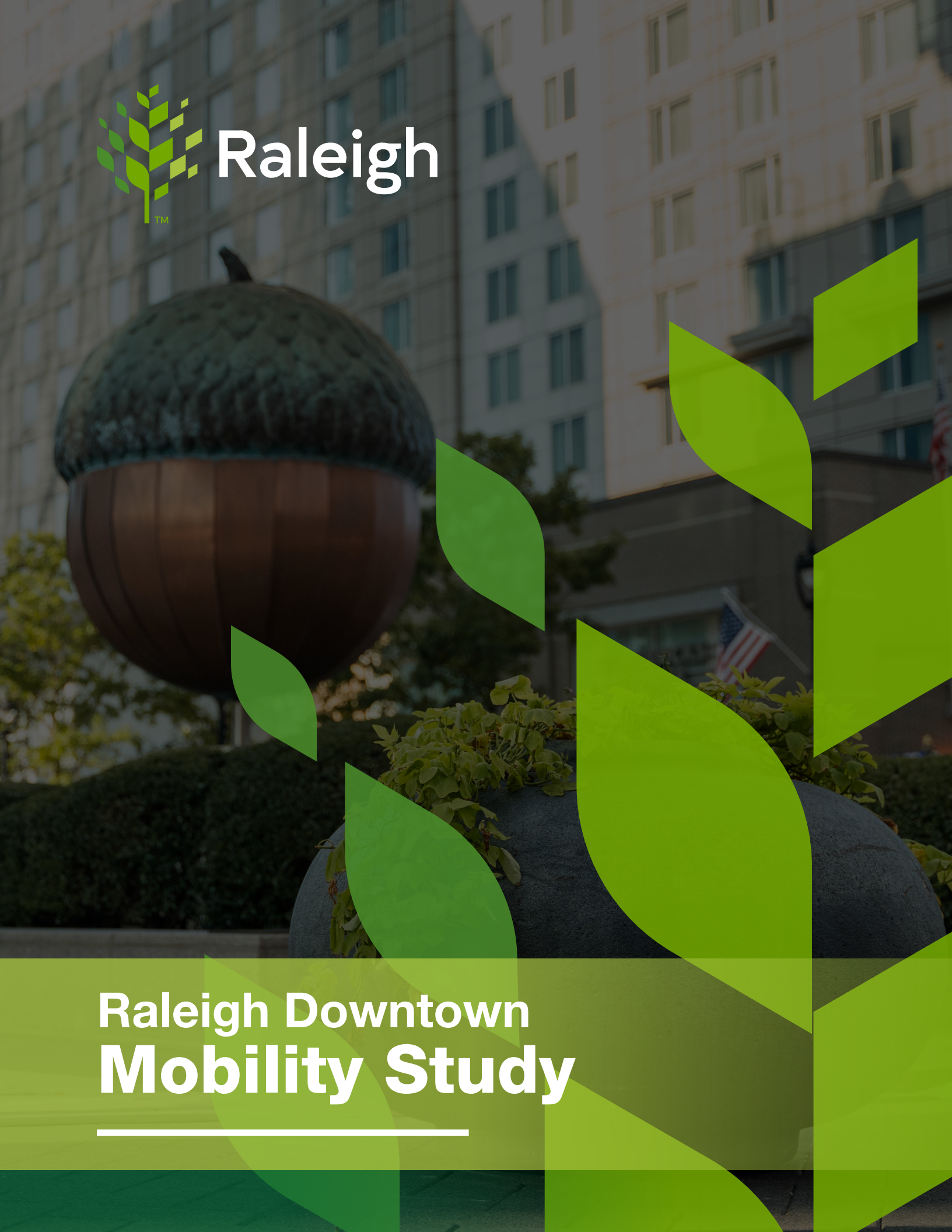


Raleigh

Raleigh Downtown Mobility Study

Contents


PAY to PARK
RESERVED
EV

Preamble

Raleigh's downtown is a distinctive place in our community. It's more than a concentration of jobs, a place for urban living, and our State Capital. It is our community center, a place where we come together, a place where we connect through commerce, the arts, education, and a place where we celebrate and express our civic pride. Downtown reminds us of our history, showcases who we are today, and offers a place for us to pursue a brighter future.

The Raleigh Downtown Mobility Strategy is a part of a coordinated strategy to respond to the current and anticipated needs of downtown. It considers how best to support the vision expressed through the Downtown Raleigh Experience Plan, the 2030 Comprehensive Plan, the Downtown Raleigh Economic Development Strategy and GoRaleigh Transit Plan. These plans all suggest that the downtown continue to grow, accommodate more jobs and housing, and maintain expectations for safety and vibrancy.

The framework of Downtown Raleigh was designed by William Christmas in 1792. Christmas made the plan to accommodate the needs of the time including a central square to house the Statehouse . This framework for downtown includes some timeless features like a grid system of streets, public squares, and dominant main streets that are easily adapted to meet our dynamic community needs.

The Raleigh Downtown Mobility Strategy is motivated by the need to provide seamless connections between walking, cycling, public transit, and driving to improve both mobility and accessibility in downtown. Enhancing the effectiveness of all travel choices not only supports a diverse range of transportation needs but also encourages growth within the city. Equally important is the commitment to improving safety for all corridor users—pedestrians, cyclists, transit riders, and motorists alike—by employing innovative design interventions. Collectively, these motivations aim to create a dynamic and resilient urban corridor that prioritizes both connectivity and well-being for the community.

The Raleigh Downtown Mobility Strategy was developed through a combination of community/stakeholder engagement and technical analysis. It intentionally acknowledges the tensions between competing interest and the need to modernize our downtown transportation system to support achievement of community goals. The mobility strategy is expressed as a set of recommended policies, programs, and projects. The result is a coordinated strategy that will inform how each mode of travel and utilization of curb space will be accommodated within Downtown Raleigh. This document synthesizes community input and observed data to provide a clear work plan to be implemented by the City of Raleigh with the support of City Council. This document is organized around four elements:

Section 1: A Transportation Vision for Downtown

Section 2: Our Downtown Mobility Strategy

Section 3: Urban Corridors Re-Imagined

Section 4: Action Plan

Chapter 1: A Transportation Vision For Downtown

INTRODUCTION

The Raleigh Downtown Mobility Study is a city-led initiative to streamline multimodal planning and policy recommendations for the downtown area. The study is community-driven and considers the perspectives of stakeholders, advocates, and business owners.

PRINCIPLES

Early collaboration led to identification of principles and outcomes for the Raleigh Downtown Mobility Strategy. The Raleigh Downtown Mobility Study will:

Provide Infrastructure for Additional Travel Options

Define the role of automobiles in Downtown
Define the role of non-automobile modes of transportation in Downtown

Improve Community Connectivity

Improve access to transit
Improve access to parks
Improve access to services and jobs
Improve access to regional greenways

Ensure Safe Design

Prioritize the use of protected facilities
Utilize buffered facilities when protected facilities are not feasible

Provide Effective Access to Travel Options (beyond driving)

Create North/South and East/West connections
Improve continuity of travel options and eliminate jogs
Enhance equity and access for historically underserved communities

Identify and Resolve Conflict Amongst Existing and Planned Transportation Elements

Support mode integration
Rethink space allocation
Manage the curb

Principles & Outcomes

VISION

The vision was derived from stakeholder and community engagement in association with the agreed upon principles. The result is a transportation strategy that supports the community vision of Downtown Raleigh as a safe, vibrant, and active place.

Vibrancy

A growing and economically successful downtown that is a magnet for employment, entertainment, and recreation.

Travel Choice

Providing travel options that reduce reliance on automobiles and promote safety, health, and affordability.

Safety

Travel options that are safe and inviting for all ages and abilities.

Livability

A downtown that serves all daily needs for people to live, work, and play.

Placemaking

A downtown with streetscape elements and urban design that reflect the identity of downtown Raleigh and enhance ownership and a sense of place.


TAPCO

What We've Heard

PHASE ONE: VISION, CHALLENGES, AND OPPORTUNITIES

May 2024 - June 2024

The first phase of community and stakeholder engagement for the Raleigh Downtown Mobility Study aimed to understand the community's vision, challenges, and opportunities. This phase of engagement included:

- **1** Public Workshop
- **1** Online Survey
- **1** Pop-up Event at Saturday on South St
- **+1,100** Individual Participants
- **+980** Survey Responses
- **+15,400** Unique Data Points

Ranking Priorities

As part of the Public Workshop and Online Survey, participants were asked to rank the guiding priorities. Safety and travel choices emerged as the top priorities, while parking was considered a low priority.

1 Safety

Create an accessible, efficient, multimodal transportation network for all ages and abilities

2 Travel Choice

Offer a variety of multimodal options including walking, biking, driving, or taking transit for people to travel in and around Downtown Raleigh

3 Travel Experience

Cultivate an environment for people to love, work, and enjoy downtown spaces

4 Streetscape

Leverage areas immediately adjacent to transportation corridors to create lively, beautiful public spaces

5 Parking

Provide a variety of options for people to park and visit downtown

Common Themes

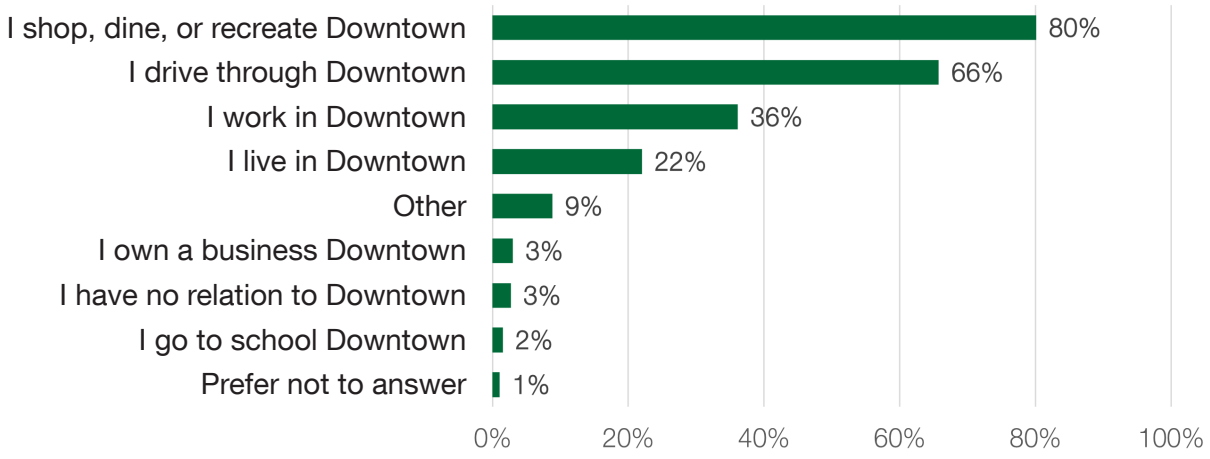
As part of the Public Workshop and Online Survey, participants were asked to use one word to describe what excites them about Downtown. The following themes emerged:

Survey Results

As a part of phase one stakeholder and community engagement, the City of Raleigh circulated an interactive online survey to collect public input to craft a vision and identify challenges and opportunities. The survey was live from May 2024 to June 2024.

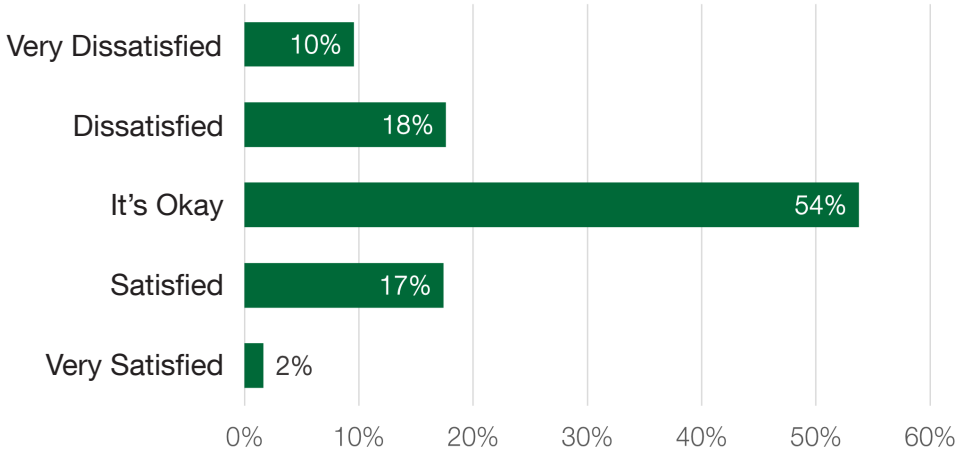
Interacting with Downtown

When asked the question - “Using the Study Area Map for reference, which of the following best describes you?” - most survey participants responded that they shop, dine, recreate, or drive through downtown. A moderate percentage of participants live or work in the study area.



Satisfaction with Downtown Raleigh Transportation

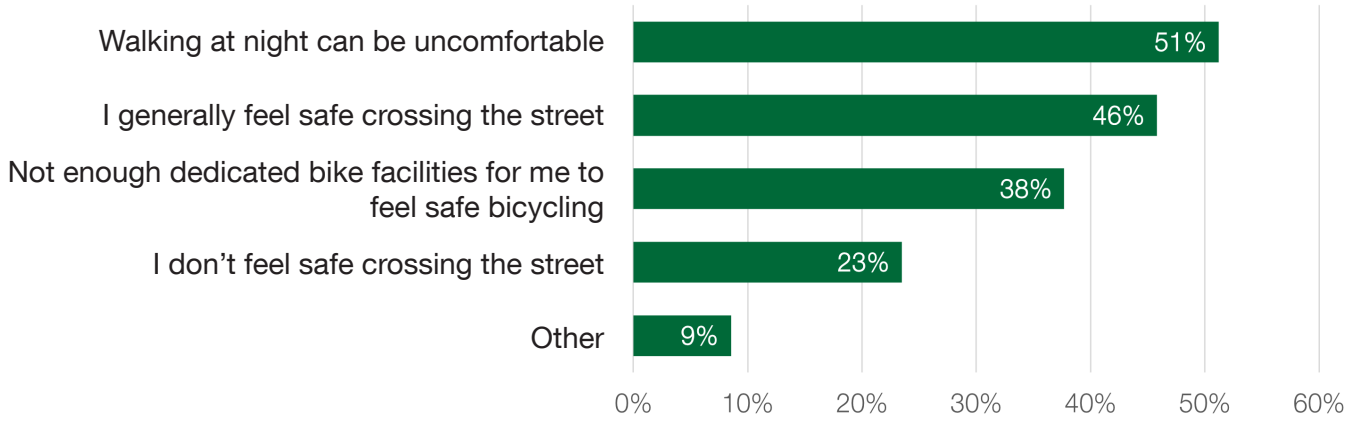
When asked the question - “Which of these describes your satisfaction with Downtown Raleigh transportation?” - most survey participants responded that the transportation in downtown Raleigh is just adequate. They indicated there are elements they like and areas they would change. Additionally, the survey revealed that the number of people who are satisfied with the current state of Raleigh transportation is almost equal to those who are dissatisfied.



What We've Heard

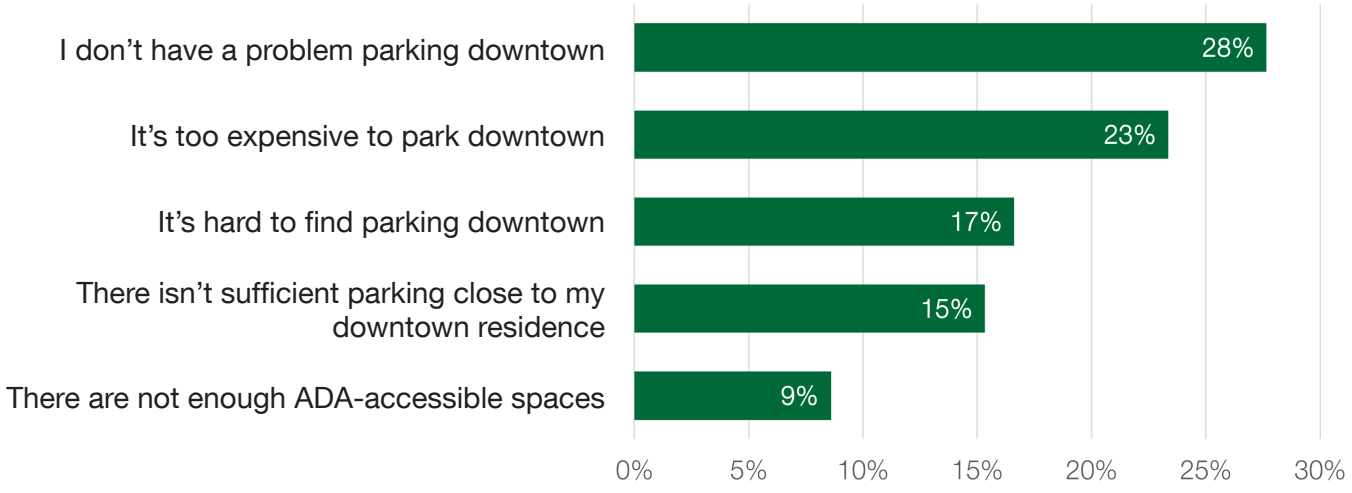
Experience with Transportation Safety in Downtown

When asked the question - "My experience with transportation safety in Downtown is..." - participants generally responded that walking at night can be uncomfortable. While participants broadly felt safe crossing downtown streets, they would like to see more dedicated bike facilities to feel safe while bicycling.



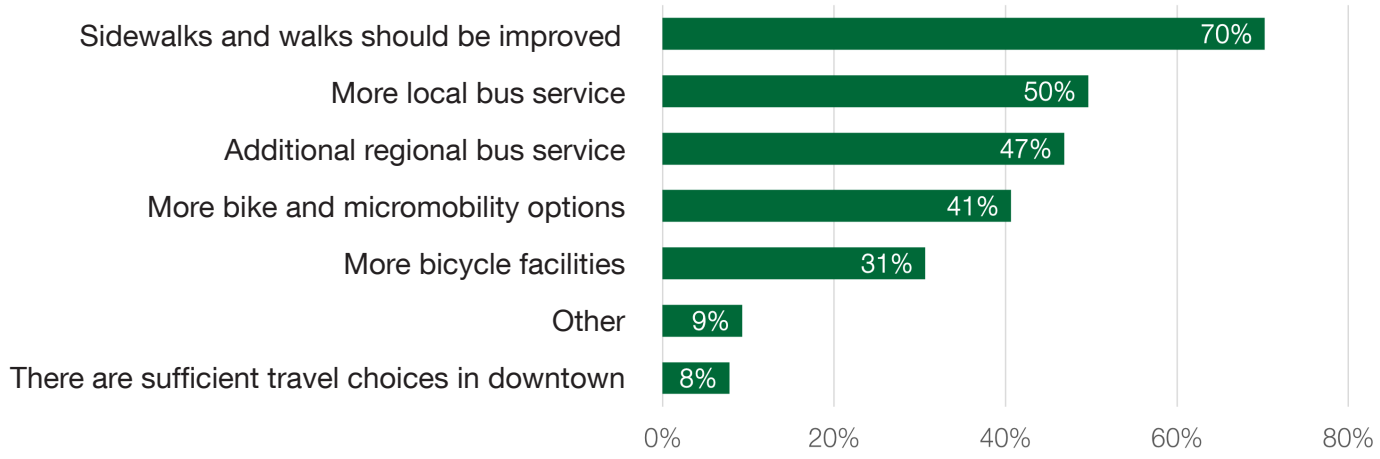
Experience with Parking in Downtown

When asked the question - "My experience with parking in Downtown is..." - most participants responded that they do not have a problem parking downtown. However, over a quarter of respondents emphasized that parking is too expensive.



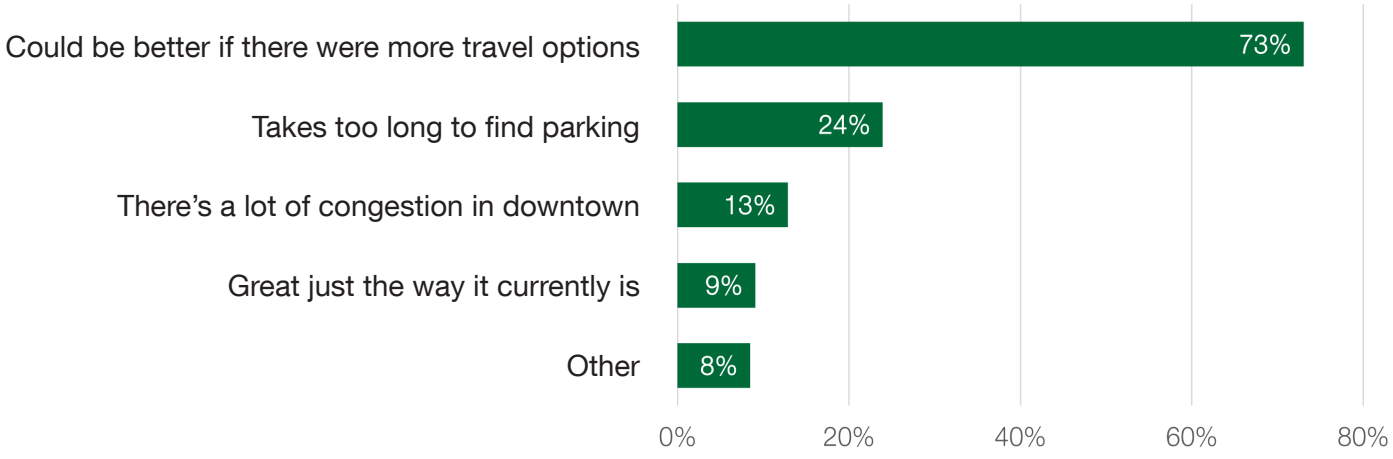
Experience with Travel Choice

When asked the question - “My experience with travel choice in Downtown is...” - most survey participants expressed a desire for improved sidewalks and walkways, as well as additional local bus services. Participants broadly want Raleigh to provide more regional bus services and increased bike and micromobility parking options.



Travel Experience in Downtown

When asked the question - “My travel experience in Downtown is...” - most survey respondents believe it could be improved with more travel options. Few participants believe transportation is great as it currently is.



What We've Heard

Mapping Comments

As a part of phase one community and stakeholder engagement, interactive online maps and printed maps showcased the corridors within downtown and collected over 950 comments from participants. The map to the right depicts which corridors received the highest concentrations of comments.

Peace Street

- Wider sidewalks everywhere
- Install a shared use path on the south side of Peace Street
- Create better street crossings for Pedestrians

Person Street

- Provide adequate parking & loading zones for N Person Street Businesses
- Person Street bike lane is not safe for use. Drivers frequently go too fast and drive in the lane
- Cars often park in the bike lane

Hillsborough Street

- Poor visibility at the end of the Hillsborough Street Bike Lane. No protection to connect across bridge
- Curb-separated or parking protected bike facilities along Hillsborough Street

Hargett Street

- Westbound on Hargett is particularly challenging for pedestrians and bicyclists
- Improve pedestrian crossings across railroad
- Improve safety around transit stops

Martin Street

- Install dock areas for scooters
- Better sidewalk maintenance
- Buses have a hard time turning on Martin St.
- Martin St feels like a gap in the downtown bike network

Blount Street

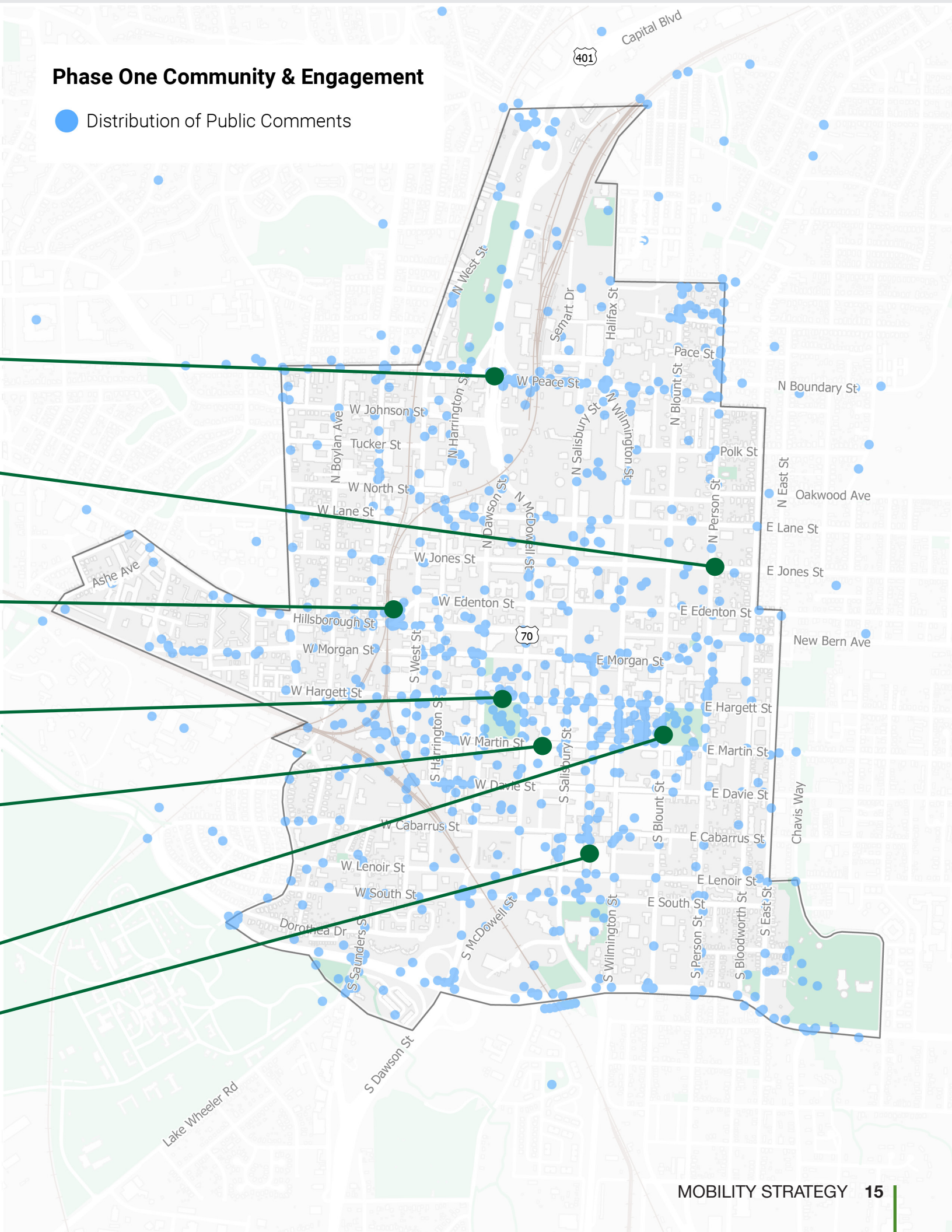
- Add protected bike lane/Fix bus-car-bike-pedestrian chaos
- Better access to the bus station for pedestrians so the station isn't so isolated from the restaurants and other amenities

Fayetteville Street

- Pedestrianize Fayetteville Street
- As a/the main street in downtown, it would make sense to have transit options - bus, shuttle, or something besides scooters in plain sight and visible to visitors and residents

Phase One Community & Engagement

Distribution of Public Comments



What We've Heard

PHASE TWO: TRADEOFFS AND PREFERENCES

June 2024 - November 2024

The second phase of community and stakeholder engagement determined the priorities of the community and proposed a variety of tradeoffs to parse community preferences This phase of engagement included:

- **1** Stakeholder Workshop
- **+30** Individual Participants
- **+200** Unique Data Points

One Word

As part of the Stakeholder Workshop, participants were asked to describe their concerns and excitement about Downtown using a single word for each. The following themes emerged:

WHAT CONCERNS YOU ABOUT DOWNTOWN RALEIGH:

WHAT EXCITES YOU ABOUT DOWNTOWN RALEIGH:

Downtown Characteristics

When asked to rate the current characteristics of downtown Raleigh on a scale of 1-5 (with 5 being the best), participants scored Parking and Traffic operations the highest and multimodal options the lowest. Overall, they rated the downtown transportation system 2.2 out of 5.

- **2.5** — Travel Choice
- **2.9** — Safety
- **3.5** — Traffic Operation
- **2.4** — Multimodal Options
- **3.6** — Parking
- **2.2** — Downtown Transportation System

Corridor Visioning

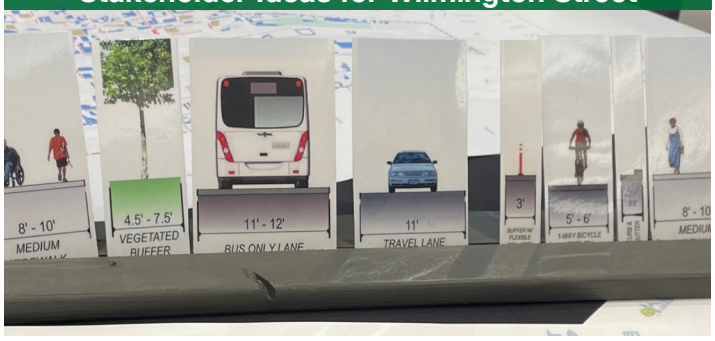
During the Stakeholder Workshop conducted on November 6th, participants were asked to envision ways to introduce new travel options along various Downtown. They needed to navigate the trade-offs associated with limited space, curbside activity, dedicated transit, and active transportation infrastructure. The following images represent the various ideas from participants.

Stakeholder Ideas for Blount Street

Stakeholder Ideas for Martin Street

Stakeholder Ideas for West Street

Stakeholder Ideas for Wilmington Street



Additional Stakeholder Ideas for Blount Street

Additional Stakeholder Ideas for West Street

What We've Heard

PHASE THREE: REVIEW AND CONFIRM

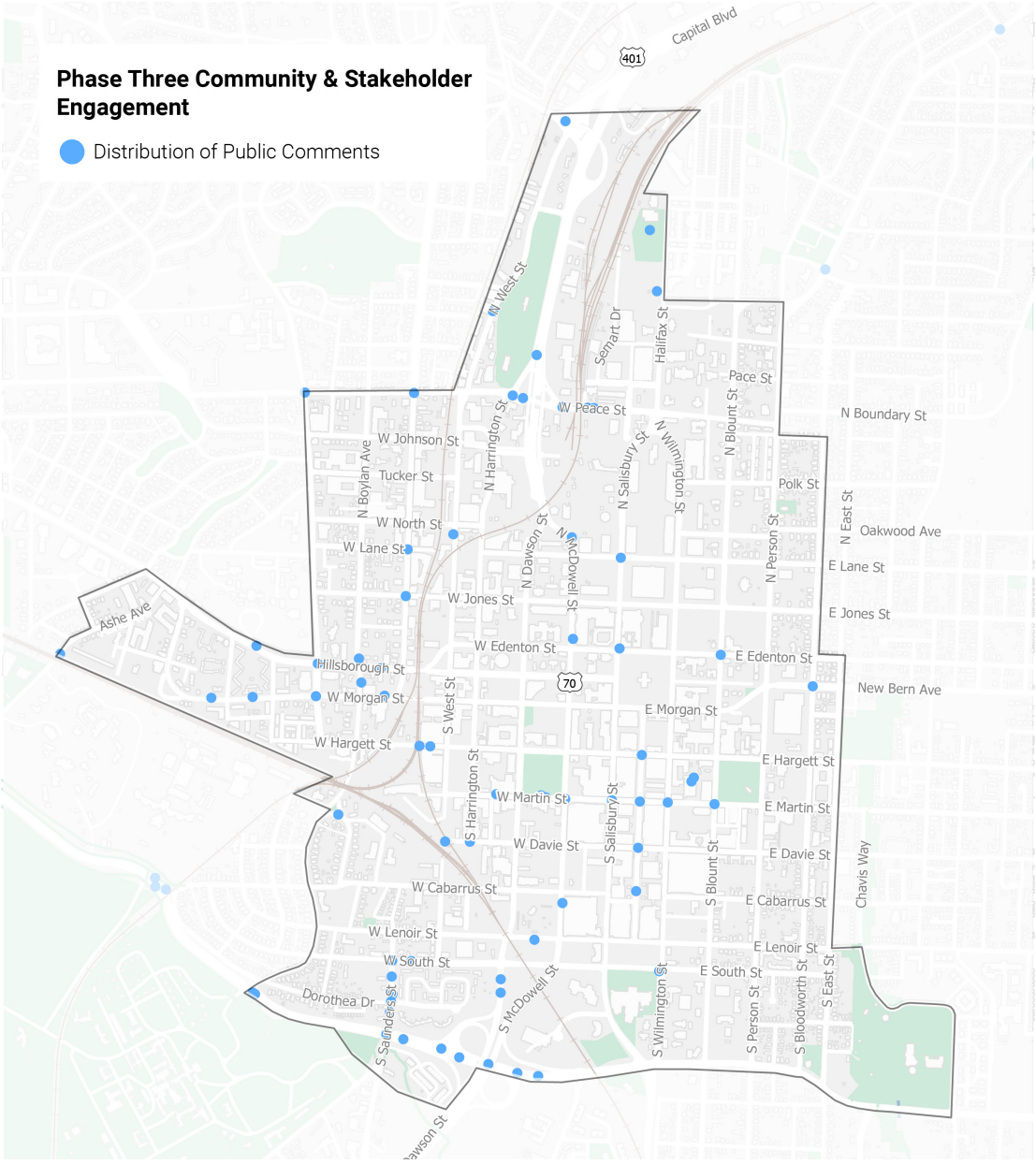
November 2024 - June 2025

The third and final phase of community and stakeholder engagement confirmed alignment of the draft Raleigh Downtown Transportation Plan with community priorities. The draft modal networks, modal strategies, and corridor illustrations were shared using an online engagement platform for review and comment. This phase of engagement included:

1 Public Workshop

+90 Individual Participants

+120 Unique Data Points




Downtown Project Elements


Curbless Street
Transit-Only Street


Project Renderings
Downtown Project Renderings
Existing Conditions
Planned Cross Section
Planned Corridor Illustration

Aligned Initiatives

The City of Raleigh is currently leading several other planning initiatives. These other concurrent planning efforts must be considered as part of the Raleigh Downtown Mobility Study to ensure consistency and promote collaboration. The following efforts overlap with the planning timeframe of the study.

CITY-WIDE INITIATIVES

Active Mobility Plan

The update of the Bicycle and Pedestrian Plan began in 2024. The BikeRaleigh Plan was originally approved in 2016. The 10-year priority project list was reprioritized in December 2020 to reflect completed projects and account for those already funded. This plan update will include recommendations for biking and walking in the City of Raleigh. Final recommendations are expected to be published in September 2025.

Safe Streets for All - Comprehensive Safety Action Plan

The comprehensive safety action plan is a strategy to reduce and eliminate serious injuries and fatalities along the transportation network while increasing safe, healthy, and equitable mobility for people of all ages and abilities. In 2023, the City was awarded a Safe Streets For All (SS4A) grant to develop a Comprehensive Safety Action Plan. The anticipated completion date of the Safety Action Plan is late 2025.

Update to the 2030 Comprehensive Plan

The Comprehensive Plan establishes a vision for the City of Raleigh and provides policy guidance on growth and development. The 2030 Comprehensive Plan was adopted in 2019. Starting this year, the City will initiate an update of the 2030 Comprehensive Plan.

New Bern Bus Rapid Transit (BRT)

The New Bern BRT will connect Downtown Raleigh with WakeMed and New Hope Road with frequent and reliable transit service. Identified in the Wake County Transit Plan, the New Bern corridor is one of four BRT corridors within Wake County. The construction associated with the New Bern BRT route is anticipated to begin in late 2025.

Southern & Western BRT

The Southern BRT corridor will connect Downtown Raleigh with North South Station and Rupert Road in Garner. The corridor is currently in final design with the next design milestone anticipated for Summer 2025. The Western BRT corridor will connect Downtown Raleigh to Downtown Cary. The corridor is currently in preliminary design with final design to begin in Spring 2025.

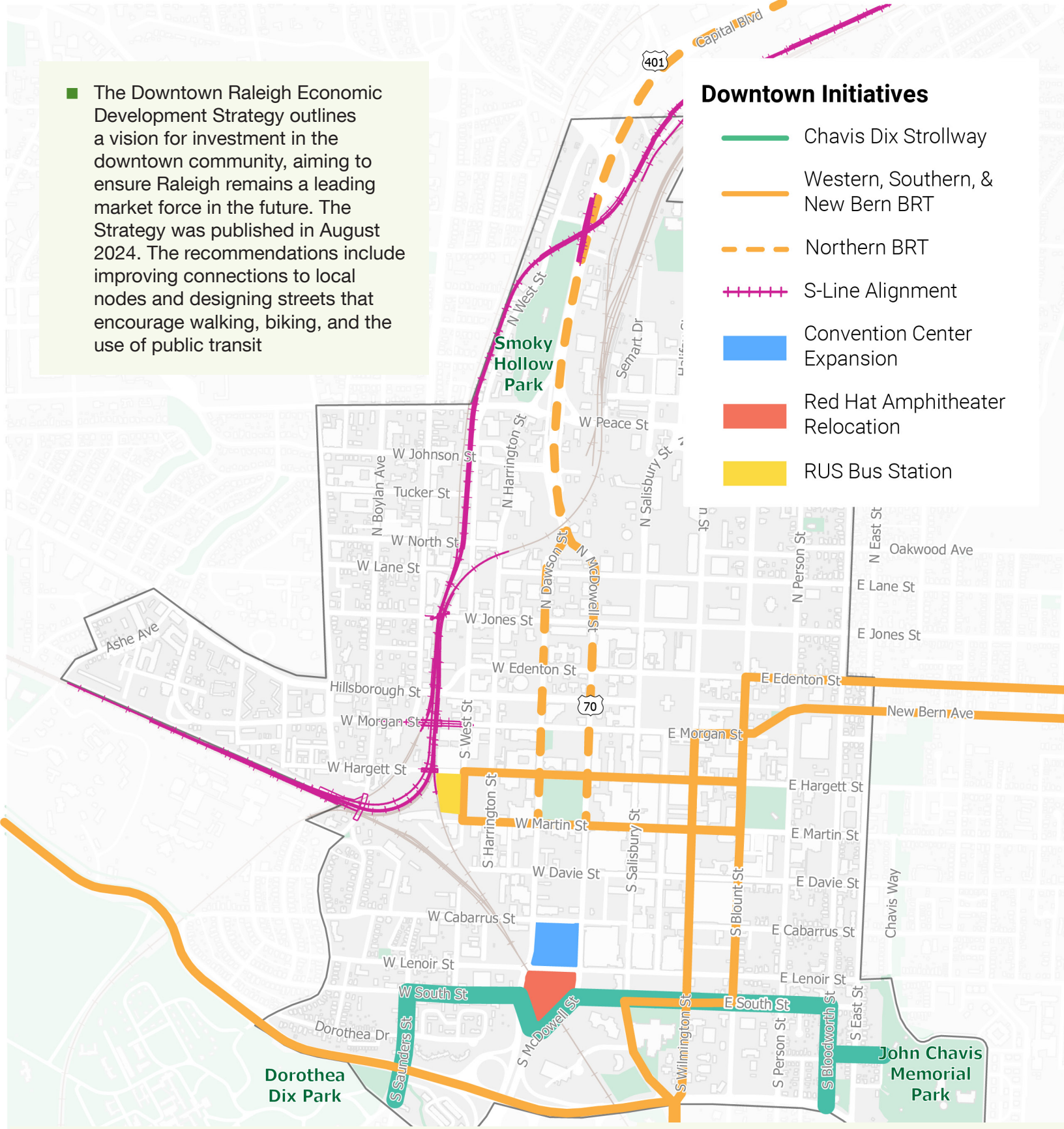
Northern BRT Corridor Alignment

The Wake BRT: Northern Corridor is currently in a planning level study analyzing connections from downtown Raleigh to North Raleigh. The Wake Transit Plan Update identified extensions of BRT infrastructure, including extensions to Triangle Town Center and Midtown. Further study is underway to see how the Northern Corridor BRT could connect downtown to these two destinations.

Western and Southern Station Area Planning

Station area planning is the process of preparing for future bus rapid transit (BRT) stations. This involves organizing how people will walk and bike to transit and determining how areas surrounding BRT stations can develop to support healthy, affordable, and equitable neighborhoods. The Western and Southern Station Area Planning are distinct efforts that will consider zones within a short walk of BRT stations along the Western and Southern BRT routes. Final recommendations for the Western and Southern planning efforts are expected to be published in 2026.

- The Downtown Raleigh Economic Development Strategy outlines a vision for investment in the downtown community, aiming to ensure Raleigh remains a leading market force in the future. The Strategy was published in August 2024. The recommendations include improving connections to local nodes and designing streets that encourage walking, biking, and the use of public transit



- With the Raleigh Convention Center now at capacity, the City plans to repurpose the current amphitheater space for the convention center's expansion. The amphitheater will be relocated one block south, between Lenoir Street and McDowell Street. As part of this relocation, one block of South Street, between Dawson Street and McDowell Street, will be permanently closed. Construction of the relocated Red Hat Amphitheater is expected to begin in late 2025, and construction on the convention center expansion is expected to finalize in 2029.

- The Chavis Dix Strollway establishes an active transportation corridor that links two culturally significant historic sites in Raleigh: John Chavis Memorial Park and Dorothea Dix Park. Raleigh is continuing to undergo planning efforts focused on the phased implementation of a Strollway

Chapter 2: Our Downtown Mobility Strategy


THE R LINE
1610
GO Raleigh

An Integrated Strategy

DOWNTOWN TRANSPORTATION

Downtown Raleigh is a focal point for the city's transportation system. It is uniquely distinct from other parts of Raleigh. With a high concentration of businesses, entertainment venues, government buildings, and cultural institutions, there is a significant demand for transportation options, yet limited space and right-of-way. Downtown Raleigh supports various forms of travel, including driving, transit, bicycling, and walking. Additionally, downtown streets must accommodate parking and loading zones to ensure successful downtown operations. Given these competing transportation needs, an integrated approach for downtown streets is essential since not all streets can support every transportation mode.

43,320 employees within a mile of the State Capitol*

289 restuarants and bars in downtown*

15,681 downtown residents*

The Christmas Plan, which laid the physical foundation of the city, has had a lasting impact on the downtown street network. The four main streets—Halifax, Newbern, Fayetteville, and Hillsborough—were designed to be 99 feet wide, whereas the additional 17 streets were designed to be 66 feet wide. Although the roadway network has since changed and expanded, the original streets still adhere to the initial rights-of-way. As Raleigh continues to evaluate modal priorities throughout downtown, special attention should be paid to what is feasible given the existing rights-of-way.

* Source: DRA - 2025 State of Downtown Raleigh

OUR MOBILITY STRATEGY

Downtown Raleigh's mobility strategy prioritizes safety and a coordinated approach to integration, using a framework for each mode that defines network priorities, programs, and key investments needed to achieve downtown transportation goals. Guided by the Study's principles, each modal strategy includes policies and actions necessary to attain Raleigh's envisioned outcomes for each transportation mode. These frameworks serve as the foundation for project identification, development, and prioritization. The graphic below provides a brief description of the intent of each modal framework.

Pedestrian

Pedestrians are the top priority throughout downtown with special focus given along the corridors identified to have the greatest pedestrian use. The recommended pedestrian Framework is focused on improving safety within the existing network and enhancing key pedestrian connections.

Curbside

Curbside space in downtown is used for a variety of purposes, including general-purpose/ dedicated travel lanes, parking, loading, waste collection, mail delivery, pick-up/drop-off, and outdoor dining. Through the creation of a curbside playbook, Raleigh can sustainably address the highly adaptive, often-conflicting demands that exist in this space.

Bicycle

The recommended bicycle framework aims to improve bicycle connections to and within and downtown. The network includes a functional and recreational mobility network, connecting neighborhoods, activity and employment centers, and open spaces.

Transit

The recommended transit framework will increase access to transit stations and key downtown destinations, giving residents, employees, and visitors new choices for moving through and around downtown.

Automobile

While automobile travel remains a key aspect of mobility, Raleigh's vision for its downtown roadways is to maintain travel into and out of downtown. Corridors that serve this core function are limited, leaving the compliment of streets open to strategies that improve safety and prioritizing the introduction of additional travel options.

An Integrated Strategy

COMPETING MODAL PRIORITIES

While the following sections represent independent modal networks separately, these networks are designed to work in a coordinated way allowing specific corridors to advance strategies that address existing and emerging downtown priorities and needs. As shown in the diagram below, downtown streets are comprised of various zones supporting different transportation functions, tailored according to the surrounding context and the street's role within the greater network. Due to right-of-way width constraints, not all streets can support all transportation uses within each of the zones; therefore, a coordinated strategy is required. These zones include:

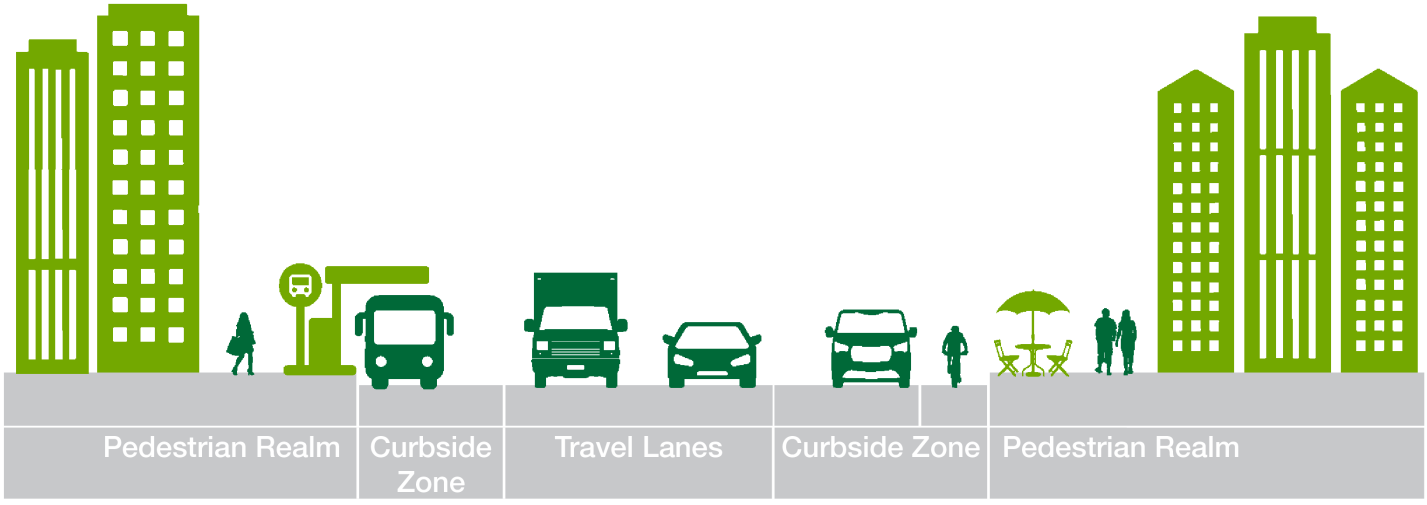
- **Pedestrian Realm:** Includes the space between the building frontage and the curb. This zone prioritizes pedestrians, ensuring their safety and comfort. Pedestrian realms can feature amenities such as furnished areas, specialized lighting, and retail and commercial activities.

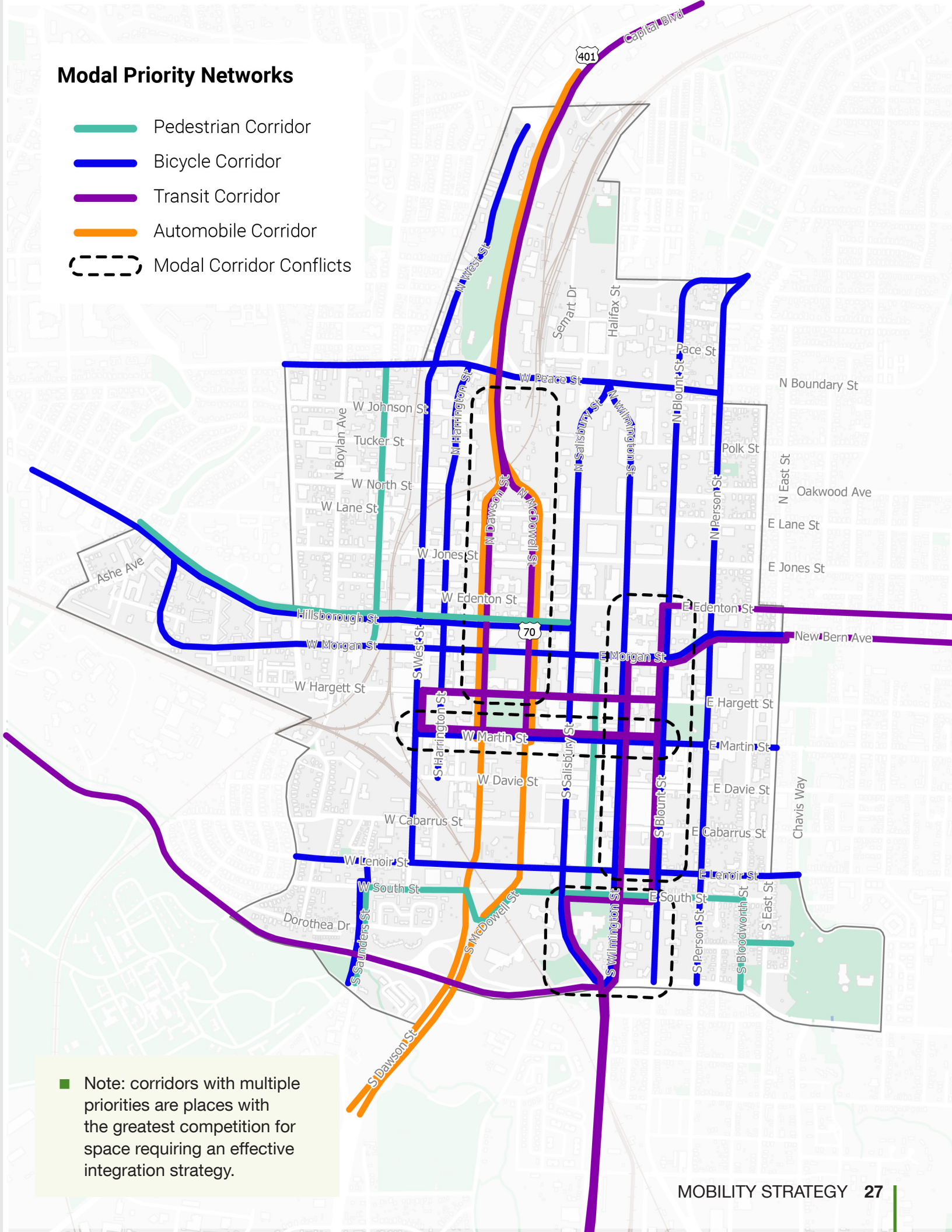
- **Curbside Zone:** Includes the space between the pedestrian realm and travel lanes. This zone is the most flexible and can support various purposes, including: bicycle and micromobility travel, bus stops, parking, and loading zones. This zone can also be used as an extension of the pedestrian realm for additional furnished space and outdoor dining. As the most flexible zone, this space is often subject to the greatest amount of tension between the various transportation modes while also serving as the critical interface between the Pedestrian Realm and Travel Lanes.

- **Travel Lanes:** Includes the space between the curbside zones. Travel lanes are dedicated to primarily serving mobility purposes, including car, transit, and freight.

As seen in the map to the right, there are many corridors in downtown where multiple modes are competing for space. The Dawson and McDowell one-way couplet is a key corridor that will experience tensions between automobiles and future BRT. Additionally, Blount Street, Wilmington Street, Morgan Street, and Edenton Street will all experience tensions between accommodating the needs of bicyclists, pedestrians, BRT, and freight. Identifying priority networks for each mode helps to isolate these tensions and make informed decisions that maximize the use of public rights-of-way to achieve downtown goals. The following analysis was completed at the corridor level. Future steps will analyze each corridor block by block; therefore, all cross sections are subject to change based on further engineering.

Street Right-of-Way Zones





- Note: corridors with multiple priorities are places with the greatest competition for space requiring an effective integration strategy.

Pedestrian Realm & Placemaking

INTENT

Each of us begin and end every trip as a pedestrian, making walkability essential to creating a connected and healthy community. When walking is an available choice for its convenience and enjoyment, it also provides the added benefits of: improved mental and physical health, enhanced social wellbeing, and stronger economic vibrancy. Investments in the pedestrian realm create opportunities to improve community connections with transit, employment, education, and other daily activities, encouraging walking for all ages and abilities.

CURRENT CONDITIONS

Existing Pedestrian Facilities

Downtown Raleigh's existing pedestrian network is comprehensive and well-connected, with over 52 miles of sidewalks spanning the majority of the downtown area. This network also links to the regional greenway system, providing connections to the Rocky Branch Trail along Saunders Street and the Little Rock Trail along Lenoir Street.

Fayetteville Street and Glenwood Avenue serve as the main pedestrian corridors within downtown. Fayetteville Street features pedestrian amenities and wider sidewalks and is often closed to vehicular traffic for events. As the primary entertainment district in downtown, portions of Glenwood Avenue are closed to vehicular traffic on weekends to enhance pedestrian safety.

- The clinical study proving walking is good for mental health is the meta-analysis conducted by UCLA Health, which found that taking as few as 1,000 steps per day can lead to a 10% decrease in depression symptoms. Participants who walked more than 7,500 steps per day experienced a 42% reduction in symptoms of depression.* This study highlights the significant impact of walking on mental health and the importance of regular physical activity in maintaining emotional well-being.

Pedestrian Safety

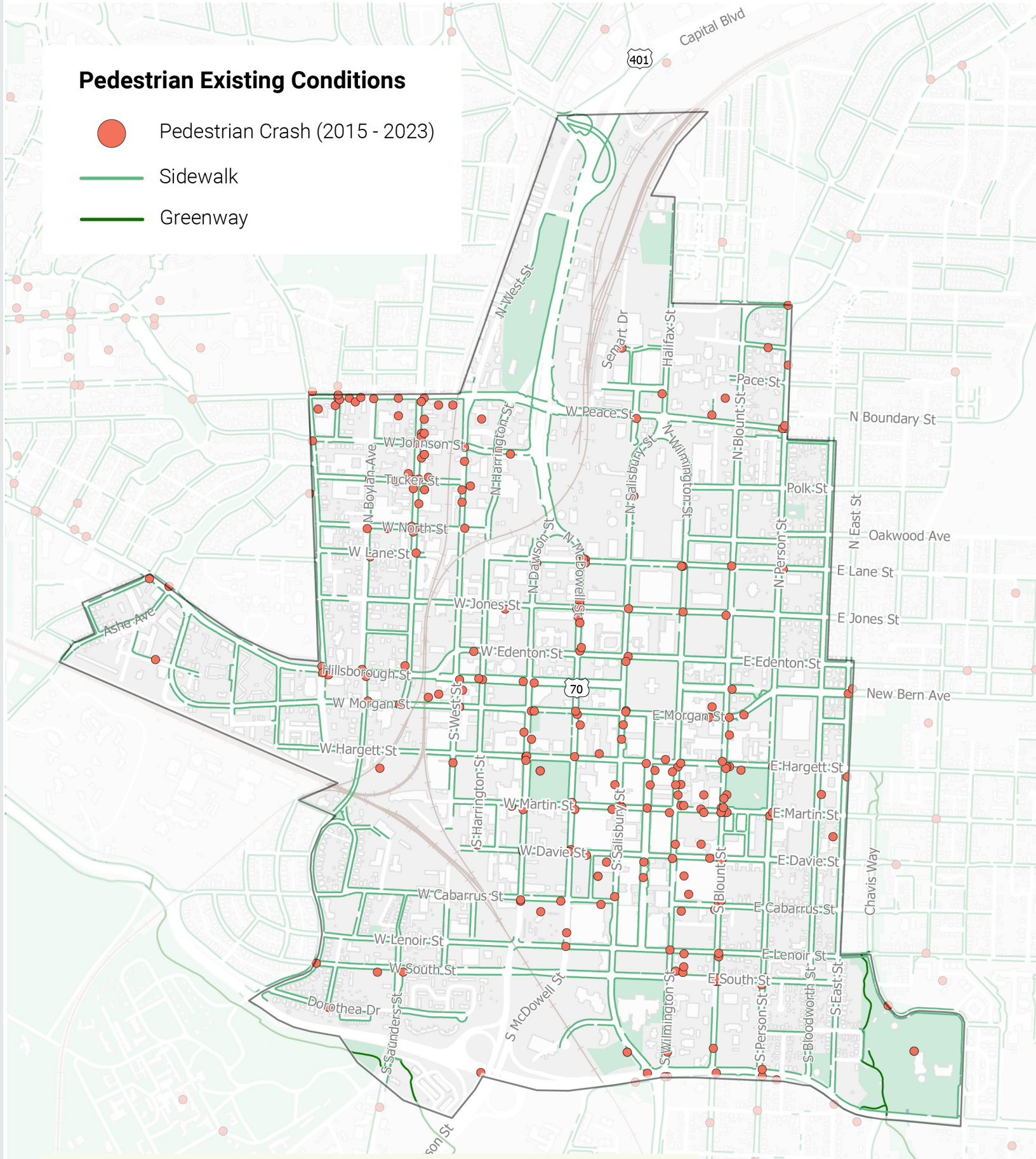
Crashes that involve pedestrians are of great concern. They involve the most vulnerable and unprotected users of the transportation system. In order for a downtown to be considered walkable, it must be considered safe and comfortable. From 2015 to 2023, downtown Raleigh experienced 276 reported pedestrian crashes These crashes were concentrated along heavily trafficked pedestrian corridors, including Wilmington Street, Blount Street, West Peace Street, and Glenwood Avenue. The elevated occurrence of pedestrian crashes around activity and employment centers highlights the need to upgrade existing pedestrian facilities to create a realm where pedestrians feel safe and comfortable.

As a part of the Safe Streets for All - Comprehensive Safety Action Plan, the city has developed a high injury network (HIN), which is used to identify the streets and intersections where the highest conentrations of traffic injuries and fatalities occur. The HIN helps prioritize safety improvements by focusing on the locations where they can have the most significant impact on reducing serious injuries and saving lives. Currenlty, there are over ten corridors in downtown identified as a part of the HIN.

Safety Initiatives

The City of Raleigh has implemented multiple initiatives to improve pedestrian safety conditions throughout downtown. Raleigh has prohibited right turns on red to reduce automobile-pedestrian collisions at intersections. Additionally, Raleigh has lowered speed limits to 25 miles per hour across the entire downtown area to slow down automobile traffic and reduce the severity of automobile-pedestrian crashes. The City also implemented leading pedestrian intervals at downtown signalized intersections, enhancing pedestrian visibility and safety, particularly at intersections with high foot traffic and complex crossing scenarios.

* Source: UCLA Health - Increased walking can lessen depression



- The streets surrounding GoRaleigh Station were significant hotspots for pedestrian crashes. Improving pedestrian safety around key transportation hubs helps protect pedestrians during first/last mile connections and is essential to establishing safer and more accessible transportation options.

Pedestrian Realm & Placemaking

FRAMEWORK

The recommended pedestrian framework identifies key pedestrian corridors where facilitating pedestrian travel is the primary focus. Specifically, the recommended pedestrian framework is focused on improving safety within the existing network and enhancing key pedestrian connections. These key corridors include Fayetteville Street, Glenwood Avenue, and the South Street Strollway.

Pedestrian Safety

With an existing sidewalk network that is robust and well-connected, Raleigh is focused on enhancing the safety and comfort of the current infrastructure. Downtown Raleigh is a hotspot for pedestrian-related crashes, with over ten downtown streets included in Raleigh's high injury network. Downtowns are places where the greatest amount of pedestrian activity is expected and desired. Unsafe pedestrian conditions work against expectations for a vibrant downtown where everyone is welcome.

The pedestrian safety and comfort of downtown streets is a dynamic condition affected by various factors, including: the design of facilities, traffic volume, traffic speed, and crash history. In coordination with Raleigh's Safe Streets for All - Comprehensive Safety Action Plan, the city will determine the most effective treatments for each corridor within the high injury network.

Fayetteville Street

In an effort to enhance the pedestrian experience and safety along Fayetteville Street, the City is updating its streetscape plan. The plan will provide guidance on improving landscaping, lighting, public art, site furnishings, and other pedestrian enhancements.

Glenwood Avenue

The City is leading a Safety Pilot Project, focused on improving pedestrian safety and experience on Glenwood Avenue, from North Street to Johnson Street. The study has found that reducing vehicle speeds and implementing hardscape improvements, such as painted curb extensions with vertical delineators and raised crosswalks, are popular and effective solutions for enhancing pedestrian safety and comfort.

Hillsborough Street

The municipal service district for Hillsborough Street, Live It Up! Hillsborough Street, is undergoing a vision planning process to identify priorities and improvements for the corridor over the next 15 years. This plan will explore strategies to improve public safety, pedestrian facilities, and placemaking. Coordination with the City and key stakeholders to determine where investments should be made will be a key next step after the plan is finalized.

Future South Street Strollway

The City of Raleigh is planning a pedestrian corridor that links John Chavis Memorial Park and Dorothea Dix Park via South Street. The strollway will celebrate Raleigh's rich cultural history while connecting multiple communities on the southeast and southwest sides of the city. It will provide a safe, accessible, and pedestrian-focused corridor that links downtown to two historic sites. This project aims to energize the area through placemaking, interpretive signage, partnerships, and community engagement.

Recommended Pedestrian Framework
Priority Pedestrian Corridor
Sidewalk Priority Corridor
Greenway
Glenwood Avenue
Glenwood Avenue is a key downtown corridor, known for its vibrant mix of commercial, residential, and entertainment areas. As a key street within the Glenwood South entertainment district, Glenwood Avenue experiences heavy pedestrian traffic.
Fayetteville Street
Fayetteville Street is a historic street extending for six blocks in the heart of downtown Raleigh. The street serves as a ceremonial corridor for numerous civic and cultural events, with portions of the street being closed frequently to support large-scale outdoor public events.
Hillsborough Street
Hillsborough Street is an important east-west corridor that serves as the western gateway into downtown Raleigh. The street features a high concentration of commercial and residential uses and directly connects various key institutions, including NC State, Campbell Law School, and Meredith College. As a result, the street experiences heavy pedestrian traffic. Hillsborough Street also connects Glenwood Avenue to Fayetteville Street, providing access between downtown Raleigh's key pedestrian corridors.
Capital Blvd
401
N West St
Semart Dr
Halifax St
Pace St
N Boundary St
W Peace St
W Johnson St
Tucker St
N Boylan Ave
N Harrington St
N Salisbury St
N Wilmington St
N Blount St
Polk St
N East St
Oakwood Ave
W North St
W Lane St
N Dawson St
N Caldwell St
N Person St
E Lane St
E Jones St
W Jones St
Ashe Ave
W Edenton St
E Edenton St
Hillsborough St
70
New Bern Ave
W Morgan St
S West St
E Morgan St
W Hargett St
E Hargett St
S Harrington St
W Martin St
E Martin St
S Salisbury St
W Davie St
E Davie St
Chavis Way
S Blount St
S Wilmington St
W Cabarrus St
E Cabarrus St
W Lenoir St
E Lenoir St
W South St
E South St
South Street Strollway
Dorothea Dr
Rocky Branch Trail
S Saunders St
S McDowell St
S Person St
S Bloodworth St
S East St
Little Rock Trail

Pedestrian Realm & Placemaking

STRATEGY AND ACTIONS

Downtown Raleigh is uniquely characterized by its narrow streets, higher density, and variety of land uses. These factors make downtown the most walkable area in Raleigh, although access to its amenities still primarily relies on aging infrastructure supplemented with with enhanced designs in places where new development has occurred. Creating safe, comfortable sidewalks and public spaces is a priority for the pedestrian network. The following policies, practices, and programs aim to achieve this:

Create Pedestrian-Oriented Streets

Downtown Raleigh features historic urban neighborhoods supplemented with newer and denser mixed-use development. This area necessitates prioritizing pedestrian needs in street designs to effectively accommodate the diverse destinations in downtown.

Install Tactical Pedestrian Improvements

Small-scale projects can lead to significant quality of life improvements for residents. High-impact, low-cost tactical projects can be implemented throughout downtown to enhance the recommended pedestrian framework. Examples include curb extensions, high-visibility crosswalks, and intersection daylighting through parking restrictions. The Safe Streets for All - Comprehensive Safety Action Plan will be upgrading sixteen existing crosswalks through the TRT Downtown Pedestrian Improvement Phase II. Eight of the crosswalks include planned art installations through Raleigh Arts Division, in the Parks and Recreation Department to enhance pedestrian safety. At ten of the sixteen locations, raised crosswalks are anticipated to be selected as the design solution for safety improvement. Additionally, three raised crosswalks are being constructed through the Eastern BRT project as part of the effort to enhance pedestrian safety downtown

Painted Curb Bump Outs

Source: DRA - Salisbury St

High-Visibility Crosswalk on St. Mary's St

Source: City of Raleigh

Expand & Improve Existing Pedestrian Network

Pedestrian spaces, such as sidewalks, walkways, and urban trails, serve as the backbone of the recommended pedestrian framework. Creating new spaces and enhancing existing paths with appropriate safety measures, such as, shortening pedestrian crossing distances, daylighting pedestrian crossings, and clear pedestrian wayfinding. These enhancements can ensure safe, accessible connections to schools, transit, parks, and other community destinations in downtown.

Routine maintenance of pedestrian spaces is crucial for ensuring the safety and accessibility of the pedestrian network. Maintenance includes various tasks such as sidewalk grinding to mitigate trip hazards, brick and paver replacement, and tree grate removal. Planning and programming for the effort and cost associated with these maintenance tasks is key to ensuring they occur regularly.

Improve Key Pedestrian Corridors

As part of the recommended pedestrian framework, several key pedestrian corridors have been identified: Fayetteville Street, Glenwood Avenue, and South Street. These streets represent important destinations where pedestrian travel is prioritized. Raleigh can collaborate with community partners downtown to activate these corridors, creating vibrant and appealing destinations that serve as highlights for the network.

Upgrade and Expand Pedestrian Crossings

Crossings serve as the interface of the recommended pedestrian framework with the street network in downtown Raleigh. By upgrading existing crossings and creating new pedestrian crossings, Raleigh can improve the connectivity of the Priority Pedestrian Network, improve safety, and enhance access to transit.

Create Vibrant Public Spaces Through Shared-Spaces

Unlike other modes of transportations, pedestrians are uniquely able to utilize a wide range of spaces, outside of linear travel corridors, such as plazas, special alleys, and other shared spaces. These locations serve not just as connections but also as destinations where people can live, play, and gather. Creating vibrant public spaces like these promotes community health and wellness.

Public Space at Moore Square Park

Source: Kimley-Horn

Streetery on Hargett St

Source: City of Raleigh

Utilize Safety Metrics to Identify Locations In Need of Improvement

Several methods exist for identifying areas for upgrades within the recommended pedestrian framework. The High Injury Network (HIN) highlights areas in downtown Raleigh with higher rates of crashes resulting in serious injuries and fatalities, pointing out potential locations for improvements. Additionally, areas with high travel stress can be utilized for analysis. Finally, the Safe Streets for All - Comprehensive Safety Action Plan identifies sites that can be addressed.

Create a Systematic Program for Improving The Pedestrian Network

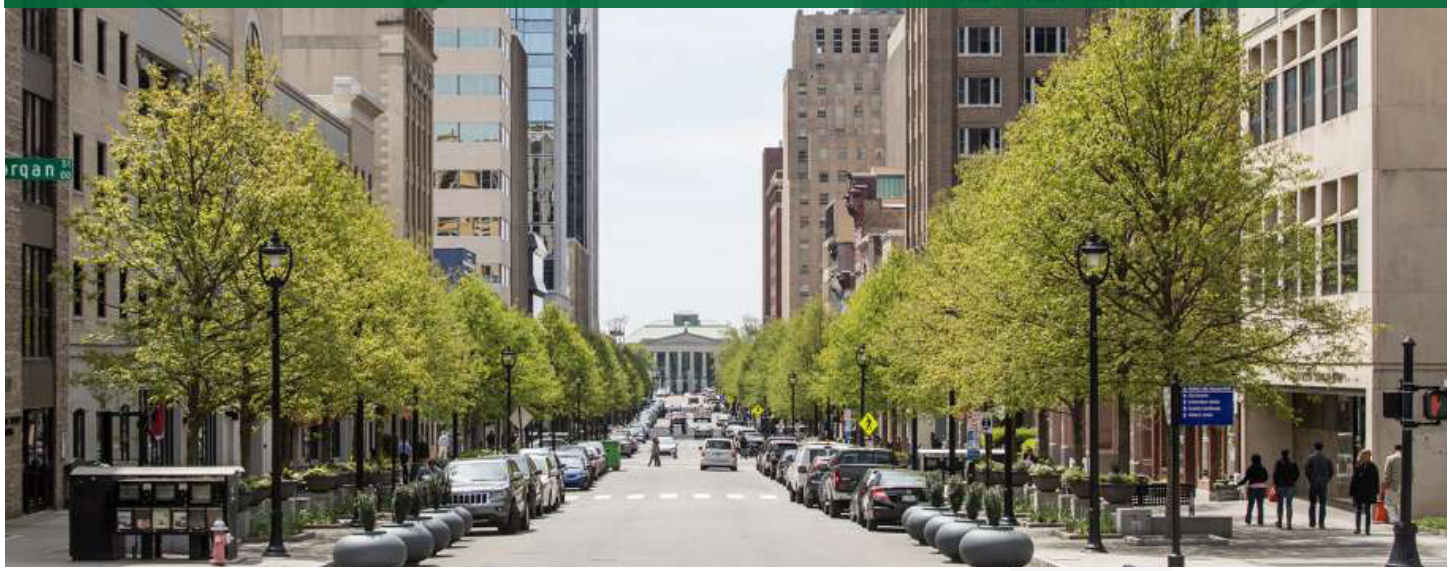
Safe and accessible sidewalks provide comfort and utility for the recommended pedestrian framework. By proactively identifying issues, implementing temporary solutions as needed, and conducting permanent repairs through a systematic program, Raleigh can ensure the safety and accessibility of its downtown sidewalk network.

Pedestrian Realm & Placemaking

Preserve, Restore, & Enhance the Urban Tree Canopy

Raleigh, known as the City of Oaks, takes pride in its downtown tree canopy. This canopy creates an aesthetically pleasing atmosphere for the community and reduces the urban heat island effect, while providing shade for pedestrians, bicyclists, and seating in public spaces. Preserving, restoring, and enhancing the urban tree canopy within the public right-of-way in downtown Raleigh increases the benefits the tree canopy provides. Improving the tree canopy on new pedestrian corridors to provide a shaded experience for users is a top priority. Equal attention should be given to proper maintenance of downtown trees to ensure branches don't cause sight distance issues, or impede designated walking and biking infrastructure.

Urban Tree Canopy Along Fayetteville St



Source: City of Raleigh

Fill Current Gaps in Pedestrian Network

The recommended pedestrian framework can help address the first-mile/last-mile needs in downtown Raleigh. First and last mile refers to the initial and final segments of a journey that connect a traveler's origin or destination with a main mode of transportation, such as a bus, train, or carpool. By filling gaps in the existing sidewalk network, connectivity is improved, creating a continuous network that better serves the community.

Improve and Expand Pedestrian-Scaled Lighting

Illuminating pedestrian facilities can enhance safety, comfort, and visibility in downtown Raleigh. Installing pedestrian lighting within the public right-of-way can achieve these benefits.

Curbside

INTENT

As the direct interface between the street and surrounding properties, the curbside plays a crucial role in mobility and land use vitality. Curbside space is used for a variety of purposes, including general-purpose/dedicated travel lanes, parking, loading, waste collection, mail delivery, pick-up/drop-off, and outdoor dining. Through the creation of a curbside playbook, Raleigh can sustainably address the highly adaptive, often-conflicting demands that exist in this space. Emphasis should be placed on critical access needs – a property's access to services needed to perform its core operating functions – and multimodal transportation solutions, such as dedicated bus rapid transit and cycling infrastructure.

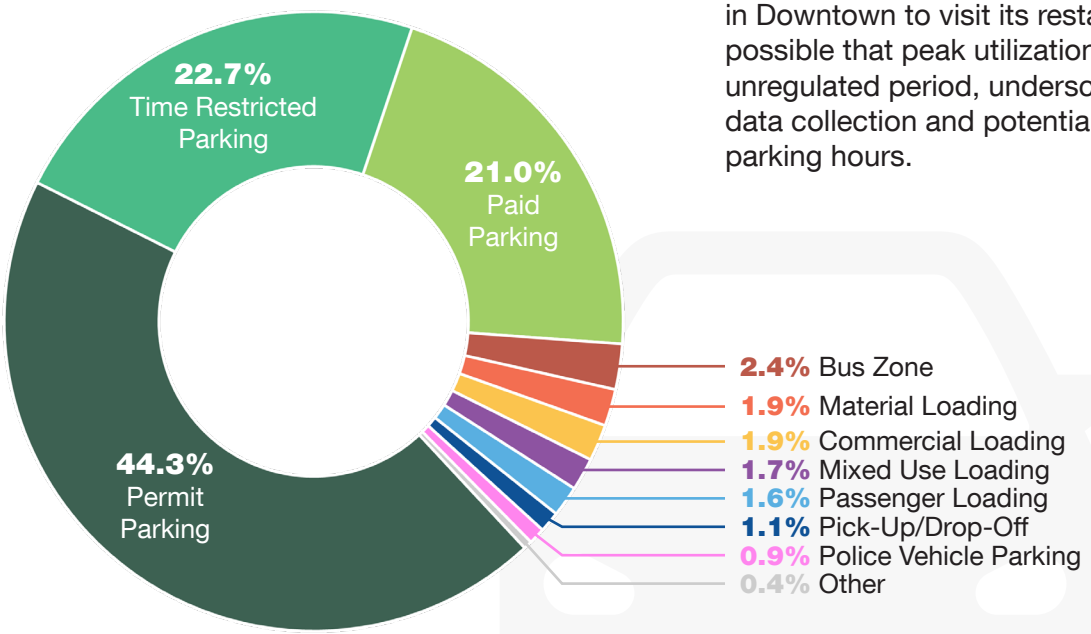
CURRENT CONDITIONS

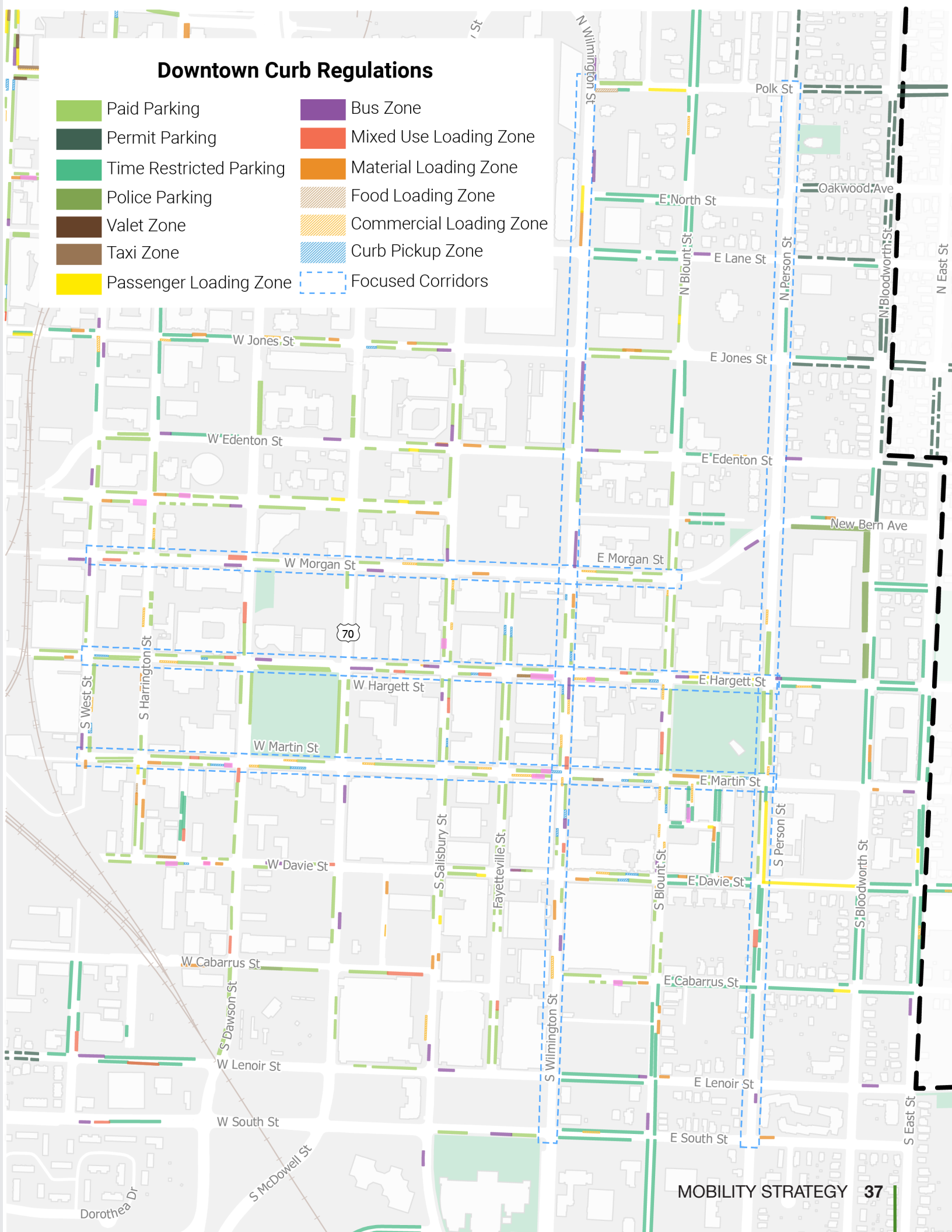
Curb Regulatory Structure

The City of Raleigh operates 137 on-street paid parking zones within its downtown core, averaging roughly 1 million transactions each year. Paid parking is only one of 13 unique curb designations managed by the Transportation Department (RDOT), comprising about 21% of its curbside system. However, it should be noted that nearly 70% of Raleigh's curb space is used for either permit (44%) or time restricted parking (23%). The remaining 12% of curb space is employed for various loading zones, serving both passenger and freight activities. In total, the City is comprised of 8,293 signed spaces which provide designated functionality for parking, loading, transit, and other uses.

Curb Utilization

Like many comparable cities, Raleigh's curbside system is characterized by acute needs and challenges. Overall, the on-street parking system has ample curbside space availability, especially at the periphery. Demand challenges occur primarily in South Central Downtown between Morgan Street to the North and Cabarrus Street to the South. In this area, there are both high transaction counts and low reported compliance, suggesting greater demand than what is reported by readily-available data sources. This underscores the need for robust parking and curbside management, ensuring that patrons abide by posted regulations. It must also be noted that utilization data is not available for the late evening hours when many patrons likely arrive in Downtown to visit its restaurants and bars. It is possible that peak utilization may occur during this unregulated period, underscoring the need for greater data collection and potential expansion of paid parking hours.




Downtown Curb Regulations
Paid Parking
Permit Parking
Time Restricted Parking
Police Parking
Valet Zone
Taxi Zone
Passenger Loading Zone
Bus Zone
Mixed Use Loading Zone
Material Loading Zone
Food Loading Zone
Commercial Loading Zone
Curb Pickup Zone
Focused Corridors
N Wilmington St
Polk St
Oakwood Ave
E North St
N Blount St
E Lane St
N Person St
N Bloodworth St
N East St
W Jones St
E Jones St
W Edenton St
E Edenton St
New Bern Ave
W Morgan St
E Morgan St
70
S West St
S Harrington St
W Hargett St
E Hargett St
W Martin St
E Martin St
S Salisbury St
Fayetteville St
S Blount St
S Person St
S Bloodworth St
W Davie St
E Davie St
W Cabarrus St
E Cabarrus St
S Dawson St
S Wilmington St
W Lenoir St
E Lenoir St
W South St
E South St
S East St
S McDowell St
Dorothea Dr

Curbside

FRAMEWORK

Corridor Needs Assessment

When making curb alterations, it is imperative that the majority of critical access needs for impacted properties be addressed. As part of this effort, critical access needs were studied using a corridor-based approach and mitigated using a siting process that considers existing curb conditions, existing mitigation availability, and the nature of surrounding curb alterations. Prior to assessment, the City analyzed all planned changes to the curb, as well as existing curb utilization and regulations. Analysis findings produced a series of focus corridors – areas primed for significant curb alteration – that were studied in more detail via block-level site reviews. Using findings from the block level site review, a series of mitigation locations were identified and classified. These include curbside, off-street, and parking management mitigations..

Curbside Mitigations

Curbside mitigations are mitigations best suited for the curb due to adjacent land use function, surrounding curb use, and/or the lack of off-street alternatives. These are typically used to address critical access needs related to loading, solid waste servicing, and mail/package delivery.

Off-Street Mitigations

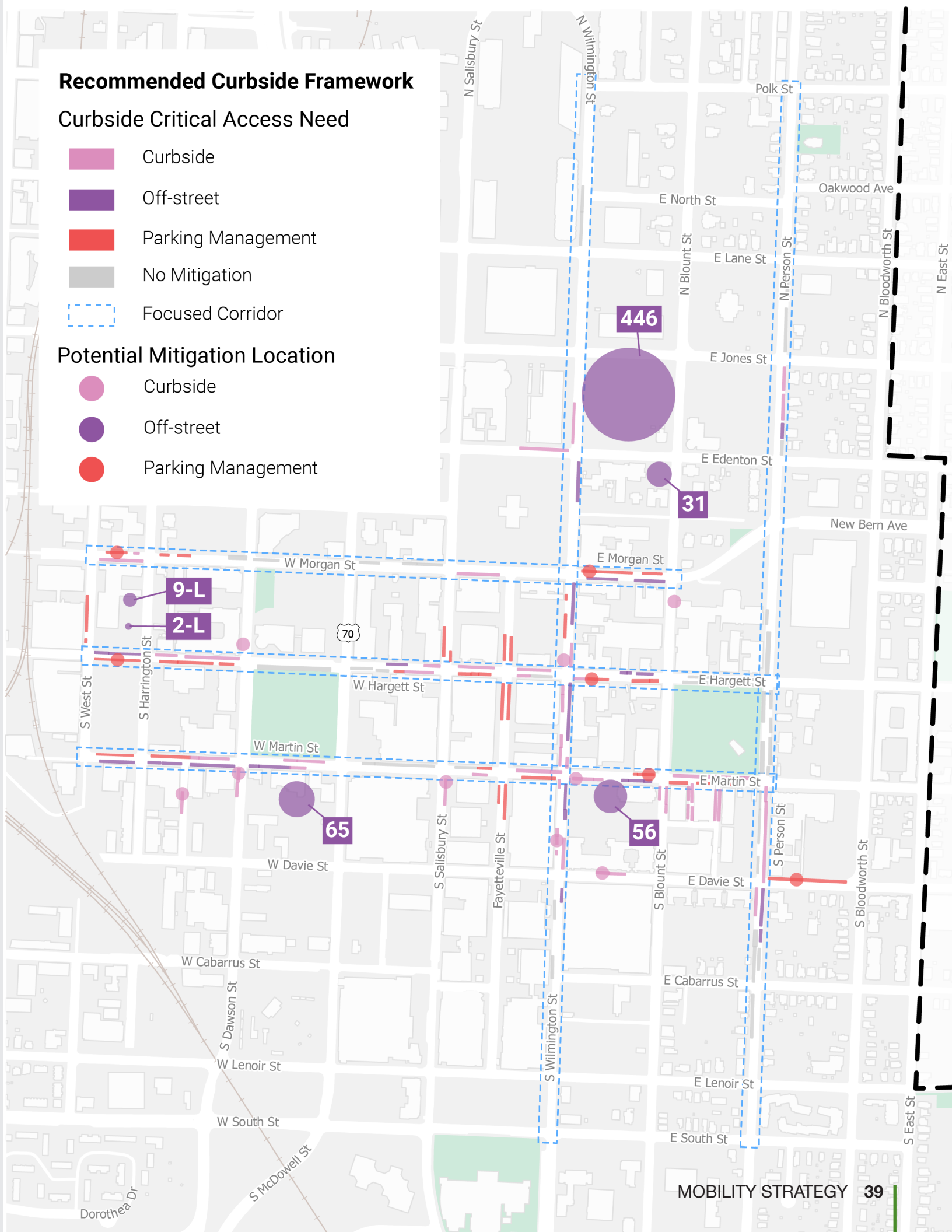
Off-street mitigations leverage off-street parking facilities to mitigate curbside critical access needs. Facilities such as public surface lots and garages are often used to redirect on-street parking demand but can also be used for loading when they are adjacent to impacted properties. For optimal mitigation outcomes, the City should pursue partnership with private operators when public parking facilities are not proximate to identified mitigation locations. These partnerships could take the form of a shared parking or access agreement via memorandum of understanding (MOU) or lease.

Parking Management Mitigations

Parking management mitigations are those which implement technology, resources, and staffing to manage the loss of curbside function through increased space efficiency. Common mitigations falling into this category include passenger pick-up/drop-off, time-limited parking, and camera-based monitoring and enforcement.

Visualizing Corridor Needs & Potential Mitigations

The map on the next page illustrates findings from the corridor needs assessment conducted as part of this effort. Lines identify curb spaces where there is a current or future unaddressed critical access need, while dots indicate potential mitigation locations. Curbside and parking management locations address on-street demands such as loading, pick-up/drop-off, and time-limited uses, while most off-street locations are used to address the loss of curbside parking. Each off-street location is labeled with the total number of parking spaces available, with loading mitigations marked with a “-L”.


Recommended Curbside Framework
Curbside Critical Access Need
Curbside
Off-street
Parking Management
No Mitigation
Focused Corridor
Potential Mitigation Location
Curbside
Off-street
Parking Management
446
31
9-L
2-L
65
56
N Salisbury St
N Wilmington St
Polk St
Oakwood Ave
E North St
N Blount St
E Lane St
N Person St
N Bloodworth St
N East St
E Jones St
E Edenton St
New Bern Ave
W Morgan St
E Morgan St
70
S West St
S Harrington St
W Hargett St
E Hargett St
W Martin St
E Martin St
W Davie St
S Salisbury St
Fayetteville St
S Blount St
E Davie St
S Person St
S Bloodworth St
W Cabarrus St
E Cabarrus St
S Dawson St
S Wilmington St
W Lenoir St
E Lenoir St
W South St
E South St
S East St
S McDowell St
Dorothea Dr

Curbside

STRATEGY AND ACTIONS

The Curbside and Parking Playbook provides an implementation roadmap to meet current and future parking and curbside demands including high level guidance on curbside policies, programs, and operations that should evolve over time to meet evolving parking and curbside demands. Policy recommendations focus on the legislative and organizational underpinning needed to implement a dynamic and responsive curbside management system. Program recommendations focus on the administrative practices that govern staff decision-making processes in the management of curbside and parking functions. Operational recommendations focus on the daily execution of curbside management and parking programs including the staffing, resources, and technology needed to successfully operate the parking operation.

Manage the Curb Administratively

Raleigh's existing Code requires City Council approval for all curb alterations. This language should be removed to facilitate greater flexibility in curb management. In its place, the City should adopt rules and regulations which grant RDOT direct authority to alter the curb. These rules and regulations should be based on national best practices, namely those which provide flexible authority to alter the curb responsive to changing demands.

Consolidate Loading Zone Code Types

The City should consider revising existing Code to consolidate the six existing loading zone types into several overarching categories and grant RDOT direct authorization to establish and maintain such zones. Using this approach can provide City staff with additional flexibility in managing loading zone usage, vehicle types, permitting programs, and fee structures. Code changes should be accompanied by rules and regulations which standardize the establishment and maintenance process.

On-Street Parking & Loading On Harrington St

Source: City of Raleigh

Establish Fee Ranges through the Annual Budget Process

Raleigh employs a collaborative process involving the public, departments, and Council to establish the City's annual operating budget. This process can support sustainable curb utilization through the establishment of demand-based parking rate, fee, fine structures and/or not-to-exceed amounts. Pricing on-street parking based on market demand will encourage more people to park off-street and utilize alternative modes of transportation, relieving congestion at the curb.

Automate Parking Enforcement

Current language in both the North Carolina General Statutes and Raleigh Code prohibits the use of License Plate Recognition (LPR) technology for the enforcement of traffic violations. Altering this legislation can promote safer, more efficient outcomes for the curbside's many uses. Along with enforcing parking violations, LPR technology can help improve bus travel times in dedicated lanes, enhance safety/accessibility at bus stops, and promote rapid turnover in loading zones.

Elevate Parking Services Leadership

By elevating parking services leadership within the overall RDOT organizational structure, the City can enhance its ability to recruit and retain talent in its Parking Services unit. Enhanced expertise can be utilized in the collection and interpretation of parking utilization data, the identification of critical access needs, and the interpretation of enforcement trends. This will lead to better operational and enforcement outcomes both at the curbside and systemwide.

Identify and Mitigate Critical Access Needs

Alterations to the curb can result in buildings losing access to services vital to operation, such as freight loading, mail delivery, and waste collection, among others. As such, ensuring all properties can perform core functions must be at the center of any and all curb changes. This process involves the inventory of all existing mitigations, such as adjacent off-street parking, adjoining side streets, and nearby signed loading space, as well as blocks where no remediations are present. When new mitigations are needed, the City should prioritize implementation according to need.

Raleigh TRAC Bin Pilot Program on Martin St

Source: City of Raleigh

Pilot an Intelligent Loading Zone Program

Raleigh's current loading zone program is comprised of six loading classifications, all of which are regulated by posted signage and enforced by parking enforcement staff. Upgrading existing infrastructure via improved signage and camera-based sensing technology will enhance how these zones are managed, namely through automated citation issuance and enhanced turnover. Optimizing how these spaces are used will result in the improved provision of curbside goods, services, and pick-up/drop-off

Intelligent Loading Zone (APA)

Source: APA - Manage the Curb with Smart Loading Zones

Utilize a Performance-Based Decision-Making Process

Parking rate, fee, and fine structures should be informed by a data-driven, performance-based decision-making process. This process will enable City staff to set parking rates based on market demand, with all changes informed by annually collected parking occupancy data. Employing a demand-based pricing model can ensure the proper valuation of curb space by use, leading to a more diverse and functional curbside.

Create a Shared Parking and Loading Relief Program

Planned large-scale curb alterations will result in the loss of functional curb space, necessitating creative solutions. The City can proactively address critical access needs through the development of shared parking agreements with private off-street facility operators. Such agreements would provide additional parking and loading solutions to nearby property owners, ensuring operational sustainability.

Curbside

Collect and Analyze Curbside and Parking Compliance Data

RDOT collects monthly parking transaction data from its vendors to study how the City's on- and off-street systems are being utilized. This data can be leveraged to develop new methodologies for the analysis of curbside utilization and regulatory compliance. Findings can be employed to create and adjust performance metrics that promote safety and efficiency in the curbside system.

Increase Parking Enforcement Staffing Resources

Consistent curbside enforcement is vital to achieving desired turnover and compliance with posted regulations. To ensure optimal outcomes, the City should develop a formalized beat analysis to identify service gaps. This will promote the proper allocation of resources, enabling the adjustment of enforcement routes and staffing to serve areas of high utilization and low compliance

Expand Parking Enforcement Use of LPR Technology

Current enforcement procedures require officers to issue physical parking tickets to individuals in violation of posted regulations, increasing the amount of time need to cover a single beat. The adoption of LPR technology can facilitate faster citation issuance, maximizing staff efficiency while simultaneously enabling parking data collection. This data can be used to study both utilization and compliance, supporting the establishment and adjustment of market-rate rate, fee, and fine structuress.


NO PARKING
ANY TIME

Bicycle & Micromobility

INTENT

Raleigh is home to residents with a wide range of socio-economic resources, mobility ableness, and access to personal vehicles. Bicycle and micromobility infrastructure is intended to provide travel connections to jobs, services, schools, and entertainment without the dependence on personal vehicles. The current absence of continuous north-south and east-west bicycle infrastructure limits the safety and comfort of riders. These gaps directly impact the number of people who chose to ride due to these conditions. Riders without access to safe and reliable alternative means of transportation daily attempt to use the public right-of-way space that is technically available for their use but in many cases currently designed to be a hostile environment for bicycle riders. The net effect of limiting the safety and enjoyment of traveling in Raleigh by bike, is current riders fall mainly into two groups (1) those unable to afford a personal automobile, and (2) those who are considered skilled and fearless bike riders.

The integrated network presented in this document represents the best opportunity to bicyclists through and within downtown. The planned network considers the comprehensive mobility strategy by acknowledging and accommodating areas of transit infrastructure, on-street parking, and vehicle priority corridors, while aligning with the new City of Raleigh Active Mobility Plan (AMP) (Link). The proposed network serves as a guide for ongoing project identification, design, and prioritization of capital investments to support the realization and implementation of these mobility corridors. The city of Raleigh intends to provide a mobility network for users of all ages and abilities (AAA). This plan builds on the existing plans and current bike infrastructure to fill gaps, overcome safety barriers, and create a multimodal network of corridors to serve Raleigh residents and visitors.

CURRENT CONDITIONS

Existing Bicycle Facilities

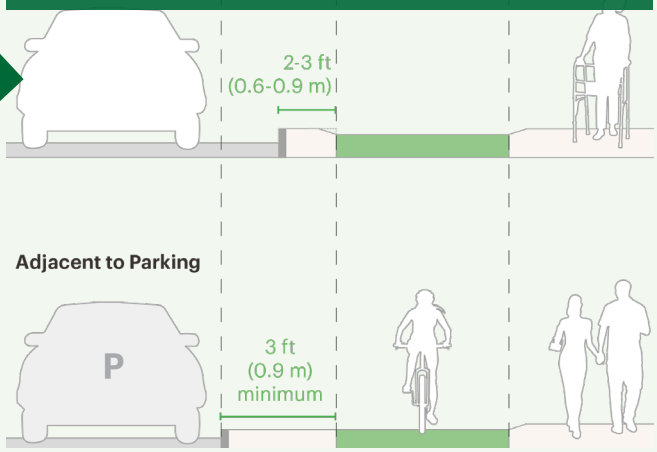
Downtown Raleigh currently contains 9.87 miles of bicycle infrastructure, which range in design from the safest and most comfortable (physically separated bicycle lanes) to the least comfortable and exposed (unprotected and unseparated bike lanes). Downtown also contains a network of shared streets with sharrows that encourage bicyclists and micromobility users to share the street with other transportation modes. The mix of intermittent bicycle facilities along Hillsborough Street and Morgan Street currently serve as the best way to traverse downtown east-to-west by bicycle or micromobility vehicle. The unprotected bicycle lanes along Blount Street and Person Street and the buffered bicycle lanes along West Street and Harrington Street serve as the primary north-to-south connectors for downtown. The diagram to the right represents a menu of different types of bicycle infrastructure based on levels of protection and comfortability.

Bicycle Infrastructure Menu

Most Protected and Comfortable

Least Protected and Comfortable

Separated Bicycle Lane (NACTO)



Source: NACTO - Separating Protected Bike Lanes

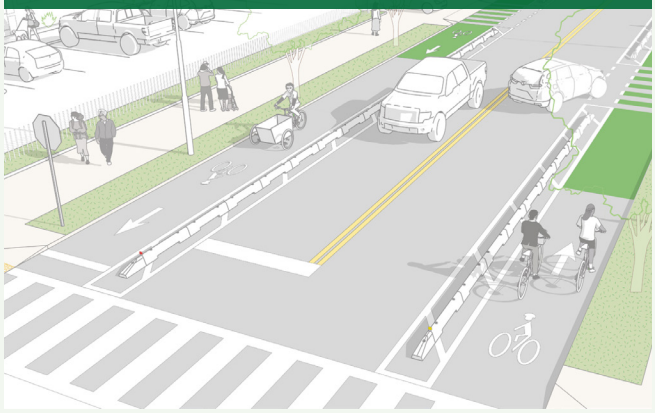
Urban Trail/Sidepath (NACTO)

Source: NACTO - Paths

Buffered Bicycle Lane (City of Raleigh)

Source: City of Raleigh

Protected Bicycle Lane (NACTO)

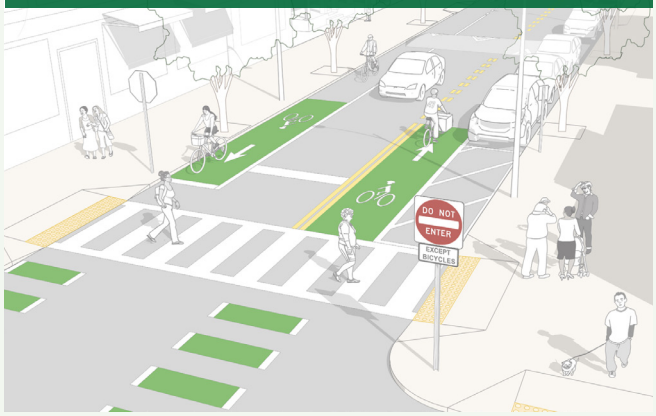


Source: NACTO - Protected Bike Lanes

Sharrow (City of Raleigh)

Source: City of Raleigh

Unprotected Bike Lane (NACTO)



Source: NACTO - Constrained Bike Lanes

Bicycle & Micromobility

Missing Connections

Downtown Raleigh lacks a comprehensive and connected bicycle network. The existing premium bicycle infrastructure is not well connected, leaving various network gaps. There is no consistent premium bicycle facility that runs north to south along the eastern half of downtown, creating a significant gap in access for bicyclists. The western half of downtown features premium bicycle infrastructure along Harrington Street and West Street; however, neither street extends through the entirety of downtown, resulting in gaps in access in the southwestern downtown. As seen in the map to the right, downtown is lacking east-to-west connections in the southern and northern portions. The southern portion of downtown includes sharrows, but no continuous premium bicycle facility that safely facilitates the travel of bicyclists. In the northern portion, Peace Street contains segments of unprotected bicycle lanes, but no continuous connection.

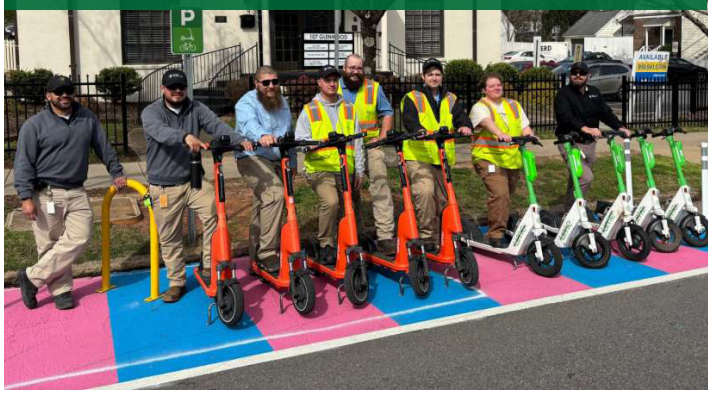
Bicycle Safety

From 2015 to 2023, Downtown Raleigh experienced 85 reported bicycle crashes. These crashes were primarily concentrated along corridors with unprotected bike lanes and sharrows, including Hillsborough Street, Peace Street, Salisbury Street, Boylan Avenue, and Hargett Street, highlighting the need to upgrade to protected bicycle facilities.

Supporting Infrastructure

Supporting bicycle infrastructure, dockless e-bikes and mobility corrals, are dispersed throughout downtown. The city recently transitioned from stationary bikeshare stations to dockless e-bikes to offer users a more flexible and updated bikeshare program. The mobility corrals provide parking space for both bicycles and micromobility options, such as scooters. All of the existing 13 mobility corrals are concentrated along Glenwood Avenue; however, Raleigh is planning to expand the corrals throughout downtown.

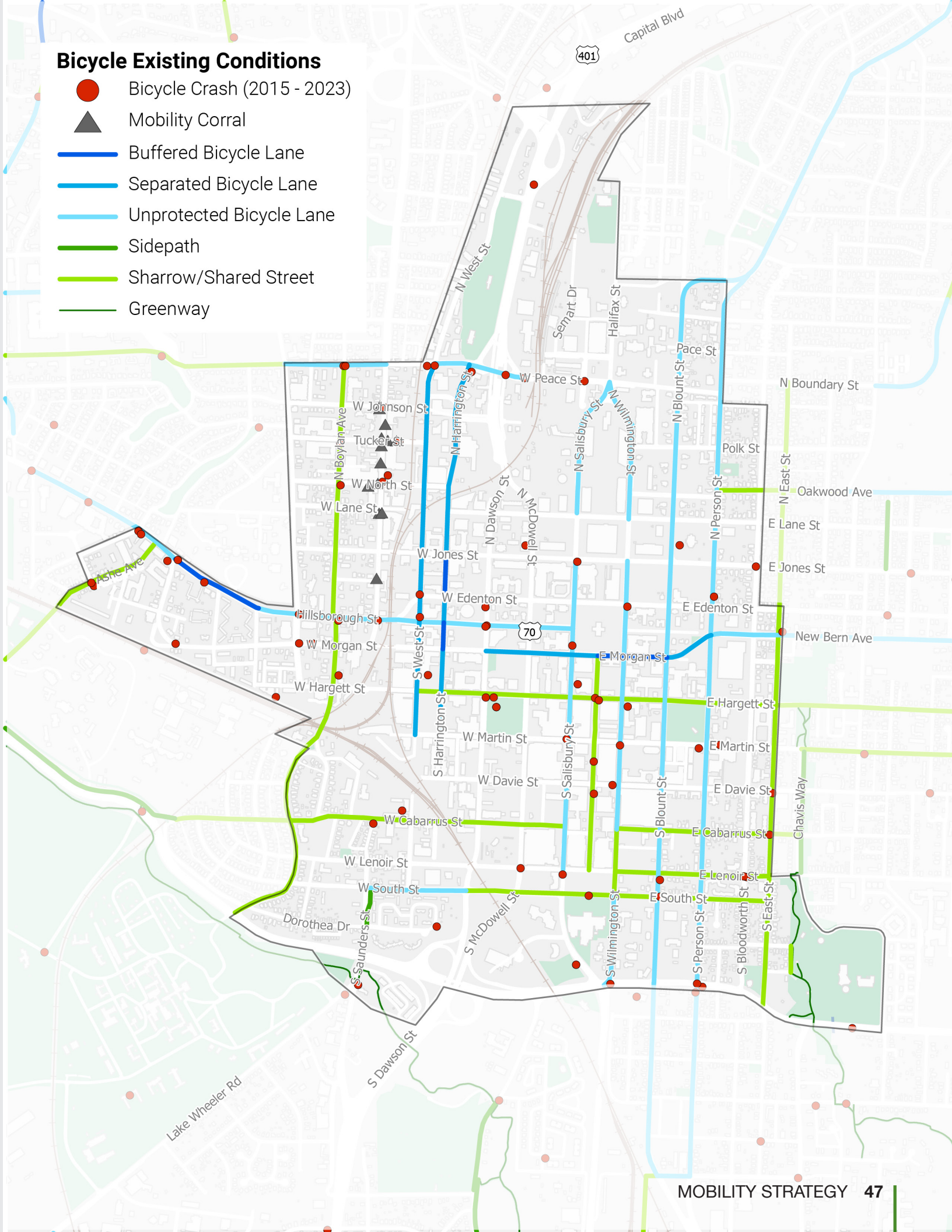
Mobility Corral on Glenwood Ave



Source: City of Raleigh

Dockless E-Bike

Source: Kimley-Horn


Bicycle Existing Conditions
Bicycle Crash (2015 - 2023)
Mobility Corral
Buffered Bicycle Lane
Separated Bicycle Lane
Unprotected Bicycle Lane
Sidepath
Sharrow/Shared Street
Greenway
Capital Blvd
401
N West St
Semart Dr
Halifax St
Pace St
W Peace St
N Boundary St
N Harrington St
N Salisbury St
N Wilmington St
N Blount St
Polk St
N East St
Oakwood Ave
W Johnson St
N Boylan Ave
Tucker St
W North St
W Lane St
N Dawson St
N McDowell St
N Person St
E Lane St
E Jones St
W Jones St
Ashe Ave
W Edenton St
E Edenton St
Hillsborough St
70
New Bern Ave
W Morgan St
E Morgan St
S West St
W Hargett St
E Hargett St
S Harrington St
W Martin St
S Salisbury St
E Martin St
W Davie St
E Davie St
Chavis Way
W Cabarrus St
S Blount St
E Cabarrus St
W Lenoir St
E Lenoir St
W South St
E South St
Dorothea Dr
S Saunders St
S McDowell St
S Wilmington St
S Person St
S Bloodworth St
S East St
S Dawson St
Lake Wheeler Rd

Bicycle & Micromobility

FRAMEWORK

The recommended bicycle framework will improve safety, and connections to and within downtown while making bicycling downtown an attractive travel option for all ages and abilities (not just skilled-fearless riders). The result will be a network of existing and future bicycle infrastructure that compliments the comprehensive downtown mobility strategy by introducing another viable travel option that connects with neighborhoods, destinations, and transit.

East To West

Peace Street

Peace Street is identified as the northern most corridor connecting the eastern and western neighborhoods adjacent to downtown. Within downtown, Peace Street provides key connections to Glenwood Avenue, William Peace University, and the Seabord Station mixed-use development.

Vision: Implement a two-way protected cycle track.

Hillsborough Street & Morgan Street/New Bern Avenue

Hillsborough Street and Morgan Street/New Bern Avenue are the primary bicycle corridors within downtown. These corridors connect bicyclists to the State Capitol and various activity and employment centers in central downtown. Hillsborough Street is planned to remain a standard bicycle lane.

Vision: Upgrade Morgan Street to a protected bike lane. Implement a multi-use path along New Bern Avenue. Evaluate Hillsborough Street for upgrades to parking protected bicycle lanes.

Lenoir Street

Lenoir Street is identified as the southern most corridor connecting Boylan Heights to Hunter Park. Within downtown, Lenoir street establishes key connection to Chavis Park, Red Hat Amphitheater, the convention center, and various other activity and employment centers.

Vision: Implement a two-way protected cycle track

Martin Street

Martin Street plays a vital role in Downtown's transportation network, serving as a key east-west corridor. It directly links the City's two major transit hubs, supports a vibrant community of small businesses, and connects several planned north-south bikeways. With so many overlapping functions, the street must balance a variety of competing needs.

Vision: Further evaluate to determine a bicycle facility type.

North To South

West Street & Harrington Street

West Street and Harrington Street currently establish a one-way bi a key north-south bike connection for the western side of downtown. These bidirectional streets function as a one-way bike pair with West Street supporting northbound bike traffic and Harringotn Street supporting southbound bike traffic.

Vision: Upgrade infastructure on both streets to protected bike lanes.

Salisbury Street & Wilmington Street

Salisbury Street and Wilmington Street serve as the main north-south connections within central downtown. These corridors provide access to every east-west bicycle corridor and connect to various activity and employment centers. As a one-way pair, it is crucial that both streets maintain bicycle facilities to support northbound and southbound travel.

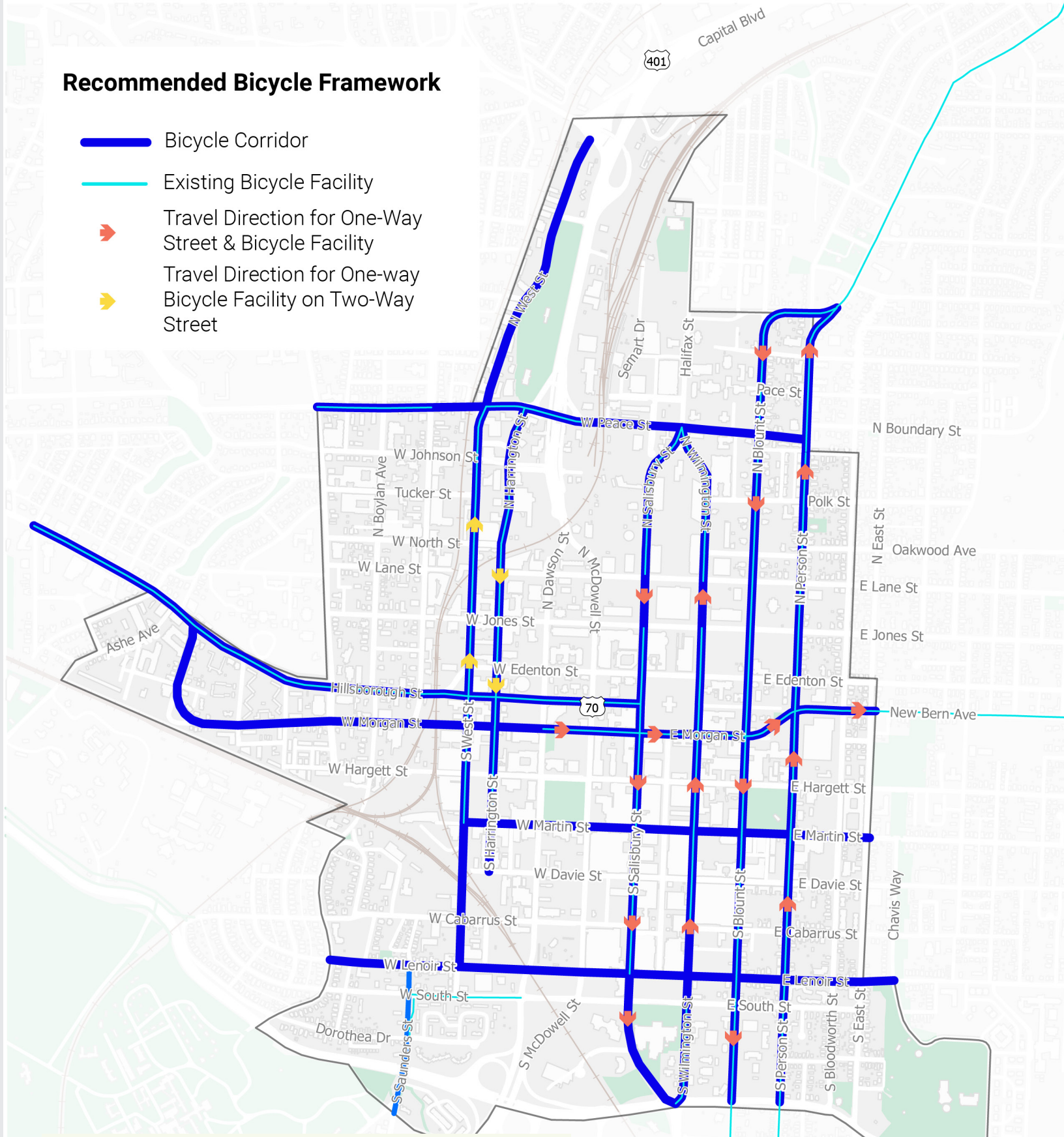
Vision: Upgrade infrastructure on both streets to parking-protected bicycle lanes.

Blount Street & Person Street

As a one-way pair, Blount Street and Person Street currently establish a key north-south bike connection for the eastern side of downtown. These corridor provide essential access for neighborhoods on the eastern side of downtown.

Vision: Upgrade infrastructure on Person Street to parking protected bicycle lanes. The design should support adjacent BRT and transit service.

Recommended Bicycle Framework



- As a key access point to Dorothea Dix Park, Saunders Street will connect the Lenior Street cycle track to the park. Installing protected bike lanes along Saunders Street will also improve connectivity for the communities along Saunders Street.

Bicycle & Micromobility

STRATEGY AND ACTIONS

Current bicycle facilities serve downtown primarily on north-south corridors. These facilities often lack protection from vehicular traffic and connections to the rest of the network. By expanding the recommended bicycle framework with a connected series of bicycle corridors that are either protected or fully separated from vehicles, downtown Raleigh can provide accessibility and mobility for bicyclists and e-mobility users. The following policies, practices, and programs aim to achieve this:

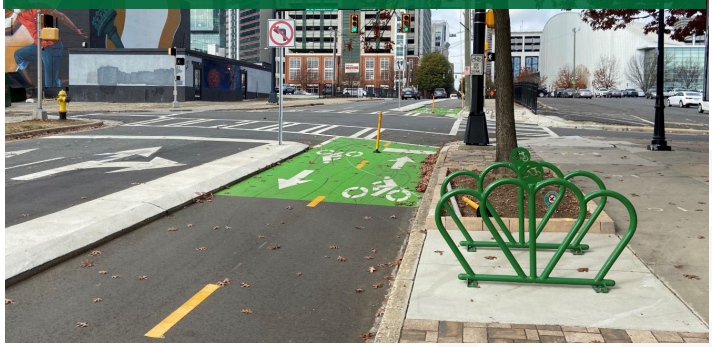
Expand and Enhance Bicycle Network

The current bicycle network in Raleigh lacks connectivity, particularly in east-west connections. Expanding and enhancing the existing network of dedicated bikeways would provide greater utility for those bicycling downtown.

Upgrade Existing Bicycle Infrastructure to be Suitable for Users of All Ages & Abilities

Raleigh's bicycling network should be accessible to everyone. Upgrading existing bicycle facilities and intersections, such as hardening buffers and providing physical separation from vehicular traffic, will make the network more suitable for users of all ages and abilities. Enhancing the accessibility, comfort, and safety of the bicycle network will encourage more people to bicycle in downtown Raleigh.

Protected Cycle Track in Uptown Charlotte

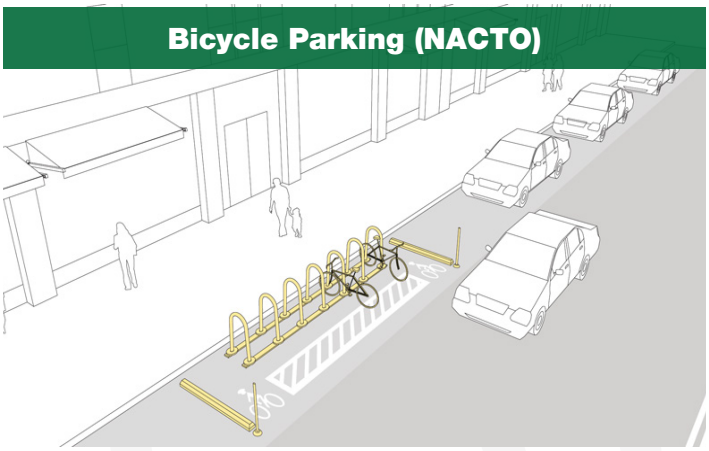


Source: Charlotte - Uptown CycleLink

Expand and Enhance Bicycle Amenities

Considerations must be made for bicycle storage and access to downtown amenities. Bicycle parking is as much a part of the network as any corridor. Bicycle parking must be secure and accessible to encourage users to leave their bicycle for extended periods of time. It must also support the wide variety of bicycles that are used throughout Raleigh, such as adaptive bicycles, e-bikes, and cargo bicycles. Strategically placed bicycle parking will provide convenient access to major transit hubs, such as GoRaleigh Station and the new Raleigh Union Station. Bike storage also offers opportunities to showcase Raleigh's interest in the arts. Allowing unique bike storage corrals contributes to the authenticity of downtown. Strategically placed bike repair stations contributes to an environment that is bike friendly while sending a clear reminder that downtown is a welcoming place to ride.

Bicycle Parking (NACTO)



Source: NACTO - Activating the Curb

Create Robust Maintenance Maintenance Program for Bicycle Facilities

Quality transportation facilities must also be maintained. A successful bicycle network requires ongoing maintenance due to wear and tear. This necessitates investment in equipment, staff resources, labor, and materials to keep bicycle facilities safe, free of obstructions and debris, comfortable, and attractive. Maintenance tasks

include regular debris removal, pothole repair, restriping, and bollard replacement. Maintenance funding can be added to the reoccuring operations budget.

Improve Enforcement of Bicycle Regulations

Prioritizing downtown travel safety, requires that we elevate the importance of protecting vulnerable users. For a bicycle lane to be effective, it must remain free of potential hazards. Eliminating parking and loading in dedicated bike lanes combined with enforcing no-parking regulations in bicycle lanes minimizes such occurrences, protecting bicyclists and e-mobility users from being forced into vehicular traffic. When cars are allowed to block dedicated bike lanes, it sends the message that the safety of bicyclist is a lower priority than auto storage.

Clearly Mark Bicycle Access Through Construction Zones

Downtown Raleigh is rapidly growing and has experienced substantial development in recent years, necessitating significant amounts of construction. The safety of downtown bicycle corridors can be enhanced by clearly marking bicycle access through construction zones. This can be achieved by enforcing approved traffic control plans and preventing unexpected merges into traffic.

Expand Wayfinding Signage for Bicyclists & E-Mobility Users

An expanded network of bicycle infrastructure offers more routes through downtown Raleigh. Navigation within the expanding network can be improved by adding wayfinding signage for bicyclists and e-mobility users. This signage should be clear and consistent, coordinating with citywide wayfinding programs to align destinations, names, icons, and formats. Not only does wayfinding enhance utility for users less familiar with the network, but it also provides additional comfort for both new and regular users.

Digital Wayfinding Kiosk on Fayetteville St

Source: City of Raleigh

Clarify Traffic Rules for Bicyclists and E-Mobility Users

Safety is a priority for the recommended bicycle framework. Clear traffic rules for bicyclists and e-mobility users in downtown Raleigh are essential to ensure the safety of all users. Implementing a signage strategy that advises bicyclists and e-mobility users to follow appropriate signals at intersections and crosswalks would contribute to achieving this goal. Educational materials that reinforce the rules of the road have the potential to reduce confusion amongst drivers and riders as they share downtown transportation corridors.

Transit

INTENT

Transit provides reliable connections between neighborhoods, job centers, and key destinations throughout Raleigh and the greater region. By expanding access to quick, comfortable, and reliable transit, downtown Raleigh is becoming the core transit hub of the region. The downtown Priority Transit Network will increase access to transit stations and key downtown destinations, giving residents, employees, and visitors new choices for moving through and around downtown.

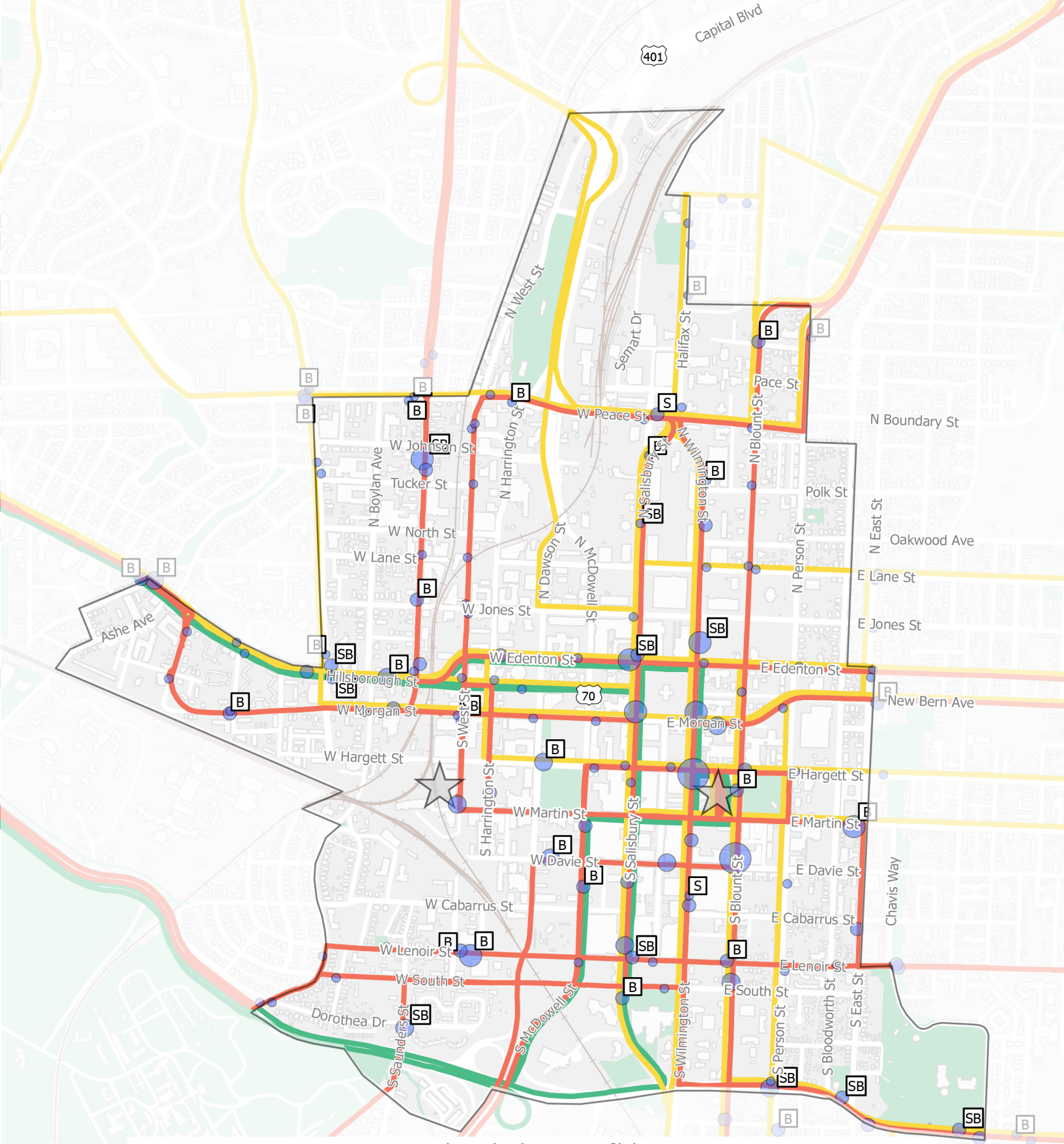
CURRENT CONDITIONS

Existing Service

Downtown Raleigh is anchored by two major transit stations: Raleigh Union Station and GoRaleigh Station. Raleigh Union Station serves as the community's connection to Amtrak passenger rail service. The Union Station Bus Facility is adjacent to Raleigh Union Station and serves GoRaleigh Route 9 and the R-Line as well as GoTriangle CRX, DRX, 100, 300, and 305 routes that connect downtown Raleigh with other communities in the Triangle. GoRaleigh Route 9 and R-Line as well as GoTriangle Route 100 connect Raleigh Union Station and GoRaleigh Station. GoRaleigh Station continues to serve GoRaleigh bus routes and GoTriangle's 100, FRX, WRX, and ZWX routes. GoRaleigh currently operates the FRX, WRX, and ZWX routes.

GoRaleigh Station is also the base of the transit system's high frequency network. This network, operated by GoRaleigh, includes 10 routes that cover 117 miles and 433 bus stops across the city. All these routes maintain 15-minute service and create a quick and reliable transit network. This type of service is the cornerstone of transit systems that attract new riders and best serve existing transit users.

Average daily boardings at GoRaleigh and GoTriangle bus stops were mapped in downtown Raleigh and range from 0 to 212 boardings. As shown in the map to the right, bus stops with the highest activity are Wilmington St at E Hargett St, S Blount St at E Davie St, and Wilmington St at Morgan St. Benches and shelters were also mapped with boardings. In general, benches and shelters are located at high activity stops except for the three highest activity stops previously mentioned. All three of these stops are located in core downtown areas where space is severely limited. Additionally, the average daily boardings at GoRaleigh Station is 7,336.



Transit Existing Conditions

Bus/Train Station

GoRaleigh High Frequency Route

GoRaleigh Standard Frequency Route

GoTriangle Route

Bus Stop Boardings

0 - 8

9 - 24

25 - 48

49 - 118

119 - 212

Bus Stop Amenities

SB Shelter and Bench

B Bench Only

S Shelter Only

Transit

FRAMEWORK

This framework has been organized in the following order of the infrastructure's permanency: rail, bus rapid transit (BRT), fix-route bus service, and intercity bus service. Currently, there are no intercity bus stops or stations downtown.

Regional Rail Service

Amtrak operates 12 daily trains serving Raleigh Union Station: the Piedmont service between Raleigh and Charlotte, Carolinian service from New York to Charlotte, and the Floridian service from Chicago to Miami. Rail ridership has continued to grow significantly with a 55% increase since 2019.* The S-Line Raleigh to Richmond (R2R) project (Link) will provide high-performance passenger rail service between Raleigh and Richmond. As part of this project, the Amtrak Carolinian service will once again use the CSX alignment heading north from Raleigh Union Station through North Raleigh, Wake Forest, Youngsville, Franklinton, Henderson, and Norlina. To accommodate this project, W Hargett Street and W Jones Street intersections will be closed in downtown Raleigh. Future S-Line expansion would offer rail service from Raleigh to Cary, Apex, and Sanford.

Raleigh Union Station offers ticket sales, checked baggage service and storage, WiFi, a restaurant, and offices for GoRaleigh and Amtrak. Local and regional bus connections are offered by GoRaleigh and GoTriangle.

Bus Rapid Transit

GoRaleigh is in the process of planning, designing, and constructing four BRT corridors that will enhance transit connections between downtown Raleigh and East Raleigh, Garner, Cary, and North Raleigh. The Western Corridor BRT will serve Raleigh Union Station and GoRaleigh Station, providing connections between the two transit stations and to the New Bern Avenue, Southern, and Northern BRT corridors. BRT provides fast, safe, and reliable transit for everyone through several advantages: dedicated bus lanes for speed and reliability, enhanced stations, off-board fare collection, specialized vehicles, and unique branding.

Construction of the New Bern Avenue BRT is starting in Fall 2025. Southern and Western BRT corridors are currently in final design. The Major Investment Study (MIS) for the Northern Corridor is expected to be completed in Fall 2025. The current designs for these BRT projects will convert general purpose and parking lanes to dedicated transit lanes on Blount Street, Edenton Street, Morgan Street, New Bern Avenue, South Street, and Wilmington Street. These dedicated lanes will be demarcated using red colored lanes. Five BRT stations are planned for downtown Raleigh.

Regular Bus Service

GoRaleigh Station, located between Hargett, Wilmington, Blount, and Martin streets, has seven platforms serving 26 GoRaleigh routes and GoTriangle 100, WRX, and ZWX routes. GoTriangle Routes 300, 305, CRX, and DRX have stops in proximity. The station offers a customer service office, ticket vending, restrooms, and real-time bus information. GoRaleigh Station has approximately 7,336 daily boardings. The original station was opened in 1988, and significant renovations were completed in 2017.

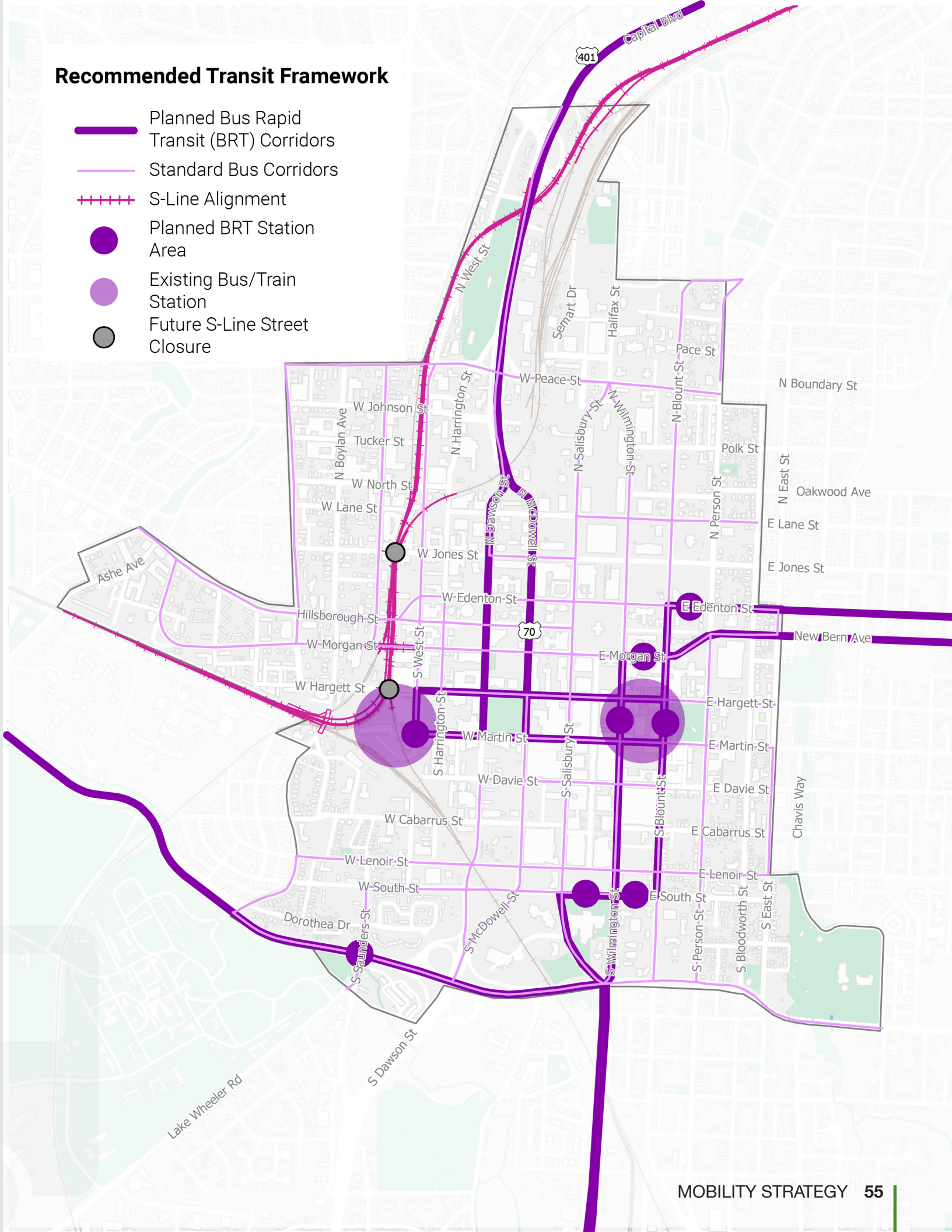
GoRaleigh operates the R-Line, which runs approximately every 15 minutes seven days a week and stops at locations along Harrington Street, Peace Street, Salisbury Street, West Street, and Wilmington Street. In addition to R-Line, over 30 routes operated by GoRaleigh and GoTriangle make stops in the downtown area. GoRaleigh Route 9 provides connections between GoRaleigh Station and Raleigh Union Station every 15 to 30 minutes.

GoRaleigh has identified several intersections in downtown Raleigh that are challenging for buses to negotiate:

- Left turn from Harrington Street to Morgan Street
- Left turn from Peace Street onto Person Street
- Left turn from Salisbury Street onto Hargett Street
- Left turn from Wilmington Street onto Martin Street
- Right turn from McDowell Street to Hargett Street
- Right turn from Morgan Street to West Street
- Right turn from Peace Street onto St Mary's Street
- Right turn from Wilmington Street to Hargett Street

These intersections are often challenging due to short turning radii and vehicles parked in non-parking zones.

* Source: NCDOT - More People Than Ever Travel NC By Train


Recommended Transit Framework
Planned Bus Rapid Transit (BRT) Corridors
Standard Bus Corridors
S-Line Alignment
Planned BRT Station Area
Existing Bus/Train Station
Future S-Line Street Closure
Capital Blvd
401
N West St
Semart Dr
Halifax St
Pace St
W Peace St
N Boundary St
W Johnson St
N Harrington St
N Salisbury St
N Wilmington St
N Blount St
Polk St
N East St
Oakwood Ave
N Boylan Ave
Tucker St
W North St
W Lane St
N Dawson St
N Person St
E Lane St
E Jones St
W Jones St
Ashe Ave
W Edenton St
E Edenton St
Hillsborough St
70
New Bern Ave
W Morgan St
S West St
E Morgan St
W Hargett St
E Hargett St
S Harrington St
W Martin St
E Martin St
S Salisbury St
W Davie St
E Davie St
S Blount St
Chavis Way
W Cabarrus St
E Cabarrus St
W Lenoir St
E Lenoir St
W South St
E South St
Dorothea Dr
S Saunders St
S McDowell St
S Wilmington St
S Person St
S Bloodworth St
S East St
S Dawson St
Lake Wheeler Rd

Transit

Intercity Bus Service

There are several intercity bus service operators that serve Raleigh. Currently none of these operators have stations or stops in downtown Raleigh, but they are connected via GoRaleigh routes and each would be served by the planned BRT corridors.

The Greyhound / FlixBus intercity bus station is located north of downtown at Capital Boulevard and Crabtree Boulevard. Greyhound and FlixBus are owned by the same parent company, Flix SE. Using the Greyhound / FlixBus network, passengers can access destinations across the United States, Mexico, and Canada. Southeastern Stages, a separate intercity bus company, serves this same station connecting Raleigh to multiple destinations in North Carolina, South Carolina, and Georgia. The station is served by GoRaleigh Route 1, and the planned Northern Corridor BRT could potentially serve this station as well. This is the only station with amenities such as ticketing, indoor waiting area, restrooms, and WiFi. It is important to note however that Greyhound / FlixBus does not own this station but rather leases the property.

Tornado Bus Company / El Expreso connects Raleigh with several destinations in Mexico and United States from its stop at the Don Juan Food Market off Corporation Parkway, currently served by GoRaleigh Routes 15, 15L, 33L, and the future New Bern Avenue BRT.

Wonder Bus connects Raleigh to destinations along the East Coast from a stop at the A&C Supermarket at Wilmington Street and Chapanoke Road. GoRaleigh Route 7 stops near the Wonder Bus stop and the future Southern Corridor BRT will serve this location as well.

STRATEGIES AND ACTIONS

The downtown transportation network should continue to connect and complement the transit network as transit access in the region improves with projects like BRT and the S-Line. Improving the existing transit network, creating comfortable facilities that serve transit users, and establishing an easy-to-use transportation system are key strategies for transit downtown. The following policies, practices, and programs aim to achieve this:

Enhance Transit Infrastructure

Create Safe Connections Between Key Transit Stations

Downtown Raleigh is anchored by key transit locations and multimodal connection points. The City should ensure safe and accessible pathways for pedestrians and bicyclists between these locations to create a functional multimodal network, complementing the existing and planned transit service between Raleigh Union Station and GoRaleigh Station.

Improve Pedestrian-Scale Lighting at Transit Stops

Each transit stop should be well lit to enhance safety and visibility. While street lighting exists, pedestrian-scale lighting can better serve these transit stop locations.

Address Challenging Intersections

There are multiple intersections in downtown Raleigh that are challenging for transit buses to navigate given constrained space. Newer pedestrian curb ramps have curbs on either side of the ramp that make it harder for buses to navigate around tighter intersections. Challenging intersections can be studied further to understand the most appropriate strategy for improving them. Strategies may include adjusting stop bars, using an alternative intersection, or in some cases modifying the intersection if feasible.

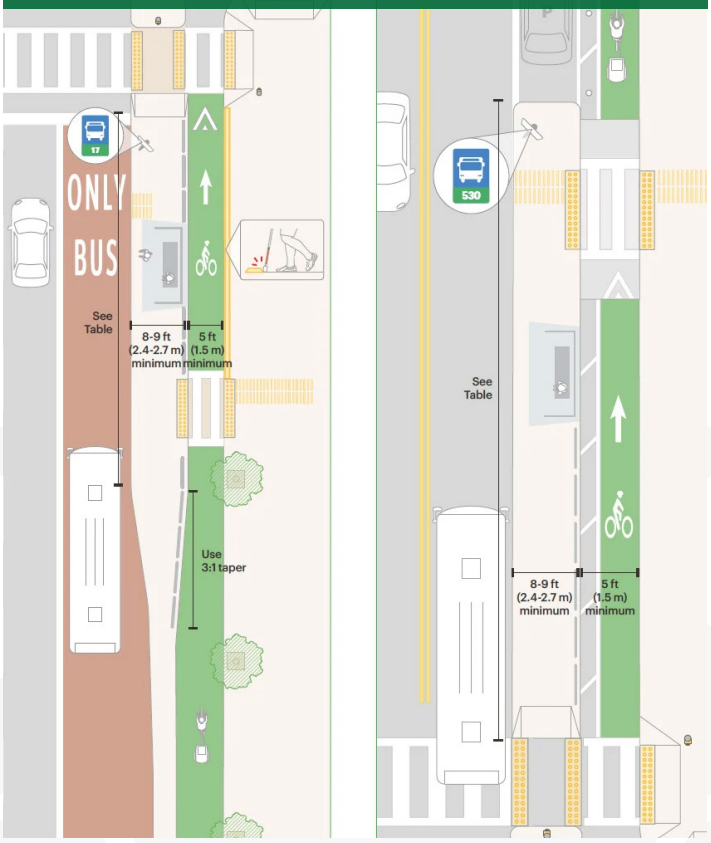
Implement the BRT Network

Raleigh's BRT network will transform the region by connecting the community with fast, reliable transit. The City will operate uniquely branded buses separated from vehicle traffic to create a new network with improved service and reliability. With corridors starting at Raleigh Union Station and GoRaleigh Station, downtown Raleigh will become the epicenter of the BRT and regional transit networks. Downtown's transit priorities can be advanced through the implementation of the BRT corridors.

Enhance Interface with Bicycle Infrastructure

Floating bus stops are designed to reduce conflicts between bicyclists and buses by placing the bicycle lane between the curb and the bus stop. Transit riders must cross the bicycle lane to access the bus stop. In areas with high pedestrian volumes, this design can result in conflicts. It is important the bicycle lane be clearly delineated from the pedestrian realm. GoRaleigh has implemented floating bus stops on Oberlin Road and could explore floating bus stops downtown.

Floating Bus Stop Designs (NACTO)



Source: NACTO - Boarding Islands

Transit

Facilitate Seamless Connections

Coordinate for Improved Intercity Bus Service

Stations and stops for intercity bus providers serving Raleigh are currently located outside of downtown. While they are connected by existing GoRaleigh bus routes and potentially future BRT service, accessing downtown or connecting to another transportation mode such as rail requires additional transfers and travel time for intercity bus passengers. Locating intercity bus stops downtown at existing transit stations or curbside locations would facilitate seamless connections. The City can coordinate with the NCDOT Integrated Mobility Division's Intercity Bus Program to improve this connectivity.

Continue to Collaborate with NCDOT on the S-Line Rail Corridor.

The S-Line is a rail corridor connecting Raleigh with Richmond, VA. It will stop at Raleigh Union Station, necessitating passenger rail movement north-south through downtown. Raleigh can collaborate with NCDOT to advocate for S-Line grade separations, separating the rail from street level to ensure safe and seamless bicycle, pedestrian, and transit connections across the rail corridor through downtown Raleigh.

Provide Frequent and Reliable Service

Improve Frequency of Existing Routes

Raleigh has worked in recent years to implement transit enhancements throughout downtown. Continuing this work is an important factor in creating the Priority Transit Network. One such enhancement is the frequent transit network, a system of transit routes that operate with a frequency of 15 minutes or less. Expanding this network would create more useful and attractive transportation options.

Improve Reliability

Traffic signals in downtown Raleigh are optimized for north-south travel. For bus routes traveling east-west, travel time and reliability are impacted when the bus encounters several red lights in succession. This challenge could be addressed by relocating near-side stops (located before the intersection) to far-side stops (located after the intersection) where feasible. While Transit signal priority (TSP) is not planned in downtown Raleigh for BRT, it could be explored to improve reliability for east-west routes in the future.

Address Parking Non-Compliance

When personal vehicles are parked in no parking zones close to intersections, buses have difficulty navigating the intersection. As a result, safety and travel time are compromised. GoRaleigh has addressed this situation occurring at the Hillsborough Street and Saint Mary's Street intersection by painting the no-parking zones with red thermoplastic. This treatment has been successful in decreasing the instances of motorists parking there. To further dissuade motorists from parking vehicles in these areas, the City could increase enforcement for non-compliance.

Promote Transit Service and Wayfinding

Elevate Awareness of High Frequency Service

Elevating awareness of high frequency service is important for increasing ridership. This could be accomplished through several strategies including branded bus stop signs, shelters, real-time information, and roadway treatments.

Starting with the lowest cost option, specially branded bus stop signs could be installed at stops served by high frequency routes. This designation would distinguish regular service from high frequency service, helping both current riders navigate the system and attracting new riders who may not have considered transit as a viable or competitive transportation option. Similarly, shelters serving high-frequency routes could also be branded or use a different design to set them apart from typical shelters. To further promote high frequency service, shelters on these routes could feature real-time information signs to demonstrate just how frequent the service is. Lastly, bus loading zones could be painted red or use red-colored pavement like the stop on West Street at Raleigh Union Station to increase the visibility of transit and this more premium service.


UNION
STATION
TRANSIT FACILITY
TO
BUSES
GO
Triangle
GO
Raleigh

Automobiles

INTENT

Raleigh like many other cities spent the last several decades prioritizing auto travel to and from downtown. While automobile travel remains a priority, Raleigh's vision for downtown requires increased emphasis on safety and introduction of additional travel options. Making this possible will require an integrated approach where auto travel is prioritized primarily along identified critical corridors allowing the compliment of streets to be eligible to receive safety enhancements, curbside management, and introduction of effective travel options.

CURRENT CONDITIONS

Street Structure

Christmas Plan of 1792

The Christmas Plan, which laid the physical foundation of the city, has had a lasting impact on the downtown roadway network. The four main streets—Halifax, Newbern, Fayetteville, and Hillsborough—were designed to be 99 feet wide, whereas the additional 17 streets were designed to be 66 feet wide. Although the roadway network has since changed and expanded, the original roadways still adhere to the initial rights-of-way. As Raleigh continues to realign modal priorities, special attention should be paid to what is feasible given the limits of existing rights-of-way.

Current Network Configuration

Downtown contains a prominent network of one-way couplets:

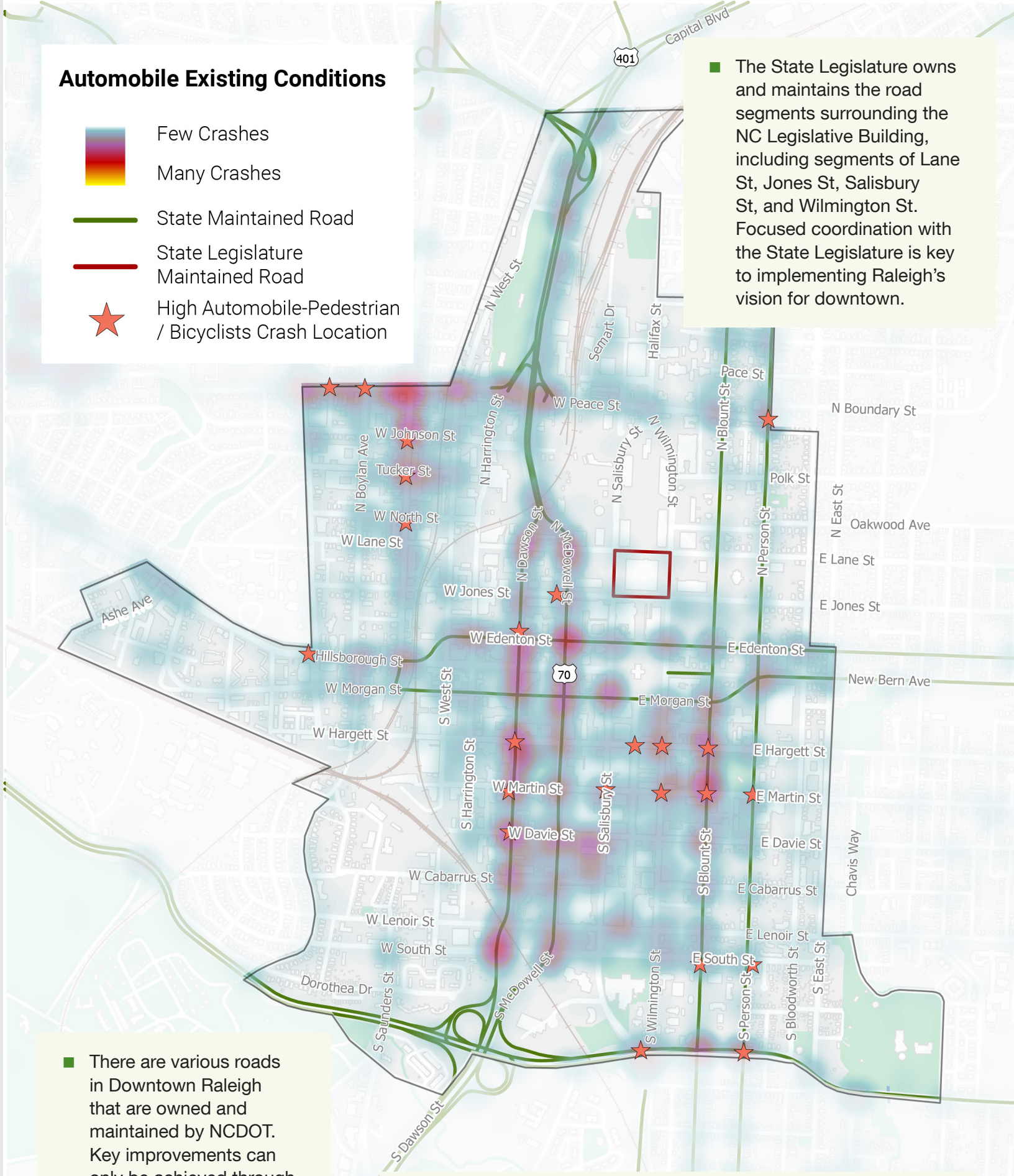
- Lane St (westbound) & Jones St (eastbound)
- Edenton St (westbound) & Morgan St/New Bern Ave (eastbound)
- Blount St (southbound) & Person St (northbound)
- Salisbury St (southbound) & Wilmington St (northbound)
- Dawson St (southbound) & McDowell St (northbound)

One-way couplets offer several benefits to downtown urban environments. The advantages include improved traffic flow and roadway capacity, reduced congestion, and simplified intersection design. These same attributes can be supportive when attempting to increase safety and introduce additional travel options. One-way couplets have fewer conflict points at intersections, shorter crossing distances for pedestrians, and opportunities to refine intersections to accommodate the introduction of dedicate bike and transit infrastructure. The combination of these conditions with modern street designs has the potential to increase safety and provide attractive and well-connected travel options

Balancing the benefits and drawbacks of one-way and two-way streets requires careful planning and consideration of local conditions, traffic patterns, and community needs. This approach ensures that one-way street implementations enhance safety and efficiency without causing undue inconvenience or negative impacts.

Safety

Safety is the top priority for Raleigh. Since 2015, automobile-related crashes have been concentrated along several key downtown corridors, including Dawson St, McDowell St, Peace St, Glenwood Avenue, and Blount St. Additionally, over ten downtown streets are included in Raleigh's high injury network. In coordination with the Safe Streets for All - Comprehensive Safety Action Plan, Raleigh will continue to determine the best solutions for minimizing crashes along the high injury network.


Automobile Existing Conditions
Few Crashes
Many Crashes
State Maintained Road
State Legislature Maintained Road
High Automobile-Pedestrian / Bicyclists Crash Location
The State Legislature owns and maintains the road segments surrounding the NC Legislative Building, including segments of Lane St, Jones St, Salisbury St, and Wilmington St. Focused coordination with the State Legislature is key to implementing Raleigh's vision for downtown.
Capital Blvd
401
N West St
Semart Dr
Halifax St
Pace St
N Boulevard St
W Peace St
N Harrington St
N Salisbury St
N Wilmington St
N Blount St
N Person St
Polk St
N East St
Oakwood Ave
E Lane St
E Jones St
W Johnson St
N Boylan Ave
Tucker St
W North St
W Lane St
N Dawson St
N McDowell St
W Jones St
Ashe Ave
W Edenton St
E Edenton St
Hillsborough St
70
New Bern Ave
W Morgan St
S West St
E Morgan St
W Hargett St
E Hargett St
S Harrington St
W Martin St
S Salisbury St
E Martin St
W Davie St
E Davie St
S Blount St
Chavis Way
W Cabarrus St
E Cabarrus St
W Lenoir St
E Lenoir St
W South St
E South St
Dorothea Dr
S Saunders St
S McDowell St
S Wilmington St
S Person St
S Bloodworth St
S East St
S Dawson St
There are various roads in Downtown Raleigh that are owned and maintained by NCDOT. Key improvements can only be achieved through careful collaboration with our state partners.
Note: Crash data helps us understand geographic distribution of conflicts and identify places of priority investment.

Automobiles

FRAMEWORK

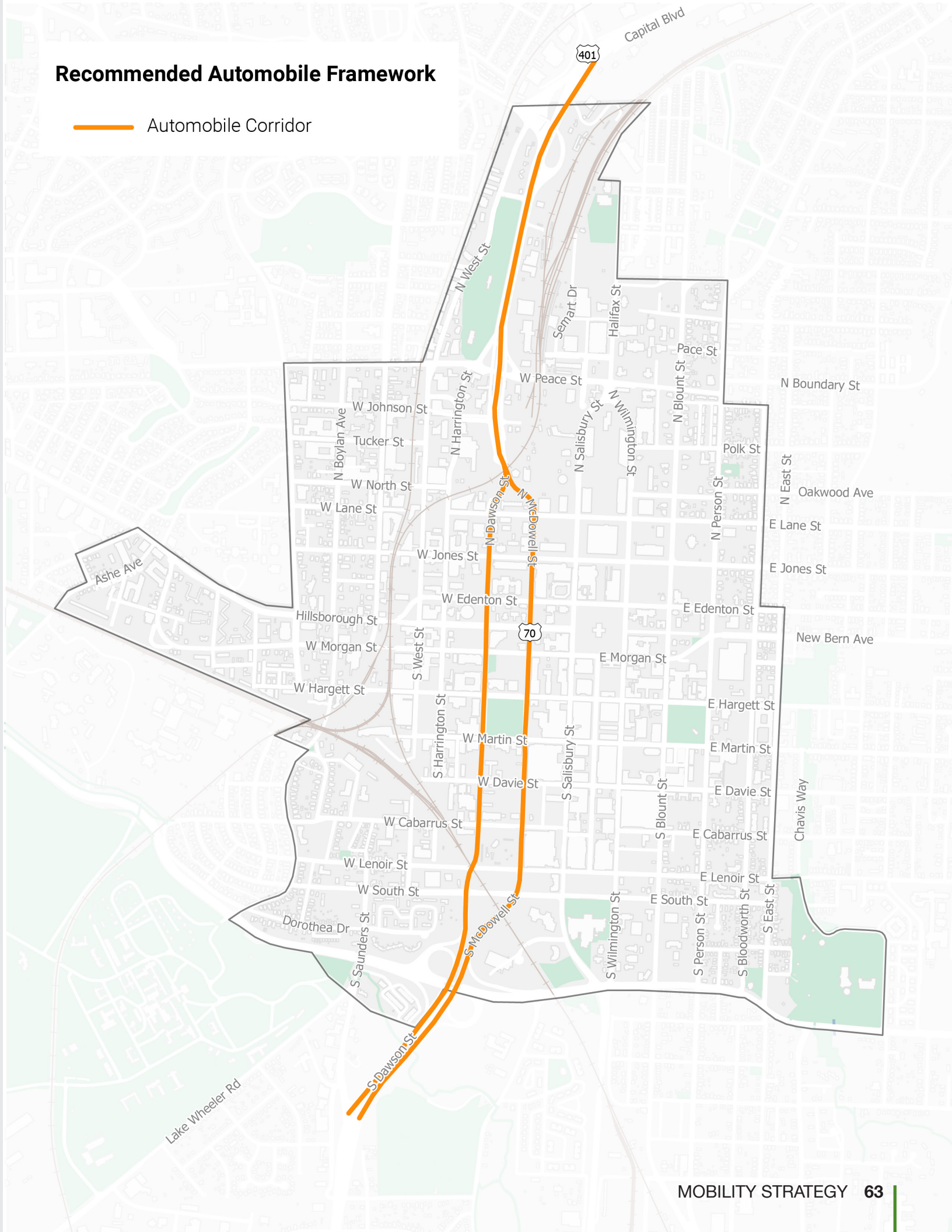
The recommended automobile framework establishes a network of dedicated auto-centric corridors designed to move cars safely and efficiently. The network includes Dawson Street, McDowell Street, and Capital Boulevard, as these streets form the primary north-south thoroughfare through downtown. This thoroughfare experiences the majority of downtown traffic, with average annual daily traffic ranging from 16,500 to 65,000 vehicles. It facilitates more than 50% of downtown loading, and the east-west streets must accommodate multiple functions in addition to vehicular traffic. Additionally, this thoroughfare is the only US route in downtown, making it more conducive to facilitating vehicular traffic.

The adjacency of pedestrian corridors to Dawson Street and McDowell Street makes it crucial to maintain vehicle flow while seeking opportunities to enhance pedestrian safety. Several blocks between these streets feature important pedestrian destinations, such as Red Hat Amphitheater, Nash Square, and Raleigh's City Hall. Prioritizing the separation of pedestrians from the travel way and implementing safe, multimodal intersection designs along these corridors is essential to balance vehicle capacity with improved pedestrian safety and comfort. When vehicle speeds are reduced and facilities are properly separated, high volumes of both pedestrian and vehicular traffic can coexist successfully. As additional investments are made in the corridor, careful consideration should be given to how pedestrians and vehicles interact.

By confining the recommended automobile framework to a single thoroughfare, Raleigh is re-prioritizing the remaining downtown corridors to better accommodate pedestrians, bicyclists, and transit. Automobile travel will still play an essential role on the majority of downtown corridors; however, the focus will be on improving loading, pickup, and dropoff at key employment and activity centers. Additionally, preserving the Dawson Street/McDowell Street thoroughfare as an auto-centric corridor will maintain easy access to downtown for visitors coming from areas outside of downtown.

Recommended Automobile Framework

Automobile Corridor



Automobiles

STRATEGY AND ACTIONS

Over 49,800 people drive into downtown Raleigh every day*. Vehicle traffic coming to downtown Raleigh is concentrated on the north-south corridor of US 401. Through downtown, the roadway splits into Dawson Street and McDowell Street, one-way roads that serve as a couplet for the corridor. By transforming this into a safer vehicle corridor, other streets throughout downtown can focus on providing access to Raleigh's amenities. The following policies, practices, and programs aim to achieve this:

Reallocate Existing Street Space to Prioritize Safety and Multiple Modes of Transportation

Public space in downtown Raleigh is limited, and the use of existing street space should be carefully considered for maximum utility. Auto travel should continue to be prioritized along the recommended automobile framework. However, streets not a part of this network should be considered eligible for changes that improve safety and allow for the more effective management of curb-space and the introduction of additional travel options.

Monitor and Enforce Speed Limits

Crashes on the automobile network can result in serious injuries or fatalities (to drivers, bicyclists, and pedestrians), while also contributing to congestion and slower travel times. A combination of consistent enforcement, and effective designs should be used to influence compliance with posted speed limits.

Expand Usage of Transportation Demand Programs

The presence of several government entities and corporate facilities makes a formal travel demand management (TDM) program viable. A Travel Demand Management (TDM) program uses strategies to influence how, when, and where people travel to make the transportation system more efficient, reduce congestion, and lower emissions. TDM involves educating travelers and providing incentives to use sustainable modes like public transit, biking, walking, carpooling, teleworking, or shifting travel times. The goal is to optimize the use of existing infrastructure, leading to benefits such as saved time and money, improved air quality, better public health, and vibrant communities. Creating this system involves expanding Transportation Demand Management (TDM) programs to reduce downtown's reliance on private vehicles and engaging a broader range of populations, including residents and smaller employers.

Utilize Intelligent Transportation Systems (ITS)

Intelligent Transportation Systems (ITS) use technology and information to improve the functionality and efficiency of a transportation system. Leveraging ITS and similar traffic management technologies can enhance multimodal signal operations and optimize lane capacity on the recommended automobile framework.

Implement Program to Monitor Automobile Traffic throughout Downtown

The Traffic Engineering group within the Department of Transportation will continue to monitor the level of surface for automobile traffic throughout the downtown grid. As design changes within the public right-of-way are vetted for all modalities through design, automobile experience will be both proactively and retroactively studied

Confine Priority Automobile Network to Dawson and McDowell Streets

By constraining the recommended automobile framework to Dawson and McDowell Streets through downtown Raleigh, other streets in the area can focus on different forms of transportation and accessibility. These streets can be designated to efficiently accommodate essential traffic flow. Consequently, other corridors throughout downtown can reallocate street space to enhance public transit, walking, and bicycling infrastructure.

* Source: Census Bureau 2022 LEHD Inflow/Outflow Analysis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Chapter 3: Urban Corridors Re-Imagined

Corridor Design Elements

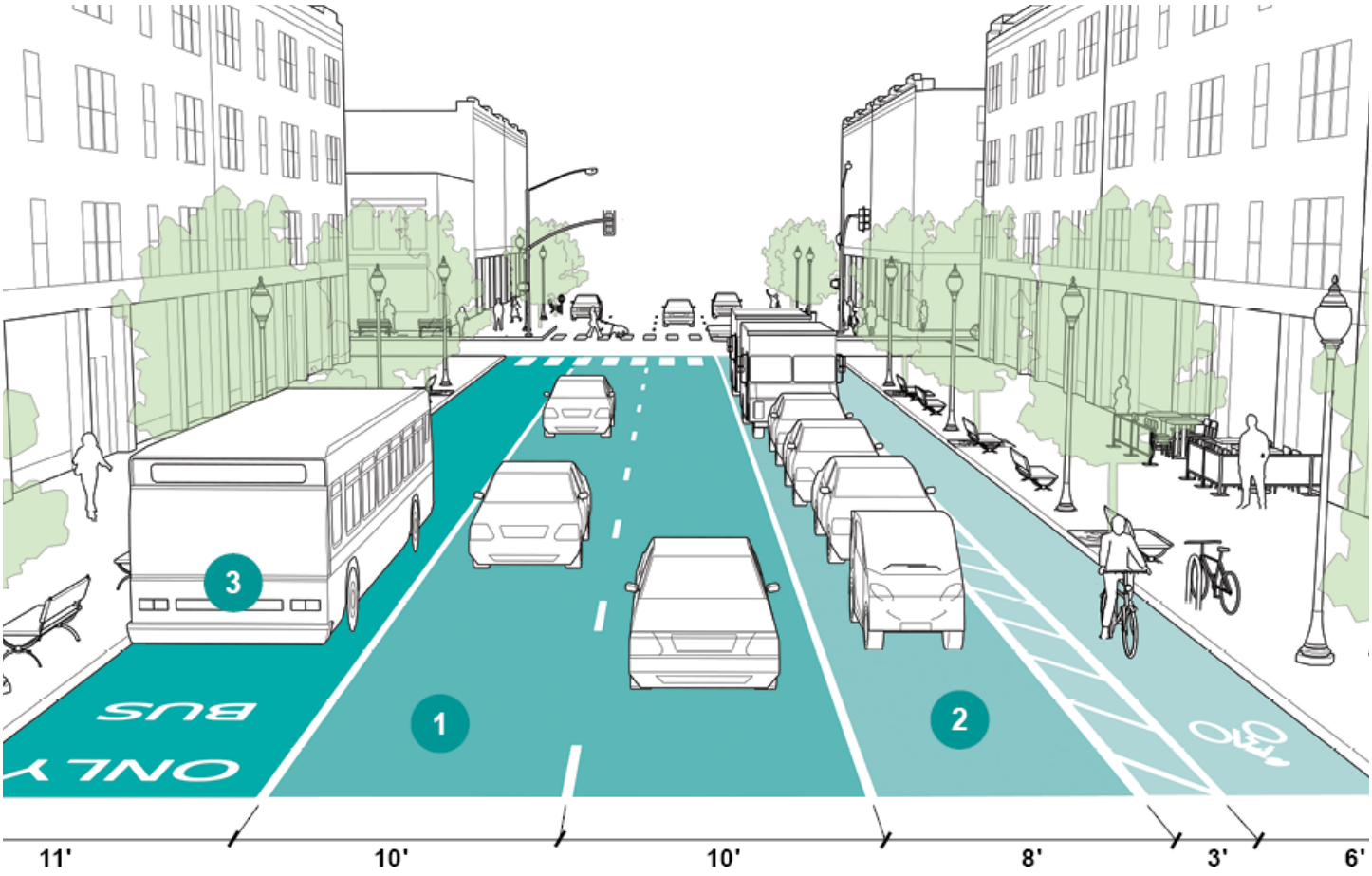
INTRODUCTION

The previous chapters of this plan identify the modal priorities for the streets in Downtown Raleigh. As future downtown transportation investments are made, roadways and intersections may be redesigned and enhanced to add travel options and improve safety. When downtown transportation projects emerge, efforts should be made to align the design decisions with the street's assigned modal priorities. This chapter augments these priorities with additional street design considerations related to different components of roadway design (such as lane widths, lighting, crossing alternatives, etc.) and various design accommodations related to bicycling, walking, and transit within downtown. Many of the design options are expressed at the corridor level but should carry over into the intersection, where modal conflicts are most prevalent. In addition, this chapter includes a set of concept designs specific to Downtown Raleigh. These illustrations offer a way to envision the application of modal priorities and downtown design considerations.

Lane widths

Travel Lane Widths

Travel lane width refers to the width allocated to lanes for motorists, buses, trucks, and other vehicles.



Source: NACTO - Lane Width

Benefits	Travel lane widths less than 12 feet can reduce speed and improve safety for occupants of the vehicles as well as other modes.
Context	Roads with vehicle traffic. Lane widths should accommodate the unique needs of each corridor.
Design Criteria	Lane widths of 10 feet are appropriate in urban areas. For designated truck or transit routes, one travel lane of 11 feet may be used in each direction.
Prioritized Modes	Vehicles; transit

Corridor Design Elements

Dedicated Transit Lanes

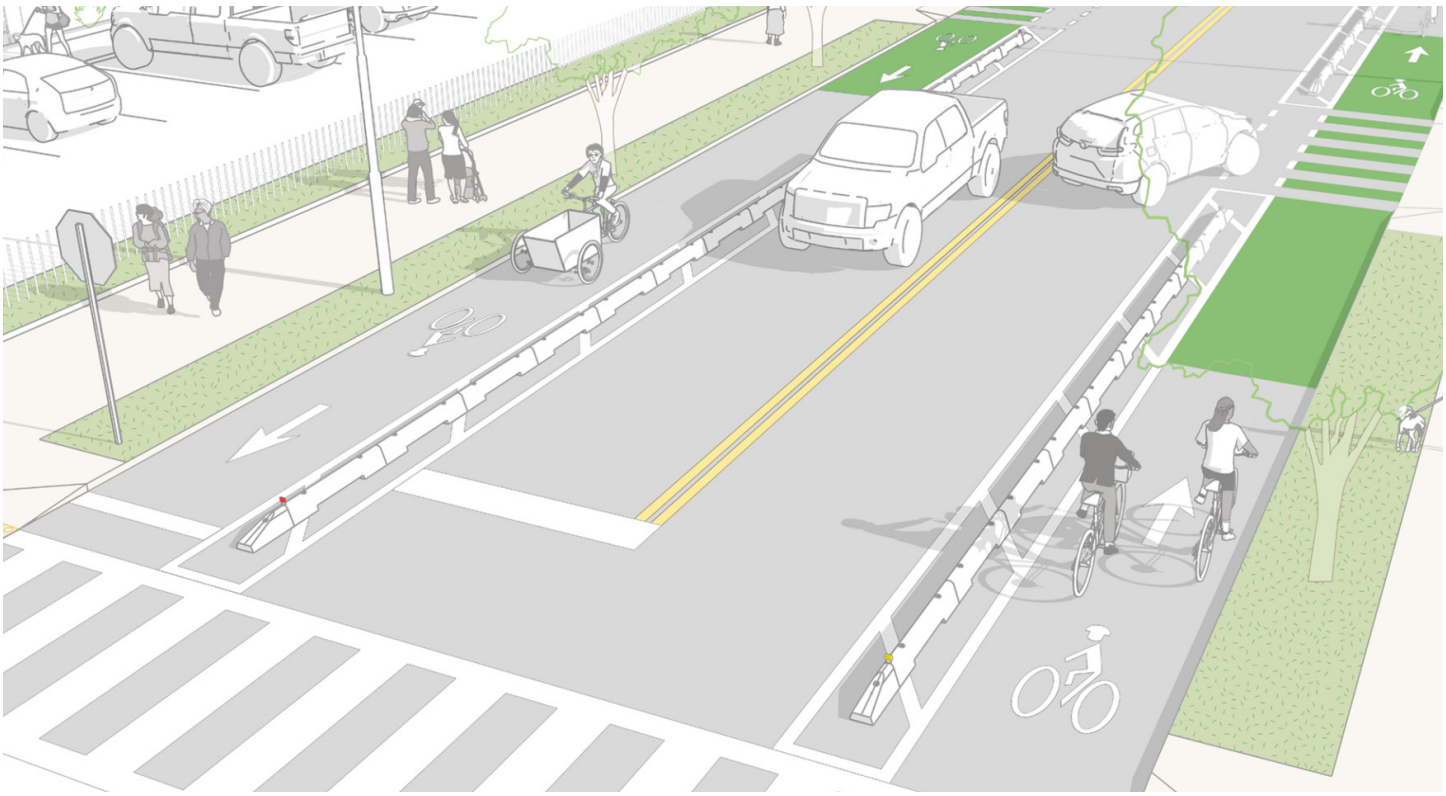
Dedicated transit lanes separate buses or streetcars from general traffic, reducing delays due to congestion and minimizing interactions with vehicles, which enhances safety for both transit users and pedestrians.

Source: NACTO - Transit Street Design Guide

Benefits	Dedicated lanes for exclusive transit use are shown to reduce crashes 12–15% and improve transit runtime performance and reliability.
Context	Typically applied on major routes with frequent headways (10 minutes at peak) or where traffic congestion may significantly affect reliability.
Design Criteria	May be located immediately at the curb or in an offset configuration. “Bus Only” pavement marking should be applied to emphasize the lane. Minimum width of curbside bus lane is 11 feet; minimum width of an offset bus lane is 10 feet.
Prioritized Modes	Transit

Bike Lanes

Bike lanes are a portion of the roadway designated by striping, signage, and pavement markings for the preferential or exclusive use of bicyclists. The benefit of bike lanes is that they provide dedicated space for bicyclists, allowing them to travel more safely and consistently without having to directly mix with motor vehicle traffic. This separation reduces conflicts, improves comfort for riders, and helps all roadway users move more predictably.



Source: NACTO - Protected Bike Lanes

Benefits	Enable bicyclists to ride at preferred speed without interference from traffic conditions. Facilitate predictable behavior and movements between bicyclists and motorists.
Context	On-street protected bike lanes may be appropriate on streets with speed limits between 25 mph and 40 mph and along corridors where spatial constraints do not allow for seperate buffered bike lanes Separated buffered bike lanes should be considered where riders of all ages and abilities are desired AND along corridors with higher speeds and traffic volumes.
Design Criteria	Typically run in the same direction of automobile traffic. General bike lanes may require vertical seperation based on factors of speed and safety conditions. NACTO recommends a bike lane width around six feet. Two-way cycle tracks are ideally 10'-wide excluding the gutter, and are at a minimum 8'-wide.
Prioritized Modes	Bicycle

Corridor Design Elements

Cycle Tracks

A cycle track is a separated bicycle path that runs alongside a roadway and is physically separated from motor traffic. Cycle tracks can be one-way or two-way, depending on the surrounding context.

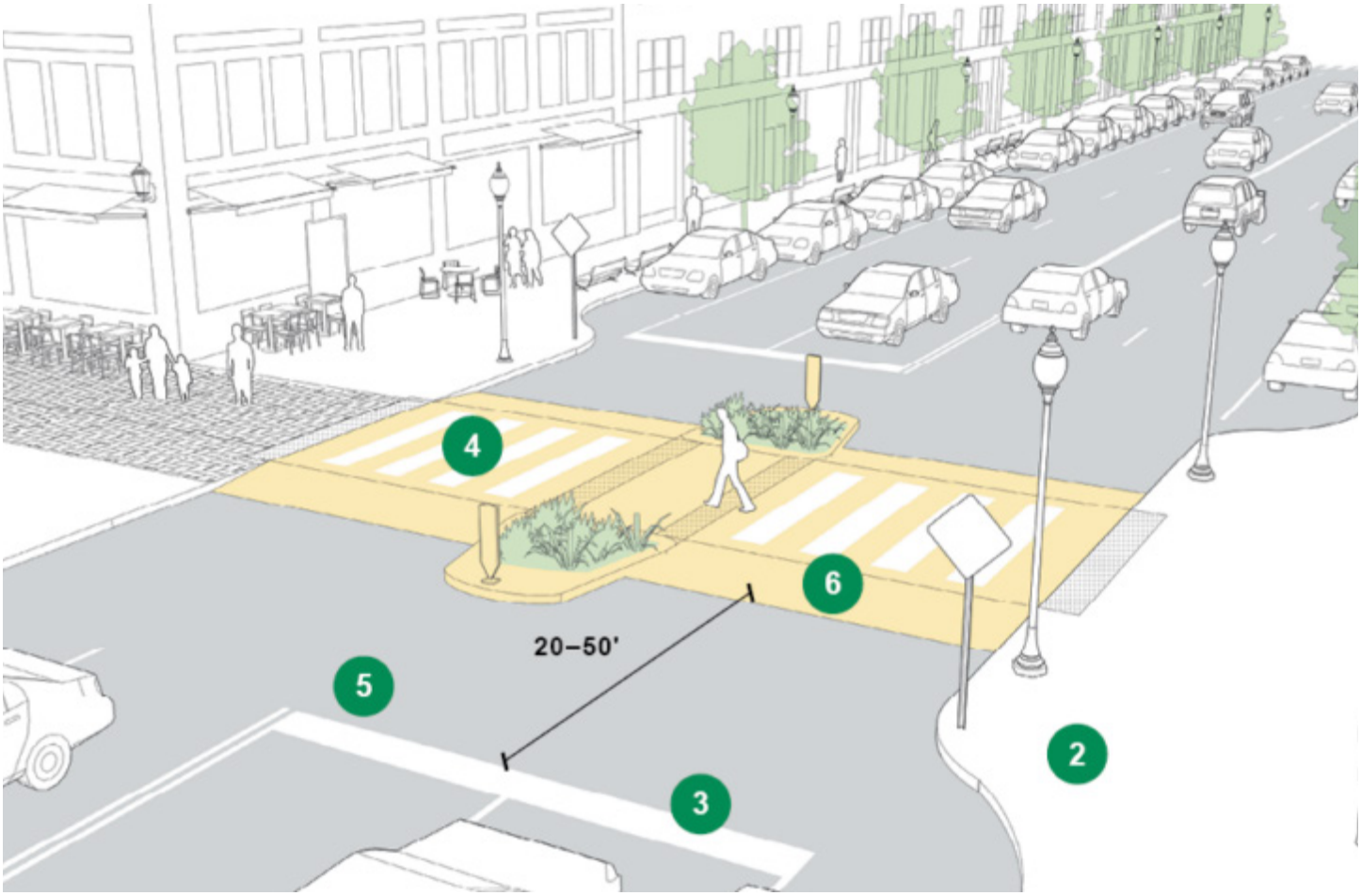
Source: Charlotte Urban Institute

Benefits	Provide greater separation between bicyclists and motorists. Reduces risk of collision between bicyclists and motorists.
Context	Should be incorporated in areas with existing or proposed high volumes of cyclists. Appropriate on streets with a speed limit between 25 mph and 45 mph.
Design Criteria	One-way pair cycle tracks should be at least 5 feet wide. Two-way cycle tracks should be at least 8 feet. Barrier separation should be at least 3 feet. Bicycle lane word, symbol, and/or arrow markings should be placed at the beginning of a cycle track.
Prioritized Modes	Bicycle

Sidewalks & Crossings

Mid-Block Crosswalks

A midblock crosswalk is a designated, marked area on a roadyway, located between standard intersections, that provides pedestrians with a safe and convenient place to cross. Mid-block crosswalks may include a pedestrian safety island. For more details about pedestrian safety islands, see page 90.



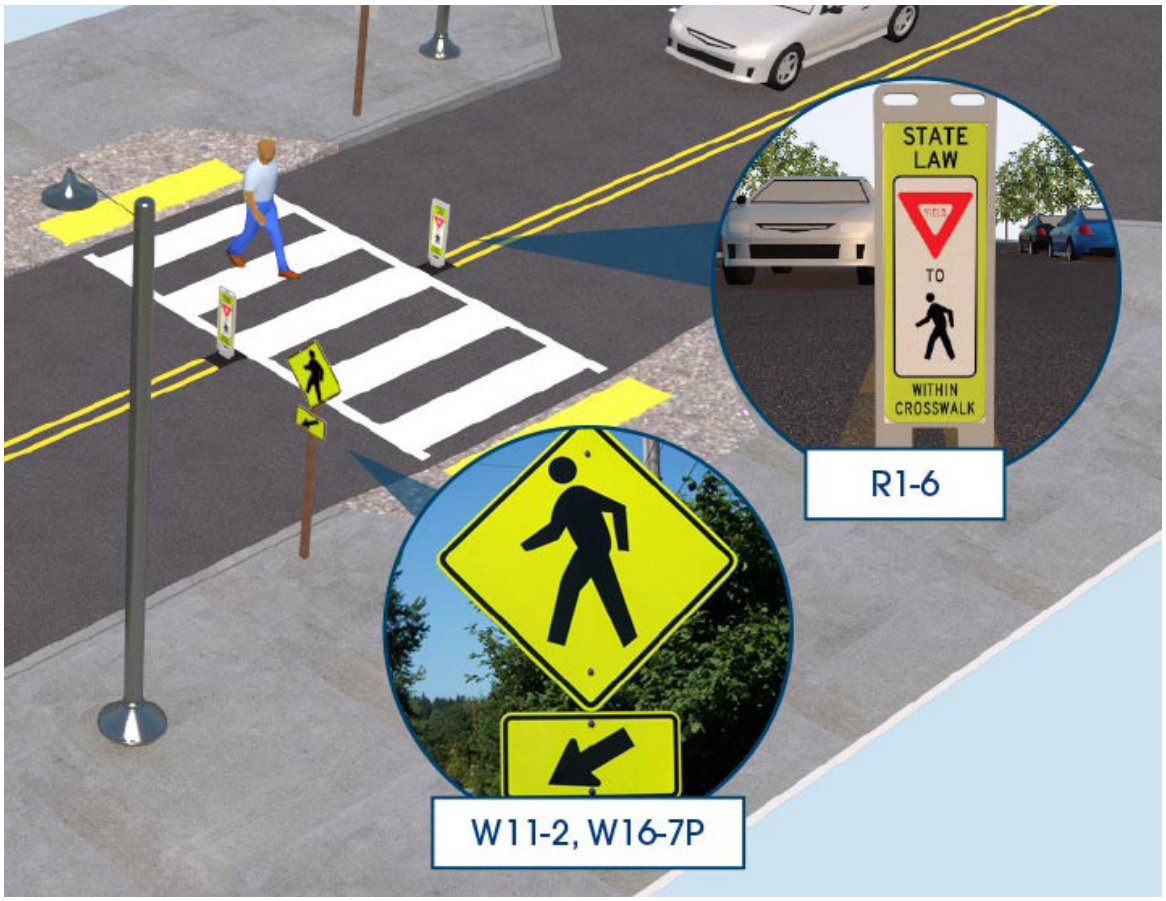
Source: NACTO - Midblock Crosswalks

Benefits	Facilitate safe crossings at destinations in the middle of a corridor.
Context	Should be installed where there is a significant pedestrian desire line. This may include midblock bus stops, higher-capacity transit stations, parks, plazas, museums, schools, or other destinations.
Design Criteria	Consider installing vertical elements such as, landscaping, and overhead signage to identify crosswalks to drivers. Stop lines should be set back 20-50 feet. Stripe the crosswalk to help with visibility. Add medians or safety islands for more pedestrian protection where space is available.
Prioritized Modes	Pedestrian

Corridor Design Elements

Crosswalk Visibility Enhancements

Three main crosswalk visibility enhancements help make people more visible to drivers. These include high-visibility crosswalks, improved lighting, and enhanced signage and pavement markings.



Source: FHWA - Crosswalk Visibility Enhancements

Benefits	High-visibility crosswalks are shown to reduce pedestrian injury crashes up to 40%. Intersection lighting has shown to reduce pedestrian crashes up to 42%. Advance yield or stop markings has shown to reduce pedestrian crashes up to 25%.
Context	High-visibility crosswalks should be considered at all midblock pedestrian crossings and uncontrolled intersections. In-street signing may be appropriate on two- or three-lane roads with speed limits 30 miles per hour or less.
Design Criteria	High-visibility crosswalks should use materials such as inlay or thermoplastic tape instead of paint or brick. Luminaires should be placed in forward locations to avoid a silhouette effect of the pedestrian. In-street signing should be placed 20 to 50 feet before a marked crosswalk.
Prioritized Modes	Pedestrian

Sidewalk Design

Sidewalks are paved paths for pedestrians at the side of a roadway. Sidewalk design is central to creating high-quality pedestrian experiences along all corridors. As these ideas are implemented, decisions should aim to maintain the sidewalk travel way while still integrating with the sidewalk edges to create vibrant and activated corridors. For more information about activating the curb, see NACTO - Activating the Curb.

Source: NACTO - Sidewalk Design

Benefits	Increase pedestrian safety and improve mobility by separating pedestrian activity from vehicle traffic.
Context	Should be provided on both sides of the street in urban areas. Rural and suburban roads may be more suited to shared-use path. Pedestrians tend to avoid crossing the street and instead use a detour, which can put them in unsafe conditions. Therefore, consideration should be given to always maintaining access on both sides of the urban corridor.
Design Criteria	The minimum desired width for a pedestrian zone is 6 feet, with an absolute minimum of 5 feet. When the walkway is directly adjacent to moving traffic, the desired minimum width increases to 8 feet to include a 2-foot buffer for street furniture and utilities. Walkways should be kept clear of any fixed objects.
Prioritized Modes	Pedestrian

Corridor Design Elements

Wayfinding (Walking, Bicycling, & Micromobility)

Pedestrian, Bicyclist, and Micromobility wayfinding refers to signage and other information cues that help pedestrians, bicyclists, and micromobility users navigate the streets accurately and clearly.

Source: City of Raleigh

Source: Adelaide City, Australia

Benefits	Helps and encourages pedestrians, bicyclists, and micromobility users to navigate from place to place at the street level.
Context	Placed in areas with key destinations and attractions and high pedestrian, bicycle, or micromobility activity.
Design Criteria	Should include 5-, 10-, and/or 15-minute walksheds and “heads-up” orientation from perspective of person viewing the sign. Signage should be placed at each decision point to guide pedestrians, bicyclists, and micromobility users.
Prioritized Modes	Pedestrian; bicycles

Street Lighting

Street lighting is the use of artificial light, typically mounted on poles along roads and walkways, to illuminate public areas during nighttime hours.

Source: Pedestrian Scale Street Lights in Savannah Forsysth Park

Source: Street Lighting in Chicago

Benefits	Improves safety by enhancing visibility for motorists and pedestrians.
Context	Should be placed on roadways and sidewalks, especially at pedestrian heavy crossings and along pedestrian priority corridors. In downtown, pedestrian street lighting should balance traditional spacing requirements with the presence of other street features and existing street canopy.
Design Criteria	Standard poles for sidewalks and bike facilities are 15-20 ft. Poles for narrow streets in residential or commercial contexts are between 25-30 ft. Taller poles between 30-40 ft are appropriate for wider streets in commercial areas. Fixtures should be parallel to the ground to minimize light pollution. For more information, see sections 7.4.4, 7.4.5, and 7.4.6 of the Raleigh UDO.
Prioritized Modes	Pedestrian; bicycle; vehicles

Corridor Design Elements

Bus Stop Lighting

Bus stop lighting is the use of artificial light to illuminate areas around and at bus stops and within dedicated bus shelters.

Source: DART - Next Generation Bus Shelters

Benefits	Increases safety of pedestrians walking to and waiting at bus stops. Improves visibility for bus operators and people bicycling or scootering to bus stop.
Context	Lighting should be placed around bus stops and shelters to ensure personal safety and security.
Design Criteria	Street lighting may be adequate for lower ridership stops. Stops with dedicated bus shelters should have adequate lighting installed within the shelter. All new shelters in Raleigh are currenlty being procured with solar lighting.
Prioritized Modes	Pedestrian; transit

Landscaping

Street Trees

Street trees are urban trees planted in public spaces, typically as planter strips between sidewalks and streets or in sidewalk cutouts. It is important to recognize the tradeoffs and changes that occur over the lifetime of trees. To thrive, trees need space for roots to grow, which can disrupt sidewalks, requiring grinding to remove tripping hazards and replacing tree grates with rubber products. This ensures pedestrian safety while protecting tree roots and allowing water and air access, addressing a common concern among downtown residents, business owners, and visitors

Source: Visit Raleigh - Fayetteville Street

Benefits	Provide a buffer between travel way and pedestrian realm. Calm traffic by visually narrowing the roadway. Help with stormwater management. Provide shade to add comfort to pedestrian experience and mitigate heat isalnd effect.
Context	Typically in public right-of-way on residential streets or commercial corridors.
Design Criteria	Can be placed at regular intervals within sidewalk as long as zone width is maintained. A planting area of 6 feet is preferred, with a minimum of 5 feet. The standard for downtown tree wells are 4 feet wide and 6 feet long. Include additional lighting where mature, dense canopy may limit street lighting illuminating sidewalk surface.
Prioritized Modes	Pedestrian

Corridor Design Elements

Permanent Planters

Planters are decorative containers, of a variety of sizes and shapes, which support small trees and understory plantings including shrubs, grasses, perennials and bulbs.

Source: Permanent Planters on Randolph Street in Chicago

Benefits	Allow for vegetation where in-ground planting is not possible. Create traffic calming effect.
Context	Generally placed along sidewalks or pedestrian walkways. Recommend solution in locations where in-ground trees or plantings cannot be achieved. Planters can also be used to deter mid-block crossing where activity is not safe.
Design Criteria	Should located in a way that maintains pedestrian circulation and desire lines. Consider impact of dimensions on visual corridor. Use plants that can accommodate wider swings in temperature.
Prioritized Modes	Pedestrians

Multimodal Parking

Micromobility Corrals (Bicycle & Scooter)

A micromobility corral is a street-based, high-capacity mircomobility parking facility, typically in the parking lane, designed to hold 12-24 bikes or scooters by replacing one to two parking spaces. Micromobility corrals can also include parking for shared-use fleets of micromobility devices–typically non-electric pedal bikes, pedal-assist electric bikes (e-bikes), and e-scooters –rented for short, point-to-point trips that start and end within the public right-of-way.

Source: NYC Street Design Manual

Benefits	Encourage micromobility use and provides safe and accessible bicycle and scooter parking without compromising pedestrian space. Dedicated parking for micromobility devices can reduce street clutter. Improves access to and encourages use of sustainable modes.
Context	Should be placed on commercial streets with high demand for bike and scooter parking, such as downtown areas or near shopping/dining districts. Space should be allocated in public right-of-way and other public places, including parks and schools. Should be located near transit stops and commercial areas with high foot traffic.
Design Criteria	Should be up to 35 feet in length and 7 feet in width. Should be powder-coated or galvanized steel. Curbside bulb out is preferred. Can also be placed behind the curb. Parking should include a density of stations and hubs of various sizes to ensure riders can reliably find a device or parking space.
Prioritized Modes	Bicycle; scooter

Corridor Design Elements

On-Street Parking

On-street parking is a technique for parking a vehicle in a space parallel to the curb on the side of the road. On-street parking designs and locations should be tailored in response to identified modal priorities. See Chapter Two for more information.

Source: Parking Protected Bike Lane - Tulane Avenue, New Orleans

Benefits	Can create protective seperation between pedestrians and moving traffic. Helps regulate traffic speed.
Context	Preferred in busy commercial and residential areas and downtowns.
Design Criteria	Parking lane widths of 7-9 feet are generally recommended. Cities should mark parking to clearly indicate to drivers. Where loading or double parking are present, wider lanes (up to 15 feet) may be used. Parking should not be placed too close to intersections, driveways, crosswalks.
Prioritized Modes	Vehicles

Allowance-Signals

Leading Pedestrian Interval (LPI)

A LPI gives pedestrians the opportunity to enter the crosswalk at an intersection three to seven seconds before vehicles are given a green indication.

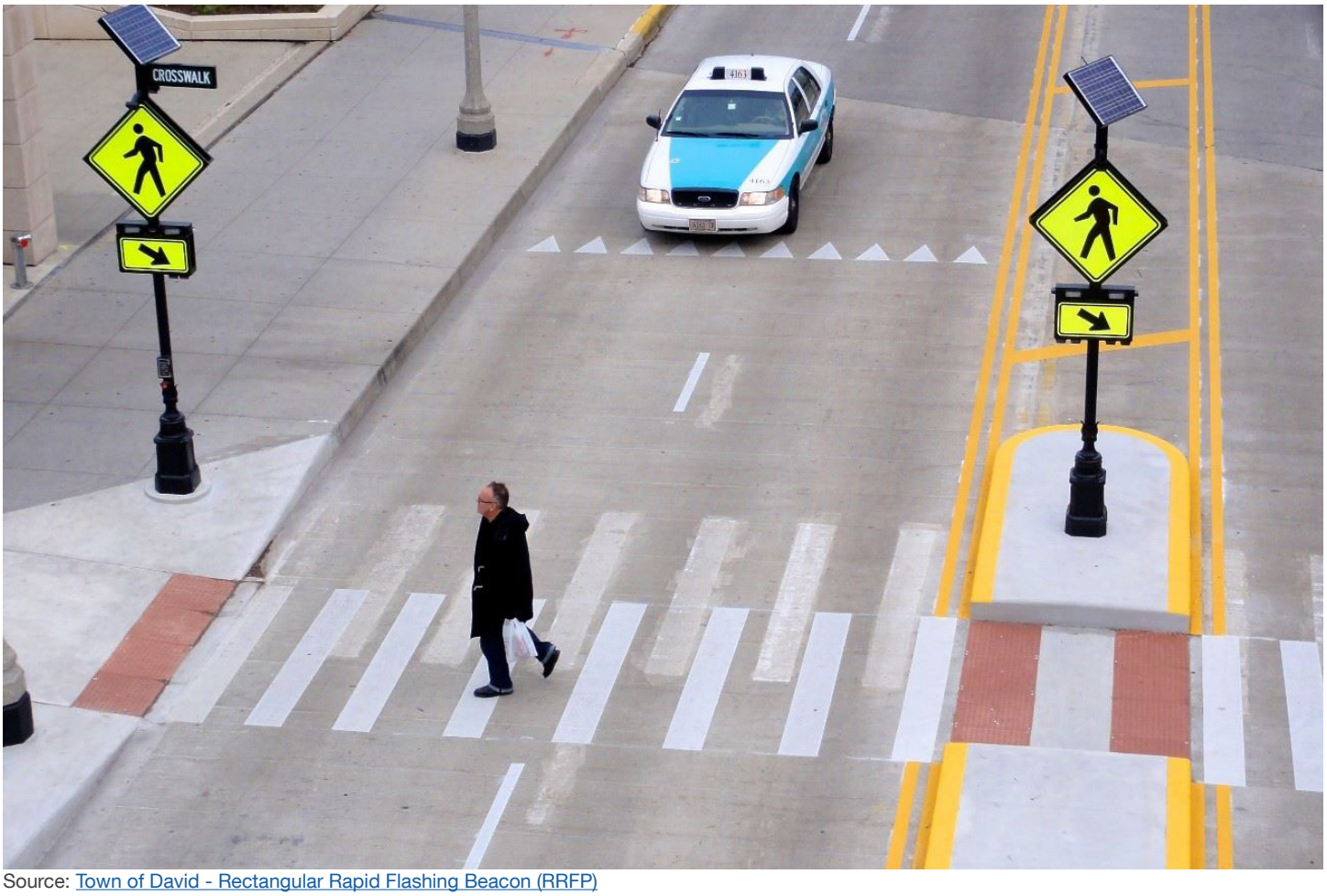
Source: FHWA Leading Pedestrian Interval

Benefits	Increased visibility and enhanced safety for pedestrians who may be slower to start in the intersection. LPI have been shown to reduce pedestrian-vehicle crashes at intersections by 13 percent.
Context	Recommended at intersections with high turning vehicle volumes
Design Criteria	Refer to “Manual on Uniform Traffic Control Devices” for guidance on LPI timing. Turn on red restrictions may be installed to ensure LPI movements are protected.
Prioritized Modes	Pedestrian

Intersection Design Elements

Rectangular Rapid Flashing Beacon (RRFB)

A RRFB is a traffic control device that helps drivers notice pedestrians or cyclists crossing the street. RRFBs flash with an alternating high frequency when activated to enhance visibility.

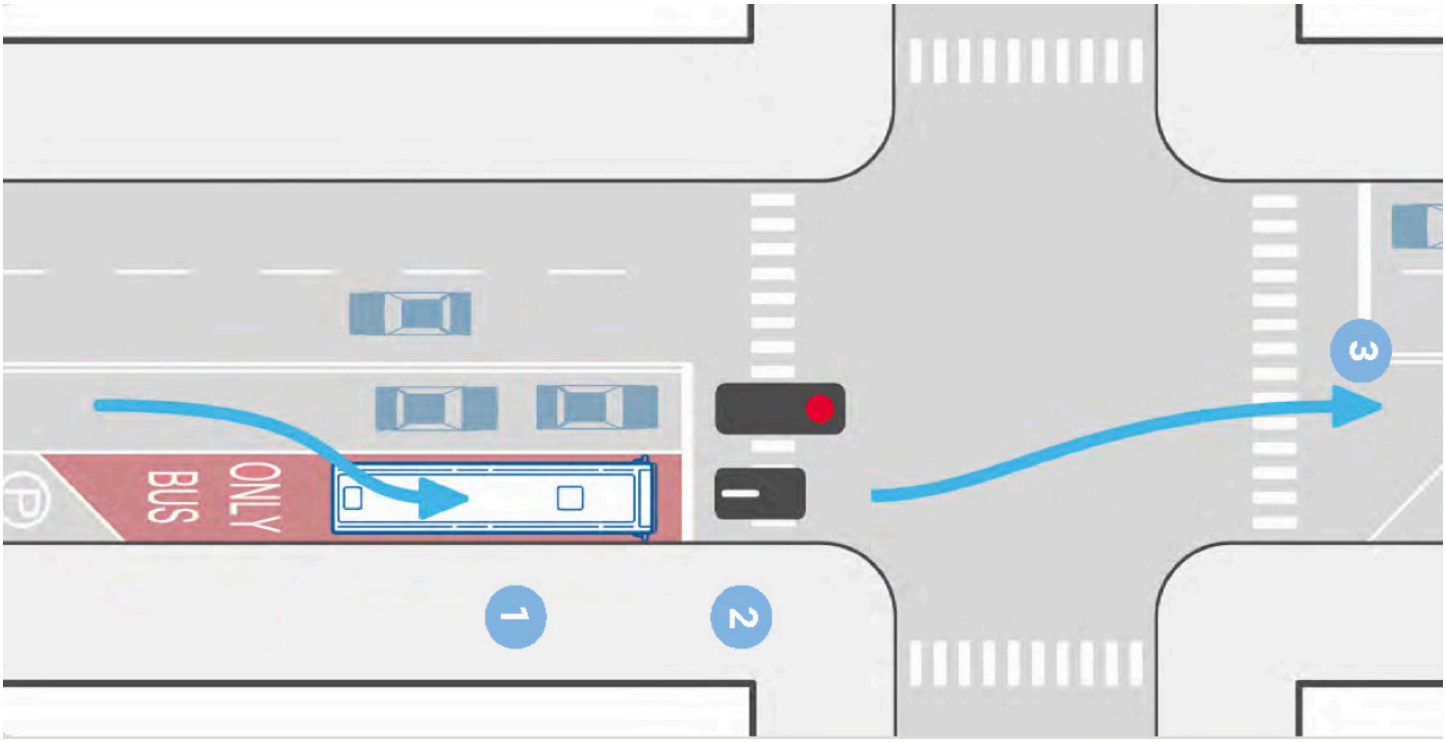


Source: Town of David - Rectangular Rapid Flashing Beacon (RRFP)

Benefits	Have been shown to reduce pedestrian crashes up to 47 percent and increase motorist yielding rates up to 98 percent.
Context	Effective at multilane crossings with speed limits less than 40 miles per hour
Design Criteria	Placed on both sides of crosswalk and should be used with a pedestrian, school, or trail crossing warning sign. Install in the median rather than fare-side of roadway if there is a pedestrian refuge. Agencies must request and receive FHWA approval (IA-21).
Prioritized Modes	Pedestrian; bicycle

Queue Jumps

A queue jump is a roadway feature in either a right-turn lane or a separate lane that gives preference to buses at intersections.



Source: Better Streets Chicago - Kyle Lucas

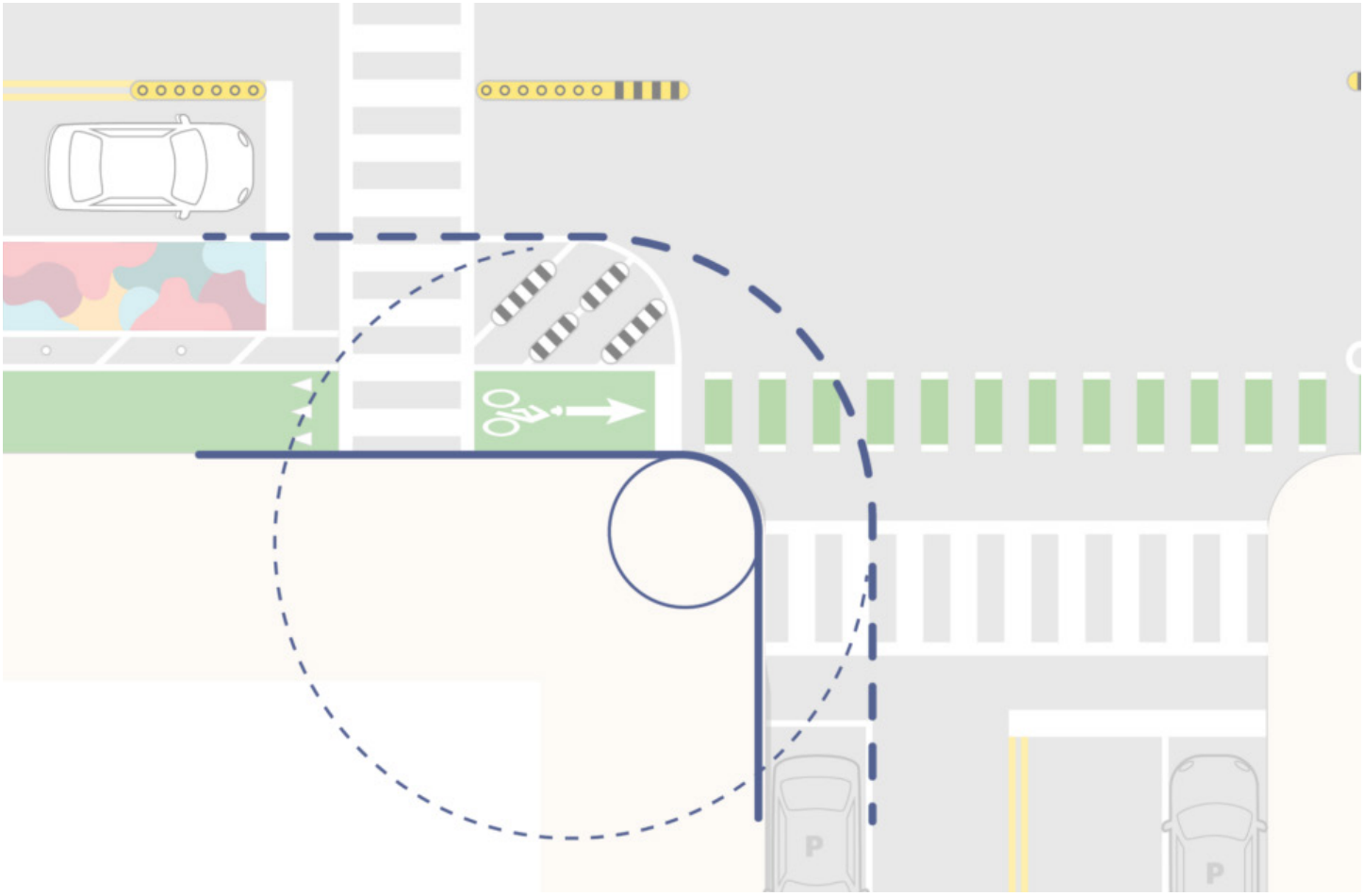
Benefits	Improves travel time and reliability. Shown to reduce travel times by five to 15 percent.
Context	Applied at a single intersection or a series of intersections along an arterial roadway. Bus volumes are typically low (high volumes would warrant bus lanes). May present safety challenges for cyclists.
Design Criteria	Separate signals must be used to indicate when transit proceeds and when general traffic proceeds.
Prioritized Modes	Transit

Intersection Design Elements

Turning Geometry

Corner Radius

A corner radius is the curved portion of an intersection where two sidewalks meet and determines the turning path of vehicles.

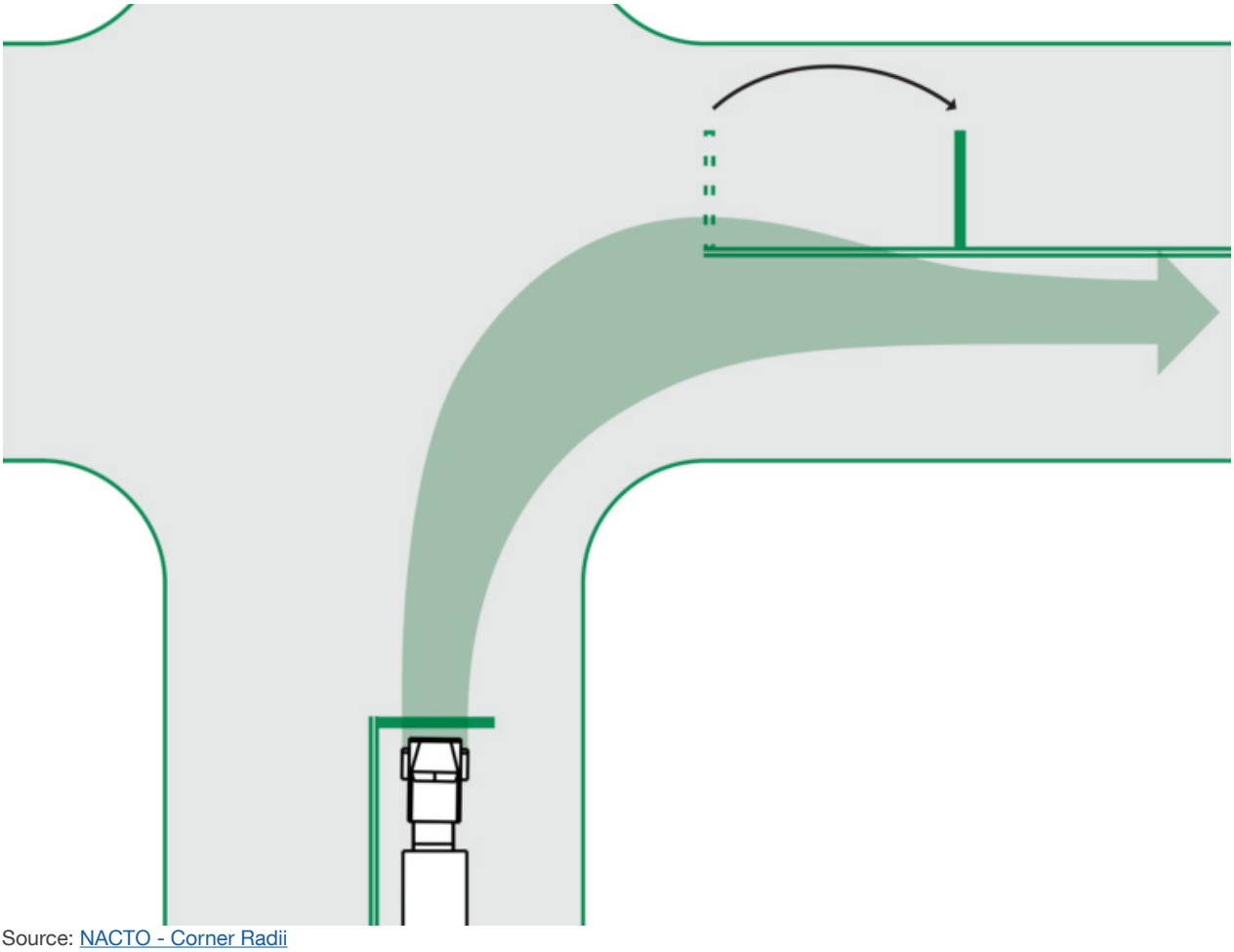


Source: NACTO - Slow Turns are Safe Turns

Benefits	Proper turning radius can help prevent collisions between vehicles and curbs, pedestrians, cyclists, or other vehicles. A small radius helps reduce speeds of turning vehicles and shortens the crossing distance for pedestrians, en
Context	Smaller turning radii should be prioritized on urban streets with heavy pedestrian traffic. Wider radii may need to be used for buses but should be limited to frequent bus corridors.
Design Criteria	A corner radius of 5-10 ft is appropriate for urban settings and 10-15 feet for other contexts. A standard 40-foot bus and 60-foot articulated bus turning radius is 21.5 feet. For more information, see Section 8.4.1 of Raleigh UDO.
Prioritized Modes	Vehicle traffic; pedestrians; cyclists

Set Back Stop Bar

A set back stop bar refers to physically locating the stop bar marker further back at an intersection to provide more turning space to vehicles without widening the road.



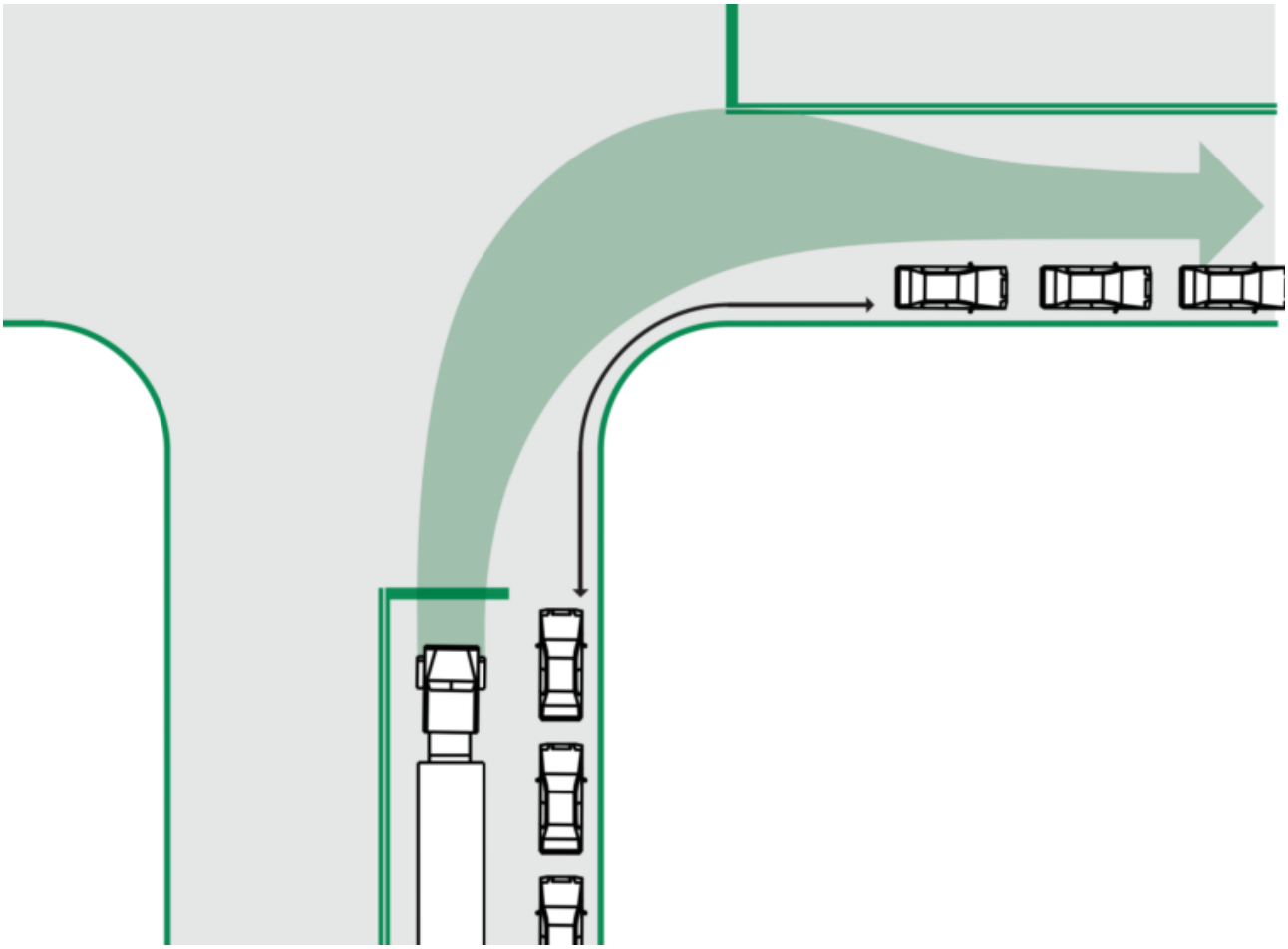
Source: NACTO - Corner Radii

Benefits	Provides more space for larger vehicles to turn while still minimizing width of corner radius.
Context	Especially beneficial on streets with higher volumes of large vehicles and trucks. Tight right turns lead to transit vehicles driving additional blocks to an intersection better designed for 40-foot buses, resulting in passengers reaching their destination later.
Design Criteria	Stop bar should be placed as far back from intersection as necessary to accommodate turning radius of design vehicle.
Prioritized Modes	Vehicle traffic; transit

Intersection Design Elements

Corner Parking Restrictions

Corner parking restrictions prohibit on-street parking within a specified distance of an intersection or crosswalk to improve traffic flow and pedestrian safety.



Source: NACTO - Corner Radii

Benefits	Improve visibility through the intersection. Can help accommodate turns for larger vehicles without widening the roadway.
Context	Beneficial on urban streets with high turning volumes, especially for vehicles that require a wider turning radius. This can result in functionally wider turning radii, which increases general traffic turning speeds. Mountable barriers can be used to accommodate larger vehicles while slowing down other traffic and protecting pedestrians at crossings.
Design Criteria	Parking should generally be prohibited within 30 feet of a traffic light and 20 feet of a crosswalk.
Prioritized Modes	Vehicle traffic

Crossing Infrastructure

Accessible Intersection Designs

ADA (American with Disabilities Act) ramps and detectable edges allow vulnerable pedestrians to cross streets safely. Combining accessible intersection designs with accessible operation strategies (Accessible Pedestrian Signals) will improve the safety and travel experience for the disabled, elderly, and families with small children.

Source: Kimley-Horn

Benefits	Improve safety and accessibility for people with disabilities crossing the street
Context	Should be used where a sidewalk or shared use path crosses roads or transitions to another roadway type. Detectable edges should be used in medians and on boarding platforms at transit stops.
Design Criteria	There should be high visual contrast between the detectable warning and an adjoining surface, or the detectable warning should be “safety yellow”. This color is used instead of black because seeing-eye dogs are color-blind and perceive black truncated domes as a ‘hole’ to navigate around.
Prioritized Modes	Pedestrian

Intersection Design Elements

Pedestrian Safety Island

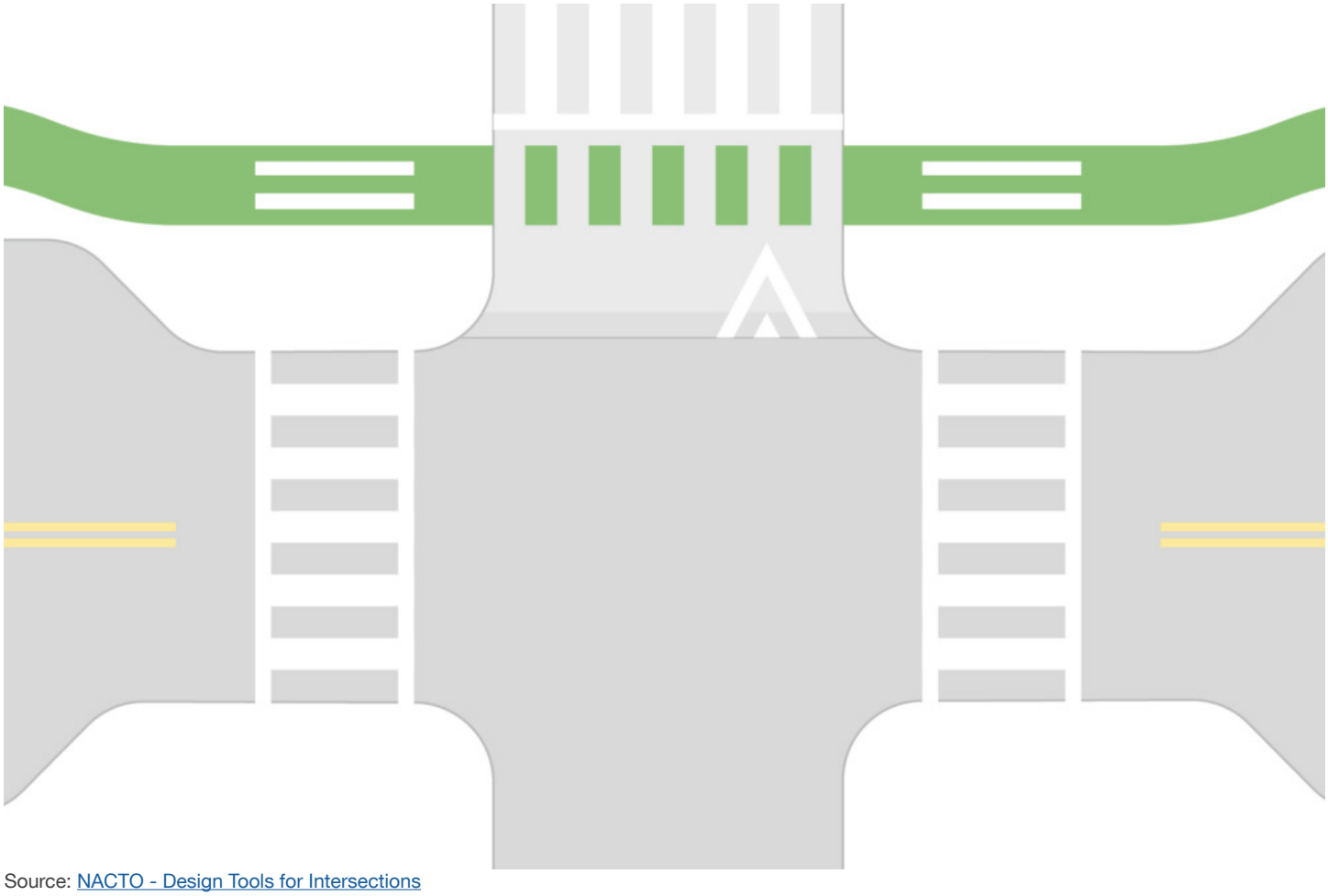
A pedestrian safety island is a median with refuge area that is intended to help protect pedestrians who are crossing a multi-lane road.

Source: NACTO - Pedestrian Safety Islands

Benefits	Reduces time that pedestrians are exposed to oncoming traffic
Context	Recommended where a pedestrian must cross three or more lanes of traffic in one direction, but may be implemented at smaller cross-sections where space permits.
Design Criteria	At least 6-feet wide, but preferred width of 8-10 feet. Medians should have a “nose” that extends past the crosswalk.
Prioritized Modes	Pedestrian

Raised Crossing

A raised crossing is a traffic calming measure that physically elevates a pedestrian crossing to the level of the sidewalk, creating a ramped surface across the width of the roadway.



Source: NACTO - Design Tools for Intersections

Benefits	Reduce motor vehicle speeds, increase yielding behavior, and improve visibility of pedestrians and cyclists. Has been shown to reduce pedestrian crashes by 45 percent.
Context	Recommended in areas with high pedestrian crossing demand or locations with history of pedestrian injuries or speeding issues.
Design Criteria	Should be the same height as the sidewalk. Top of raised crossing should be flat with distinct markings.
Prioritized Modes	Pedestrian

Intersection Design Elements

Raised Intersections

A raised intersection is a traffic calming design where the entire intersection is elevated to the height of the sidewalk, similar to a large speed hump.

Source: NACTO - Raised Intersections

Benefits	Reduce vehicle speeds and crash risk while reducing unnecessary delay to motorists and cyclists.
Context	Recommended at minor intersections. Preferred on low-speed (<20 mph) and low-volume (<3,000 ADT) streets, as well as some moderate volume streets in 30 mph zones. This is also appropriate for downtown streets that are progrmmaed for short-term closures for special events.
Design Criteria	ADA-compliant ramps and detector strips are required. STOP signs should be used instead of YIELD signs if there are concerns about drivers ignoring pedestrian right-of-way.
Prioritized Modes	Pedestrian

Curb Extension

A curb extension, also known as a bulb-out or neckdown, is a sidewalk that extends into a lane to make the street narrower.

Source: NACTO - Neighborhood Street

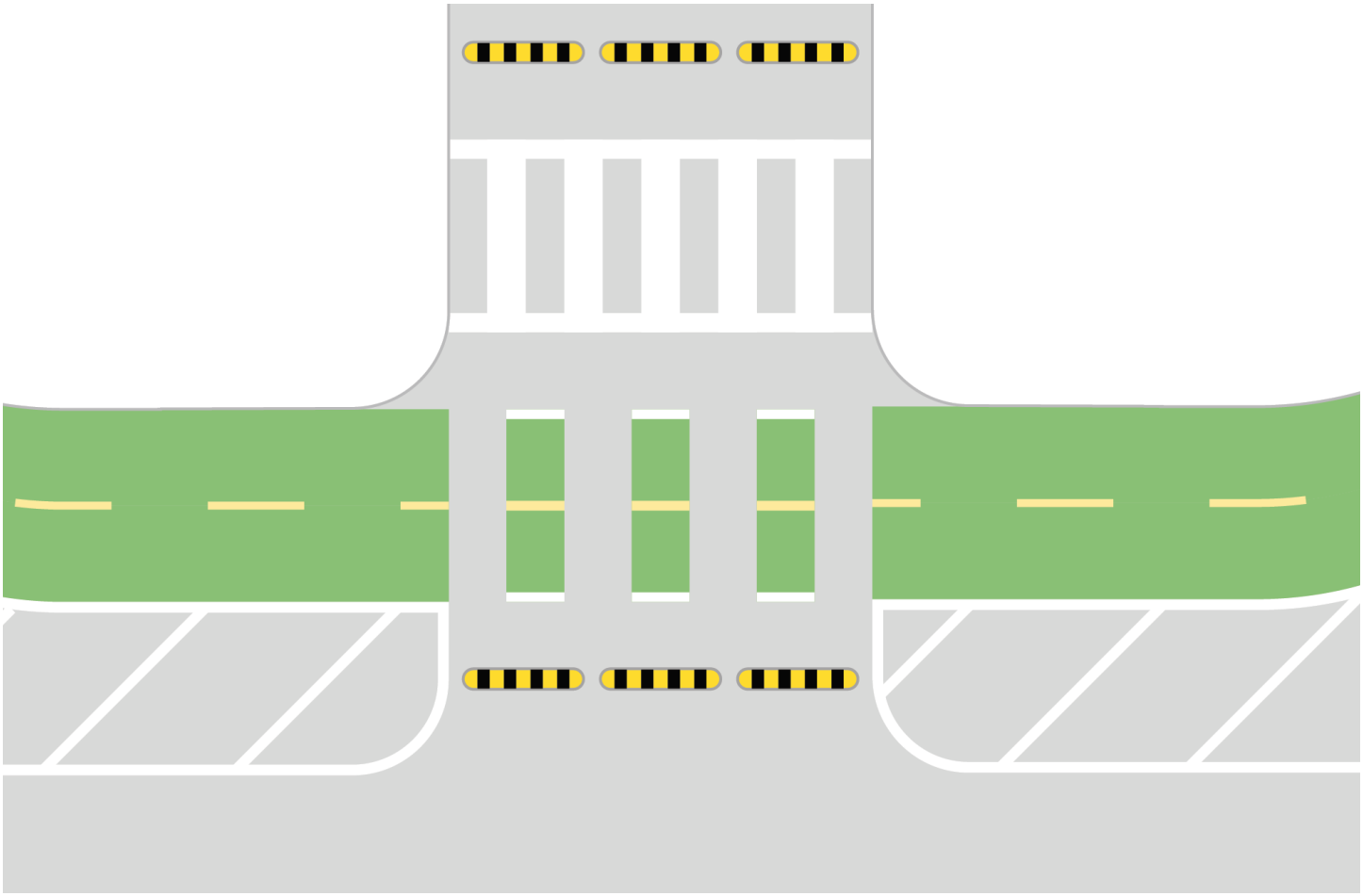
Benefits	Increase visibility between pedestrians and motorists at crossing locations. Slow vehicles by narrowing the street and reducing turning radii at intersections.
Context	Can be installed at intersections or at mid-block locations. Better suited on streets with speed limits of 40 mph or less. Not appropriate for high volume truck routes.
Design Criteria	Streetscape amenities or landscaping on the curb extension should not obstruct visibility between pedestrians and vehicles. If used for pedestrian crossings, ADA measures should be implemented.
Prioritized Modes	Pedestrian

Intersection Design Elements

Streetscape/Urban Design Elements

Raised Bikeway Edges

A raised bikeway edge is a type of physical protection such as a small curb or speed bump, that separates a bikeway from vehicle lanes at intersections.

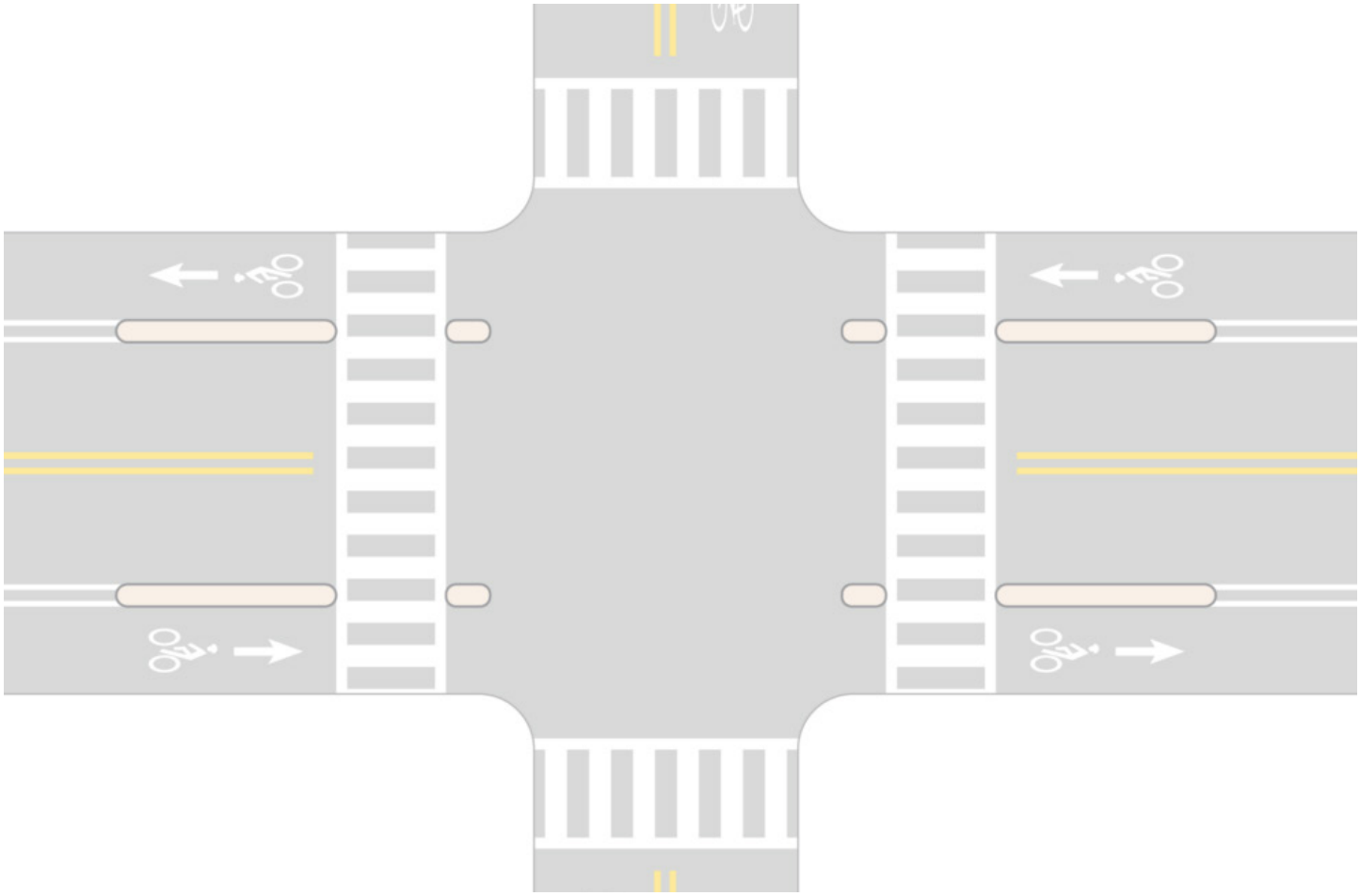


Source: NACTO - Design Tools for Intersections

Benefits	Increase visibility of bikeways and slow vehicle turning speeds.
Context	Consider using where bikeways pass along minor streets, driveways, or alleys with higher percentages of heavy vehicles. This feature could be used for structured parking deck exits, as these openings are typically narrow with columns and solid walls restricting driver visibility of the crossing sidewalk.
Design Criteria	Mini speed bumps are usually 2 inches high and made of rubber. Along parking-protected bike lanes with corner islands, gently raise the street by 3-4 inches between the travel and bike lanes to slow speeds.
Prioritized Modes	Bicycle

Corner Islands

A corner island is a physical barrier that extends the separation of a bike lane into the intersection.



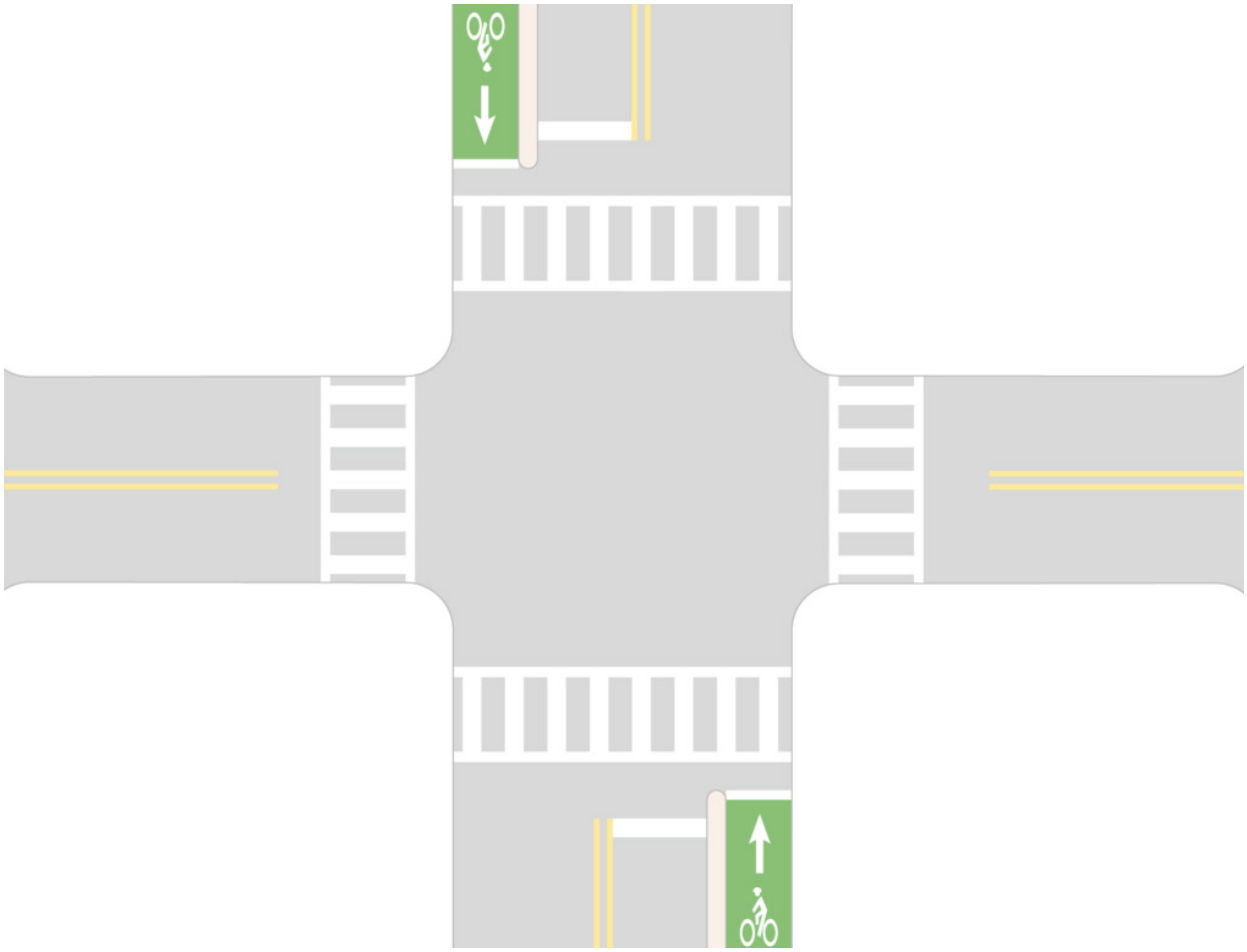
Source: NACTO - Design Tools for Intersections

Benefits	Extend bikeway protection into intersection by reducing turn speeds and improving yielding to cyclists and pedestrians. Reduced conflict between vehicles and cyclists/ pedestrians.
Context	Low- or high-volume streets with high bicycle and pedestrian activity.
Design Criteria	The corner island should limit managed motor vehicle turn speeds to 10 mph or less. The target effective turn radius for managed vehicles is less than 18 ft, usually resulting in a corner radius of 10-15 ft.
Prioritized Modes	Bicycle; pedestrian

Intersection Design Elements

Protected Bike Lane Approaches/Departures

A protected bike lane approach is a physical barrier, such as a bollard or curb, that separates bike lanes from vehicle traffic lanes at intersections.



Source: NACTO - Design Tools for Intersections

Benefits	Slow turns and manage speeds, reduce conflicts between vehicles and cyclists waiting at intersections.
Context	Especially beneficial for contraflow lanes. Should also be considered where shared, constrained, or buffered bike lanes approach controlled intersections.
Design Criteria	Can be constructed islands, mid-height barriers, or be implemented with flexible materials like curb stops and delineator posts.
Prioritized Modes	Bicycle


ONE WAY

Corridor Illustrations

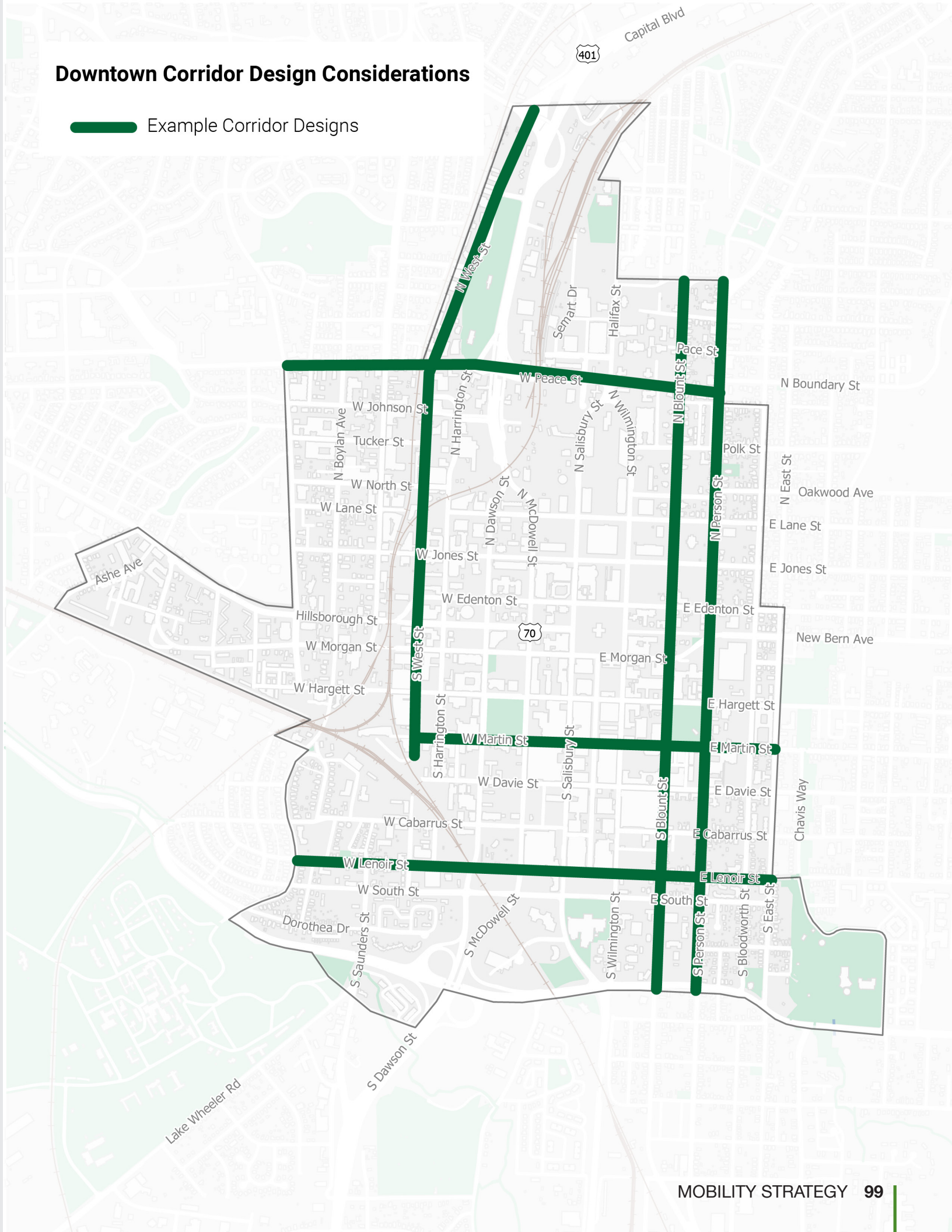
VISUALIZING DOWNTOWN DESIGN CONSIDERATIONS

The following section offers a series of concept designs for six downtown corridors. These illustrations envision the application of modal priorities and downtown design considerations. The corridor cross-sections provided in this chapter also offer an expression of modal priorities. Future studies will refine design decisions as incremental investments are made in downtown.

The selected corridors—Peace Street, Blount Street, West Street, Person Street, Lenoir Street, and Martin Street—were chosen because they represent the diverse contexts of downtown streets and address various competing transportation needs. The map on the following page highlgihts the selected corridors.

Downtown Corridor Design Considerations

Example Corridor Designs

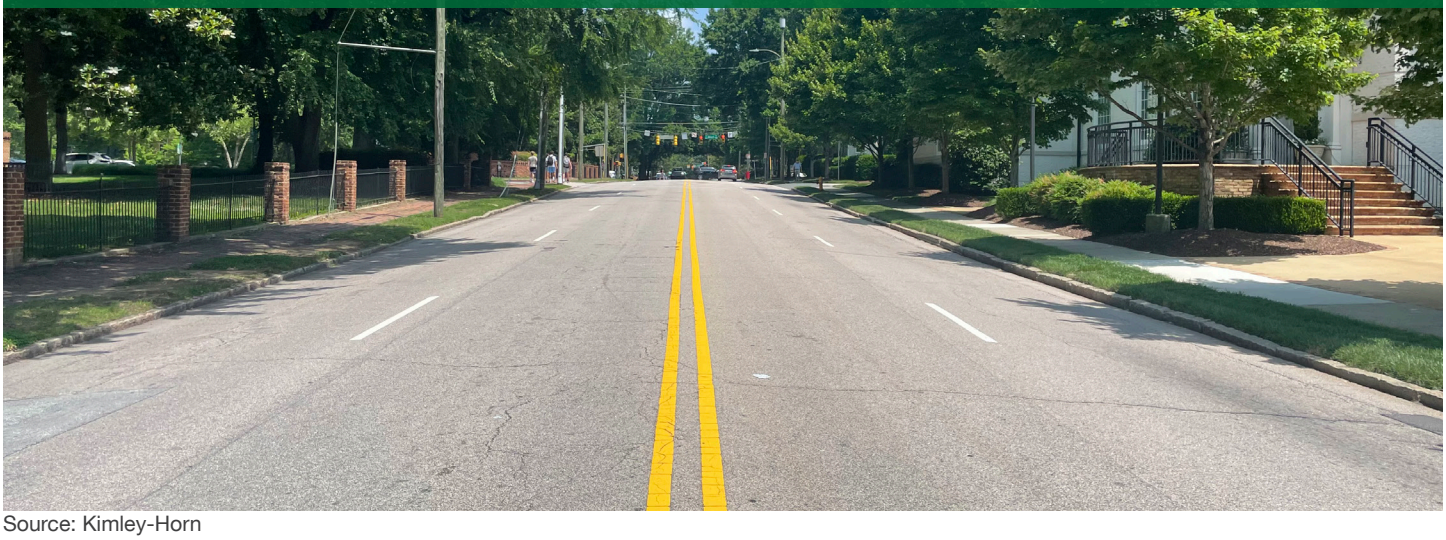


Corridor Illustrations

PEACE STREET

The concept designs below represent a potential application of modal priorities and downtown design considerations for Peace Street. The selected segment of Peace Street is representative of what the downtown Peace Street Corridor could evovle to become. Preliminary engineering is needed to advance designs further, therefore the potential cross section and corridor illustration are just examples of what can be achieved.

Existing Conditions



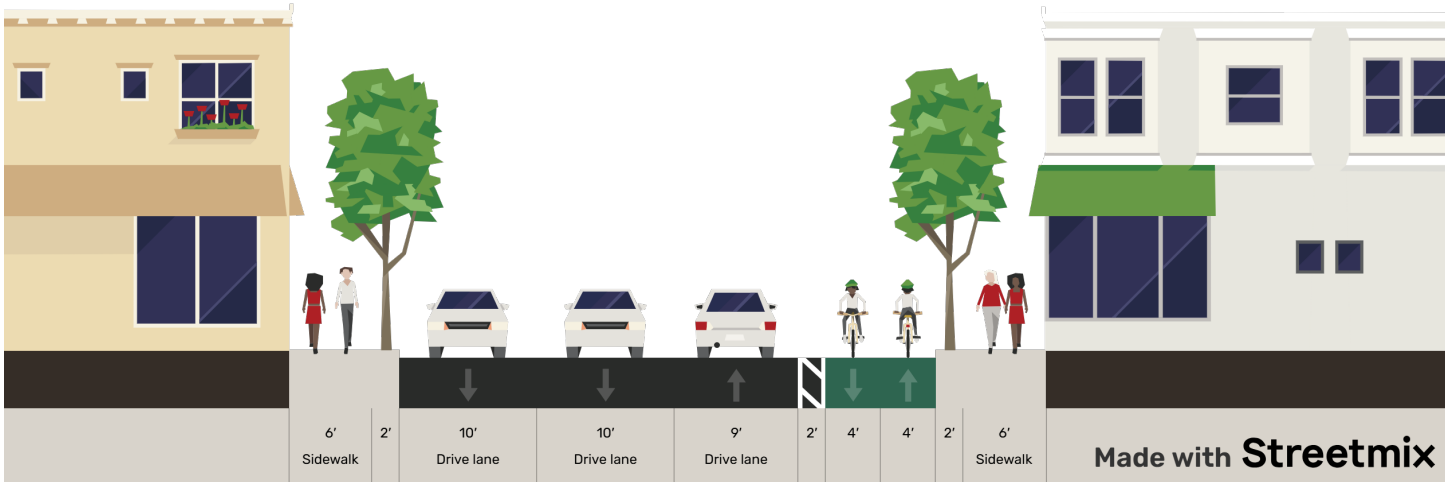
Source: Kimley-Horn

Planned Corridor Illustration

Potential Improvements:

- Implement a two-way buffered cycle track on the southern side of Peace Street
- Implement high visibility crosswalks at intersections
- Maintain existing sidewalks and street canopy
- Consider alternative travel lane configuration, such as, impelementing a two-way-left turn lane (center turn lane).

Planned Cross Sections

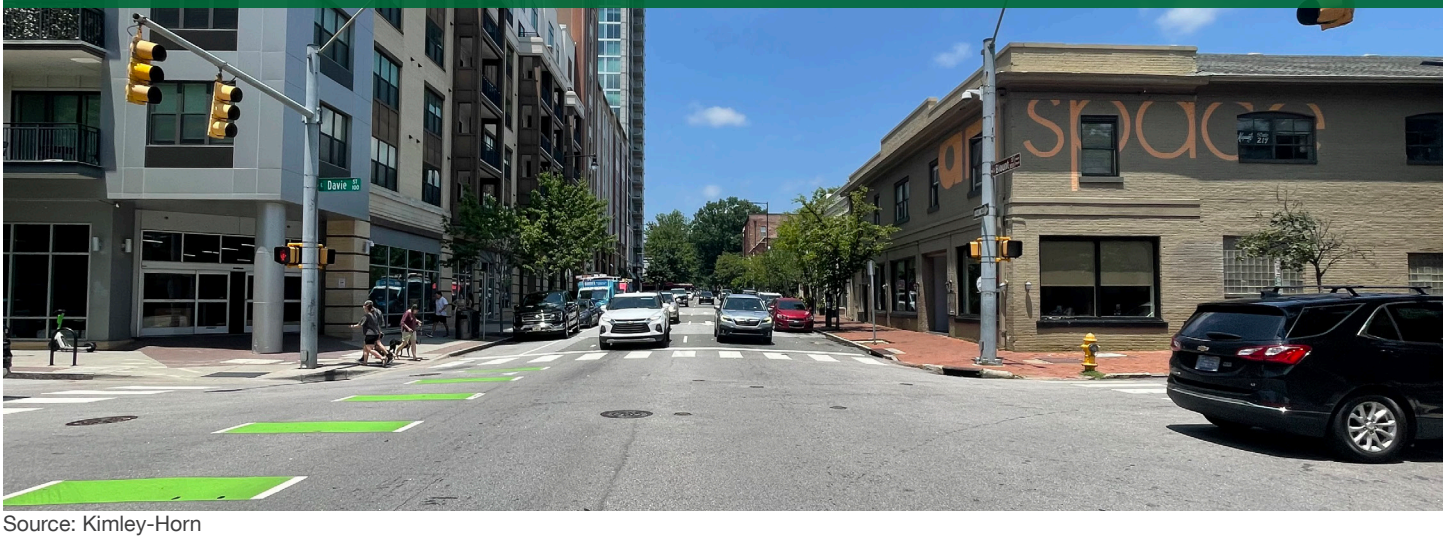


Corridor Renderings

BLOUNT STREET

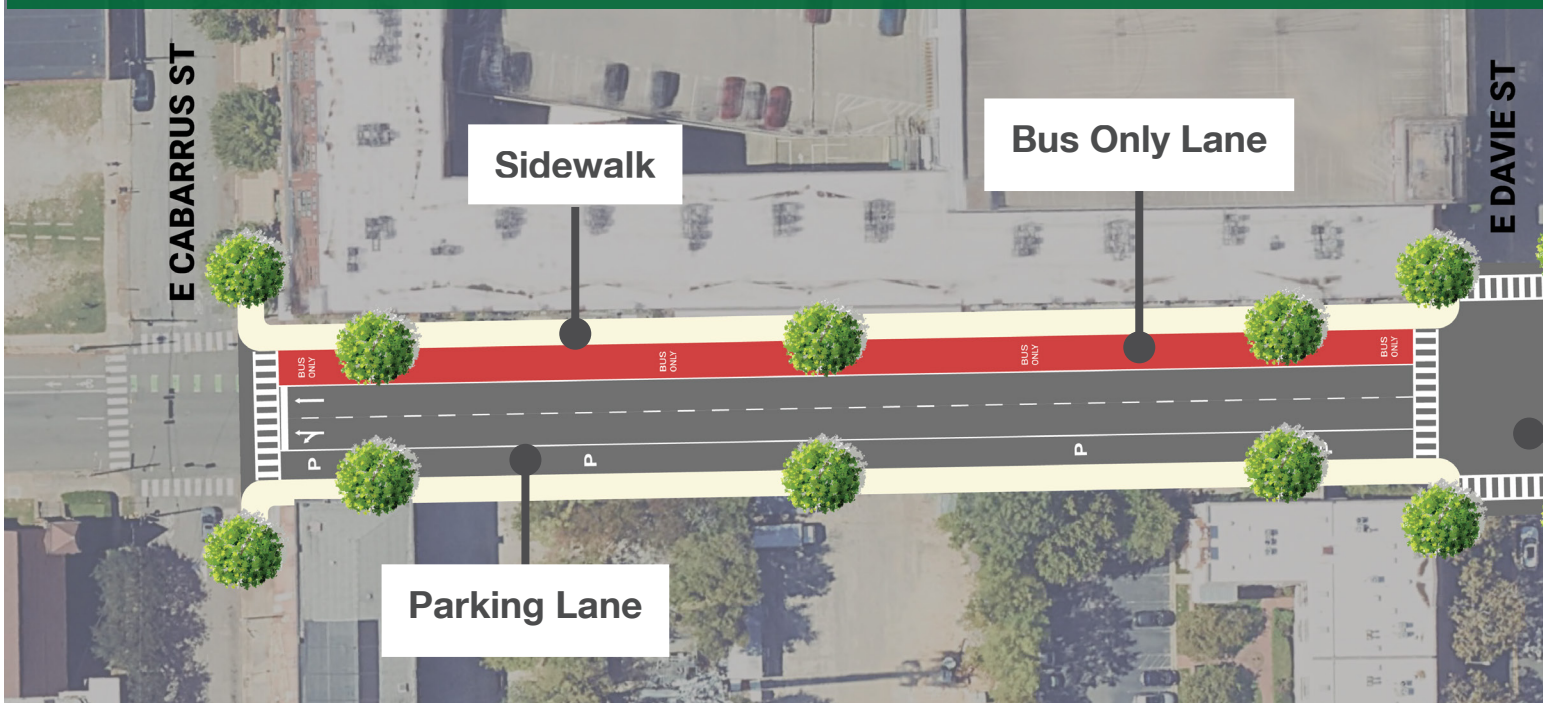
The concept designs below represent a potential application of modal priorities and downtown design considerations for Blount Street. The selected segment of Blount Street is representative of what the downtown Blount Street corridor could be transformed into. Preliminary engineering is needed to advance designs further, therefore the potential cross section and corridor illustration are just examples of what can be achieved.

Existing Conditions



Source: Kimley-Horn

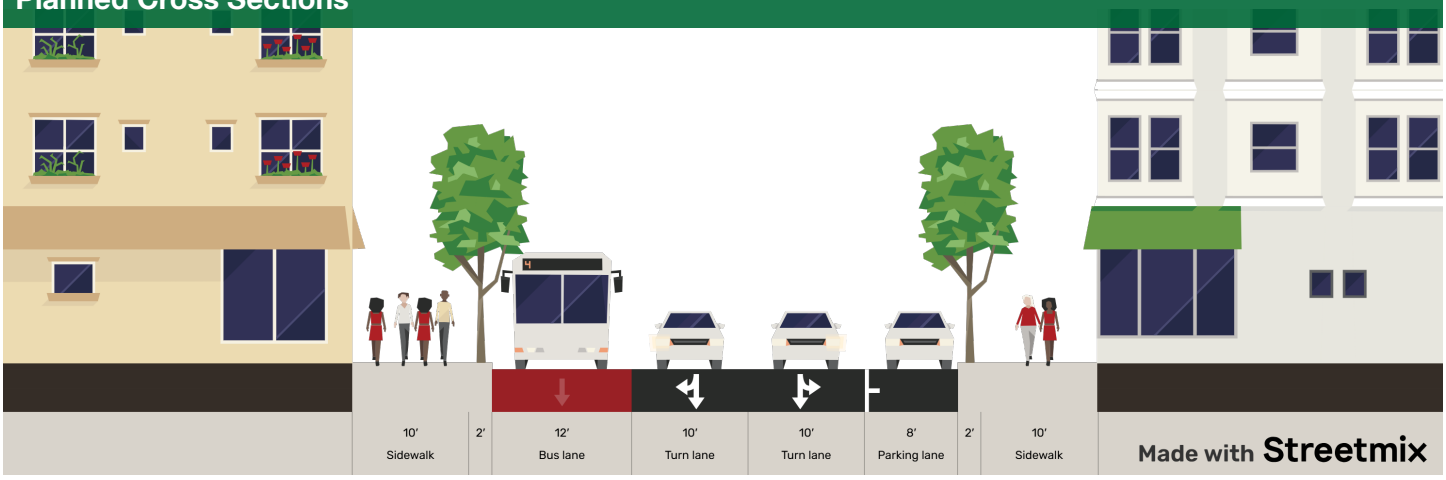
Planned Corridor Illustration

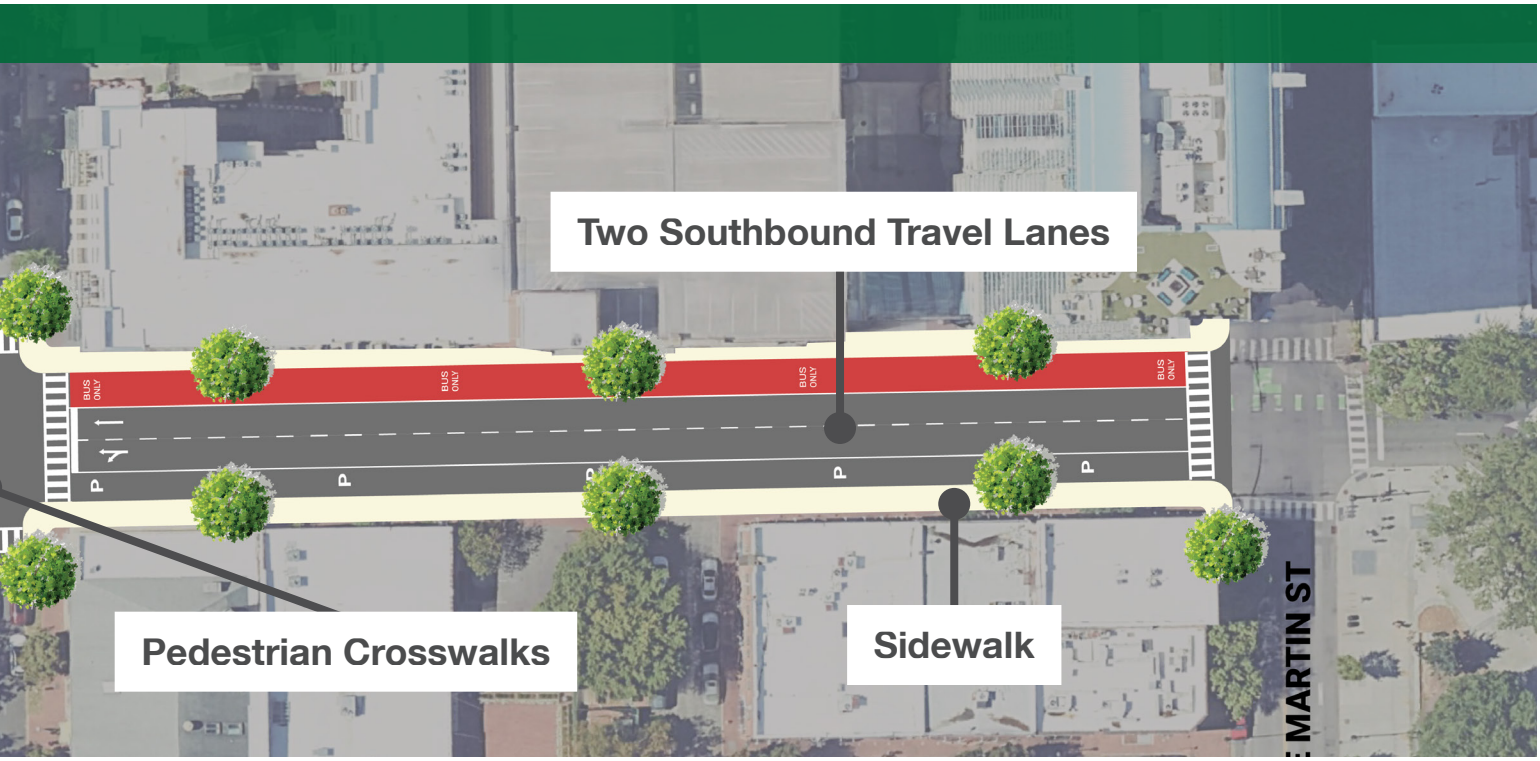


Potential Improvements:

- Replace western parking lane with bus only lane
- Implement high visibility crosswalks at intersections
- Maintain parking on the eastern side of the street
- Maintain existing sidewalks and street tree canopy
- Future project development activities will determine specific capacity requirements. The application of curbside strategies will likely influence alternatives including consideration of additional parking protected bike lanes in this location.

Planned Cross Sections



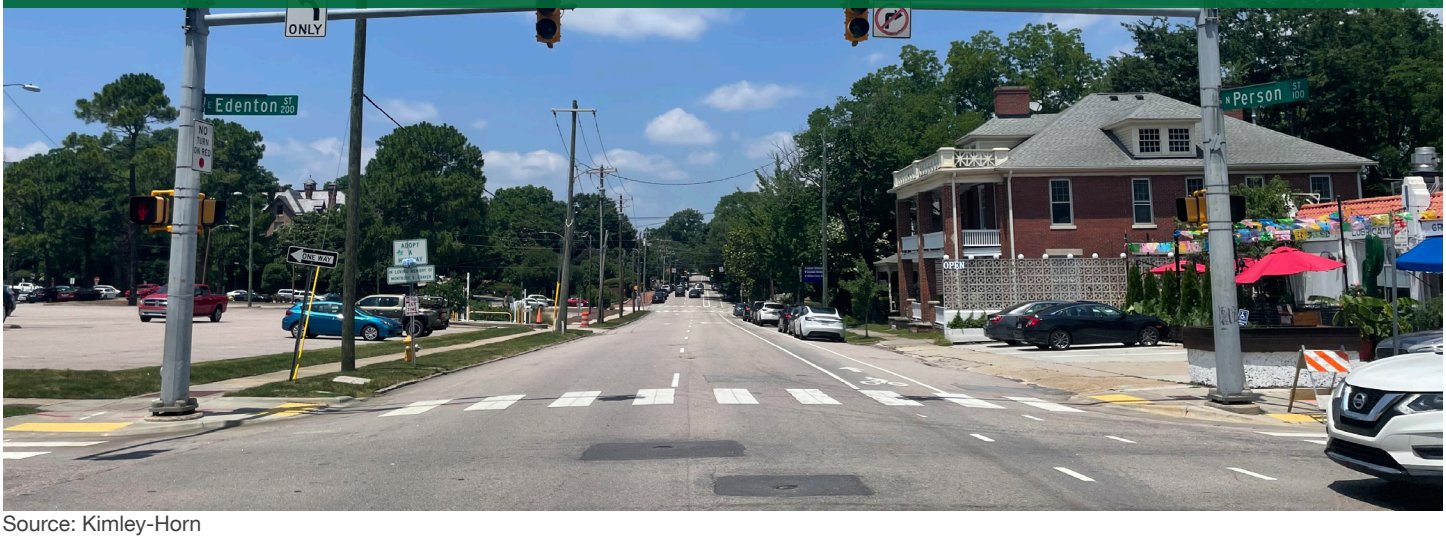


Corridor Renderings

PERSON STREET

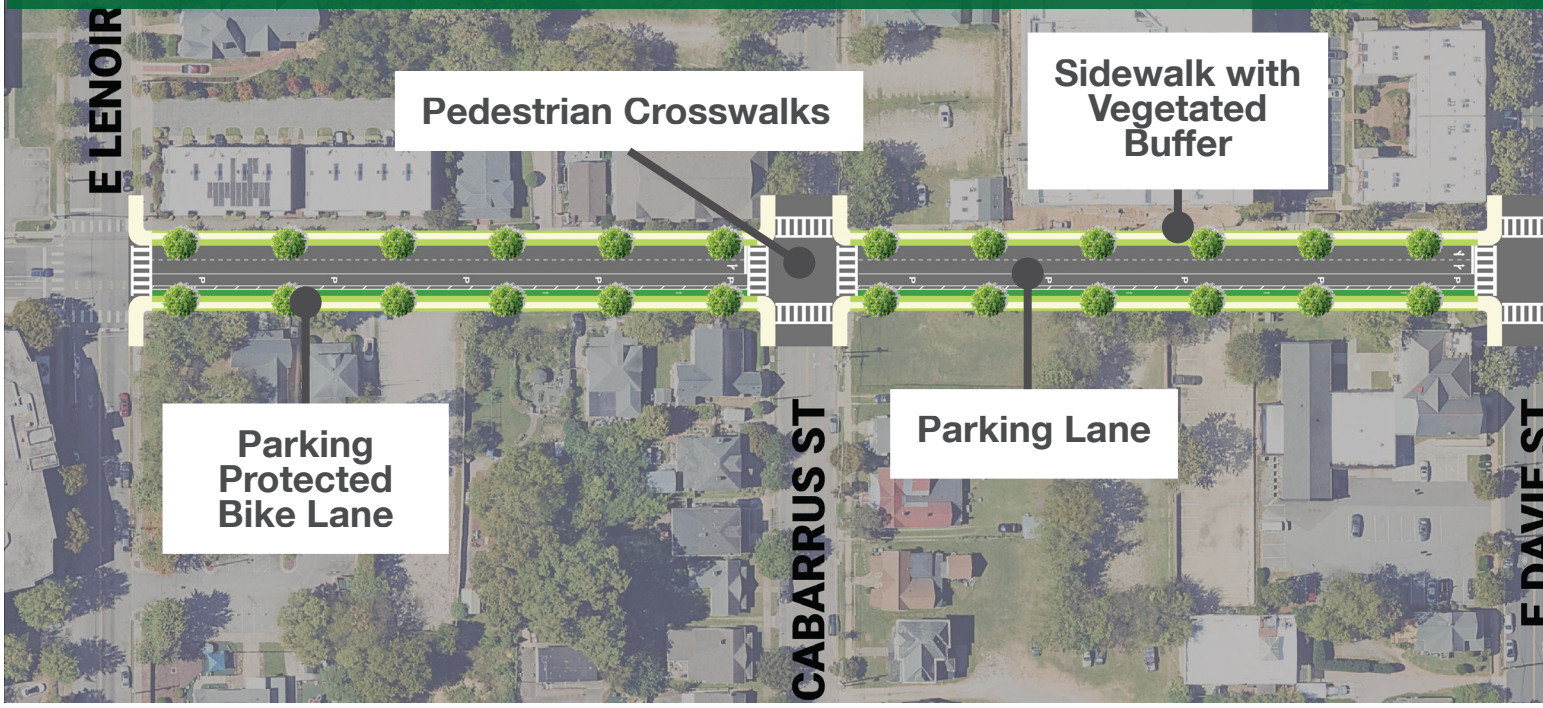
The concept designs below represent a potential application of modal priorities and downtown design considerations for Person Street. The selected segment of Person Street is representative of what the downtown Person Street corridor could be transformed into. Preliminary engineering is needed to advance designs further, therefore the potential cross section and corridor illustration are just examples of what can be achieved.

Existing Conditions



Source: Kimley-Horn

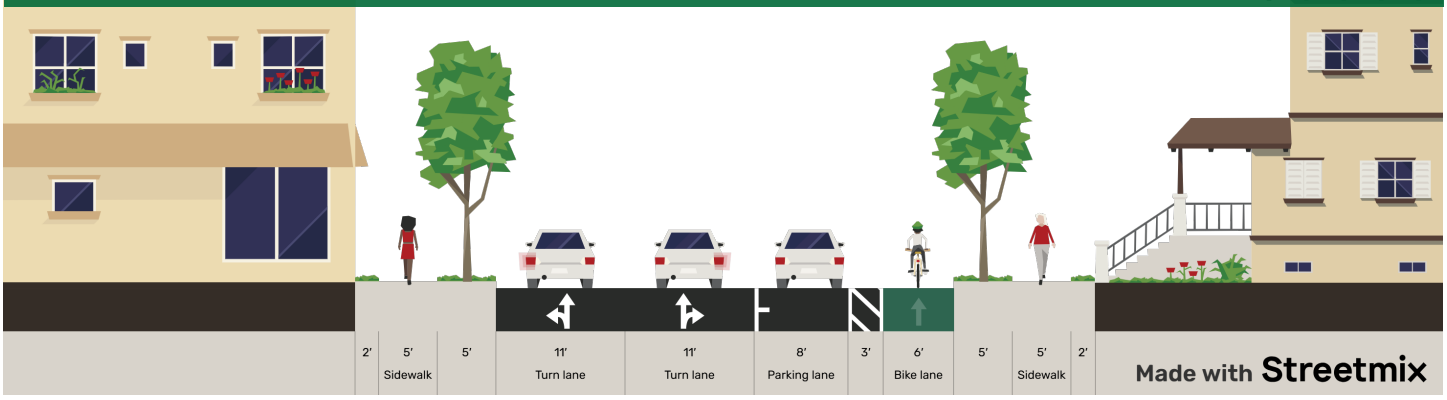
Planned Corridor Illustration

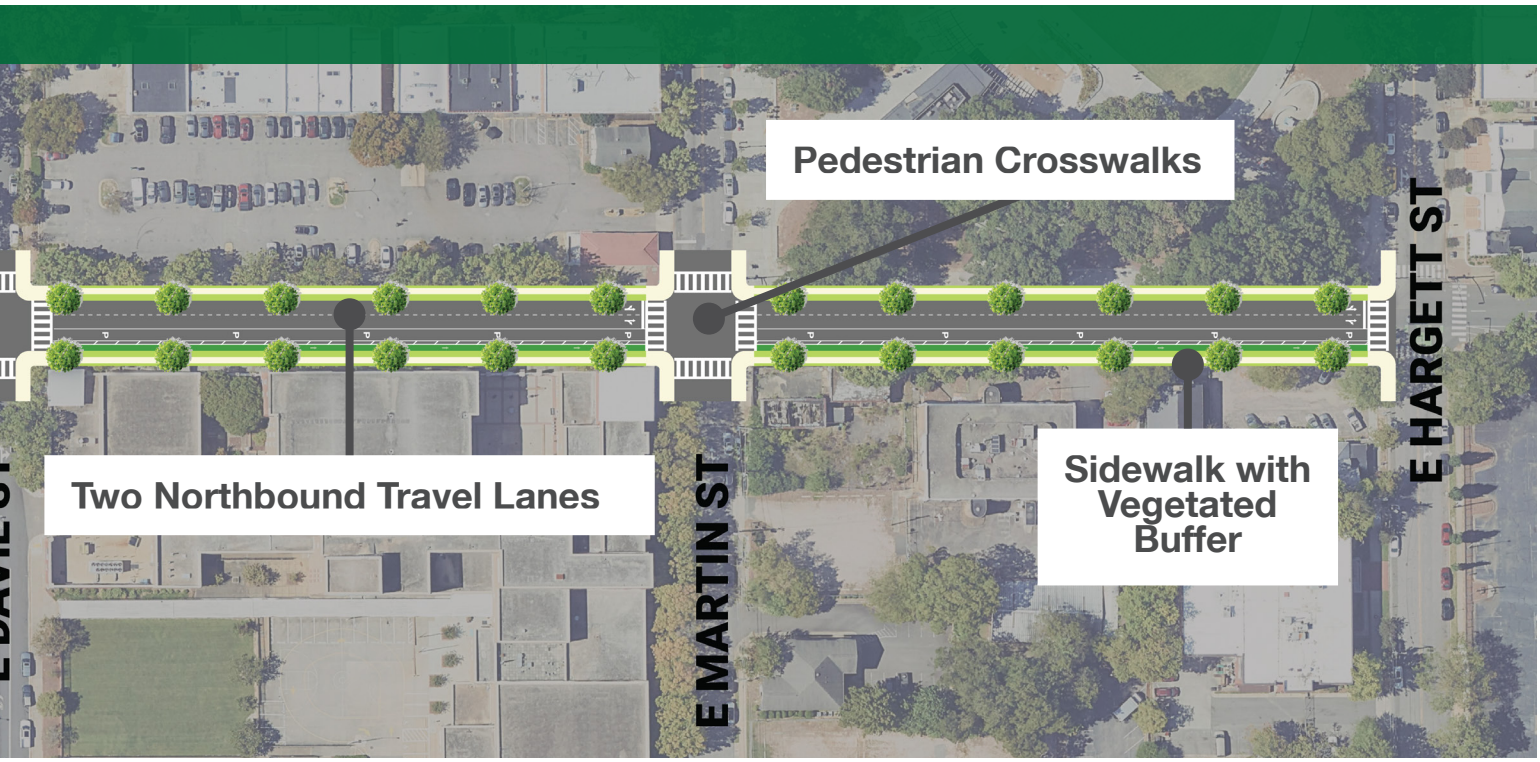


Potential Improvements:

- Upgrade existing unprotected bike lane to a parking protected bike lane
- Implement high visibility crosswalks at intersections
- Maintain existing sidewalks and street tree canopy
- Maintain parking on east side of the street
- Due to the dedicated bus lanes on Blount St and their impacts to dedicated cycling infrastructure, alternate cross-sections should be explored on Person St to facilitate two-way cycling to ensure a complete network. Possibilities to achieve this could be by performing a road diet, parking restrictions, or some combination of the two.

Planned Cross Sections





Corridor Renderings

WEST STREET

The concept designs below represent a potential application of modal priorities and downtown design considerations for West Street. The selected segment of West Street is representative of what the downtown West Street corridor could be transformed into. Preliminary engineering is needed to advance designs further, therefore the potential cross section and corridor illustration are just examples of what can be achieved.

Existing Conditions

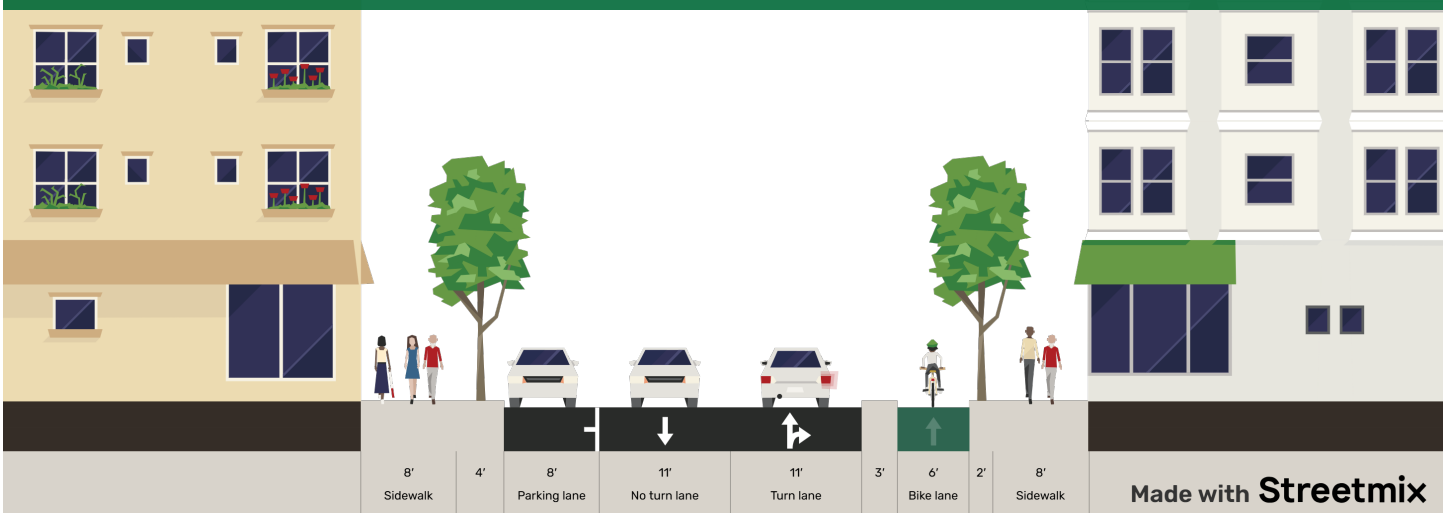
Source: Kimley-Horn

Planned Corridor Illustration

Potential Improvements:

- Upgrade existing buffered bike lane to a physically separated bike lane
- Implement high visibility crosswalks at intersections
- Maintain existing sidewalks and street tree canopy
- Maintain parking lane on the western side of the street

Planned Cross Sections

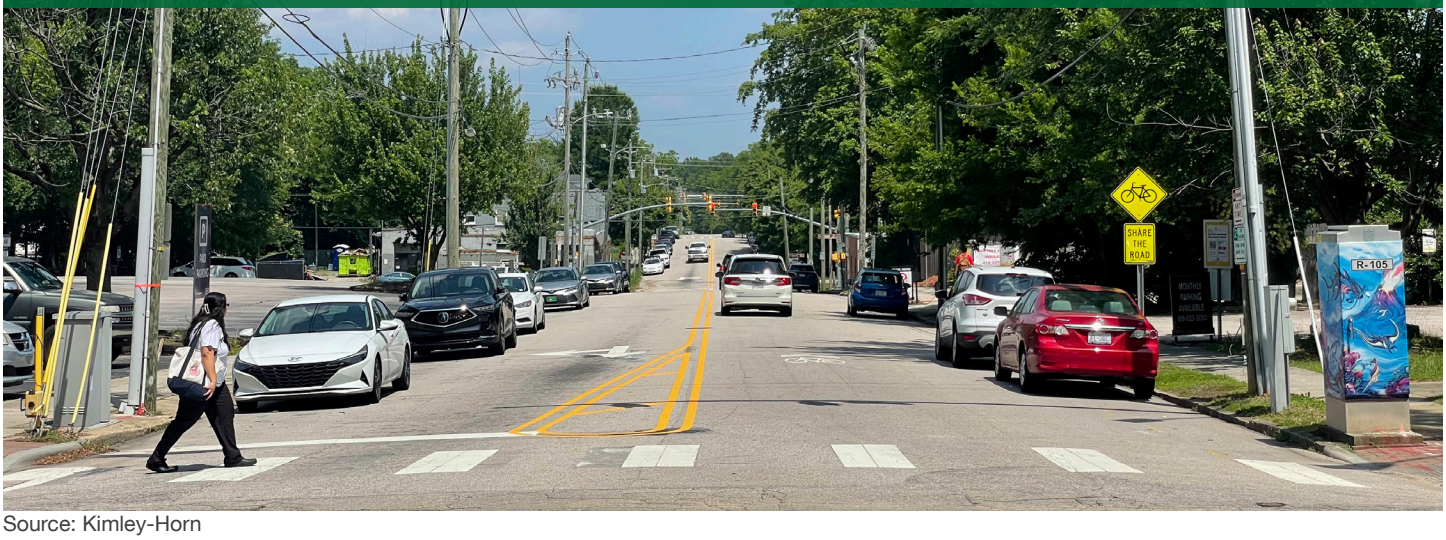


Corridor Renderings

LENOIR STREET

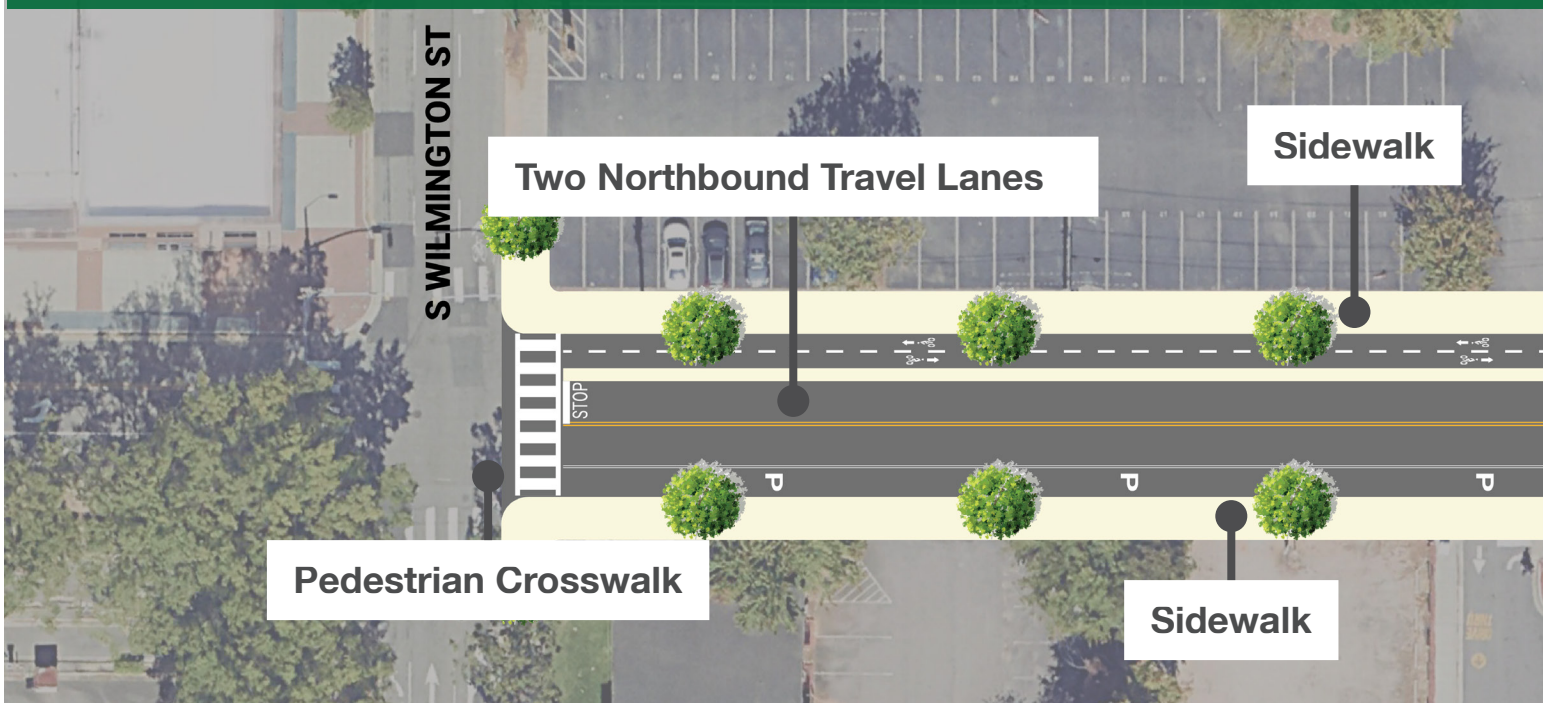
The concept designs below represent a potential application of modal priorities and downtown design considerations for Lenoir Street. The selected segment of Lenoir Street is representative of what the downtown Lenoir Street corridor could be transformed into. Preliminary engineering is needed to advance designs further, therefore the potential cross section and corridor illustration are just examples of what can be achieved.

Existing Conditions



Source: Kimley-Horn

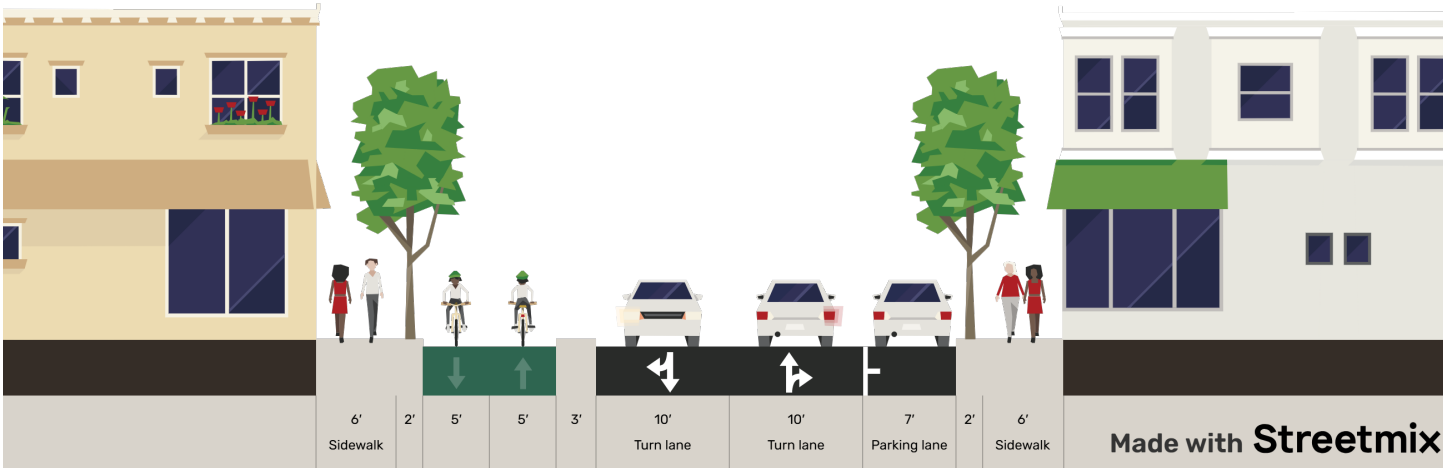
Planned Corridor Illustration

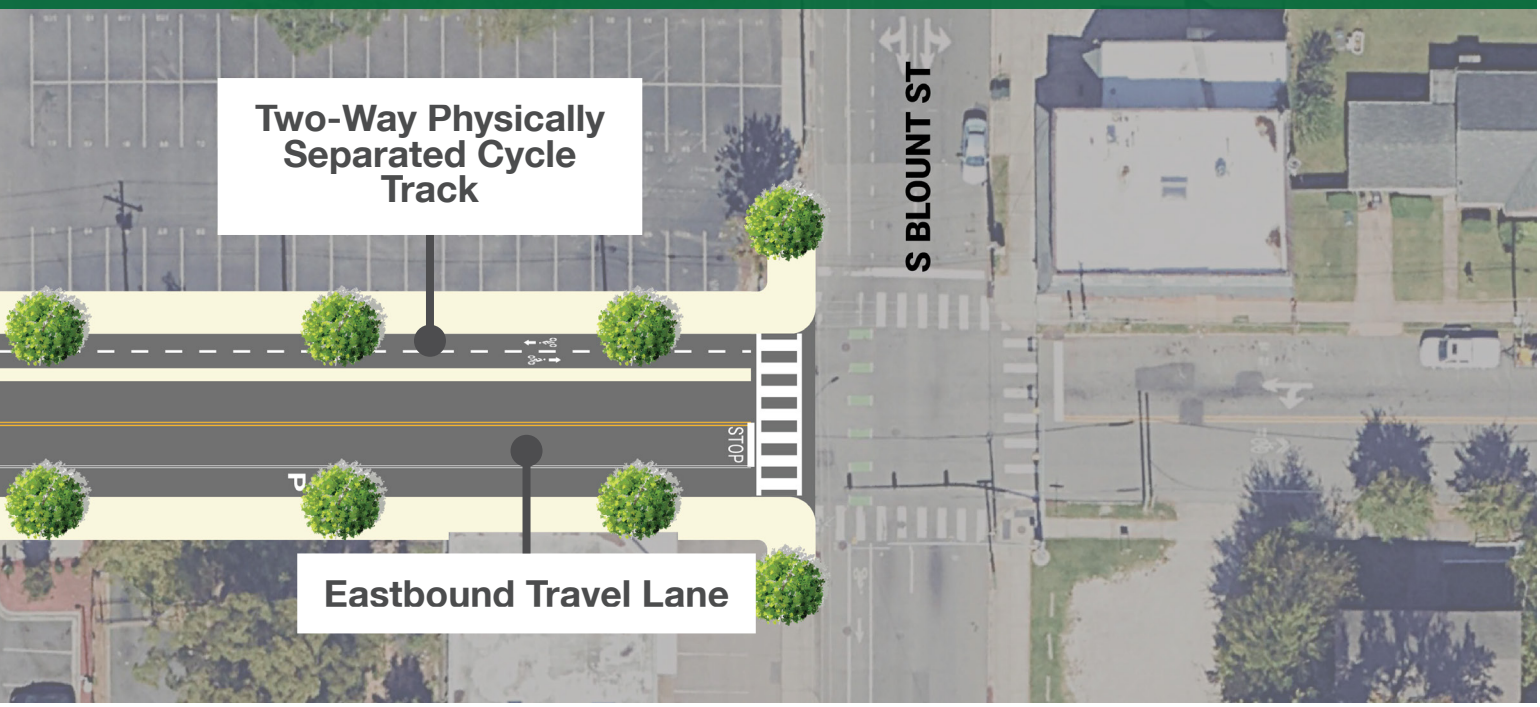


Potential Improvements:

- Implement a two-way buffered cycle track on the northern side of the street
- Implement high visibility crosswalks at intersections
- Maintain existing sidewalks and street tree canopy

Planned Cross Sections





Corridor Renderings

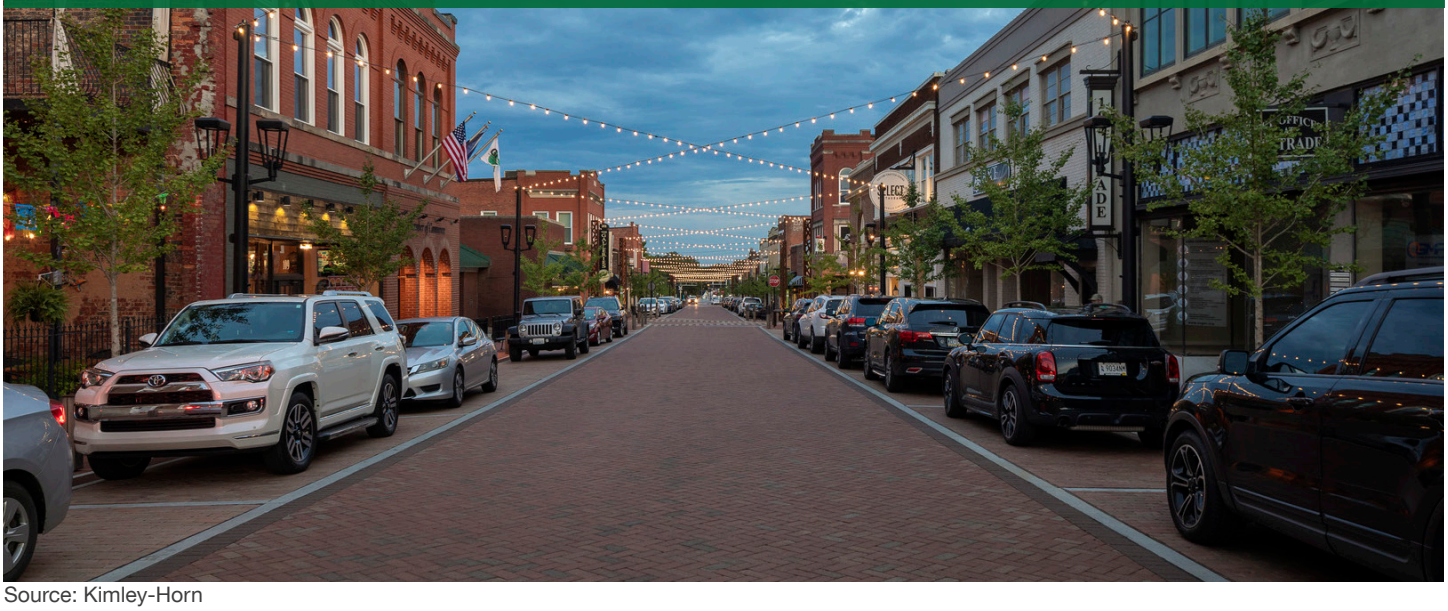
MARTIN STREET

Martin Street plays a vital role in Downtown's transportation network, serving as a key east-west corridor. It directly links the City's two major transit hubs, supports a vibrant community of small businesses, and connects several planned north-south bikeways. With so many overlapping functions, the street must balance a variety of competing needs. As downtown continues to grow and new projects take shape, Martin Street will undergo further evaluation. In the meantime, here are three potential ways this corridor could be reimagined for the future.

Cycle Track Street

Source: NACTO - Charlotte's 6th Street Cycle Track

Curbless Street



Source: Kimley-Horn

Potential Improvements:

- **Cycle Track Street:** A cycle track is a type of bicycle facility that is physically separated or buffered from vehicle lanes, allowing two-way bicycle travel.
- **Curbless Street:** A type of street design that eliminates traditional curbs, creating a seamless surface between pedestrian areas, bicycle lanes, and vehicle lanes.
- **Transit-Only Street:** Streets reserved exclusively for public transit services.

Transit-Only Street

Source: Van Ness Bus Rapid Transit Lanes in San Francisco

Chapter 4: Action plan

Action Plan

INTRODUCTION

Achieving our goals demands purposeful and well-coordinated efforts. These may include developing or revising programs, enacting regulatory modifications, forming new partnerships, enhancing operational processes, and investing in capital projects, among other initiatives. It is imperative that both the City and its partners leverage this plan as a foundation to continually refine policies and direct future investments that will contribute to the creation of a safe mobility network for all ages and abilities.

PARTNERSHIPS

The Raleigh Downtown Mobility Study sets the long-range visions for Raleigh's downtown mobility networks. As Raleigh continues to grow, the study will be used to guide investment in pedestrian, bicycle, transit, and street infrastructure. While RDOT will lead the implementation of many of our strategies, actions, and mobility investments, there is a role for everyone.

Key Partnership Roles

City	Develop plans and policies that align with community values, manage and maintain the system, implement plans and studies
Developers	Integrate compatible public realm additions and travel demand management features for employees and visitors
Go Raleigh	Provide effective transit options to and within downtown areas, including safe, connected, and clean station areas
Downtown Raleigh Alliance	Advocate for mobility enhancements that contribute to the vibrancy of downtown, promote participation, facilitate partnerships
NCDOT	Share data, participate in project development and system management, promote safety through effective designs and operations
Community	Neighborhood, community, and advocacy groups – participate, share experiences and priorities, safely use the system

These relationships represent a commitment to a connected, safe and vibrant downtown. Effective partnerships amongst departments, partner agencies, and community groups have the potential to accelerate the pace of positive change and ensure stewardship of community resources. Internal and external alignment of community goals plays an important part in creating and maintaining a vibrant downtown. The following describes key (internal and external) partners whose alignment and shared commitments will be important:

Internal Partners

GoRaleigh | GoRaleigh is the City's primary public transit provider, operating an extensive network of fixed-route buses and transit services throughout Raleigh and its surrounding areas. As a crucial partner in advancing the goals of the Downtown Mobility Study, GoRaleigh contributes to creating a more connected, accessible, and inclusive transportation system for all.

Parks, Recreation and Cultural Resources | The department focuses on providing accessible recreational amenities, green spaces, and cultural programming for all residents. The department also maintains the greenway system, which is a key part of mobility infrastructure. Through stewardship of public parks, organization of community events, and promotion of cultural activities, the department fosters social engagement, supports public health, and contributes to a vibrant urban environment that complements Raleigh's mobility and growth objectives.

Planning and Development | The department oversees the strategic planning and visioning for Raleigh's future growth, ensuring that development aligns with the city's long-term objectives. This department manages the permitting and inspection processes for both residential and non-residential projects, supporting sustainable development throughout the community.

Housing and Community Development | The department is dedicated to fostering vibrant, diverse neighborhoods throughout Raleigh. Access to multi-modal transportation is key requirement in expanding housing choice. By engaging with the community, enforcing local codes, and providing comprehensive housing services, the department strives to enhance the quality of life for all residents. Its commitment to responsive customer service and inclusive initiatives supports the city's vision for sustainable growth and thriving urban communities.

Raleigh Convention and Performing Arts Complex | This department oversees a range of venues, including Red Hat Amphitheater, Martin Marietta Center for the Performing Arts, and the Raleigh Convention Center. Collaboration with the RDOT ensures that multimodal infrastructure improvements and traffic management strategies are seamlessly integrated as the Red Hat Amphitheater is relocated and the Convention Center is expanded.

External Partners

Downtown Raleigh Association (DRA) | Founded in 1996, the Downtown Raleigh Alliance (DRA) administers the Downtown Raleigh Municipal Services District (MSD), a designated special assessment district where property owners contribute to enhanced services. Major investments facilitated through the MSD include the management and maintenance of the public realm, as well as funding initiatives such as storefront recruitment, business retention, and community engagement programs. The DRA also utilizes MSD funds for marketing, communications, and promotional campaigns, to attract more customers and support the district's development.

North Carolina Department of Transportation (NCDOT) | NCDOT is a multimodal state agency committed to supporting travelers throughout the state and builds and maintains many of the roadways that serve downtown Raleigh. Downtown also includes the following streets that are maintained by NCDOT: McDowell Street, Dawson Street, Capital Boulevard, Blount Street, Person Street, Edenton Street, Morgan Street, and Western Boulevard.

NC Capital Area Metropolitan Planning Organization (CAMPO) | CAMPO is the federally designated Metropolitan Planning Organization (MPO) for the Raleigh Urbanized Area. The organization primarily develops regional transportation plans and programs for the urbanized areas.

Raleigh Neighborhood Organizations & Coalitions | These organizations represent the diverse range of neighborhood leaders and organizations across the city that promote and sustain the character and quality of life of Raleigh's neighborhoods and districts

Raleigh Advocacy Organizations | These organizations represent various interests across Raleigh and partner with the City to support and advocate for topics such as smart growth, sustainability, equity, climate change, and mobility.

Action Plan

POLICIES & PROCEDURES

Raleigh's Downtown Mobility Study is designed to bring focus to multimodal planning and policy recommendations for the downtown area. As a reminder, the Guiding Principles of the plan include the identification of ways to:

- Introduce additional travel options to the downtown transportation system
- Improve community connectivity
- Ensure safe design
- Provide effective access to travel options (beyond driving)
- Identify and resolve conflict amongst existing and planned transportation elements

In support of the guiding principles a review of current policies and procedures was performed. Emphasis was placed in three areas: safety, mode integration, and curbside management. This review also included a comparison of successful peer communities including Charlotte, Nashville, and Austin. The review identified several enhancement opportunities. Five overarching considerations were identified as having the potential for the greatest impact:

1. **Development of an internal standard operating procedure that guides a project from concept to design and construction.** This could be established through "Memorandums of Understanding" between divisions in the transportation department or other partner agencies.

   Expected Outcome: Clarity regarding project development steps, defined roles across departments and partner agencies, and consistency of decision-making.

2. **Streamline the process for traffic, safety, and mode integration improvements.** When Council adopts a transportation related plan, the approval could come with the empowerment of RDOT to advance and implement plan elements incrementally without the need for additional Council approvals.

   Expected Outcome: Increases pace of implementation, offers consistency of decision-making in alignment with council guided policy plans, effective use of professional best practices and departmental expertise.

3. **Reframe public engagement.** For projects that have been identified through formal planning efforts that have been approved by the council (e.g., bike plan, BRT plan), public engagement should center around *how* the project is executed (as opposed to *if*).

   Expected Outcome: Places greater levels of importance on the planning phase, avoids untimely deviations in the process, brings meaningful focus on design choices.

4. **Develop a curb-use prioritization program.** The creation of a performance based, curb-use prioritization program will help the city to diversify its curbside management program. The program will assist with the identification of ways to decide the best use of limited curb-space to meet current and future needs. An evaluation and analysis of curbside occupancy, turnover, and duration would inform the program.

   Expected Outcome: Highest and best use of curb space in ways that align with goals for downtown vibrancy, safety, and travel choice.

5. **Align all Street Design Guidance to be consistent with mode and safety priorities.** Review and edit all street design guidance found throughout City of Raleigh administrative codes and procedures in alignment with modal priorities. There are multiple locations where street design is referenced, including (but not limited to) UDO, Fire Code, and City of Raleigh Street Design Guide.

Expeceted Outcome: Streamlined project development processes, reduced conflict amongst competing departmental prioirties, and improved safety outcomes

6. **Continue to Fund Downtown Safety and Mobility Improvements**

   The City of Raleigh funds downtown transportation improvements through a combination of federal grants, local sales tax revenue, and the 5-year Capital Improvement Program (CIP). This process includes working with regional partners like GoTriangle, the Capital Area Metropolitan Planning Organization (CAMPO), and the North Carolina Department of Transportation (NCDOT) to secure and manage these funds. Dedicating specific line items for downtown in the CIP and annual budget to manage and enhance downtown mobility and travel safety can accelerate the pace of implementation.

   Expected Outcome: As investment levels increase so will the completion of the multimodal network. As networks are implemented, mode share has the potential to diversify, safety can improve, and travel choices will enhance the attractiveness for downtown housing, business, jobs, and tourism.

Future Studies

As downtown evolves, the interaction between transportation, neighborhood identity, and advocacy highlights the complexity of planning for a vibrant and accessible urban area. Responding to shifting needs requires ongoing assessment and collaboration among stakeholders. Additional studies are essential to address current challenges, inform effective policy decisions, and ensure that future improvements align with the city's broader vision of mobility and accessibility downtown.

Glenwood Avenue

Glenwood Avenue serves as a vital downtown corridor, celebrated for its lively mix of commercial, residential, and entertainment zones. Ongoing improvements are necessary to enhance the pedestrian experience and improve safety. As the City finalizes its Safety Pilot Project for Glenwood Avenue, further effort should be invested to determine how to implement the project's findings.

Legislative Areas

The presence of state museums, Capitol building, and state legislature in downtown Raleigh generates distinct traffic patterns. These civic and cultural landmarks attract a diverse array of visitors—students on field trips, tourists, lawmakers, staff, and event attendees—resulting in fluctuating traffic volumes throughout the week and heightened activity during peak hours, special exhibitions, and legislative sessions. Therefore, modal improvements must balance the need for strategic curbside use, safe pedestrian crossings, and seamless transit connections, all while preserving the historic character and functionality of the area. Future studies partnering with the State Legislature to determine how to implement modal improvements are crucial to accomplishing Raleigh's vision for downtown.

S-Line Street Closures

Future S-Line expansion in downtown will result in the elimination of through-traffic at current grade elevation for all modalities at Hargett Street and Jones Street. Further evaluation of these closures is necessary to understand their impact on travel through and within downtown for various modes of transportation, including walking, bicycling, transit and driving.

Corridor Feasibility Studies

Future transportation feasibility studies in Raleigh will play a pivotal role in shaping downtown corridors. These studies are expected to evaluate the advancement of modal priorities, design considerations, and future curbside prioritization policy expressed in this study. The results of these studies will inform project development decisions.

Action Plan

Procedural	Council / RDOT	Streamline the process for traffic, safety, and mode integration improvements	Clarify the administrative authority of the department to implement plans and studies approved by City Council and manage the downtown transportation system
	Council / RDOT	Review and edit all street design guidance found throughout City of Raleigh administrative codes and procedures in alignment with modal priorities	There are multiple locations where street design is referenced, including (but not limited to) UDO, Fire Code, and City of Raleigh Street Design Guide
	RDOT	Establish a standard operating procedure to guide project development, design, and implementation	The process should consistently apply the mode priorities expressed in Chapter 2 and apply other design considerations from Chapter 3 as appropriate
	RDOT / Curbside / Parking	Consolidate loading zone code types	Simplify and condense Section 11-2177 to allow staff to be responsive to changing curbside demands. There are currently 6 differentiated loading zones.
Tools and Methods	RDOT / Communications / Community Engagement	Reframe project development - public engagement as “implementation oriented”	Clarify the role of Communications and Community Engagement Divisions. Apply a consistent approach to engagement. Emphasis on how to implement (as opposed to whether to implement)
	RDOT /Curbside / Parking	Automate parking enforcement	This requires state and city changes in code. Partnership with other NC municipalities will help expedite this process
	RDOT /Curbside / Parking	Create a curb use prioritization program	Allocate limited curbspace to serve the highest and best use. The program should be designed to serve local businesses to support downtown vibrancy.
Programs	RDOT	Establish a systematic program for enhancing and maintaining the downtown pedestrian network	A separate line item will create transparency to the amount needed and amount spent and increase accountability
	Council / RDOT	Create a separate line item for downtown transportation capital projects in the annual budget and CIP	A dedicated line item will showcase financial commitment required to implement improvements. Current practices represent aggragte allocation of funds leaving small Support the agreed upon project development program from feasibility/concept to design and construction
	RDOT / Curbside / Parking	Pilot an intelligent loading program	Camera based technology that monitors zone use to determine compliance. Creates predictable access to loading zones
	RDOT	Maintain a tactical-demonstration improvement program (walk-bike-curbside-safety)	Quick delivery quick demonstration
	Annual progress monitoring	Produce annual summary of progress showcasing results of partnerships, procedures, programs, and investments	Documents pace of progress creates the opportunity to reflect on current practices and levels of investment


Davie


THE R LINE
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GO Raleigh
BUS