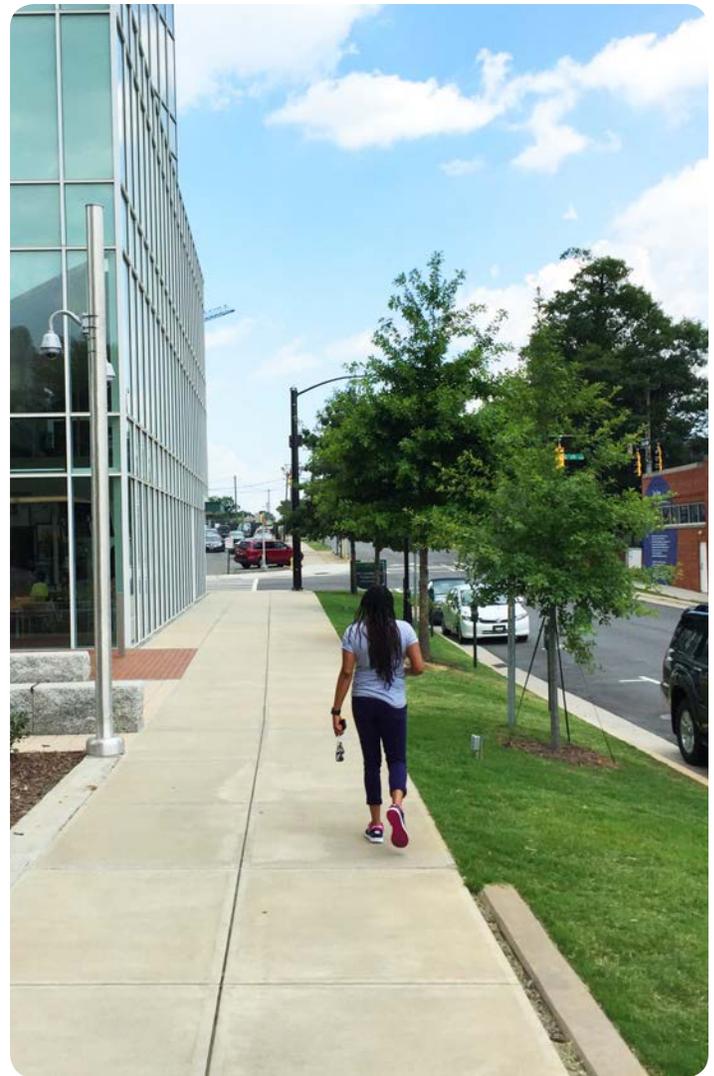
In 2014 a survey of Charlotte households was completed as part of the National Citizen Survey. The results of the survey were very favorable in terms of how Charlotteans feel about Charlotte in general – for example, 88% of respondents rated Charlotte as an “Excellent” or “Good” place to live – but walkability is one area where residents indicated we are lacking.¹

24% of residents rated the ease of walking as poor. And compared to our peer cities (44 other cities with populations between 200,000 and 2.5 million), the survey results

indicated that Charlotte is lacking in both ease of walkability and frequency of walking or biking, instead of driving.

Charlotte was also recently ranked the 5th most sprawling large metropolitan area (population over 1 million) in the country.² “Sprawl,” as contemplated in that study, translates into wide roads, generic development, and lack of streetscape presence – all things that devalue the walking experience in favor of the car. As mentioned previously, Charlotte, like most other Sunbelt cities, is a place that was built for cars. Creating an inviting pedestrian experience will require the coordinated efforts of many groups to overcome that legacy of auto-oriented development.

Creating an inviting pedestrian experience is all about the quality of the place. Some streets in Charlotte offer very comfortable and inviting walking environments (bottom right), others do not (bottom left).

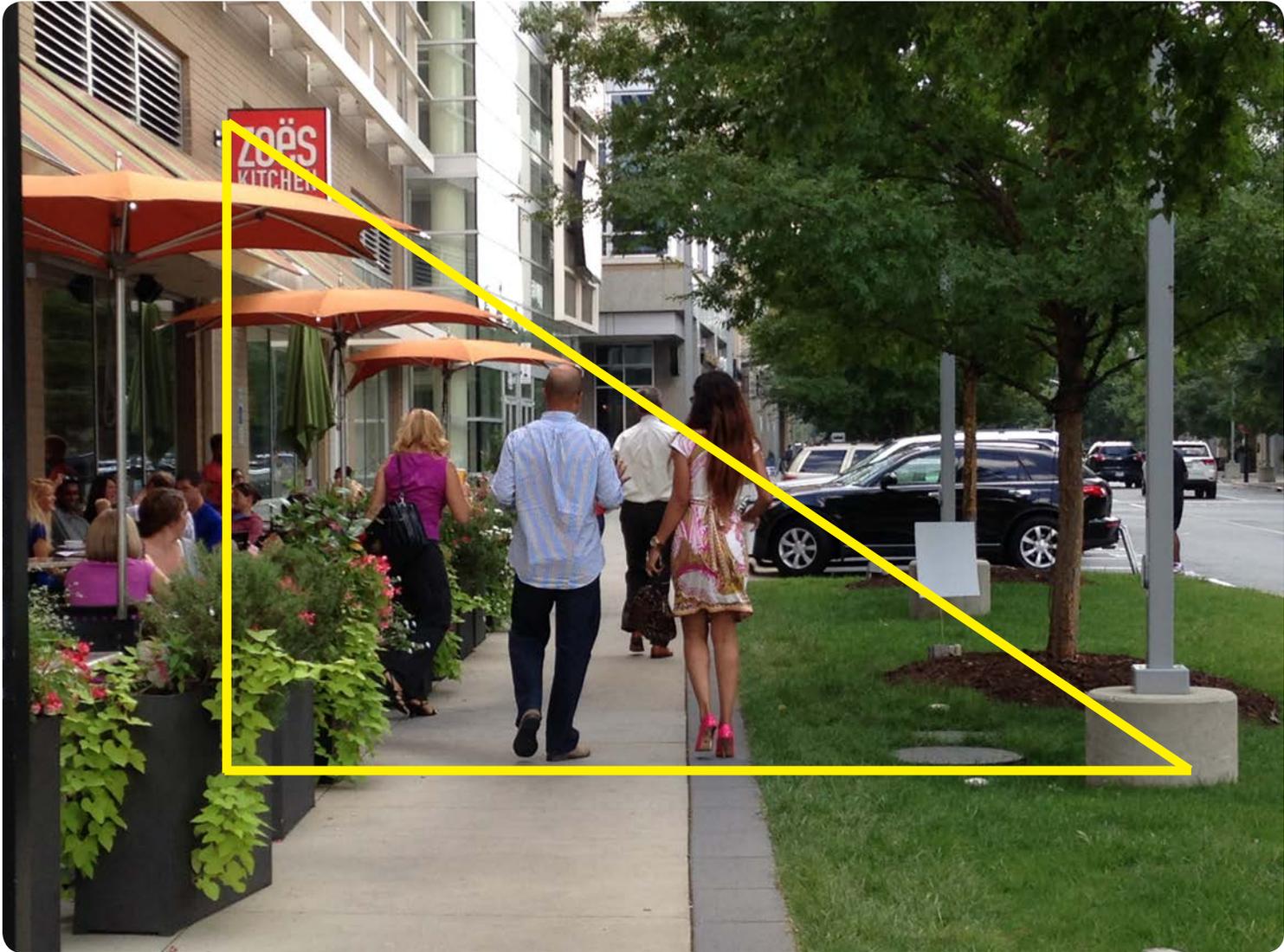


*(Map of Preferred Places to Walk from Surveys –
Other than your own neighborhood, what is the
best place in Charlotte for a walk?)*

The Golden Triangle

Inviting pedestrian environments are a complex mix of physical characteristics. When designed correctly those characteristics add up to whole that is greater than the sum of their individual parts. Perhaps the simplest way to examine the elements of an inviting walking environment is to break them down into horizontal and vertical components.

The horizontal components typically include the infrastructure beneath your feet, like wide sidewalks, frequent pedestrian crossings, generous planting strips, and a fine-grained network of streets and blocks. The vertical components typically include the land use and urban design characteristics of adjacent properties, like buildings and street trees that create a sense of enclosure,



The “Golden Triangle” - Urban

Horizontal – buffer from cars, on-street parking, wide sidewalks, street furniture, café dining, short blocks, frequent crossings
Vertical – 1st 25 feet from ground level, sense of enclosure, permeable, windows/doors/awnings NOT parking lots



windows that create transparency, awnings, and porches. The first 25 feet of vertical space is the most important, as pedestrians rarely perceive architectural characteristics higher than 25 feet from ground level.

Together, the horizontal and vertical components of the pedestrian environment create what some urban designers call the

“Golden Triangle.” Nearly all of the physical characteristics that make a street walkable are within this Golden Triangle. Getting the Golden Triangle right creates an outdoor living room – a place where pedestrians are invited to walk, sit, linger, play, talk with neighbors, and enjoy the street as a public space.



The “Golden Triangle” - Suburban

Horizontal – buffer from cars, wide sidewalks, short blocks, frequent crossings

Vertical – 1st 25 feet from ground level, sense of enclosure, permeable, trees & porches NOT garages and driveways

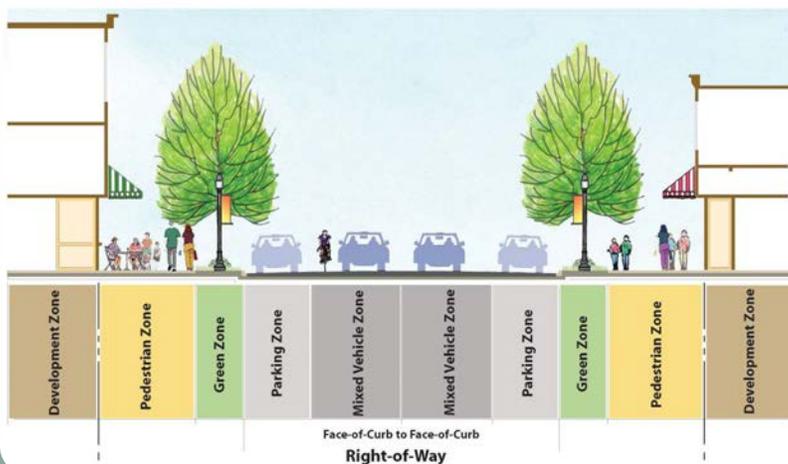
Urban Street Design Guidelines

The appropriate width for sidewalks is very much a function of context in terms of the adjacent land use and the greater transportation network. Adopted in 2007, the USDG is a nationally recognized document that provides context-sensitive guidance for street design, including sidewalk width, planting strip width, bike facilities, etc.

In many places, street types are traditionally based upon a system of functional classification. That system categorizes streets according to how many cars they can carry. In contrast, the USDG establishes street types based upon the desired character of the street and adjacent neighborhood. The underlying message of that approach is this: Creating great places through context-sensitive street design is more important than moving the greatest amount of cars as quickly as possible. In 2009, the USDG received the U.S. EPA Award for Smart Growth Achievement for implementing this approach.

The USDG identifies the following basic street types: Parkways, Boulevards, Avenues, Main Streets, Local Residential Streets, Local Commercial Streets, and Industrial Streets. Each street type is accompanied by text and diagrams that explain the appropriate dimensions and how that street type should be applied within different land use contexts. The USDG has become the foundation for building Complete Streets in Charlotte. Street design expectations for both public and private projects are tied specifically to the USDG.

Main Streets



The Pedestrian Environment: Horizontal

The horizontal components of the pedestrian environment typically include the infrastructure beneath your feet, like sidewalks, pedestrian crossings, planting strips, a fine-grained network of streets and blocks.

Wide Sidewalks

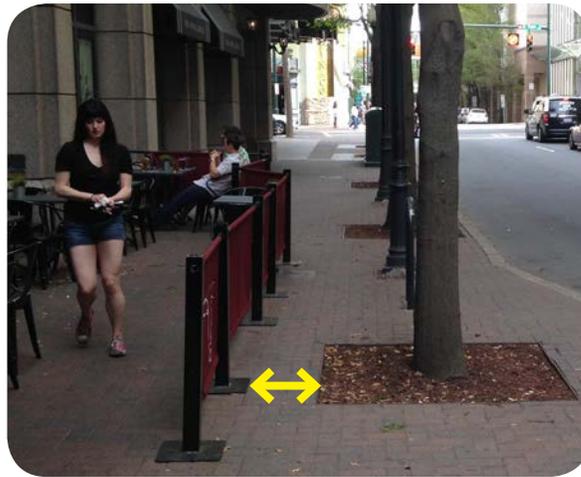
Especially on busy urban streets, sidewalks are the single most important element of walkability. It's important that sidewalks are wide enough to accommodate strollers, dog walkers, parents with children, and couples walking side-by-side. The minimum acceptable width required by ADA is 4 feet at pinch points, but that is far from desirable. Charlotte residents indicated that sidewalk width is the second most important consideration in creating an inviting pedestrian experience (behind only the presence of street trees).

Charlotte's Urban Street Design Guidelines (USDG) are City's the primary tool for determining on sidewalk width. On larger busy arterials (frequently called "thoroughfares") the minimum recommended sidewalk width is 6 feet. On smaller, residential streets (sometimes called "non-thoroughfares") the minimum recommended sidewalk width is 5 feet. In many places, especially mixed-use activity centers with café seating, sidewalks must be much wider to accommodate all of the activity that occurs within the streetscape. Sometimes sidewalks serve as part of a large greenway system that is intended to accommodate bicyclists as well as pedestrians. In those instances, a multi-use path of at least 12 feet wide is typically required.

Action Item

In order to support Charlotteans strong preference for wide, comfortable sidewalks, the City will:

- ▶ Incorporate stronger language in the City Code about maintaining unobstructed walking space.
- ▶ Continue to apply the Urban Street Design Guidelines (USDG) to determine recommended sidewalk locations and widths on capital projects.



Competition for sidewalk space in mixed-use activity centers can lead to undesirable pinch points if sidewalks are not wide enough. In such instances, sidewalks of 20+ feet are typically necessary to accommodate pedestrian traffic, sidewalk dining, street trees, light poles, bus shelters, bicycle parking, street furniture, etc.



Multi-use pathways, like the Rail Trail, must be wide enough to accommodate a wide variety of user types (pedestrians walking side-by-side, dog walkers, strollers, joggers, bicyclists, etc.) all at once. The typical minimum width for multi-use pathways is 12 feet.

Planting Strips

Other than sidewalks, there is nothing more essential to creating a walkable place than some kind of separation from moving traffic.

Sidewalks located directly adjacent to moving traffic are better than no sidewalk at all, but not by much. These “back-of-curb” sidewalks do little to improve pedestrian comfort. Pedestrians prefer a distance of at least 2 to 4 feet between their path of travel and moving cars. This is called a “shy distance.” (See “Back-of-Curb sidewalks on page ____.”)

Planting strips also provide a designated area to accommodate street trees and the important role they play within the streetscape. (See “Street Trees” on page ____.)

Action Items

In order to provide adequate planting strips/ areas, the City will:

- ▶ Develop guidelines for planting trees in planters and tree wells.
- ▶ Clarify options for hardscape amenity zones.

Also see Back-of-Curb sidewalks on page ____ and “Street Trees” on page ____.



Planting strip on Colony Road

On-Street Parking

On-street parking can be a very effective strategy for enhancing walkability in retail districts and compact walkable centers. In addition to providing high-turnover parking for retailers, on-street parking creates a physical barrier between moving cars and pedestrians on the sidewalk.

When managed correctly on-street parking also provides convenience parking, increases sales, and generates public revenue that can be reinvested in the community. In instances with constrained street space, the need for on-street parking should be balanced with other important needs, like wide sidewalks, tree wells or plantings strips, protected bike facilities, and/or placemaking amenities. In “Main Street” environments however, there are few things as effective for enhancing walkability as on street parking.

Action Items

In order to improve walkability in retail districts and compact walkable centers, the City will:

- ▶ Continue to apply the Urban Street Design Guidelines (USDG) to establish on-street parking areas.



On-street parking at Piedmont Row

Space for Street Life

Street life is supported by walkability elements that make the street feel comfortable, like a public living room. Street life happens when passersby stop to watch people who have made the street their personal stage.

Walkability elements include art, benches, café seating, drinking fountains, wayfinding signage, recycling and waste containers, bus shelters, street trees, planters, decorative paving, sidewalk performers, etc. Those walkability elements require horizontal space within the streetscape.

Action Items

In order to support a comfortable and inviting pedestrian experience, the City will:

- ▶ Provide adequate space, according to the context, between buildings and the curb to support street life and walkability.
- ▶ Require alternative compliance if projects cannot meet the walkability standards in zoning districts with optional provisions.

Also see Key Issue #4 on page ____ for more specific recommendations.



Parklets extend pedestrian space on Tryon Street

“Foot”notes

Planning for Walkability

Planning for walkability is one of our region’s most important considerations as we guide the growth and development – and redevelopment – of our communities. Walking around a park or street festival, or even a shopping center, connects us to that place. And feeling connected to a place is what encourages us to invest our money and time, build relationships, and create memories.

The walkability of Charlotte is also what makes our various neighborhoods so attractive and distinct. Whether I’m walking through Uptown to a light rail stop, or just out walking my dog, I take in something new each time.

Communities that successfully foster economic and cultural vitality first create places where residents, workers, and visitors can walk to experience destinations and feel like a part of the community. This is why I enjoy being a transportation planner for the Charlotte Regional Transportation Planning Organization (CRTPO).

Experiencing our community on foot is critical to helping others plan for walkability!

- Curtis Bridges, Bicycle & Pedestrian Workgroup Coordinator (CRTPO)



Bicycle network map

Since adopting the 1999 Bicycle Plan, Charlotte has installed over 93 miles of bike lanes and paved shoulders and 51 miles of signed bike routes.



Space for Bikes

Bike facilities extend the pedestrian network. Together with public transit, bike facilities provide an essential complement to walkable neighborhoods that enable car-optional lifestyles. Bike facilities also create a buffer between car traffic and pedestrian space. In fact, in locations with back-of-curb sidewalks, bike lanes might be the only buffer between pedestrians and moving cars. So providing space for bikes within the streetscape is an important consideration for pedestrian comfort and safety. A city with pedestrians and cyclists everywhere, is a safer because drivers tend to be more aware of other modes and drive more cautiously.

Charlotte BIKES, the two-wheeled counterpart to this pedestrian plan, describes Charlotte's vision to implement a network of bicycle facilities for all types of bicyclists – from the hesitant beginner, to the experience road rider. One notable instance where the goals of Charlotte WALKS and Charlotte BIKES overlap is in the provision shared-use pathways for both pedestrians and cyclists. These shared-use pathways can be anything from small connections between cul-de-sacs to large greenway projects like the Cross Charlotte Trail.

Action Items

In order to provide more connections for bicyclists and pedestrians, the City will:

- ▶ Continue to identify and install shared-use connections for both pedestrians and bicycles.
- ▶ Consider upgrading key sections of sidewalk to multi-use paths that fill gaps in the bicycle network.
- ▶ Revise the streetscape standards in the USDG to include new types of bicycle facilities, like parking protected bicycle lanes and cycle tracks.

See the Charlotte BIKES Bicycle Plan for much more information about Charlotte's approach for improving bicycle mobility.



Driveways & Alleys

Driveways are important for vehicular access, but too many driveways hinder walkability. Driveways introduce turning movements and vehicular conflicts for pedestrians and cyclists. Driveways also disrupt streetscape continuity and occupy space that could otherwise be used for street trees and active building frontage.

An ideal way to reduce the number of driveways is through the use of service alleys. Alleys are an incredibly important and overlooked part of the transportation network. Alleys provide vehicular access to properties without impeding the primary streetscape. Alleys also provide space for utilities, loading zones, and garbage storage/collection. Many of the most walkable cities and neighborhoods in the country rely on a system of strategically placed alleys to support their primary roadways.

Charlotte used to have an extensive system of alleys throughout Uptown and its nearby neighborhoods. The vestiges of that alley system can still be seen in some places, but over the past 60 years most of those alleys have been lost to new development.

The City should reintroduce alleys into the transportation network, especially in developments with narrow parcels where lots of driveways would pave over the streetscape.

Action Items

In order to prevent driveways from disrupting an inviting walk, the City will:

- ▶ Prohibit front-loaded townhomes (or other narrow-lot uses) that impede the pedestrian experience.
- ▶ Consolidate driveways through redevelopment.



Above: Alleys in the Lela Court neighborhood provide rear vehicular and service access. This supports walkability by preserving a consistent, attractive, tree-lined streetscape in front of the homes.

Below: Narrow-lot developments without rear alleys have front-loaded garages that disrupt the pedestrian experience along the block. There is no streetscape here, just driveways.

Image of Third Ward narrow lot development w/o alleys

Livability: 8 to 80

Pedestrians are “the canary in the coal mine of urban livability.” (Jeff Speck. *Walkable City*. 2014.) When the horizontal and vertical components of an inviting walk are assembled in the right way, pedestrians and street life thrive. An instructive way to think about livability and the pedestrian environment is the “8 to 80” test. “Does the pedestrian environment provide a safe, useful, and inviting pedestrian experience for an 8-year-old or an 80-year old?” Or put into other terms, “Would you let your children or your grandparents walk there?”

Streets that are designed to offer livable environments for children and seniors, will provide livable environments for everyone else.

This means creating connected sidewalk networks, providing curb ramps with gentle slopes, giving enough time for slow-moving pedestrians to cross at signals, buffering sidewalks from traffic, and planting street trees that provide shade. Essentially 8 to 80 design means taking an even more comprehensive approach to the things that are necessary for walkability.

Walkability is especially important for children and seniors. Children and seniors are among the populations who depend the most upon public transit, pedestrian networks, and/or friends and family to get around. For them the 8 to 80 design standard offers freedom and independence.

The Pedestrian Environment: Vertical

The vertical components of a pedestrian environment are the things like street trees and building fronts that help to define the public realm by providing a sense of enclosure. This important characteristic is what transforms streets into outdoor living rooms where public life is shared and enjoyed by all.

Street Trees

Trees are special to Charlotteans. Charlotte has an impressive and enduring legacy of supporting its stunning tree canopy, and over the years it has become known by many as the “City of Trees.” In 1980 Charlotte was recognized as a “Tree City USA” by the Arbor Day Foundation for its commitment to urban forestry. In addition to improving quality of life and supporting our urban ecosystem, trees are indispensable to pedestrian comfort and safety. Not surprisingly, Charlotte residents indicated that street trees are the single most important part of an inviting walking experience.

A recent study in Grand Rapids, MI estimates the average value of trees in that city at \$105/year for each street tree.³ Another study notes that “for a planting cost of \$250-\$600 (includes first 3 years maintenance) a single street tree returns over \$90,000 of direct benefits (not including aesthetic, social, and natural) in the lifetime of the tree.”⁴

Non-profit organizations like AARP, Sustain Charlotte, Charlotte Center City Partners, 8 80 Cities, and the Knight Foundation have been key partners in making Charlotte a more livable place by improving walkability.

The most inviting neighborhoods to walk are those with sidewalks, short blocks, and street trees.



Many of those benefits accrue in things like lower road maintenance costs, lower stormwater management costs, and higher property values. We perceive that value when we when compare a street like Queens Road West – with a planted median and a beautiful, mature tree canopy – to streets without adequate tree cover. (See images below.)

More than just an aesthetic and economic benefit, street trees are also a safety enhancement. They have been shown to reduce speeding ⁴ and, when located within a wide planting strip, they provide a physical barrier between pedestrians and moving cars. Trees even shorter perceived wait time at transit stops.⁵

In 2008 an aerial analysis revealed a 33% loss of Charlotte’s tree canopy since 1985. Lost air quality benefits from that change are

valued at over \$8M annually, and increased costs to manage stormwater resulting from that change are estimated at over \$500M annually.⁶ In 2011, recognizing the need to preserve the tree canopy as “Charlotte’s most recognized natural treasure,” City Council adopted a goal of achieving 50% tree canopy coverage by 2050. Organizations such as TreesCharlotte and Charlotte Public Tree Fund have been instrumental in make progress toward that goal.

Action Items

In order to support inviting streetscapes and capitalize on the significant benefits of street trees, the City will:

- ▶ Continue to plant street trees as a part of capital projects wherever possible.



The value of street trees is obvious when you compare a signature street like Queens Road West (left) to a street without any tree cover.

Good urban design includes active ground floor uses and a consistent street edge that supports walkability.



Urban Design & Building Frontage

In addition to street trees, the vertical street edge is defined by buildings. The manner in which those buildings meet the street is often referred to as building frontage. Some types of building frontage support vibrant walkable environments, others do not. Buildings with windows, awnings, porches, and active ground floor uses that spill out onto the sidewalk create vibrant walkable environments. Long blank walls, parking decks, frequent driveways, and garage doors are not conducive to walkability. Therefore urban design is a key consideration to creating walkable streets and neighborhoods.

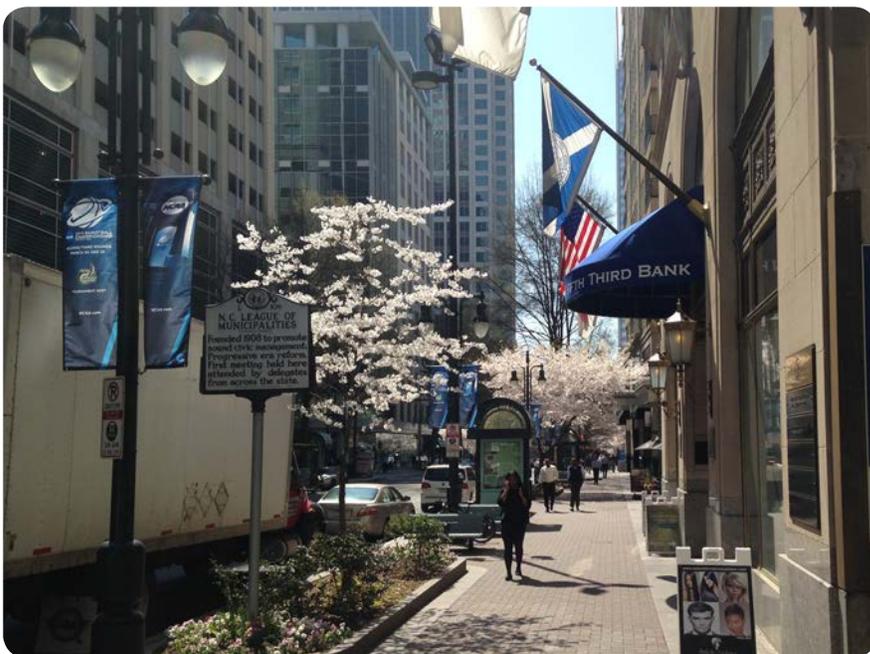
Streetscape continuity is very important. It's not enough to get just one or two buildings correct. Walkable neighborhoods require many blocks of inviting street frontage to encourage more pedestrian activity. People are willing to walk much further in an environment with a continuous and active streetscape. Blank walls and parking lots interrupt that streetscape continuity and inhibit walkability.

Paying attention to the details is very important. The width of arcades, the placement of planters, the spacing between street trees, the orientation of entrances, the massing and architecture of buildings, and many other details are significant components of an inviting walk.

Action Items

In order to encourage urban design and building frontage that supports walkable streets, the City will:

- Consistently apply streetscape standards.
- Improve setbacks/design requirements for arcades.
- Prohibit long sections of blank walls.
- Consider incorporating frontage type requirements in the UDO that illustrate expectations for locating building frontages in relation to the street and sidewalk.



Streets as Public Space

Street right-of-way occupies nearly 41 square miles of space within Charlotte. That space represents:

- 13% of the total land area in Charlotte,
- The majority of the publicly-owned land in Charlotte,
- An area roughly the size of the entire city of San Francisco, CA.

Because streets are such a significant public space resource, they should be embraced and used for a variety of activities, including, but not limited to, moving people on foot, bicycles, transit and in cars. In the 21st century city, it's not enough for streets to serve strictly as conduits for transportation. We have to think of our streets as public spaces where the life of the city is invited out into the public realm. Streets should be places of discovery, places of exploration, places of fun for children and adults.

There are a number of ways that Charlotte can embrace streets as public space. One is through events that temporarily demonstrate the value of streets as pedestrian/bicycle space, another is through permanent improvements that reclaim portions of street right-of-way for pedestrian use.

Treating streets as public spaces encourages walking. It encourages exploration. It strengthens civic life by inviting people to meet their neighbors and reminding Charlotteans that our streets are for all people, not just people in cars.

“Walkability means freedom from car ownership.”



“Foot” notes

Mobility for Seniors

At Mayfield Memorial Apartments we take pride in our facilities for the elderly and disabled. The key to independence and quality of life for most of our residents is the ability to walk. Our residents enjoy a variety of activities – from community events and guest speakers, to fishing and conversations around the duck pond.

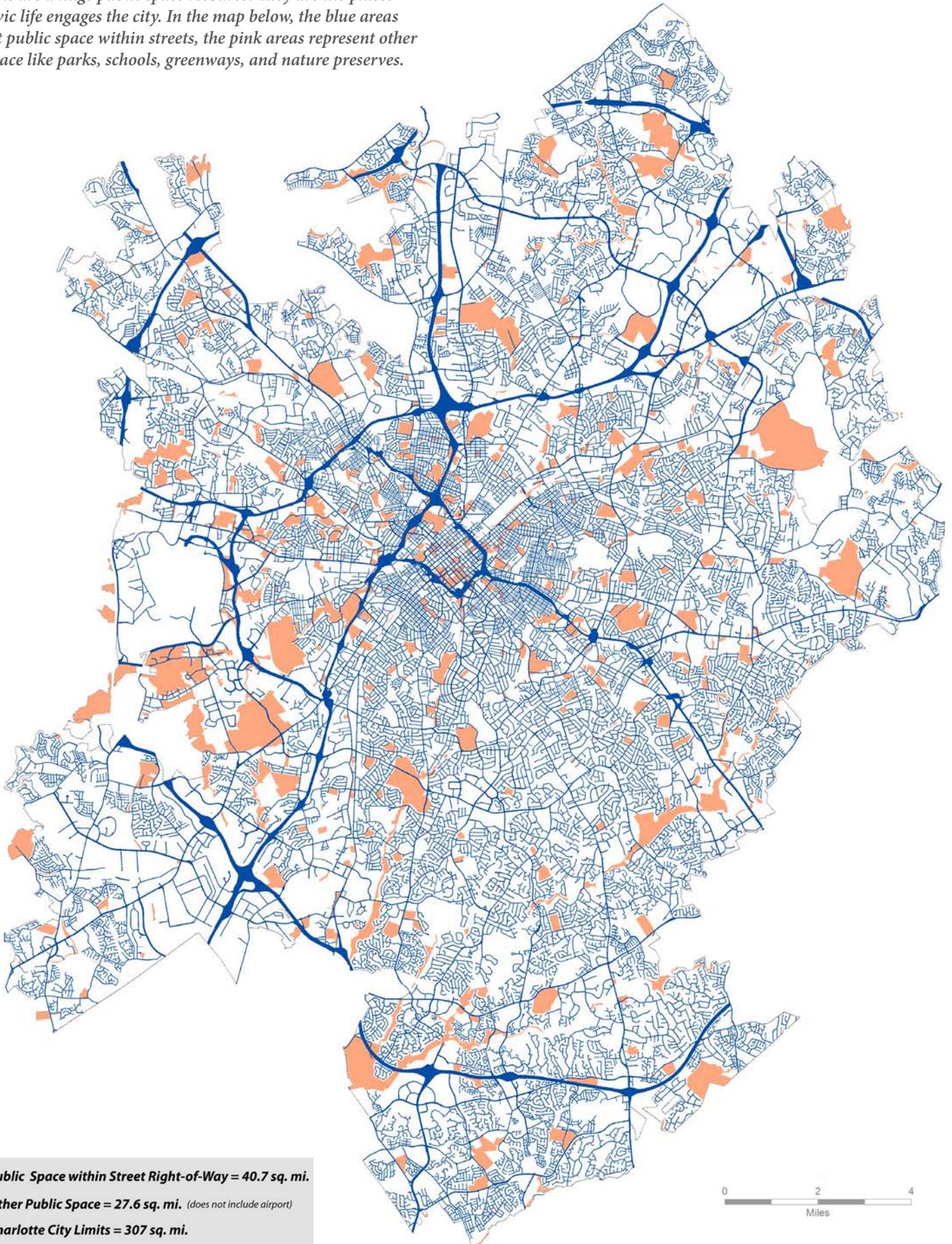
Seniors take quality of life seriously. Walkability is key for endurance and health – for the heart and for the mind. Access to safe sidewalks and walkways with proper signage is important for our whole community of seniors. The majority of the residents here rely on public transportation to get to the store, to doctor's appointments, or simply to get out and enjoy the scenery.

Jennifer Pearce and Frank Gordon, two of our residents, take daily strolls. Mr. Gordon is visually impaired and walks with a cane. Ms. Pearce often assists him. After doctors recommended walking as part of a healthy daily routine, Ms. Pearce and Mr. Gordon began to extend their walks beyond the Mayfield property. There, they were met with challenges like a lack of sidewalks along Oneida Road. Sidewalks are coming though, through a project led by the Charlotte Pedestrian Program. Sidewalks are vital for our residents and for other seniors in Charlotte.

- *Francine Patton,*
Mayfield Memorial Apartments



Our streets are a huge public space resource. They are the places where civic life engages the city. In the map below, the blue areas represent public space within streets, the pink areas represent other public space like parks, schools, greenways, and nature preserves.



Charlotte’s Parklet program was launched in the summer of 2015 with two parklets on Church Street in Uptown Charlotte (See “Foot”note on page 84). Beyond the Parklet program, the City does not have any guidance or permitting mechanisms in place to allow non-profits and neighborhood groups to take on creative placemaking projects in the public right-of-way. There are lots of successful models for these types of programs - from a “Paint the Pavement” street murals initiative in Boulder, CO; to the Plaza Program in New York City; to the one-day demonstration projects of the “MemFix” initiative in Memphis, TN. These programs encourage community groups to bring life to small pieces of public right-of-way. They promote more vibrant streetscapes and civic interaction. Charlotte should expand its Parklet program, based on these models, to allow for other types of creative placemaking initiatives on our city streets. This will allow City staff to say, “Yes!” more often when they are approached with great ideas from our community.

Action Items

In order to embrace streets as public space and encourage street life, the City will:

- Launch a pilot program to allow creative placemaking in the public right-of-way. Led by CDOT, this program will expand upon the existing Parklet Program to provide non-profits and neighborhood groups with more options for placemaking initiatives. The program will draw upon precedents from places like Boulder, CO and New York City to develop a guidebook for placemaking initiatives in Charlotte.
- Partner with key stakeholders to continue the Open Streets 704 program and encourage active, healthy transportation. CDOT will lead this initiative for the City, and assist in seeking out a sustainable source of funding for the program beyond the 4-event pilot effort.

Streets are valuable public spaces that support business and social life, in addition to mobility.



Open Streets 704

I had lots of fun participating in Open Streets 704! I went with my mom, dad and puppy Finley. We started in the Wellness zone and played relay race tic-tac-toe. It was like running suicides only more entertaining! I lost every time to my parents. Not cool! I enjoyed the booths with giveaways like toothbrushes, toothpaste and sunscreen. My parents always call me Hector the collector! I liked how there were water bowls for dogs all along the way. My puppy Finley was grateful too! We walked all the way to NoDa! Luckily we saw some food trucks, which made the walk back a lot easier. We saw a lot of people riding bikes and we think biking would be a fun thing to try next year! I can't wait!

- Lee Walker
Charlotte 8th Grader



Parklets

A Parklet is a small public park. It's an extension of the sidewalk over an on-street parking space. Parklets reclaim a small amount of public space, contributing to an active, accessible, and vibrant urban environment. Typically, Parklets are no more than two parking spaces long, extending out from the sidewalk to the width of the adjacent parking space.

Parklets may be privately maintained, but must be accessible to the public. They provide amenities like bicycle parking and places to stop, sit, and rest while enjoying the activity of the street. Parklets also contain vegetation to provide green space. Following examples of successful programs in other cities, Charlotte launched a pilot program for Parklets in the summer of 2015.



These types of programs

- Bring life and fun to the streetscape;
- Encourage active transportation, public health, and recreation;
- Give non-profits and neighborhood groups a greater sense of ownership and responsibility for the street.



Streets make up about 55% of the public space in Charlotte. That means the majority of our public space is used to move and store cars. More of Charlotte's public space should be used for supporting walkability and street life. Events like Open Streets 704 reimagine our streets as places for exploration and fun.



Maintenance

Maintenance of sidewalks is an essential and ongoing requirement for safe, useful and inviting pedestrian networks. Cracked panels, overgrown vegetation, and leaning fences can turn a comfortable pedestrian experience into a difficult one. For folks who use wheelchairs, poor maintenance may prevent access altogether.

The City of Charlotte will repair cracked or sagging sidewalks for individual property owners on as needed basis. Requests for sidewalk repairs are submitted through the City's 311 service and routed to the Street Maintenance Division of CDOT. For matters of routine maintenance however, like cutting grass and clearing debris, the city does not have sufficient resources to maintain its 1,900+ miles of sidewalks. As such, the city relies on individual property owners to maintain sidewalks. There are some problematic gaps in the city's code of ordinances however, that lead to some confusion about maintenance responsibility.

Currently, Section 21-62 of the Charlotte City Code requires property owners to trim their trees "in such a manner that they will not...obstruct or interfere with the passage of pedestrians on sidewalks." This applies to trees on private property only. Trees growing from planting strips within the public right-of-way are maintained by the City. Maintenance responsibility becomes a little less clear when the code describes the surface of the sidewalk.

Section 19-241 of the city code states that it is "unlawful to place or maintain an unnecessary obstruction in the public right-of-way." Dirt and grass covering the surface of the sidewalk, is an obviously an obstruction of the pedestrian network, but the code language doesn't make that expectation clear. Further, Section 19-7 requires construction contractors to remove "any dirt, mud, construction materials or other debris" from sidewalk. However, that section does not seem to extend this expectation to the maintain clear sidewalks beyond the time of construction.

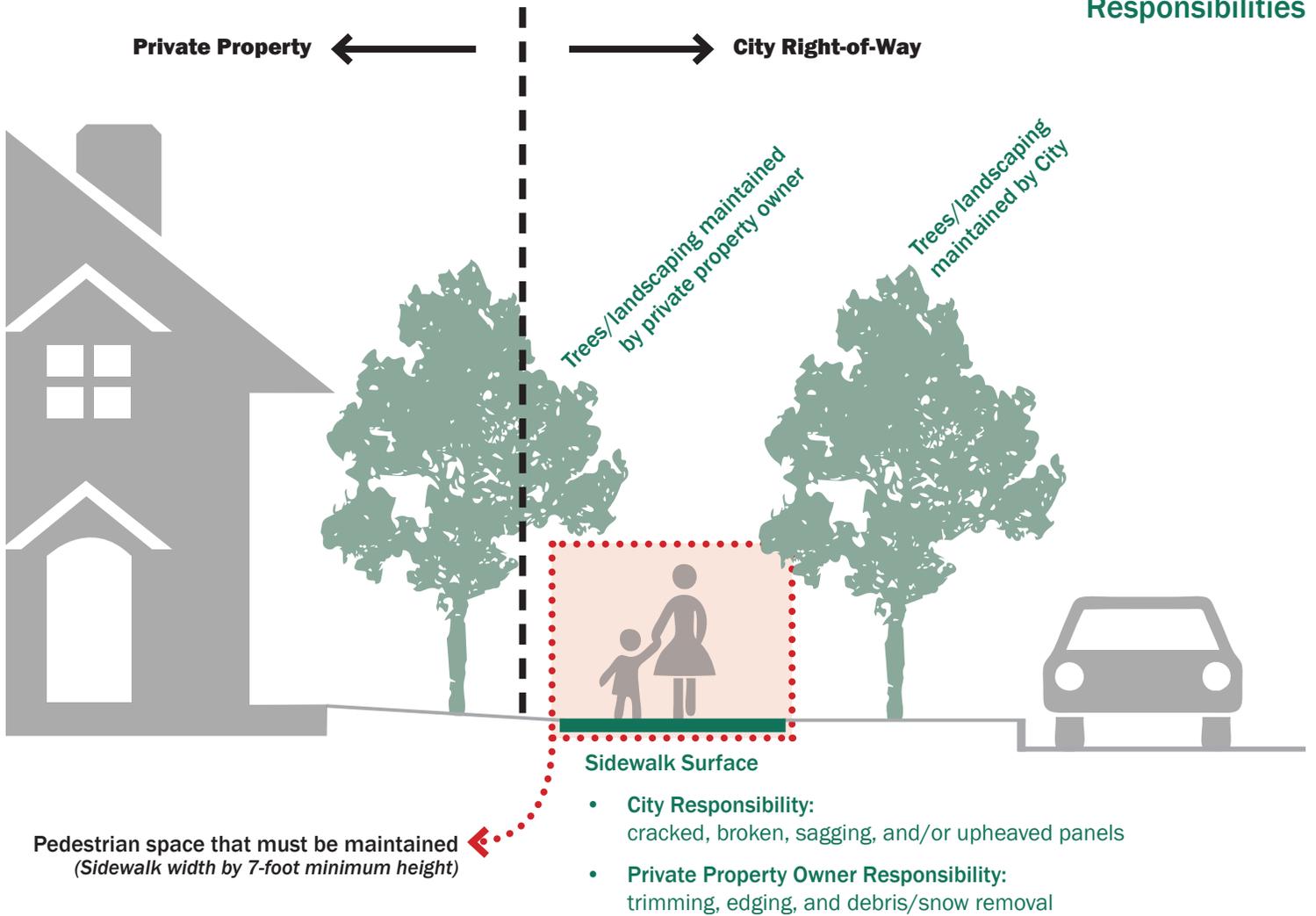
It's simply impossible for the city to trim, edge, and sweep 1,900+ miles of sidewalk. In the absence of clear ordinance requirements however, it's also difficult for the city to enforce its intent for property owners to take responsibility for the routine maintenance of their sidewalks. A simple ordinance amendment would provide some clarity and allow the city to continue its practice of fixing more severe maintenance issues (e.g., cracked and upheaved panels) while relying on property owners for routine maintenance (e.g., trimming, edging, clearing).

Action Item

In order to improve the maintenance of the sidewalk network, the City will:

- Clarify the enforcement and regulation of sidewalk maintenance requirements through the City Code. (See diagram, opposite.)





Endnotes

1. City of Charlotte and National Reserach Center. *Charlotte National Citizen Survey*. 2014.
2. Smart Growth America. *Measuring Sprawl 2014*. 2014.
3. Davey Resource Group. *Summary Report: Calculated Public Tree Values and Benefits for the City of Grand Rapids, MI*. 2010.
4. Burden, Dan. *Urban Street Trees: 22 Benefits*. Walkable Communities Inc. 2006.
5. Lagune-Reutler et al. *Transit Riders' Perception of Waiting and Stops' Surrounding Environments*. University of Minnesota. 2015.
6. Charlotte Public Tree Fund. 2014.



5. STEPS TOWARD A MORE WALKABLE FUTURE

Working on Walkability

Charlotte has been working on walkability for a long time. Since the late 1990s, Charlotte has experienced a major policy shift toward creating more walkable streets. In 1994 Charlotte adopted a Growth Framework that identifies walkable activity centers. In 1998 city ordinances were amended to require developers to install sidewalks on both sides of every street. In 1998 the City established Charlotte's Pedestrian Program to build new sidewalks and pedestrian crossings throughout the Charlotte. In 2006 the City adopted the Transportation Action Plan which sets goals for making Charlotte a more pedestrian friendly community. A year later, in 2007, Charlotte adopted the Urban Street Design Guidelines to support Complete Streets that accommodate walking for transportation. The Charlotte WALKS Pedestrian Plan represents the next step in that series of decisions aimed at creating a more walkable Charlotte.

As mentioned previously, an important precursor to the Charlotte WALKS Pedestrian Plan was the interdepartmental Walkability Scan. The Walkability Scan is a recently completed investigation of City policies and practices impacting walkability. The report, prepared by staff from several city departments, includes recommendations for addressing obstacles to walkability.

The recommendations of the Walkability Scan, as well as citizen input collected for the Charlotte WALKS plan, serve as the foundation of the action items presented in this chapter.

In particular, the Walkability Scan identified 4 high-priority action items that are the focus of the Charlotte WALKS plan. The Walkability Scan is included, in its entirety, as an Appendix to the Charlotte WALKS document.



High Priority Action Items

The implementation of the Charlotte WALKS Pedestrian Plan is focused, first and foremost, upon the high priority action items identified in this section. Four key issues were identified through the interdepartmental Walkability Scan.

These key issues are discussed in detail in this section. The most immediate goal of the Charlotte WALKS Pedestrian Plan is to achieve progress on these key issues.

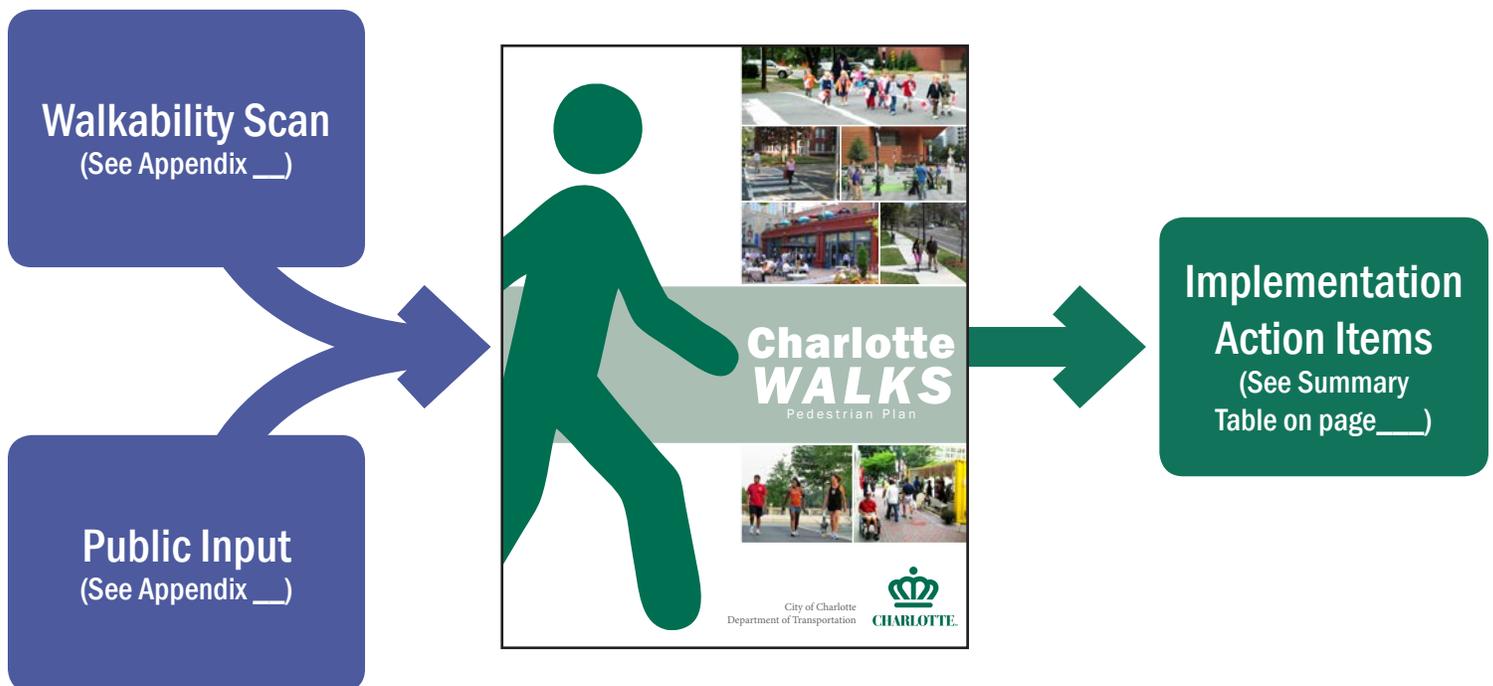
The action items for each of the key issues are constitute the high priority action items for this plan. Additional action items are included later in this chapter.

From Walkability Scan

- Address Back-of-Curb Sidewalks in Private Development/Redevelopment
- Amend the 50% Rule
- Provide More Crossing Opportunities on Busy Thoroughfares
- Provide Space for Walkability Elements in the Public Realm

Supplemental

- In addition, an update to the following City policies has been completed as part of the Charlotte WALKS plan in order to support the high priority action items from the Walkability Scan, improve responsiveness to citizen requests, and better reflect current best practices.
 - Midblock Pedestrian Crossing Guidelines (*See Appendix ____.*)
 - Sidewalk Installation Policy (formerly called the Sidewalk Retrofit Policy) (*See Appendix ____.*), and
 - School Zone Policy (*See Appendix ____.*)



Key Issue #1

Back-of-Curb Sidewalks

What is the Issue?

Charlotte still has over 130 miles of substandard, back-of-curb sidewalk along busy thoroughfare streets. Although better than no sidewalk at all, back-of-curb sidewalks do not provide a safe and comfortable walking experience, especially along busy, higher-speed thoroughfares. Back-of-curb sidewalks make pedestrians feel vulnerable, create accessibility issues for persons with disabilities, and have been recognized as substandard for decades.

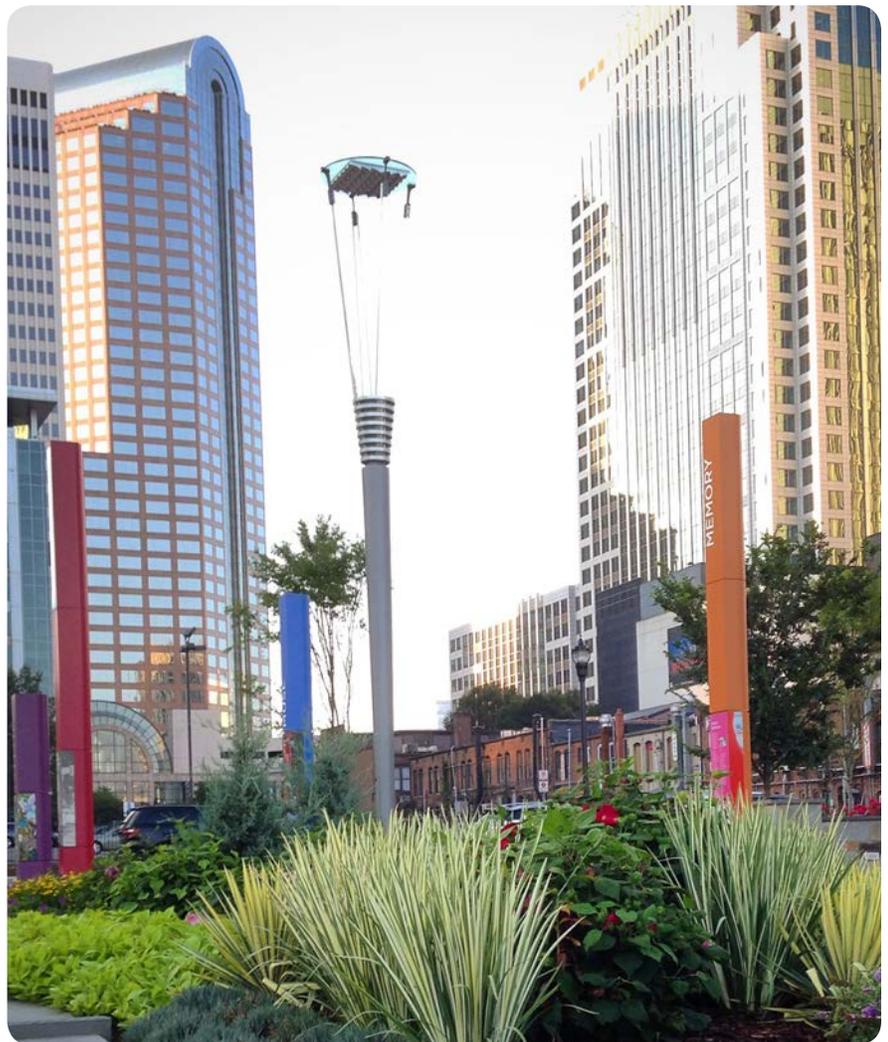
Why Does this Occur?

Charlotte’s Urban Street Design Guidelines call for a planting strip along all street types to separate sidewalks from moving vehicles. However, sites that are developed/redeveloped by-right (i.e., developments that do not require a rezoning) are generally not required to reconstruct existing substandard sidewalks. This can result in sites with sidewalks left at the “back-of-curb,” immediately adjacent to vehicular travel lanes. Reconstructing/relocating sidewalks is required for certain zoning categories (e.g., MUDD, NS, UR, TOD, TS, PED, UMUD) that mandate new streetscapes. For other zoning districts (developed by-right), Chapter 19 of the Charlotte City Code is silent on reconstructing existing sidewalk to meet new standards.

Current Practice

City roadway and stormwater projects have been a good tool for replacing back-of-curb sidewalks in the past, and will continue to do so in the future. Charlotte’s Urban Street Design Guidelines recommend sidewalk location and width for every street type in the City. All public sector projects follow the recommendations of the USDG as closely as possible, and as a result, frequently replace segments of back-of-curb sidewalk.

The most immediate goal of the Charlotte WALKS Pedestrian Plan is to achieve progress on these key issues.



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Private sector development and redevelopment also plays an important role, but not consistently. Development projects that entail a rezoning are typically required to replace back-of-curb sidewalks with a sidewalk and planting strip that meets current standards. However, by-right development along streets with back-of-curb sidewalk are not required to improve that sidewalk to city standards. That is leading to a lot of missed opportunities to fix back-of-curb sidewalks.

In some cases, development parcels that are immediately adjacent to one another have different sidewalk standards depending on the nature of the development application (by-right vs. rezoning). The result is an inconsistent and incomplete set of standards for development and redevelopment. An

amendment to Chapter 19 of the Charlotte City Code is necessary to level the playing field and provide consistently safe and comfortable pedestrian environments.

In addition, relocating sidewalks at the time of development is much cheaper and more efficient than using taxpayer dollars to fix back-of-curb sidewalks after the fact (*see graphic below*). While not always the case, development and redevelopment typically involves some degree of demolition and grading. This is the ideal time to install new planting strips and sidewalks at minimum cost. Relocating sidewalks through a City project after the time of development typically involves real-estate acquisition, re-grading, utility relocation, etc., all of which drive up costs to the taxpayer.

Estimated Cost to Replace Back-of-Curb Sidewalks

\$210 per linear ft



\$25 per linear ft



At the time of development

After development (at taxpayer expense)

It is much cheaper and more efficient to put sidewalks in the right place at the time of development than it is to use taxpayer dollars to fix back-of-curb sidewalks afterward.



Action Items

- ▶ Continue to apply the Urban Street Design Guidelines (USDG) to determine recommended sidewalk locations and widths on capital projects. *[Capital]*
- ▶ Amend Chapter 19 of the City Code to reflect an appropriate/flexible approach to upgrading sidewalks as development occurs. This could potentially be based on the extent of redevelopment and how “substandard” the existing sidewalk is. *[Regulatory]* (See Appendix ___)
- ▶ Maintain consistency with that approach during the upcoming Zoning Ordinance update. *[Regulatory]*



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Key Issue #2 The 50% Rule

What is the Issue?

In some circumstances, by phasing development, a site can be fully developed without including street frontage sidewalks. Lack of sidewalk is the single biggest obstacle to walkability in Charlotte. Since the late 1990's, the City has been working aggressively to close gaps in the sidewalk network through capital projects. Gaps in the sidewalk network still exist along roughly 34% (367 miles) of thoroughfares and 54% (1,523 miles) of non-thoroughfare streets.

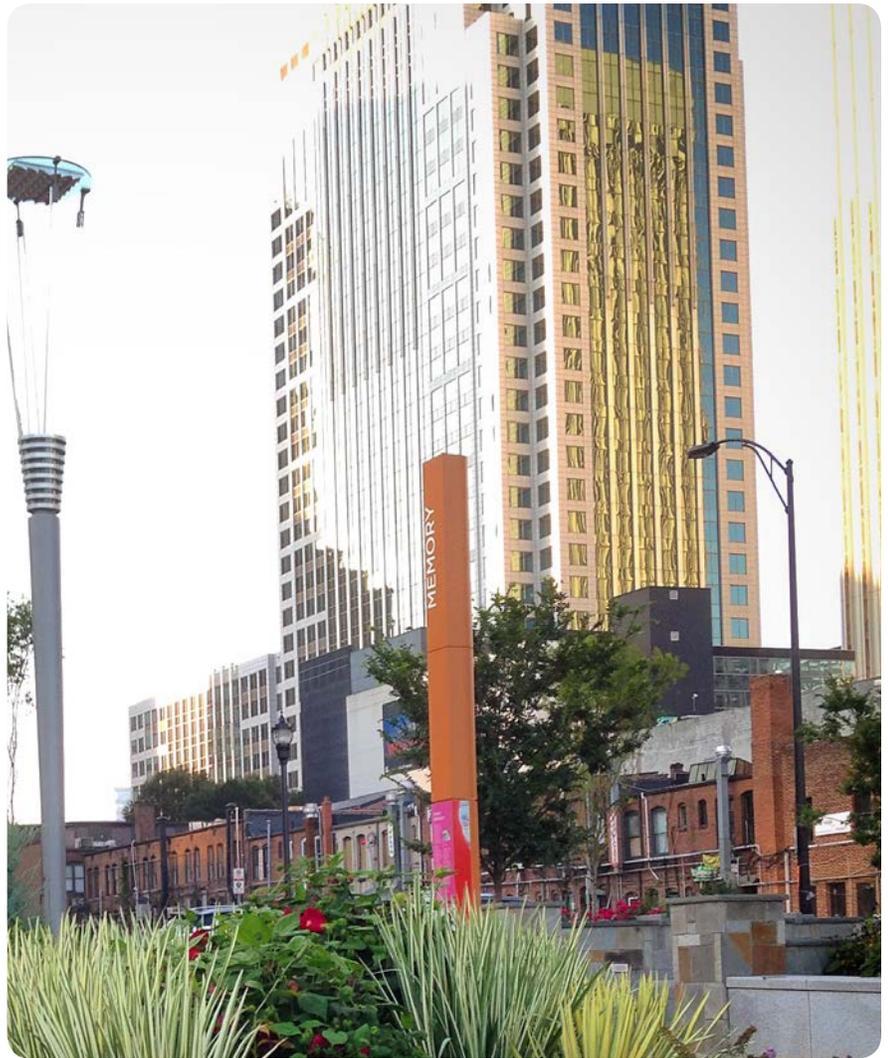
Why Does this Occur?

Chapter 19-Article VI of the Charlotte City Code defines the basic sidewalk and drainage requirements for typical developments (those not subject to a conditional re-zoning or the Subdivision Ordinance). In phased developments, the following provision from Chapter 19 can be applied:

City Code Ch. 19 Sec. 19-173 (b): When the proposed new development will be less than 50% of the total area of the property under single ownership, sidewalks and drainage facilities may not be required. However, the City Engineer may require certain improvements be made if they are determined to be in the public interest or needed to ensure public safety.



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Current Practice

The majority of street modifications occur incrementally through private development. Phasing development for larger sites can allow a significant portion of street frontage to be fully developed or redeveloped without providing sidewalks along the street. An estimated 10-15% of sites are phased in this way and, therefore, can avoid providing sidewalks.

Action Items

- ▶ Amend Chapter 19 and other relevant documents to meet the intent of the original provision, but reduce the likelihood of not including sidewalk. *[Regulatory]*
- and/or
- ▶ Work to ensure consistent application of the sidewalk requirement as “in the public interest and for public safety.” *[Regulatory]*
 - ▶ Provide training opportunities for internal staff to facilitate implementation of these recommendations on each development project (to help provide more consistent Chapter 19 interpretations). *[Practice]*

Key Issue #3

Provide More Crossing Opportunities on Busy Thoroughfares

What is the Issue?

Many of Charlotte's busiest thoroughfares are difficult for pedestrians to cross due to infrequent traffic signals or other crossing opportunities, combined with high traffic volumes and (often) high speeds. This is an especially problematic issue in places where crossing opportunities aren't available near high-ridership bus stops, schools, and commercial/activity centers.

Why Does this Occur?

Much of Charlotte's thoroughfare network was constructed during an era dominated by a focus on automobiles. This decades-long focus resulted in long blocks, wide streets, and relatively fast traffic. A sparse street network and/or lack of traffic signals inhibits crossing opportunities and encourages greater vehicle speeds.

Current Practice

The Charlotte Pedestrian Program maintains a database of all the pedestrian crossing requests submitted to CDOT. Those requests are evaluated by an interdisciplinary team of City staff. If approved, each request is assigned the most appropriate crossing treatment and put on a future projects list. There are currently 31 projects on that list awaiting funding. In addition, City roadway projects and the Comprehensive Neighborhood Improvement Program (CNIP) have been good tools for incorporating pedestrian crossings into other capital work.

Charlotte is already making impressive progress toward this action item. Historically, the City's goal has been to provide at least 15 new pedestrian crossings each year. In the first half of 2016 alone (fiscal year), the City installed new or improved pedestrian crossings in 33 different locations through a combination of various projects (Pedestrian Program, Signals Section, Roadway, CNIP, etc.).

Despite that progress, installing mid-block crossing is becoming more and more



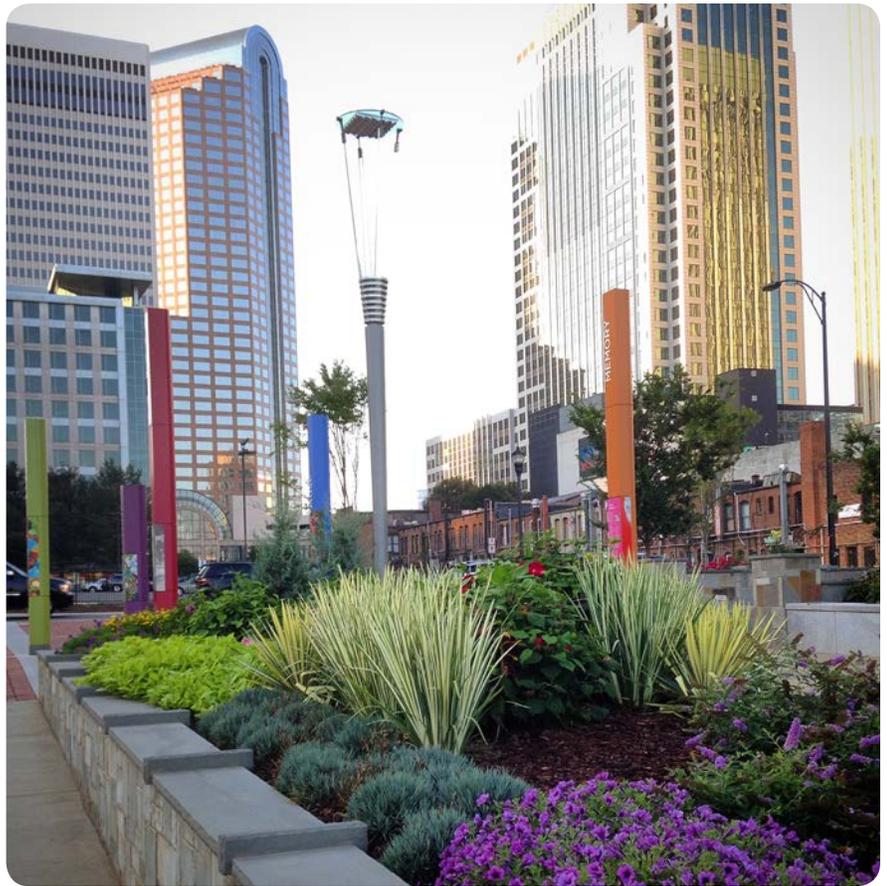
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difficult for two primary reasons 1) vehicle speeds, and 2) available right-of-way. Vehicle speeds on many thoroughfares are too high to implement some types of crossings without significant enhancements to design. Providing more and better crossings requires a concerted effort to reduce speeds along the thoroughfare. Finally, lack of right-of-way can limit the amount of space for pedestrian refuges along some thoroughfares or sections of thoroughfares. In short, much of the “low-hanging” fruit has already been addressed and future pedestrian crossings will likely be more costly and difficult to install.

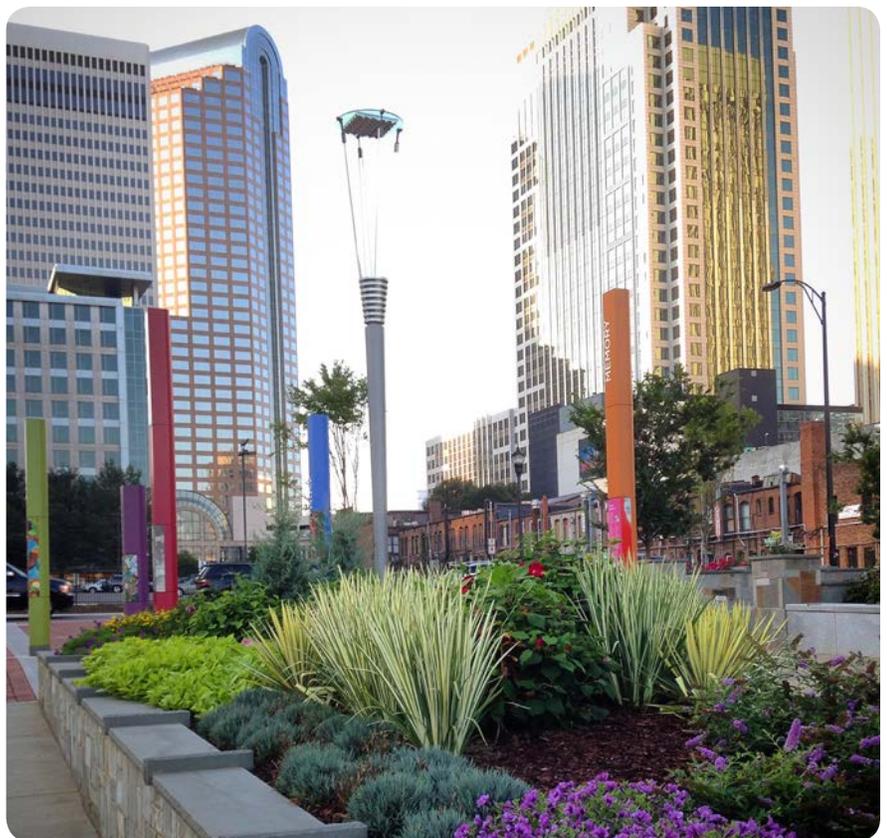
Action Items

- Ensure that capital projects continue to include more and better crossing opportunities, where feasible and appropriate. *[Capital]*
- Seek additional sources of capital funding to create more thoroughfare crossings. *[Capital]*
- Evaluate and consider revising the Midblock Pedestrian Crossing Guidelines and signal spacing practices to enable more crossing opportunities. *[Practice]*
- Refine Traffic Impact Analyses to include multimodal assessments. *[Practice and Regulatory]*
- Identify enabling authority to help achieve more crossing opportunities through development. *[Regulatory]*
- Develop a strategy and communication structure to accelerate locating, designing, and constructing pedestrian refuges through land development and capital projects. *[Practice]*

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“Walkability elements” include pedestrian amenities such as street trees, benches, café seating, sidewalk displays, drinking fountains, trash/recycling containers, wayfinding signage, public art, etc. Walkability elements provide a recipe for vibrant street life, but should not encroach upon necessary walking space

Key Issue #4 Space for Walkability Elements in the Public Realm

What is the Issue?

As Charlotte works toward creating more walkable urban places, we have tried to include valuable “walkability elements” (e.g. street trees, benches, sidewalk dining, sidewalk displays, etc.) along our streets. By trying to include many of these pedestrian amenities, the space between buildings and the street can sometimes be squeezed. In some instances the sidewalk width does not permit the desired combinations of walkability elements and unobstructed sidewalk space.

Why Does this Occur?

In some cases this issue is a result of inconsistent streetscape expectations. For example, our urban zoning districts require a minimum 14-ft setback from the street when there is no adopted streetscape plan. Recent area plans include streetscapes wider than 14 feet, but these do not typically apply to by-right redevelopment in conventional zoning districts. Therefore, depending on whether there is an area plan and, depending on how the development occurs, the space between the curb and the buildings can vary greatly, even within the same block. In many cases, this is also the result of changing expectations of the types of design elements and activities that people want to include in the sidewalk area.

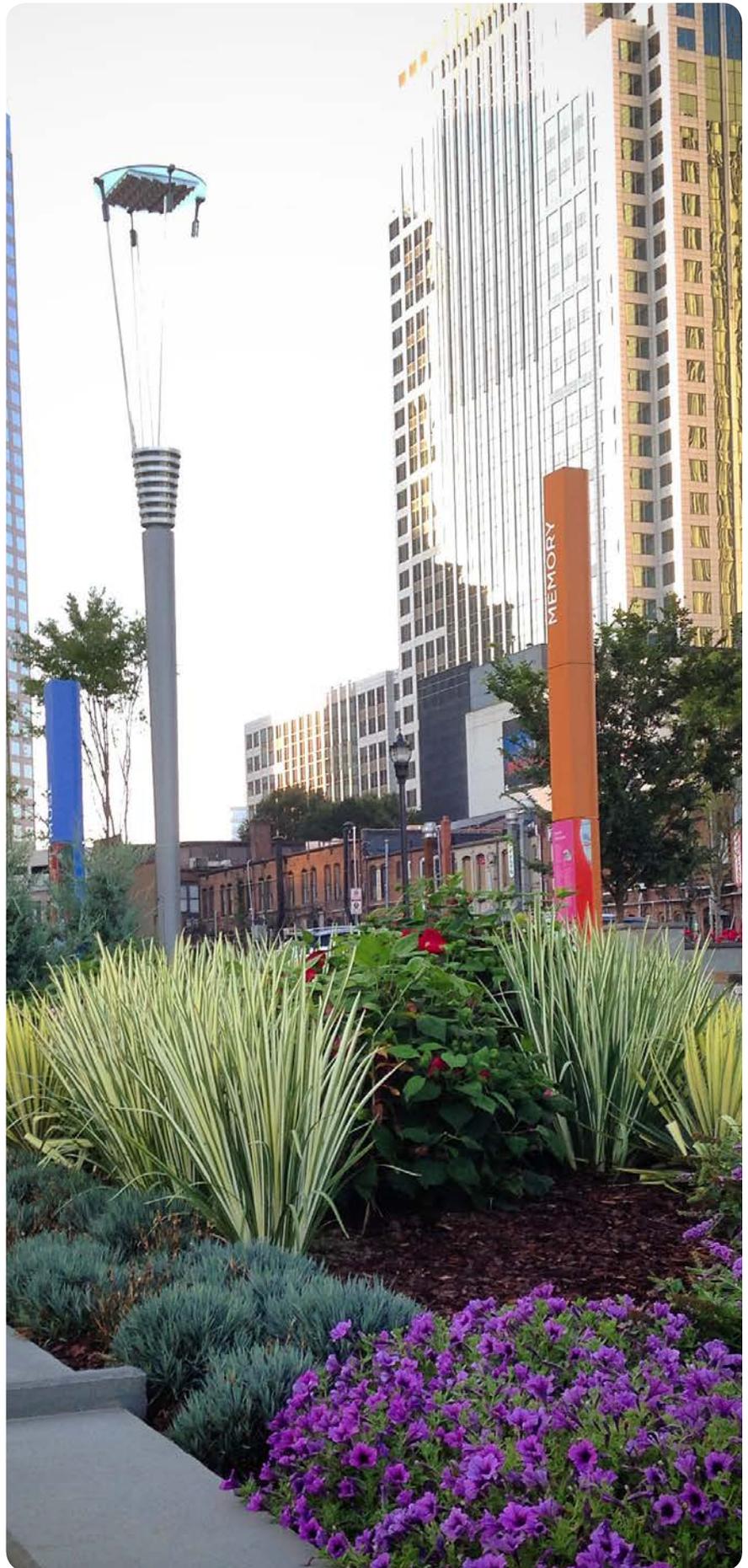
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Current Practice

The Charlotte Mecklenburg Planning Department is currently leading an effort to rewrite Charlotte's dated Zoning Ordinance and related development regulations. Many of the inconsistencies in expectations and setback requirements can be addressed through that effort. CDOT staff should collaborate with staff from other City departments to ensure that clear and consistent expectations for street frontages and the pedestrian environment are established in the updated Zoning Ordinance.

Action Items

- ▶ Incorporate stronger language in the City Code about maintaining unobstructed walking space. *[Regulatory]*
- ▶ Consider whether and how to appropriately adjust setbacks to best and more consistently reflect context-based streetscapes (e.g., develop additional guidance for determining setbacks during the area plan process). *[Practice and Regulatory]*
- ▶ Identify and resolve any inconsistencies when the Zoning Ordinance is updated. *[Regulatory]*
- ▶ Consider incorporating illustrated frontage type requirements in the Zoning Ordinance update that show expectations for how building frontages should be located in relation to the street and sidewalk. *[Regulatory]*
- ▶ Develop and use a walkability checklist to help make decisions about items that can be placed in the setback under different conditions. *[Practice]*



Action Items Summary Table

The Summary Table on the following pages includes all of the action items recommended by the Charlotte WALKS Pedestrian Plan. The Action Items are listed as they appear in the plan, with the High Priority Action Items first, followed by the remaining action items within each of the plan's 3 themes - Safe, Useful, and Inviting.

Action Item <i>(page references)</i>	
High Priority	▶ Address back-of-curb sidewalks in private development/redevelopment. <i>(page ___)</i>
	▶ Amend the 50% rule sidewalk exemption. <i>(page ___)</i>
	▶ Provide more crossing opportunities on busy thoroughfares. <i>(page ___)</i>
	▶ Provide space for walkability elements in the public realm. <i>(page ___)</i>
	▶ Update City policies to support the high priority action items from the Walkability Scan, improve responsiveness to citizen requests, and better reflect current best practices. <i>(page ___)</i>

SAFE	▶ Use context-appropriate Pedestrian Level of Service metrics to evaluate all proposed projects. <i>(page ___)</i>
	▶ Assign modal priority to pedestrians in Uptown and Transit Station Areas. <i>(page ___)</i>
	▶ Continue to apply the Urban Street Design Guidelines (USDG) to determine recommended sidewalk locations and widths. <i>(page ___)</i>
	▶ Amend the City Code to reflect an appropriate/flexible approach to upgrading substandard sidewalks as development occurs. <i>(page ___)</i>
	▶ Continue to construct at least 10 miles of new sidewalk each year through the Pedestrian Program and other city projects/processes. <i>(page ___)</i>
	▶ Consider requiring sidewalks for more land uses. <i>(page ___)</i>
	▶ Require appropriate/flexible streetscape improvements for buildings renovations. <i>(page ___)</i>
	▶ Install at least 20 new pedestrian crossings per year through City programs/processes. <i>(page ___)</i>
	▶ Seek out opportunities to install new/improved pedestrian crossing through private land development approvals. <i>(page ___)</i>
	▶ Update the citywide sidewalk inventory to catalog accessibility issues. <i>(page ___)</i>
	▶ Continue preparation of an ADA Transition Plan. <i>(page ___)</i>
	▶ Continue to address accessibility issues through CDOT's "Minor Gaps and Ramps" program. <i>(page ___)</i>
	▶ Consider implementing a Vision Zero strategy. <i>(page ___)</i>
	▶ Consider setting a 25mph speed limit throughout all of Uptown. <i>(page ___)</i>
	▶ Continue to focus Pedestrian Program spending on challenging thoroughfares. <i>(page ___)</i>
	▶ Continue to evaluate and respond to resident requests for new street lights. <i>(page ___)</i>
	▶ Continue ongoing education and enforcement efforts through opportunities like the Mayors' Challenge and WatchForMeNC programs. <i>(page ___)</i>
	▶ Develop a distracted driving & walking campaign. <i>(page ___)</i>
	▶ Expand and improve pedestrian data collection and analysis. <i>(page ___)</i>



For more detailed information, see the page reference listed with each action item. For more information of the Walkability Scan, see page _____. For more information on the UDO, see page _____. For more information on performance metrics, see page _____.

Identified in Walkability Scan ¹	Will Be Addressed Through UDO ²	Applicable Performance Metrics ³	Timeframe
✓			Immediate
✓			Immediate
✓			Ongoing
✓	✓		Year 1-5
			Immediate

			Year 1-5
			Year 1-5
✓			Ongoing
✓	✓		Year 1-5
			Ongoing
✓	✓		Year 1-5
✓	✓		Year 1-5
			Ongoing
✓			Ongoing
			Year 1-5
			Ongoing
			Ongoing
			Year 1-5
			Year 1-5
			Ongoing
			Ongoing
			Ongoing
			Year 1-5
			Year 1-5

Action Items Summary Table *(continued)*

Action Item *(page references)*

USEFUL

- ▶ Include land use flexibility in more zoning districts to allow for a healthy mixture of neighborhood commercial uses. *(page ___)*
- ▶ Implement design standards that support high-quality, walkable development. *(page ___)*
- ▶ Seek out opportunities to create pedestrian and bicycle connections that reduce the overall network distance for non-motorized transportation. *(page ___)*
- ▶ Install wayfinding signage to support high-volume pedestrian and bicycle corridors and districts. *(page ___)*
- ▶ Explore ways to shorten block lengths and create a denser street network. *(page ___)*
- ▶ Require building entrances to be easily accessible from the primary street frontage(s). *(page ___)*
- ▶ Improve pedestrian access along driveways. *(page ___)*
- ▶ Clarify minimum expectations for on-site sidewalks. *(page ___)*
- ▶ Complete at least 4 school zone upgrades every year. *(page ___)*
- ▶ Continue to prioritize new sidewalks and pedestrian crossings based upon proximity to schools, and install at least two new sidewalk projects and three new pedestrian crossings within 1/4 mile of a school every year. *(page ___)*
- ▶ Coordinate with CMS and Mecklenburg County to identify and pursue collaborative projects that improve pedestrian and bicycle access to schools. *(page ___)*
- ▶ Amend the City's Sidewalk Installation Policy to pursue sidewalk on both sides of all streets within 1/2 mile of rail transit stations. *(page ___)*
- ▶ Continue to prioritize new sidewalks and pedestrian crossings based upon proximity to transit stops. *(page ___)*
- ▶ Improve pedestrian access to public trails. *(page ___)*
- ▶ Improve the intersections of high-volume urban trails and city streets. *(page ___)*
- ▶ Continue to prioritize new sidewalks and pedestrian crossings based upon proximity to parks and greenways. *(page ___)*
- ▶ Coordinate with Mecklenburg County Greenways to identify cost-share opportunities for new greenway connections and sidewalks. *(page ___)*



Identified in Walkability Scan ¹	Will Be Addressed Through UDO ²	Applicable Performance Metrics ³	Timeframe
	✓		Year 1-5
✓	✓		Year 1-5
			Year 1-5
			Year 1-5
✓	✓		Year 1-5
✓	✓		Year 1-5
✓	✓		Year 1-5
✓	✓		Year 1-5
			Ongoing
			Ongoing
			Year 1-5
			Immediate
			Ongoing
✓			Year 1-5
			Year 1-5
			Ongoing
			Ongoing

Action Items Summary Table *(continued)*

Action Item *(page references)*

INVITING

- ▶ Incorporate stronger language in the City Code about maintaining unobstructed walking space. *(page ___)*
- ▶ Continue to plant street trees as a part of capital projects wherever possible. *(page ___)*
- ▶ Clarify options for hardscape amenity zone. *(page ___)*
- ▶ Continue to apply the Urban Street Design Guidelines (USDG) to establish on-street parking areas. *(page ___)*
- ▶ Provide adequate space, according the context, between buildings and the curb to support street life and walkability. *(page ___)*
- ▶ Require alternative compliance if projects cannot meet the walkability standards in zoning districts with optional provisions. *(page ___)*
- ▶ Continue to install shared-use connections for both pedestrians and cyclists. *(page ___)*
- ▶ Consider upgrading key sections of sidewalk to multi-use paths that fill gaps in the bicycle network. *(page ___)*
- ▶ Revise the streetscape standards in the USDG to include new types of bicycle facilities. *(page ___)*
- ▶ Prohibit front-loaded townhomes (or other narrow-lot uses) that impede the pedestrian experience. *(page ___)*
- ▶ Consolidate driveways through redevelopment. *(page ___)*
- ▶ Develop guidelines for planting trees in planters and tree wells. *(page ___)*
- ▶ Consistently apply streetscape standards. *(page ___)*
- ▶ Improve setbacks/design requirements for arcades. *(page ___)*
- ▶ Prohibit long sections of blank walls. *(page ___)*
- ▶ Consider incorporating frontage type requirements in the UDO that illustrate expectations for locating building frontages in relation to the street and sidewalk. *(page ___)*
- ▶ Launch a pilot program to allow creative placemaking in the public right-of-way. *(page ___)*
- ▶ Partner with key stakeholders to continue the Open Streets 704 program and encourage active, healthy transportation. *(page ___)*
- ▶ Clarify the enforcement and regulation of sidewalk maintenance requirements through the City Code. *(page ___)*



Identified in Walkability Scan ¹	Will Be Addressed Through UDO ²	Applicable Performance Metrics ³	Timeframe
✓	?		Year 1-5
			Ongoing
✓	✓		Year 1-5
			Ongoing
✓	✓		Year 1-5
✓	✓		Year 1-5
			Ongoing
			Year 1-5
	✓		Year 1-5
✓	✓		Year 1-5
			Ongoing
✓			Year 1-5
✓	✓		Year 1-5
✓	✓		Year 1-5
✓	✓		Year 1-5
✓	✓		Year 1-5
			Year 1-5
			Ongoing
			Immediate

Unified Development Ordinance Rewrite

Many of the action items discussed in the Charlotte WALKS plan will be addressed through the ongoing UDO process...

Performance Metrics

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APPENDICES

These appendices represent Charlotte's toolbox for improving citywide walkability. The appendices include a combination of technical guidance, prioritization criteria for pedestrian projects, and city policies.





