



WALK WILMINGTON

Wilmington Pedestrian Plan Update | 2023

Prepared for the City of Wilmington, North Carolina, in partnership with the Wilmington Urban Area Metropolitan Planning Organization (WMPO) and the NCDOT Integrated Mobility Division

Prepared by Alta Planning + Design



Acknowledgments

Thank you to the 1,000+ local residents, community leaders, and government staff that participated in the development of this plan through meetings, tabling outreach, interactive maps, comment forms, and plan review.

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Introduction

Walk Wilmington is an update to the City's 2009 pedestrian plan. The updated plan will build on the successes of the previous plan and continue to guide the City's prioritization of safe, healthy, and equitable pedestrian infrastructure projects, policies, and programs.



Background and Purpose

This updated plan provides a framework for prioritizing and implementing infrastructure, programs, and policies to make walking in Wilmington a safe, healthy, and equitable option.

Over the last 13 years, the 2009 pedestrian plan (also called Walk Wilmington) has guided the City through funding, design, and construction of more than 200 pedestrian projects, such as the Gary Shell Cross City Trail. The City has also implemented safety education programs for walking and driving, and revised its development policies to include pedestrian infrastructure.

Wilmington has successfully expanded and connected its sidewalks in areas like downtown and the University of North Carolina Wilmington (UNCW) campus. However, many roadway corridors throughout the city still lack complete sidewalks and adequate crossings, contributing to unsafe walking conditions in those areas.

Recognizing a need to update the 2009 pedestrian plan, the City of Wilmington requested and received funding from the North Carolina Department of Transportation (NCDOT). This plan update provided an opportunity to build on past successes while better aligning with current issues, including increases in crashes involving pedestrians and those who walk as a primary means of transportation, a desire for a greater focus on equity, and continued community support for pedestrian improvements.

Key Milestones

2009: Wilmington adopts the first Walk Wilmington Pedestrian Plan.

2012: The Moving Ahead for Progress in the 21st Century Act (MAP-21) is signed into law, providing federal funding opportunities for pedestrian projects through 2014.

2013: Wilmington adopts the Wilmington/New Hanover County Comprehensive Greenways Plan.

2014: Voters approve a City transportation bond that funds trails, sidewalks, bike lanes, and crosswalks.

2015: The Federal Fixing America's Surface Transportation (FAST) Act is signed into law, providing federal funding opportunities for pedestrian projects through 2020.

2019: Amid a nationwide increase in pedestrian crashes, injuries, and fatalities, Wilmington experiences the highest pedestrian crash rate among large cities in NC.

2021: Wilmington and NCDOT initiate a citywide pedestrian safety study; the City requests funding from NCDOT to update Walk Wilmington; the Infrastructure Investment and Jobs Act (IIJA) is signed into law, providing federal funding opportunities for pedestrian projects through 2026.

2023: Wilmington adopts the updated Walk Wilmington Pedestrian Plan.

Planning Process

The planning process included public engagement, participation and direction from a project committee, and a final presentation to City Council. The time frame for these and other steps is outlined below:



Plan Vision, Goals, and Objectives

The Walk Wilmington vision, goals, and objectives guide every aspect of the plan. The framework provides a foundation for the plan's needs analysis, prioritization process, implementation strategies, and performance measures. The vision, goals, and objectives were developed with input from the project steering committee.

Plan Vision

The City of Wilmington will be a pedestrian-friendly environment where walking is a safe and comfortable mobility choice for residents and visitors of all ages and abilities.

Plan Goals & Objectives

These six goals guided the plan development process. Of these, three **Key Plan Goals** were identified as the most important priorities for the Walk Wilmington Pedestrian Plan based on feedback from the steering committee and public input.

KEY PLAN GOALS



Increase Safety

Reduce overall pedestrian crashes and improve safety for all users of the roadway network. Promote adherence to traffic laws through education and awareness campaigns.



Promote Equity

Prioritize investment in areas with a history of underinvestment in pedestrian infrastructure and with historically under-served populations such as people with disabilities, people of color, and low-wealth households.



Enhance Connectivity, Mobility, and Accessibility

Fill gaps in the pedestrian network, improve connections to destinations and essential services, and ensure accessibility for people of all ages and abilities.



Enhance Health

Improve the health of residents and the environment by getting more people walking as a means of transportation and recreation through policies, programs, and projects.



Improve Livability and Protect the Environment

Make walking an inviting, attractive, and enjoyable experience through sound design and pedestrian-friendly policies. Reduce traffic congestion and harmful emissions through a reduction in vehicle miles traveled (VMT).



Create a Positive Economic Impact

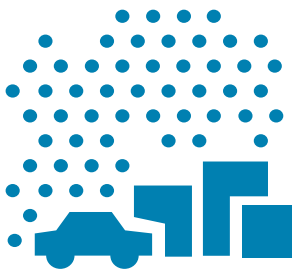
Continue to attract investment and tourism by enhancing walkability throughout Wilmington and providing more spaces to create economic returns. Establish a strategic prioritization process to fund improvements and maintenance.

Why Invest in Walking?

Increased rates of walking can help to improve people's health and fitness, enhance environmental conditions, and decrease traffic congestion. Infrastructure for walking, such as greenways and crosswalks, supports active lifestyles, resilient and sustainable transportation systems, and economic prosperity. Studies from the fields of public health, city planning, urban ecology, real estate, tourism, and transportation have demonstrated the value and benefits of creating more walkable communities. The following section presents findings from some of these studies that relate to Walk Wilmington's goals and objectives.

Environmental Benefits

Decreasing reliance on automobiles and reducing congestion by utilizing sidewalks and trails will lead to improved air quality. Trails and greenways serve as tools for conserving open space and preserving wetlands.



AIR QUALITY IN WILMINGTON

21 bad-air days in 2018

= **NEARLY 1 MONTH/YEAR** in which ground-level ozone and/or particulate pollution was **above the level** that the US Environmental Protection Agency has determined presents "little or no risk."

Environment North Carolina Research & Policy Center, "Trouble in the Air", 2020



If **8% more children** living within **2 miles of a school** were to walk or bike to school, the air pollution reduced from not taking a car would be **EQUIVALENT TO REMOVING 60,000 CARS** from the road for one year, nationally.

Pedroso, 2008, SRTS

Health Benefits

Sidewalks and greenways offer safe and accessible opportunities for physical activity. People who utilize pedestrian facilities are able to connect with places that they want or need to go.



32% **ADULT OBESITY** in New Hanover County
(compared with 34% for the state of North Carolina)

23% of adults are **PHYSICALLY INACTIVE** in New Hanover County
(compared with 26% for the state of North Carolina)

University of Wisconsin Population Health Institute, County Health Rankings, 2019

Every **0.6 MILES WALKED** = **5% REDUCTION** in the likelihood of obesity.

Frank, 2004



THOSE WHO ARE PHYSICALLY ACTIVE
GENERALLY LIVE LONGER and have a lower
risk for heart disease, stroke, type 2 diabetes,
depression, some cancers, and obesity.



CDC, 2015



20 MINUTES walking or biking each day is associated with a

21% **LOWER RISK OF HEART FAILURE FOR MEN &**

29% **LOWER RISK FOR WOMEN**

Rahman, 2014 and 2015

Safety Benefits

Pedestrian infrastructure and traffic calming help save lives. Additionally, natural surveillance of trails and greenways occurs through increased numbers of trail users, creating a safer environment where behavior on trails is monitored by trail users themselves.

PEDESTRIAN-VEHICLE CRASH FACTS



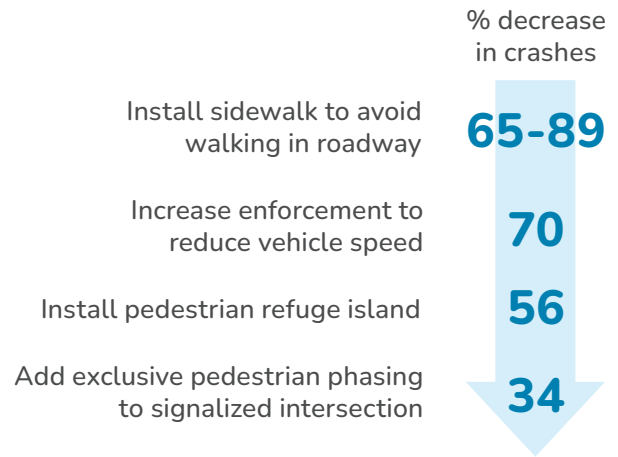
From 2016-2020, Wilmington averaged

75 PEDESTRIAN-VEHICLE CRASHES / YEAR

3 PEDESTRIAN FATALITIES / YEAR

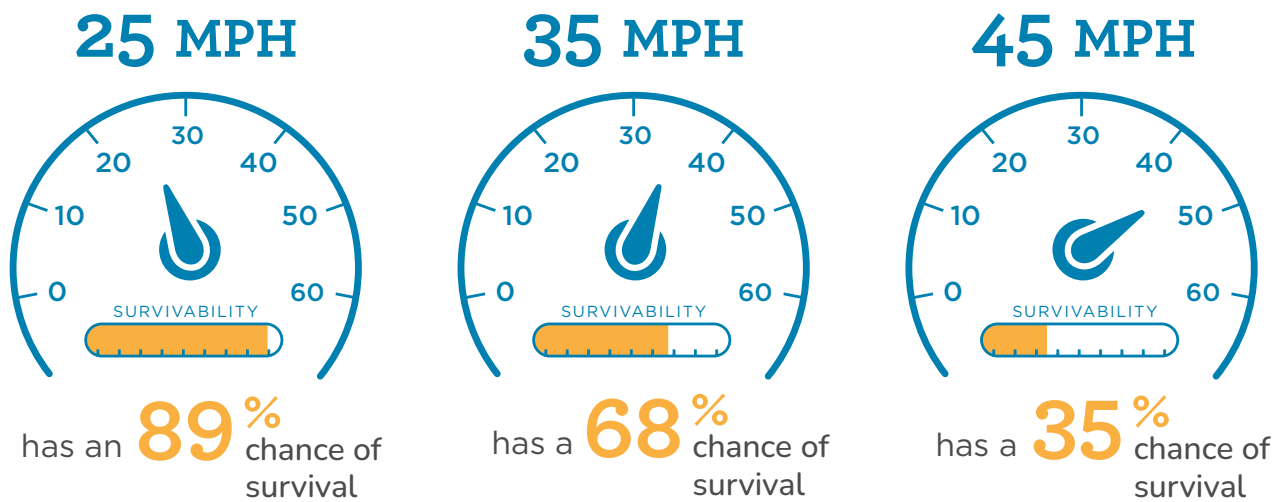
NCDOT, 2021

CRASH REDUCTION MEASURES



Federal Highway Administration, 2008

A PEDESTRIAN HIT BY A VEHICLE TRAVELING AT:



Rosén & Sander, 2009

Economic Benefits

Connected walkways and trails often yield high returns on investment through economic revitalization, recreational tourism, increased property values, and small business opportunities.



Building sidewalk and bicycle facilities creates **36% MORE JOBS** than building highways and **ALMOST 100% MORE** jobs than pavement improvements.

American Association of State Highway and Transportation Officials (AASHTO) Average Direct Jobs by Project Type (2012); Job in terms of full-time equivalents (FTE).

21%

of all trips made by a privately operated vehicle in the US are **1 MILE OR LESS**

NHTSA, 2017

DRIVING 4 MILES PER DAY COSTS

\$905

per year in fuel and vehicle wear and tear

AAA, 2019



A 2018 study looking at the **ECONOMIC IMPACT OF FOUR GREENWAYS** in North Carolina (Brevard Greenway, Little Sugar Creek Greenway, American Tobacco Trail, and Duck Trail) found that every **\$1.00 of initial trail construction supports \$1.72 annually** from sales revenue, sales tax revenue, and benefits related to health and transportation. A one-time \$26.7M capital investment in the four greenways supports:



\$19.4M

Estimated annual sales revenue at local businesses along the four greenways



\$684k

Estimated annual local and state sales tax revenue from businesses along the greenways



\$25.7M

Estimated annual savings due to more physical activity, less pollution and congestion, and fewer traffic injuries from use of the greenways



\$48.7M

Estimated business revenue from greenway construction



790 JOBS

Supported annually through greenway construction

NCDOT, Alta Planning + Design, and Institute for Transportation Research and Education, "Evaluating the Economic Impact of Shared Use Paths in North Carolina" 2018

Existing Conditions

This chapter explores how Wilmington's recent history, community context, existing transportation network, and planned projects are shaping the future of walking in this growing city. Insight from stakeholders supplements safety- and equity-focused data analyses to examine the existing conditions through multiple lenses.



Overview and Local Context

Wilmington is a port city located along the Cape Fear River in New Hanover County, and is the economic center of Southeastern North Carolina’s Cape Fear Region. The City’s pedestrian network serves a diverse population of people walking for transportation, including youths, students, workers, retirees, tourists, and locals. Wilmington’s flat topography and compact downtown grid are ideal for walking, but the city faces challenges with traffic safety, outward development, access to transit, and lack of walking infrastructure in areas outside of the downtown core.

The 2009 Walk Wilmington Plan identified 475 recommended pedestrian improvement projects—to date, 233 of these have been funded, designed, or completed, demonstrating the City’s and the WMPO’s commitment to serving the needs of pedestrians in the area. Wilmington has successfully expanded and connected its sidewalks in areas like downtown and the university campus. However, many roadway corridors throughout the city still have sidewalk gaps and inadequate crossings.

NCDOT owns and maintains many of Wilmington’s high-capacity urban streets, where changes to the roadway design have great potential to improve pedestrian safety. The relationship between NCDOT, WMPO, and the City has helped fund pedestrian improvements through cost-sharing on NCDOT roadway projects; however, the City has limited power to influence modifications to NCDOT-owned and maintained streets.

Wilmington QUICK FACTS

<p>POPULATION*</p> <p style="font-size: 2em;">115,451</p> <p>8th</p> <p>MOST POPULOUS CITY IN NC*</p>	<p>MEDIAN HOUSEHOLD INCOME†</p> <p style="font-size: 2em;">\$53,186</p>
<p>59,341</p> <p>HOUSEHOLDS†</p>	<p>17.1%</p> <p>OF RESIDENTS LIVING IN POVERTY†</p>

RACE AND ETHNICITY*

HISPANIC OR LATINO	8.3%
NOT HISPANIC OR LATINO	91.7%

WHITE ALONE	70.9%
BLACK OR AFRICAN-AMERICAN ALONE	16.5%
ASIAN ALONE	1.6%
AMERICAN INDIAN OR ALASKA NATIVE ALONE	0.4%
NATIVE HAWAIIAN OR OTHER PACIFIC ISLANDER ALONE	0.1%
SOME OTHER RACE	3.9%
TWO OR MORE RACES	6.6%

Sources:

**2020 Decennial Census*

†2021 American Community Survey, 1-Year Estimates

Support for Walkability

The city's government, residents, and local organizations are broadly supportive of efforts to make walking safer and more convenient throughout Wilmington, in order to ensure sustainable growth for the city as well as the wider Cape Fear region. Voters approved a 2014 Transportation Bond, which funded trails, sidewalks, streetscapes, bike lanes, and crosswalks in high-priority locations.

The 2014 Transportation Bond included \$12M for trails, \$5M for sidewalks, \$1.1M in bike/ped contingency funds, and \$445K for crosswalks.¹

Safety and Equity

Wilmington continues to experience a higher annual rate of pedestrian crashes and fatalities compared to similar-sized cities in NC. Seeking to understand the contributing factors, the City and NCDOT initiated a pedestrian safety study in 2021. Findings indicated that specific roadway characteristics are linked to more crashes and injuries, and showed that certain racial, age, and income groups are disproportionately affected—reiterating the need for equity considerations in project development and prioritization.

Wilmington consistently has one of the highest annual pedestrian crash rates in NC. From 2011-2020, the majority of crashes involving pedestrians occurred in areas with higher concentrations of minority residents and higher poverty rates compared to the county average.²

Tourism and Visitors

Tourism is a key part of Wilmington's economy. Recreational visitors are drawn to the beaches, rivers, parks, and gardens, while business travelers come for conferences, educational events, and business opportunities. After a record-breaking 2019, tourism spending declined all across the state in 2020 due to the Covid-19 pandemic, but early data for 2021 show a strong recovery.³

In 2020, visitors spent \$598M in New Hanover County, the seventh highest amount in NC counties.⁴ The county supported 5,455 travel and tourism jobs, worth \$186.5M in total.⁴

Sources: 1) City of Wilmington, "[Transportation Bond Update](#)" February 7, 2020. 2) City of Wilmington, Wilmington Pedestrian Safety Study: 2011-2020 Crash Analysis Highlights, 2022. 3) NC Department of Commerce, "[North Carolina announces total tourism spending at near recovery in 2021](#)," May 3, 2022. 4) Economic Development Partnership of North Carolina, "[The Economic Impact of Travel on North Carolina Counties](#)," 2021.

Opportunities and Challenges

In recent years, Wilmington has made significant investments in pedestrian infrastructure, policies, and programs. The City seeks to build on its momentum by identifying potential opportunities and challenges related to pedestrian mobility in Wilmington, which are described below.

TABLE 1. Opportunities and Challenges

OPPORTUNITY/ CHALLENGE AREA	ASSESSMENT
Overall transportation network	<p>The pedestrian experience varies dramatically in different parts of Wilmington. High density areas like the downtown have a strong pedestrian network with sidewalks, crosswalks, and signalized intersections. Other areas, such as along the City's major urban roadways, pedestrian infrastructure lacks connectivity and protected crossing locations, leading to increased pedestrian vulnerability. Wilmington is also a tourist destination and regional employment hub, and many of the users of these facilities are not familiar with the geography, further necessitating the need for connectivity, signage, and safe crossing locations along these roadways and at major intersections.</p>
Current conditions for pedestrians & major infrastructure/ physical barriers to walking	<p>Barriers faced are connectivity and the crossing of major corridors, especially increasing the number of midblock crossings for access to important destinations. High-capacity urban corridors have a patchwork sidewalk network that has yet to provide a solid string of connections vital for safe pedestrian traverse and crossing. Infrastructure is especially sparse in Wilmington's historically low-wealth communities, where people who have to walk out of necessity are most likely to encounter large gaps in the sidewalk network.</p>
Existing side paths and greenways	<p>There is a side path on the east side of Military Cutoff Road running from Drysdale Drive to Gordon Road for approximately 2.8 miles. The Park Avenue sidepath was recently completed. The Gary Shell Cross City Trail is a multi-use trail that runs for 15 miles through the City of Wilmington from Wade Park to the Heide-Trask Drawbridge at the Intracoastal Waterway, providing pedestrian and bicycle access to several city parks, the UNCW campus, and various cultural resources around the city.</p> <p>The Summer Rest Trail also connects to the Cross City Trail. Paved walking paths, ranging in length from 0.4 to 4.8 miles, exist in parks throughout the city. In addition, the Wilmington Downtown Riverwalk (pedestrian use only) is designated part of the East Coast Greenway and runs from Nutt Street to Nun Street along the Cape Fear River. Additional planned multi-use paths include Hooker Road, Hinton Avenue, South 17th Street, the Greensboro Loop Trail, and the Masonboro Loop Trail.</p>

OPPORTUNITY/ CHALLENGE AREA	ASSESSMENT
Existing sidewalk network	As Wilmington becomes more suburban outside of the relatively well-connected downtown grid, the sidewalk network becomes more sporadic. Outside of downtown, much of the existing sidewalk infrastructure can be found in newer subdivisions, many of which are cut off from the City's broader pedestrian network.
Pedestrian network interaction with local transit system	The 2019 Road Safety Assessment identified the location of transit stops relative to the pedestrian network as an area-wide issue in Wilmington. Often, stops are located only on one side of a major road, with no safe and convenient way for riders to cross from the stop to the other side of the road.
Current walking rates	According to 2019 ACS data, nearly 3% (2.98%) of households in Wilmington walked to work.
Key generators/ attractors, origin and destination points	Key generators of pedestrian activity include greater downtown Wilmington, Sunset Park and Brookwood neighborhoods, UNC Wilmington, the hospital district, Mayfaire shopping center, Carolina Beach Road/US-421 business and commercial corridor, Market Street corridor, and Oleander Drive/US-17 corridor.
Special populations or user groups	The Wilmington area has a variety of special populations and user groups that utilize the pedestrian system differently and have specific needs. These include college students at both UNC Wilmington and Cape Fear Community College, retirees, and tourists visiting the nearby beaches, state parks, and historical destinations.
Roadway ownership and collaboration with NCDOT	NCDOT and the City of Wilmington have successfully used cost-sharing to add pedestrian improvements to roadway projects overseen by NCDOT. Examples include incorporating sidewalks and bike lanes into the widening of Kerr Ave and the future Independence Blvd Ext, and constructing multi-use paths along Military Cutoff Rd and Eastwood Rd. However, the City has limited power to initiate and influence modifications to NCDOT-owned and maintained streets. Within the hierarchy of Wilmington's streets, NCDOT owns many high-capacity urban streets that have been identified as needing pedestrian safety improvements, including Carolina Beach Road, Oleander Drive, Kerr Avenue, College Road, Market Street, Wooster Street, and Dawson Street. The map on page 19 shows roadway ownership in Wilmington.

OPPORTUNITY/ CHALLENGE AREA	ASSESSMENT
<p>Local encouragement, educational, or enforcement programs and initiatives</p>	<p>The WMPO has a program called “Be A Looker” to encourage drivers to watch for pedestrians and bicyclists and to share the road. The WMPO and City of Wilmington have also participated in Watch for Me NC, a statewide program aimed at educating drivers, bicyclists, and pedestrians about safety. UNCW also prioritizes improving safety for students walking to campus, instructing all other modes to yield to pedestrians and providing students living on campus with information on how to safely navigate crossing the streets adjacent to campus. UNCW also has a policy of not issuing parking permits to students residing within 1 mile of campus, encouraging the use of walking, biking, and transit.</p>
<p>Existing plans, programs, and policies</p> <p><i>*See plan summary in Appendix D.</i></p>	<p>Existing planning documents that are relevant to Wilmington include:</p> <ul style="list-style-type: none"> ▶ Land Development Code Update (2021)* ▶ 2020 Biennial Data Report (2021) ▶ Cape Fear Change in Motion (2020)* ▶ Cape Fear Moving Forward 2045 (2020)* ▶ Congestion Management Process (CMP) (2020)* ▶ Wilmington Rail Trail Master Plan (2020)* ▶ Rail Realignment Plan (2017)* ▶ Comprehensive Transportation Plan (2016)* ▶ Create Wilmington Comprehensive Plan (2016)* ▶ US 17 Business (Market St) Corridor Study (2016)* ▶ River to Sea Bikeway Master Plan (2013)* ▶ Wilmington-New Hanover County Comprehensive Greenway Plan (2013)* ▶ Cross-City Trail Master Plan (2012)* ▶ Market Street Corridor Plan (2011) ▶ Wrightsville Sound Small Area Plan (2011)* ▶ Wrightsville Avenue 2030 (2010)* ▶ Southside Small Area Plan (2009)* ▶ Walk Wilmington: A Comprehensive Pedestrian Plan (2009)* ▶ Cape Fear Historic Byway Corridor Management Plan (2008)* ▶ Dawson & Wooster Corridor Plan (2007)* ▶ Seagate Neighborhood Plan (2007)* ▶ Carolina Beach Road Corridor Plan (2004)* ▶ College Road Corridor Plan (2004)* ▶ Oleander Drive Corridor Plan (2004)* ▶ Wilmington Vision 2020: A Waterfront Downtown (2004)* ▶ Northside Community Plan (2003)*

Steering Committee Comments on Existing Conditions

The following comments were provided by members of the steering committee. Members provided network-wide observations, and also wrote and drew on the base maps (provided by Alta) to indicate important destinations, issues, and dangerous crossings/intersections.

General Comments

- ▶ A general need for pedestrian connectivity to grocery stores, drugstores, dollar stores, social services, and medical facilities.
- ▶ In general, vehicle speeds are an issue around town. People tend to accelerate quickly after stops/through intersections.
- ▶ Connectivity with transit—important to have connections to sidewalks to increase transit utilization. More cons than pros in terms of transit connectivity—lots of crosswalks needed, especially in spots where buses only stop on one side of the street. Get WAVE ridership data.
- ▶ ADA improvements needed.
- ▶ Cultural change is a critical part of increasing safety for pedestrians. Many examples given of other US (west coast) communities where there is a “culture” of respect for people walking, particularly at intersections and crosswalks.
- ▶ “Be a Looker” program in conjunction with the Fire Department—first responders to many of the ped/bike crashes. UNCW, Oleander—“Stop, Look, Go” education program.

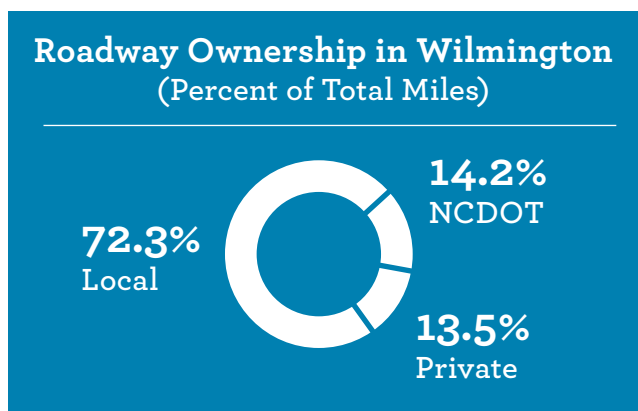


A WAVE Transit rider waits in the street at the South Front St and Ann St bus stop.



WMPO's "Be A Looker" educational program for bicyclists, pedestrians, and drivers.

- ▶ People crossing midblock often out of necessity. Example: 5th St—crosswalk gap.
- ▶ Fire Department and WMPO have given out bicycle helmets to people they see riding on the street.
- ▶ Minimum width for a residential sidewalk is 5 ft (wider for high-use areas); for shared-use paths 10 ft; up to 12 ft and wider becoming more common.
- ▶ Shared-use path materials: depends on guidelines used. Asphalt initially cheaper, but more maintenance. Recommend concrete for lower maintenance costs.
- ▶ It seems like many of our neighborhoods with the largest sidewalk gaps often have the most people who have to walk by necessity.
- ▶ Bike/ped committee has a list of priorities, much of it shared-use paths—take community input into account. The list of projects is in bike/ped element of the long-range plan (already digitized).
- ▶ Enforcement of traffic laws in pedestrian/vehicle interactions is important. Lighting issues for crashes, pedestrians crossing midblock. WPD participates in Governor's Highway Safety Program.
- ▶ For tourists: better signage, better crosswalks needed downtown. Overall need for promoting intermodal connectivity.
- ▶ 1-mile radius around UNCW—these students can't get parking passes, so shuttle runs. Heat map of population, ridership. Lots of foot traffic, bikeshare to get to campus.
- ▶ In-ground lights in the crosswalk are effective.
- ▶ Recent development code updates (as of Dec 1, 2021): Streetscape improvements downtown, connectivity/subdivision requirements, requiring midblock crossings, traffic calming. Looking at technical standards changes.
- ▶ Snow's Cut bridge is an example of where bike/ped facilities don't actually connect to the larger network.
- ▶ Inventory of worn foot paths? WMPO has an app that could be promoted to collect this info by crowdsourcing.
- ▶ General need for clear signage, wayfinding that will increase safe driving behavior.
- ▶ Sidewalk implementation question: Seems simple, why is it difficult? Many reasons: constrained public rights-of-way (City vs. NCDOT); utility lines (moving them very costly); drainage and cost of curb and gutter; coordinating with future roadway reconstruction plans or future land development plans.

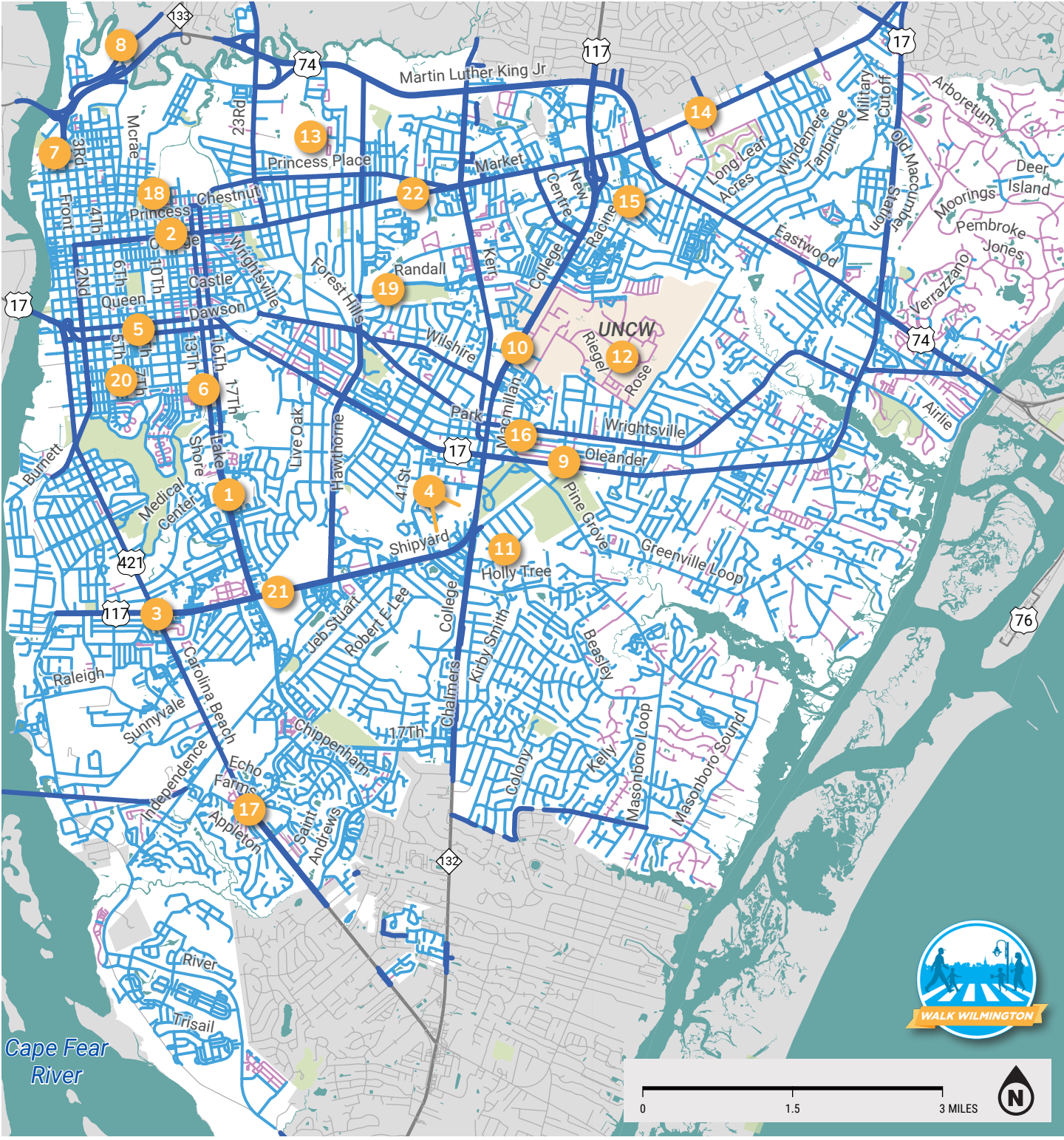


Roadway ownership determines maintenance responsibilities and the processes for making design changes, both of which influence the walking environment. **MAP 1 (page 19)** shows roadway ownership across Wilmington's network.

Location-Specific Comments

The following comments correspond to the numbered locations on **MAP 1 (page 19)**.

- 1 Public health—crosswalk put in for hospital access (from the parking deck).
- 2 Barriers to help direct pedestrian traffic towards safe crossings—successful at New Hanover High School.
- 3 Area around the intersection of Shipyard Boulevard and US-421/Carolina Beach Road is a high-volume pedestrian traffic area, with addiction rehab and other medical facilities present. Affordable housing is also planned for this area.
- 4 Students often cross Shipyard Boulevard to Hoggard High School, and College Road to Roland-Grise Middle School.
- 5 Wooster and Dawson/Cargo District: sidewalk is intermittent, with no crosswalks.
- 6 New affordable housing being put in at 16th Street/Greenfield Street. Lots of social services in this area, plus a planned grocery store.
- 7 N Front/Cowan/Harnett/N 3rd Street area: vehicles come into downtown quickly. Lots of ped traffic in this area, especially during events at Riverfront Park. Possibility of signage during events?
- 8 Castle Hayne Road bridge over Smith Creek to be reopened soon.
- 9 High pedestrian volume on Oleander Drive with few opportunities to cross.
- 10 Few crossings on College Road.
- 11 No sidewalks in Long Leaf Hills neighborhood.
- 12 Crosswalks needed on streets surrounding UNCW, including connections to Isaac Bear Early College High School.
- 13 New mixed-use development going in around the N 26th Street/Kornegay Avenue area.
- 14 Market Street between Kerr Avenue and Gordon Road is main corridor where serious pedestrian injuries/fatalities occur. Factors: impairment, dark clothing, time of day.
- 15 Racine Drive often used by college students to get to campus.
- 16 Parent/student circulation an issue around Winter Park Elementary School.
- 17 Ped/bike facilities needed at intersection of Carolina Beach Road/US-421 and George Anderson Drive.
- 18 Soda Pop District/New Hanover High School area: N 10th Street and Princess Street. Need more connectivity as area is developed more, and for safer walking/biking connections to high school.
- 19 Speeding on Randall Parkway.
- 20 On-street lighting needed on S 5th Avenue. Potential maintenance opportunities on S 5th Street.
- 21 No way to cross on Shipyard Boulevard between Carolina Beach Road and Independence Boulevard.
- 22 Frequent pedestrian traffic between motels and businesses on Market Street between N Kerr Avenue and 29th Street.



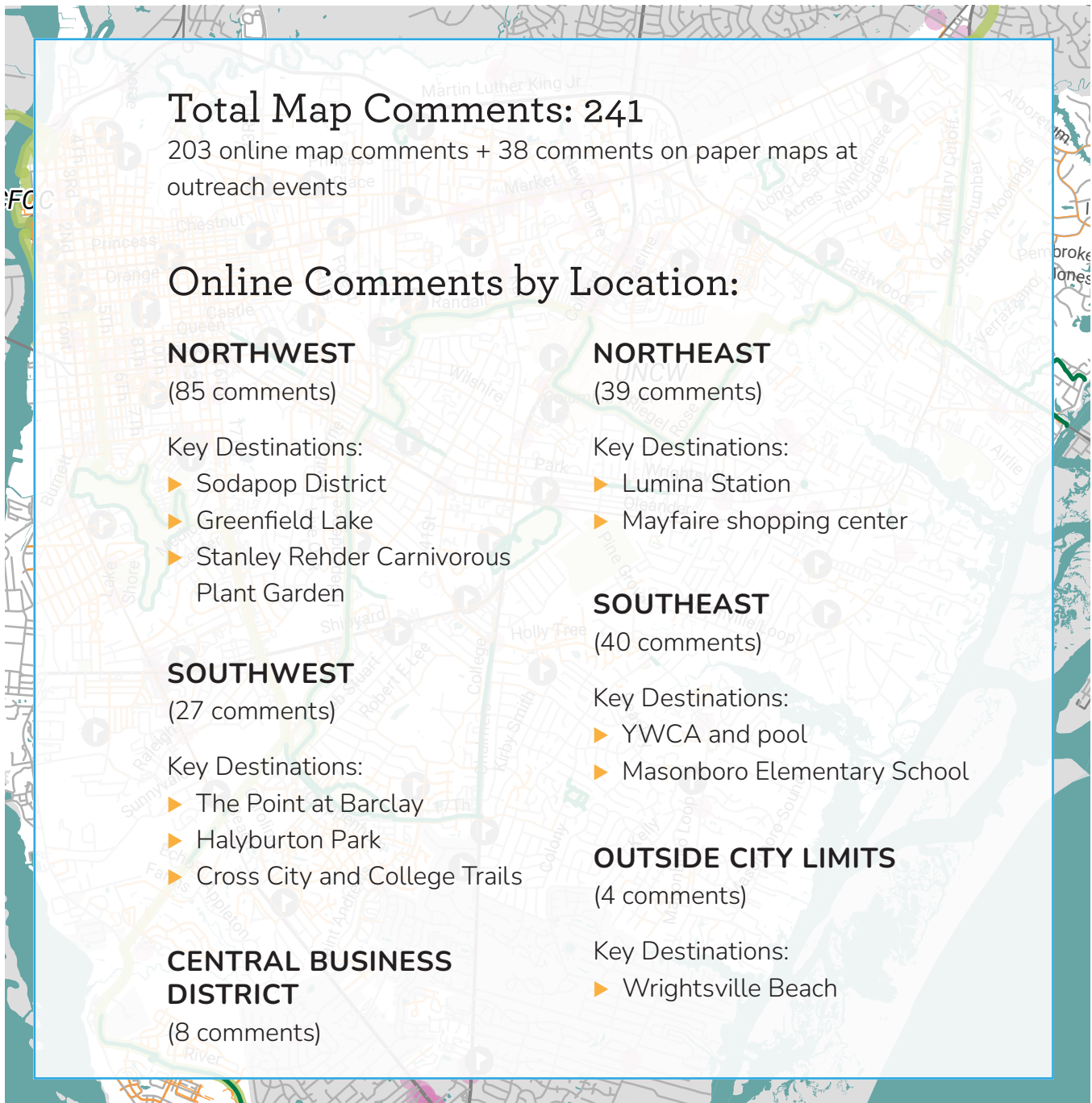
MAP 1:
Existing Conditions and Roadway Ownership
 WALK WILMINGTON PEDESTRIAN PLAN

- | | |
|----------------------------|---------------------|
| ROADWAY MAINTENANCE | DESTINATIONS |
| — State Maintained | — Parks |
| — Locally Maintained | |
| — Private | |



Public Input on Existing Conditions

The project team invited community members to participate in plan development through an interactive virtual map where the public could comment on existing conditions for walking in Wilmington. This section highlights themes from the public input map comments.



Top Comments

These comments received the most "likes" from other users on the online input map.

"There are numerous restaurants and stores in **Lumina Station**, by Sweet and Savory, by the new ABC store, and by Ceviche's/Beach Bagels. Yet it is impossible to be a pedestrian and cross **Wrightsville Avenue** safely. There is no cross walk anywhere in this area. The speed limit is 35 but cars routinely travel at 45 mph or more. A crosswalk is needed to facilitate more pedestrian access to retail and restaurants in this area." (8 likes)

"Almost no safe way for pedestrians to cross from one side of **College Rd** to the other except for one crossing by the university." (8 likes)

"Last time I checked, there are no crosswalks to get from the mixed use trail along **Military Cutoff Rd** to major destinations like **Mayfaire** (movie theater). Although I added a point location, there need to be several signaled crosswalks along Military Cutoff Rd." (7 likes)

"The sidewalk/bike path ends without a way to **access the beach**. Cutting through the shopping center is dangerous with many moving cars/lots and difficult visuals." (6 likes)



Sidewalk runs along Military Cutoff Road, but crossings of the major road are not provided at several intersections.

Main Corridor Inventory

This table describes the physical characteristics of Wilmington's major roadway corridors, as well as what conditions for pedestrians are like on them. Only corridors where pedestrian traffic is permitted were included in this inventory. "Map ID" corresponds to **MAP 2 (page 24)**.

TABLE 2. *Main Corridor Inventory*

MAP ID	ROADWAY NAME	PREDOMINANT ROADWAY WIDTH (LF)	NO. OF LANES	2021 AADT	SPEED LIMIT (MPH)	CURB & GUTTER	CONDITIONS FOR PEDESTRIANS
1	Bus 17/Market St (from College Rd to N 23rd St)	37-80	4-7	23,000-35,500	35	Varies	Sidewalks on both sides of the roadway in most of the corridor, with signalized crossings at major intersections.
2	Bus 17/Market St (West of N 23rd St)	57-75	4-5	8,600-21,000	35	Varies	Sidewalks on both sides of the roadway, but a lack of crosswalks at most intersections.
3	Bus 17/Market St (East of College Rd)	56-68	4-6	33,500-48,000	45	Varies	Some disconnected sidewalk segments on both sides of the roadway. Lack of safe pedestrian crossings throughout corridor.
4	Eastwood Rd/ US-74 (West of Military Cutoff Rd)	65-100	5-7	24,000-33,500	35-45	Yes	Sidewalks on most of the north side of the roadway and Cross City Trail on the south side. Lack of signalized crossings at many intersections.
5	Eastwood Rd/ US-74/US-76 (East of Military Cutoff Rd)	65-100	4-7	16,500-21,000	35-45	Yes	Cross City Trail sidepath on north side of roadway, with some sidewalk on the south side. Few signalized crossings.
6	N & S 3rd St (& Burnett Blvd north of US-421)	65-70	4-5	12,000-18,500	35	Varies	Corridor has sidewalks on both sides, but additional crosswalks are needed outside of the downtown core, especially on Burnett Blvd.
7	US-421/Carolina Beach Rd (from Burnett Blvd to Independence Blvd)	65-80	4-6	28,000-36,000	40-45	Yes	Sidewalks are present on both sides of the corridor until the Holbrooke Ave intersection, after which there are gaps on both sides. Signalized crossings appear at most major intersections throughout the corridor.
8	US-421/Carolina Beach Rd (from Independence Blvd to College Rd)	60-100	4-6	32,000-33,500	35-45	Varies	Several small, disconnected sections of sidewalk exist, but most of the corridor does not have sidewalks. Signalized crossings are present at most major intersections.

MAP ID	ROADWAY NAME	PREDOMINANT ROADWAY WIDTH (LF)	NO. OF LANES	2021 AADT	SPEED LIMIT (MPH)	CURB & GUTTER	CONDITIONS FOR PEDESTRIANS
9	US-117/ Shipyards Blvd (West of S 17th St)	68-120	4-8	6,900- 16,000	35-45	Varies	Sidewalk is present on the south side of the roadway for much of the corridor, and more intermittently on the north side. Several major intersections lack signalized crossings.
10	US-117/ Shipyards Blvd (East of S 17th St)	78-100	4-8	22,500- 27,500	35-45	Varies	Signalized crossings and sidewalks on both sides of the road present in the eastern part of the corridor near Hoggard High School.
11	US-17/ Oleander Dr	58-98	4-8	22,500- 36,500	35-45	Varies	The western portion of Oleander near downtown has sidewalks on both sides, but few crosswalks. The more commercial section of the corridor has some sidewalk on both sides of the roadway, with few safe pedestrian crossings.
12	Military Cutoff Rd	68-100	4-8	19,500- 39,000	35-45	Varies	There is a sidepath on the east side of the roadway north of Drysdale Dr, and sidewalk south of Eastwood Rd until the Wrightsville Ave intersection. There are a few crosswalks at major intersections, but overall, the corridor lacks safe pedestrian crossings.
13	Wooster St/ US-76 W/ US-17 S	40-46	3-4	15,000- 18,500	35	Yes	Corridor contains intermittent sidewalk on both sides of the street. There are limited pedestrian crossing facilities, mostly at the major intersections at the east end of the corridor.
14	Dawson St/ US-76 E/ US-17 N	40-65	4-5	16,500- 20,500	35	Yes	Corridor has sidewalk on both sides of the street. There are limited pedestrian crossing facilities, mostly at the major intersections at the east end of the corridor.
15	College Rd/ S College Rd (North of Oleander Dr)	72-130	6-10	38,000- 51,500	35-45	Yes	There is intermittent sidewalk on both sides of the roadway, mostly between the Oleander Dr & Cedar Ave intersections. Safe pedestrian crossing facilities are present at many of the major intersections.
16	S College Rd (South of Oleander Dr)	65-72	4-7	34,500- 47,000	35-45	Varies	Sidewalk is present on the west side of the corridor, and becomes a sidepath south of Holly Tree Rd. There are several crosswalks at side streets, but none crossing S College Rd.



MAP 2:
**Main Corridor
 Inventory**

**WALK WILMINGTON
 PEDESTRIAN PLAN**



EXISTING FACILITIES

- Shared-Use Paths
- Existing Sidewalks
- East Coast Greenway Alignment

DESTINATIONS

- Schools
- Parks

**PEDESTRIAN-VEHICLE CRASHES,
 2007-2020**

- Fatal or Severe Injury

Equity Analysis

Promoting equity is a goal of the Walk Wilmington plan update. By focusing on equity, we can begin to address barriers that contribute to disparities in our communities, and ensure that the benefits of our investments reach everyone.

The transportation planning practice has not always asked critical questions about whether the benefits and burdens of transportation investments are distributed equitably. Contemporary planning practice seeks to acknowledge harmful past actions by critically examining who benefits from investments, and reflect on the needs of socially vulnerable populations as part of the planning process.

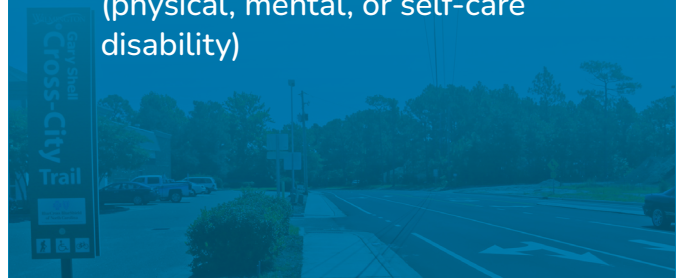
Historic underinvestment and exclusionary policies have contributed to disparities in Wilmington's built environment. As a result, some communities and the people who live in them experience reduced access to transportation options, less pedestrian infrastructure, and higher instances of death and injury while walking. Looking through an equity lens to prioritize pedestrian infrastructure investments that serve areas and populations with greater need—including people of color, people with disabilities, and low-wealth households—Wilmington can develop a more equitable transportation system.

What is TRANSPORTATION DISADVANTAGE?

NCDOT defines **transportation disadvantage** as limited ability to reach necessary goods, services, and employment by people with limited access to transportation options. These barriers may occur from lack of access to a motor vehicle or transit, inability to drive or access transit, or other reasons.

Groups most likely to experience transportation disadvantage include:

- » Racial minorities
- » People with low incomes
- » Ethnic minorities, specifically of Hispanic or Latino origin
- » BIPOC (Black, Indigenous, and Persons of Color)
- » Households without access to a personal vehicle
- » Youth aged 15 and under who are unable to drive
- » Seniors (aged 65 years old or more)
- » People with mobility impairments (physical, mental, or self-care disability)

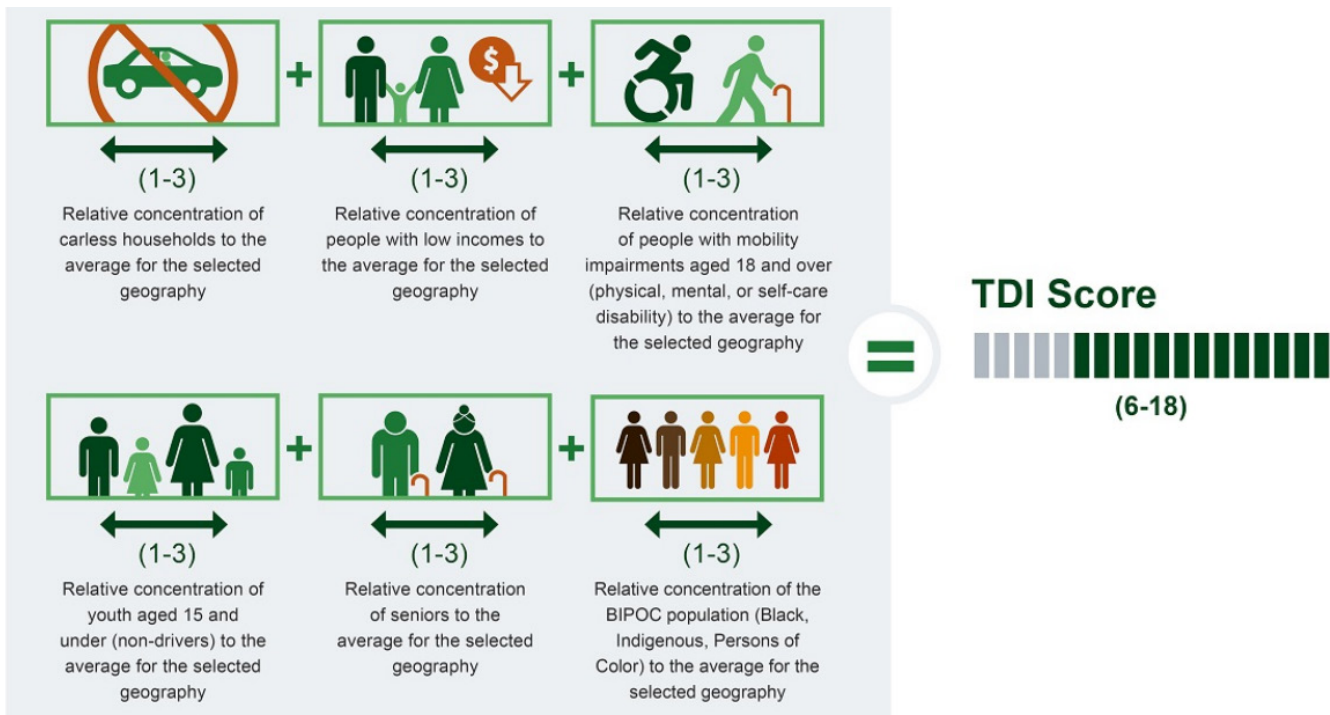


Wilmington and NCDOT have already taken steps to understand conditions related to pedestrian safety and equity. Initial findings from the 2021 Citywide Pedestrian Safety study with NCDOT indicated that certain roadway characteristics coincided with more pedestrian crashes. The study also compared demographic data with crash locations and found that certain racial, age, and income groups were disproportionately affected by pedestrian crashes.

This equity analysis maps potential transportation disadvantage in Wilmington in conjunction with existing sidewalk data to help the planning team confirm and understand what other patterns exist in Wilmington. This analysis, along with findings from previous efforts, informed the development of plan recommendations and prioritization of the recommendations.

NCDOT Transportation Disadvantage Index (TDI)

NCDOT has developed a screening tool to provide information about transportation disadvantage and explain the patterns that occur throughout the state. By visualizing and talking about these patterns, we can start to address inequity through informed policy review, planning, and project development decision making. The NCDOT TDI screening tool provides a score at the Census block group level based on concentrations of six factors (shown in graphic below) compared to state-wide averages. **Higher TDI scores indicate areas with potentially higher transportation disadvantage.**



NCDOT's TDI scoring process assigns each Census block group a score between 6 and 18, based on six factors.

Analysis

METHODS

The Walk Wilmington equity analysis relies on the 2021 NCDOT TDI data and process and normalizes the TDI scores for block groups in Wilmington by calculating a percent rank score that is specific to the city and translates the raw scores of 6–18 to a relative scale of 0–100. The purpose of this calculation is to generate a measurement (a percentile ranking) that enables an understandable comparison between TDI scores for each block group to the distribution of all the TDI scores for Wilmington on a standardized scale.

FINDINGS

MAP 3 (page 28) shows TDI scores and sidewalk locations. The areas of greatest potential transportation disadvantage are centered around the downtown core, in the

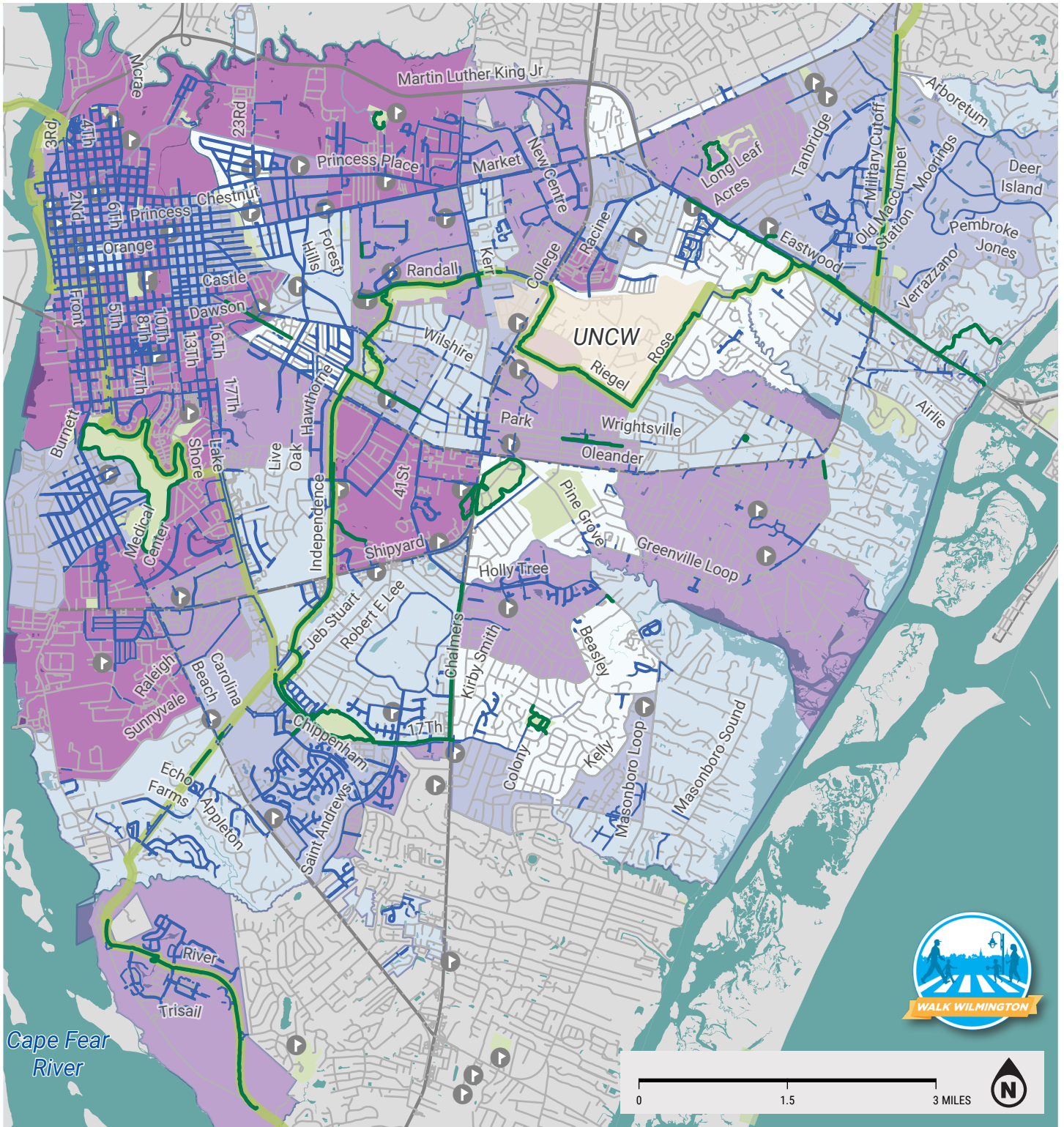
western half of Wilmington. The TDI scores in the eastern part of the city, near the North Carolina coast, are generally lower. The areas with the lowest TDI scores are in the center of Wilmington surrounding the municipal golf course, in the area surrounding James Wade Park, and along Eastwood Road to the northeast of the University of North Carolina Wilmington (UNCW) campus.

TABLE 3 shows the relationship between TDI scores and the percentage of the sidewalk network that has complete sidewalks. While it is common for roadways in Wilmington to lack complete sidewalks, there is a general correlation between areas with higher TDI scores and sidewalk completion. This is due in no small part to downtown Wilmington’s complete sidewalk network and high TDI scores.

TABLE 3. Census Block Group TDI Tier and Sidewalk Completion in Wilmington

	TDI PERCENTILE RANK	MILES OF ROADWAY (ROADWAY CENTERLINE)	MILES OF SIDEWALK (ROADWAY CENTERLINE)	ROADWAY NETWORK COVERAGE (%)
Top Quintile (block groups with the highest need) →	80.1% - 100.0%	166	55	33%
	60.1% - 80.0%	175	45	26%
	40.1% - 60.0%	145	42	29%
	20.1% - 40.0%	190	31	16%
Bottom Quintile (block groups with the lowest need) →	0.0% - 20.0%	84	14	17%

Note: Census block groups contain approximately even populations and have different geographic sizes. This, in turn, impacts the miles of roadway included in each quintile bin.



MAP 3:
Equity Analysis

**WALK WILMINGTON
 PEDESTRIAN PLAN**

EXISTING FACILITIES

- Shared-Use Paths
- Existing Sidewalks
- East Coast Greenway Alignment

DESTINATIONS

- Schools
- Parks

TDI PERCENTILE RANK

- 0.0% - 20.00%
- 20.01% - 40.00%
- 40.01% - 60.00%
- 60.01% - 80.00%
- 80.01% - 100.00%

EQUITY ANALYSIS KEY TAKEAWAYS

Considering the relationship of sidewalks to transportation disadvantage yields the following observations:

- ▶ Downtown Wilmington is an area with high potential transportation disadvantage, and also benefits from a relatively complete sidewalk network.
- ▶ Neighborhoods between the downtown core and UNCW have sporadic sidewalk coverage and moderate-to-high TDI scores.
- ▶ Areas along the eastern edge of Wilmington have both low TDI scores and little sidewalk coverage.
- ▶ Outside of downtown Wilmington, roadways classified as state routes or secondary routes are more likely to have complete sidewalk coverages than other roadways, such as non-system roadways.



The downtown area of Wilmington has the highest concentration of people who may experience transportation disadvantage, but also benefits from a relatively complete sidewalk network.

High Injury Network (HIN) Analysis

What is a HIN?

High Injury Networks (HINs) are the collection of roadways and intersections in a city where the most fatal or serious injury crashes occur. Frequently, the HIN analysis demonstrates that improving a small amount of the street network can address the majority of serious crashes. By identifying the HIN, Wilmington and NCDOT can focus their money and efforts to apply safety interventions in these areas, reducing the likelihood of serious crashes at these locations in the future.

The pedestrian HIN includes
74 out of ~760
 total miles of roads in Wilmington.

In other words, from 2010-2020,
50% of pedestrian crashes
 occurred on only

10% of Wilmington's roads
 (shown on page 33).

Wilmington's Pedestrian HIN

Crashes in the City of Wilmington from 2011 to 2020 were analyzed to identify the streets with the highest concentrations of pedestrian involved collisions. Crash data were obtained from NCDOT through the Connect NCDOT Business Partner Resources Website. To gain a more comprehensive understanding of the collision patterns present in Wilmington, the analysis assessed the following types of collisions:

- ▶ All reported pedestrian involved collisions
- ▶ All reported bicycle involved collisions
- ▶ Reported motor vehicle collisions resulting in a fatality or serious injury

Project consultants developed the pedestrian HIN for the City of Wilmington using roadway data provided by the City (see the process described on the following page). The collision scoring scheme, shown in **TABLE 4**, was used to score the roadway network, which was divided into segments approximately ¼ mile long.

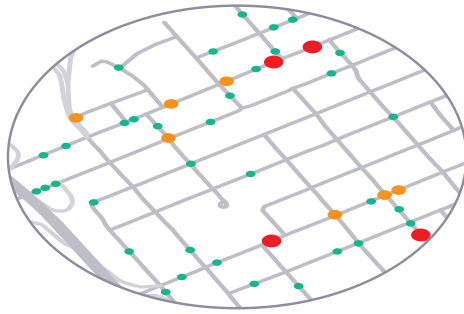
TABLE 4. Collision Weighting Scheme for HIN Development

REPORTED INJURY SEVERITY	ASSIGNED WEIGHT BY COLLISION TYPE		
	PEDESTRIANS	BICYCLES	MOTOR VEHICLES
K - Killed	40	4	0.4
A - Suspected Serious Injury	10	1	0.1
B - Suspected Minor Injury	5	0.5	n/a
O - No Injury	1	0.1	n/a

Developing the HIN

Severity Weighting

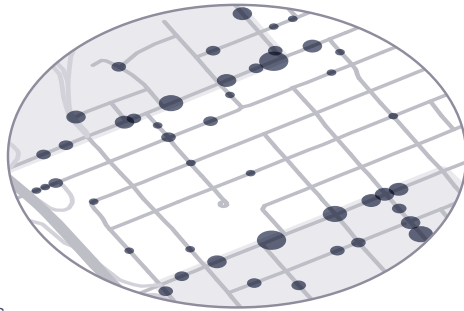
- Minor Injury
- Serious Injury
- Fatality



Aggregate Weighting

- Lowest
- Highest

Highly Vulnerable Areas

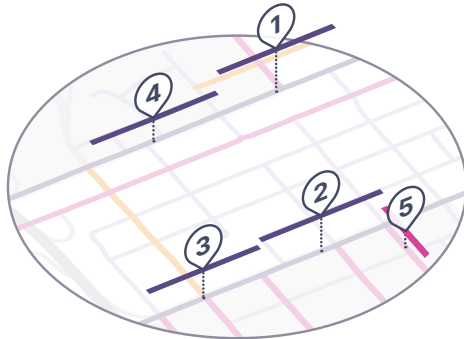


Severity Index

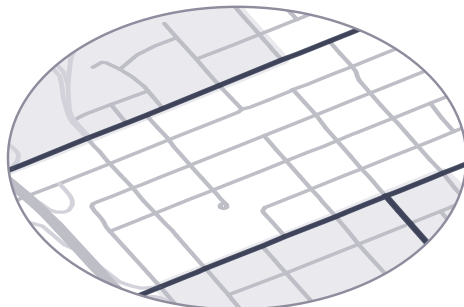
- Lowest
- Highest



- 1 Order Segment is Added to High Injury Network



— High Injury Network



Severity Weighting

One goal of a **High Injury Network (HIN)** is to identify an improvable subset of a community's streets that address the majority of collisions where a victim is **Killed or Severely Injured (KSI)**. To achieve this, KSI collisions are assigned higher scores so they have more "weight" relative to collisions with less severe outcomes.

Other Considerations

These scores can also be modified to include other considerations such as whether collisions involve pedestrians and bicyclists or occur in socially vulnerable communities. These factors can be directly incorporated into the weights associated with each collision.

Severity Index

After weights are developed, they are associated to the network, aggregated, and normalized so that we can understand the relative intensities of collisions of concern.*

Accumulated Collisions by Severity Index

Once an index is created, we progressively add segments to the HIN in the order indicated by the severity index. As more segments are added to the network, we look at KSI or other collisions of interest directly on the network, and track the percentage of collisions on the network relative to its length.

High Injury Network

A final HIN determination is made based on stakeholder feedback and qualitative review of when each new mile added to the HIN starts to see a decreasing rate of severe collisions.

*There are many methods available to develop a final index including kernel density estimation (Euclidian or network based), rolling window analysis, or aggregations to a segment normalized by network miles.

HIN Corridor Profiles

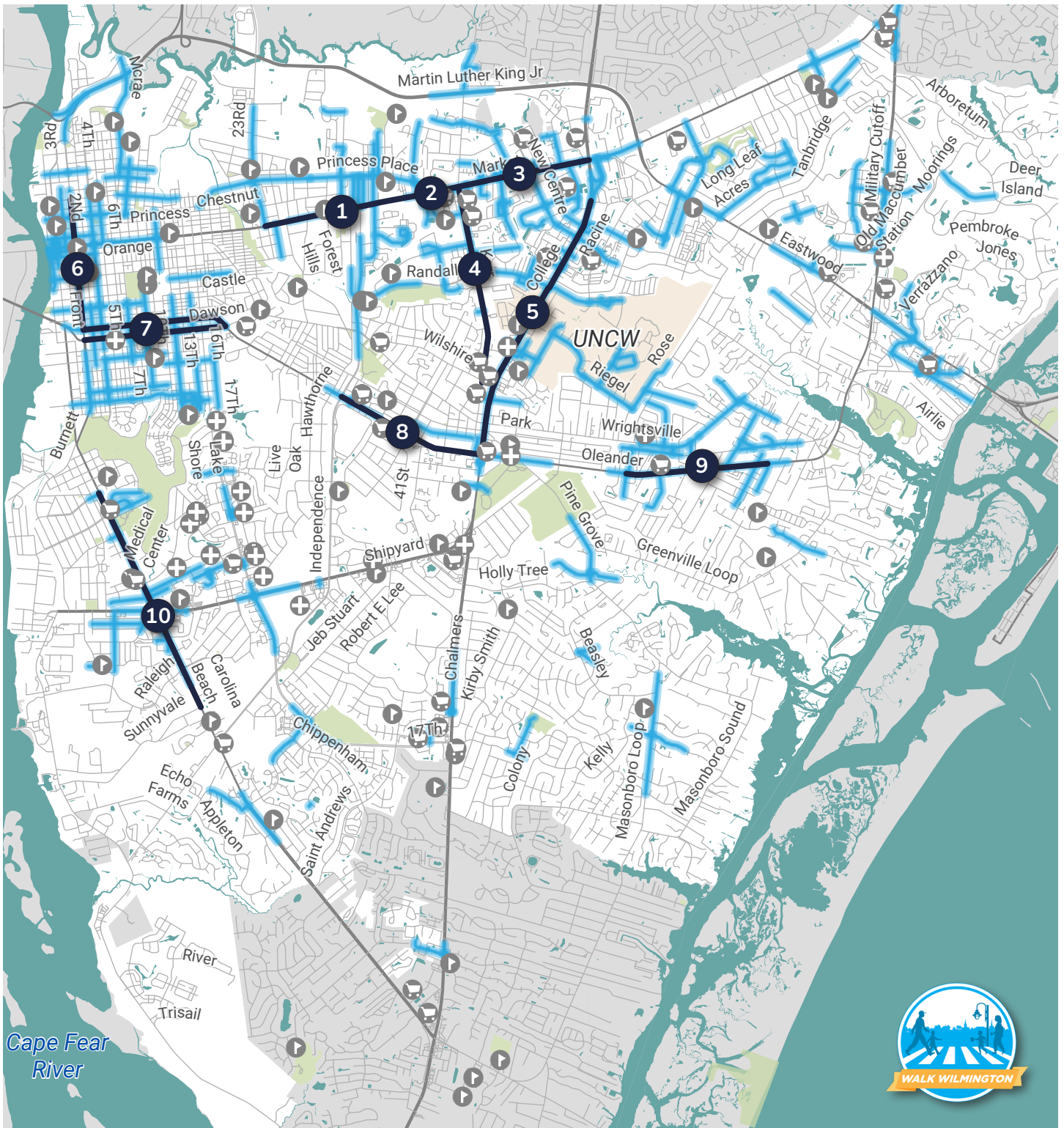
To better understand the context and causes of collisions, it is important to identify the factors influencing these crashes, such as the number of lanes, speed limits, and facilities present. Following development of Wilmington's pedestrian HIN, a subset of priority corridors were selected for further review. These corridors include roadways with multiple pedestrian fatalities and high numbers of serious injury collisions. These corridors are typically high-to-mid capacity streets in proximity to areas of higher pedestrian demand.

These corridors were mapped to show the location of pedestrian, bicycle, and severe vehicle crashes. Additional charts and tables provide further information on the following:

- ▶ Collision summary tabulations
- ▶ Road context summary
- ▶ Factors causing pedestrian crashes
- ▶ Location of pedestrians at the time of the collision
- ▶ Traffic control devices present for collisions that occurred at intersections
- ▶ Racial demographics of pedestrian victims on that corridor compared to that of the City of Wilmington as a whole

Information from these corridor profiles can help inform the types of interventions required to address pedestrian safety concerns. **MAP 4 (page 33)** shows the HIN and priority corridors identified by numeric ID. Detailed HIN Corridor Profiles are found on pages 34-43 for the ten priority corridors (corridor numbering is for reference only and does not indicate a ranking):

1. Market St (23rd St to Darlington Ave)
2. Market St (Darlington Ave to Lullwater Dr)
3. Market St (Lullwater Dr to College Rd)
4. Kerr Ave S (Market St to Wilshire Blvd)
5. College Rd S (Oleander Dr to Jeff Gordon Dr)
6. 3rd St (Red Cross St to Wooster St)
7. Wooster/Dawson St (3rd St to Oleander Dr)
8. Oleander Dr (Independence Blvd to College Rd)
9. Oleander Dr (Forest Park Rd to Victory Gardens Dr)
10. Carolina Beach Rd (Northern Blvd to Sunnyvale Dr)



MAP 4:
Pedestrian High Injury Network (HIN) & Priority Corridors

WALK WILMINGTON PEDESTRIAN PLAN



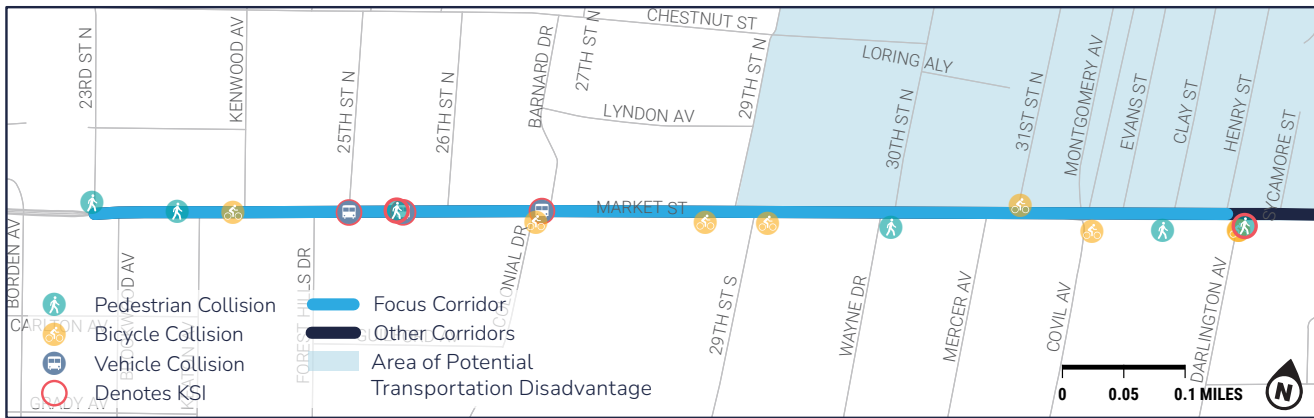
EXISTING FACILITIES
 — HIN Focus Corridors
 — High Injury Network

DESTINATIONS
 🛒 Grocery Stores
 🎓 Schools
 🏥 Healthcare Facilities
 🌳 Parks



Pedestrian HIN Corridor Profile

1 MARKET ST (23RD ST TO DARLINGTON AVE)



Collisions Summary

	All	KSI	At Intersection	Youth Victim
Pedestrian	6	2	1	0
Bicycle	8	0	4	1
Vehicle (KSI only)	--	3	--	--
Total	14	5	5	1

Collision data provided by NCDOT, 2011-2021.

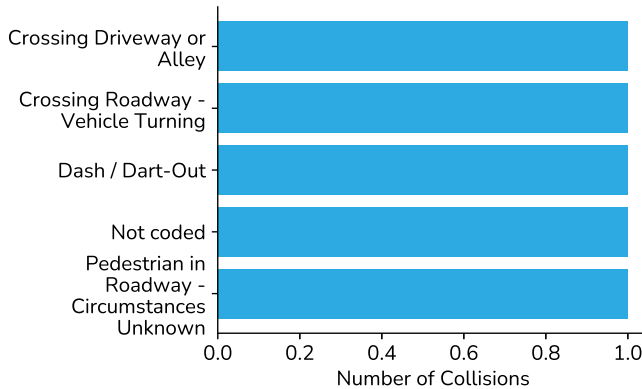
Context Summary

Speed Limit	30 - 35 MPH
Number of Lanes	4 lanes
Road Configuration	Two-Way, Not Divided
Pedestrian Volumes*	698
Bicycle Volumes*	193
Car Volumes*	68.5k

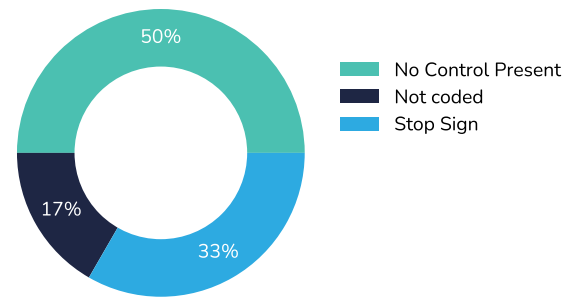
*Modeled weekday volumes from Replica Places

Pedestrian Crash Group

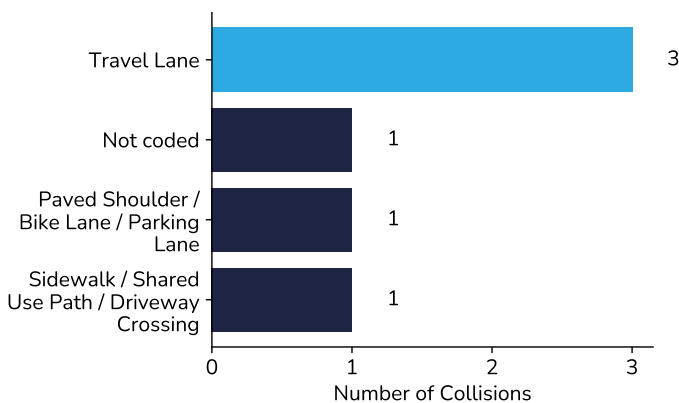
(Top Five Most Common Responses)



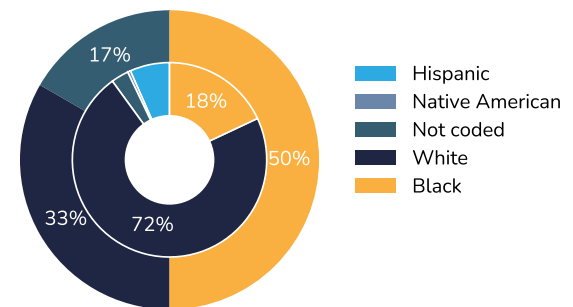
Traffic Control for Intersection Collisions



Pedestrian Location at Time of Collision



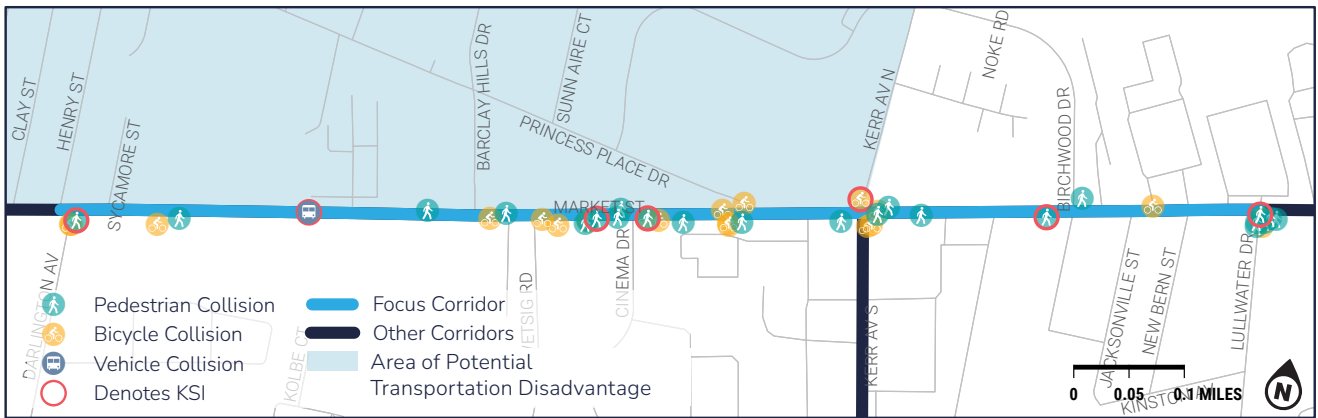
Race of Pedestrian Victim



*Inner ring indicates citywide racial demographics, ACS 2020 5-Year Estimates

Pedestrian HIN Corridor Profile

2 MARKET ST (DARLINGTON AVE TO LULLWATER DR)



Collisions Summary

	All	KSI	At Intersection	Youth Victim
Pedestrian	24	5	3	0
Bicycle	22	1	7	1
Vehicle (KSI only)	--	1	--	--
Total	46	7	10	1

Collision data provided by NCDOT, 2011-2021.

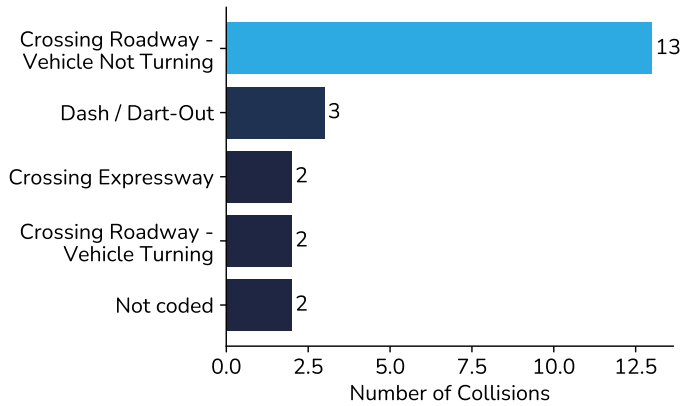
Context Summary

Speed Limit	40 - 45 MPH
Number of Lanes	5 lanes
Road Configuration	Two-Way, Not Divided
Pedestrian Volumes*	1290
Bicycle Volumes*	349
Car Volumes*	71.3k

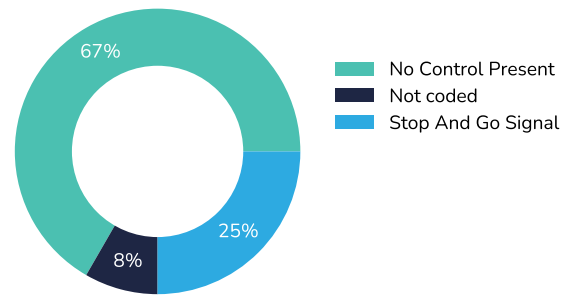
*Modeled weekday volumes from Replica Places

Pedestrian Crash Group

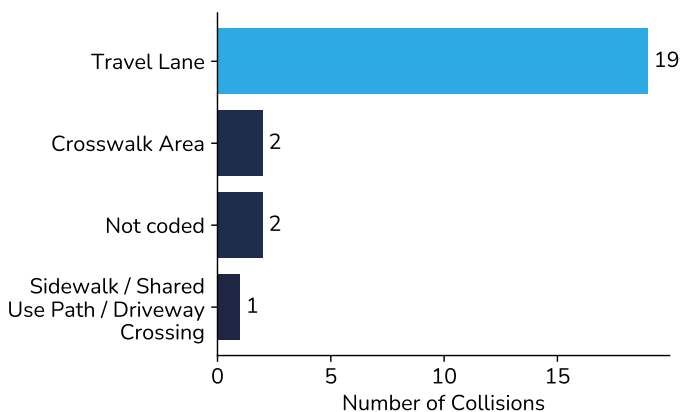
(Top Five Most Common Responses)



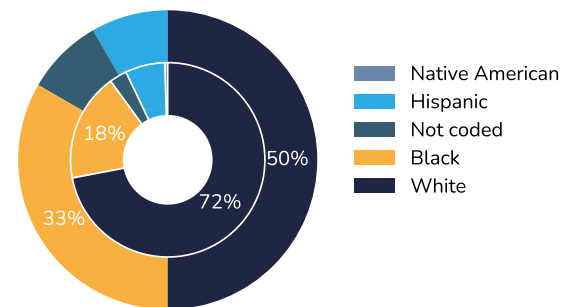
Traffic Control for Intersection Collisions



Pedestrian Location at Time of Collision



Race of Pedestrian Victim



*Inner ring indicates citywide racial demographics, ACS 2020 5-Year Estimates

Pedestrian HIN Corridor Profile

3 MARKET ST (LULLWATER DR TO COLLEGE RD)



Collisions Summary

	All	KSI	At Intersection	Youth Victim
Pedestrian	29	5	4	0
Bicycle	11	0	2	1
Vehicle (KSI only)	--	2	--	--
Total	40	7	6	1

Collision data provided by NCDOT, 2011-2021.

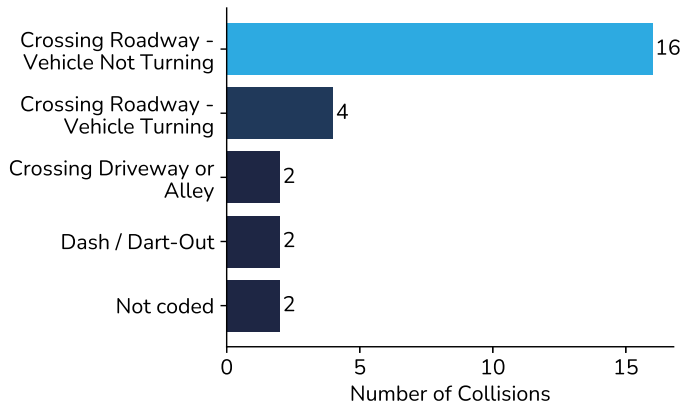
Context Summary

Speed Limit	40 - 45 MPH
Number of Lanes	5 lanes
Road Configuration	Two-Way, Not Divided
Pedestrian Volumes*	1990
Bicycle Volumes*	304
Car Volumes*	81.7k

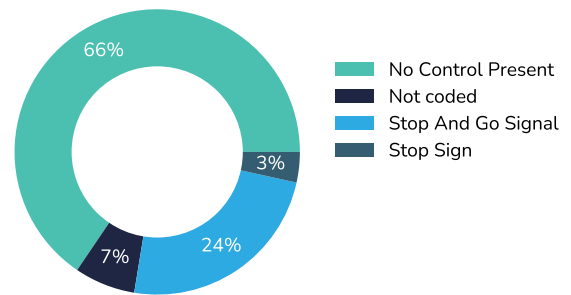
*Modeled weekday volumes from Replica Places

Pedestrian Crash Group

(Top Five Most Common Responses)

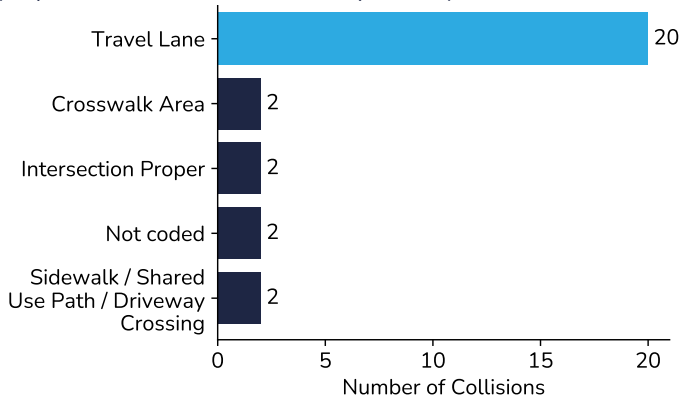


Traffic Control for Intersection Collisions

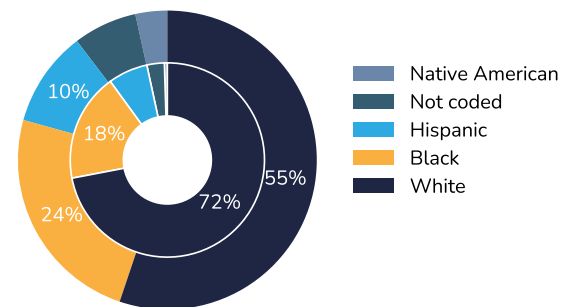


Pedestrian Location at Time of Collision

(Top Five Most Common Responses)



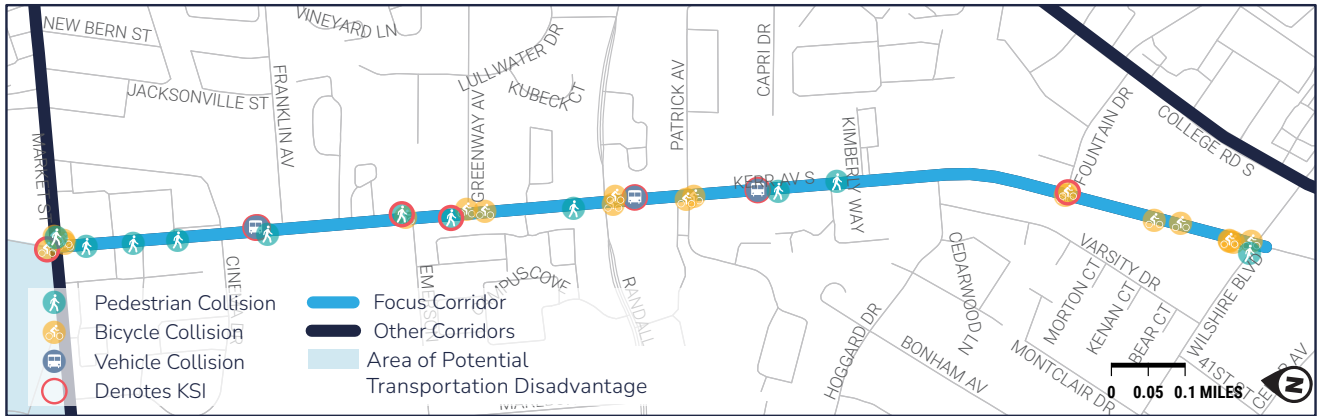
Race of Pedestrian Victim



*Inner ring indicates citywide racial demographics, ACS 2020 5-Year Estimates

Pedestrian HIN Corridor Profile

4 KERR AVE S (MARKET ST TO WILSHIRE BLVD)



Collisions Summary

	All	KSI	At Intersection	Youth Victim
Pedestrian	11	2	1	0
Bicycle	19	2	10	1
Vehicle (KSI only)	--	4	--	--
Total	30	8	11	1

Collision data provided by NCDOT, 2011-2021.

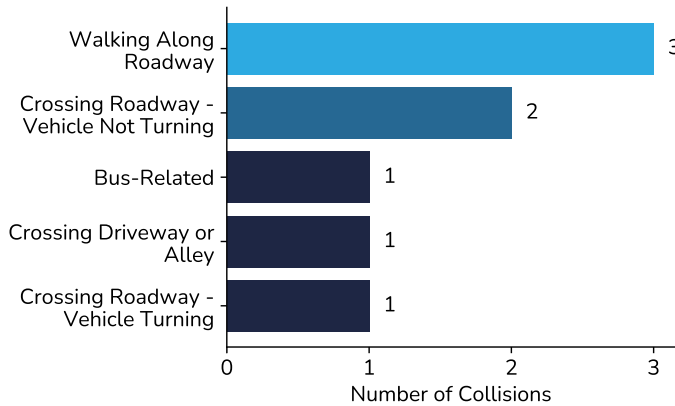
Context Summary

Speed Limit	30 - 35 MPH
Number of Lanes	3 lanes
Road Configuration	Two-Way, Not Divided
Pedestrian Volumes*	1540
Bicycle Volumes*	539
Car Volumes*	31.2k

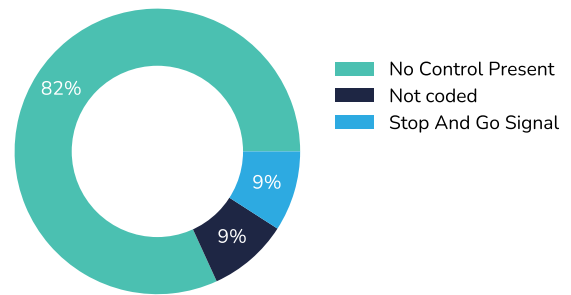
*Modeled weekday volumes from Replica Places

Pedestrian Crash Group

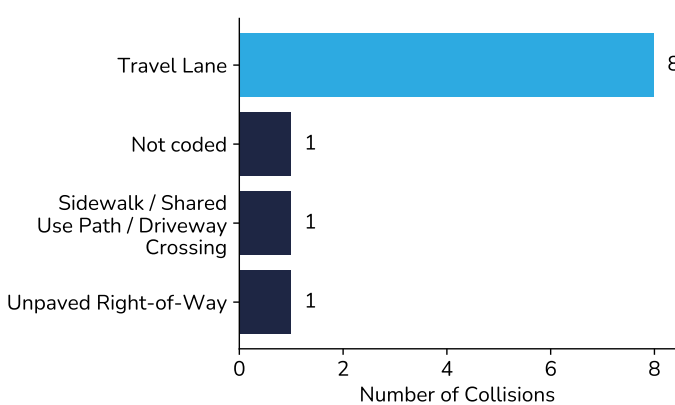
(Top Five Most Common Responses)



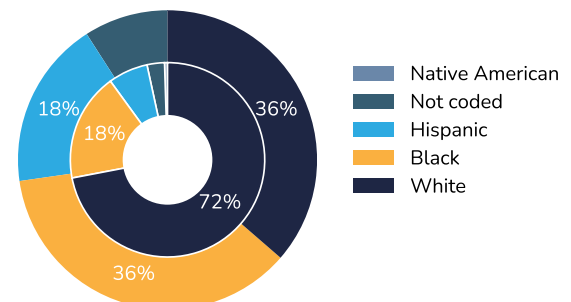
Traffic Control for Intersection Collisions



Pedestrian Location at Time of Collision



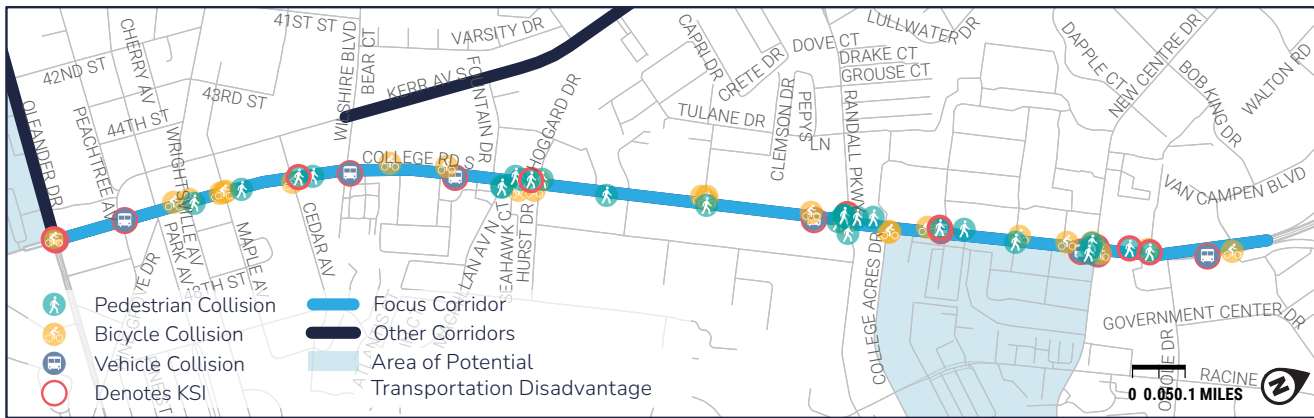
Race of Pedestrian Victim



*Inner ring indicates citywide racial demographics, ACS 2020 5-Year Estimates

Pedestrian HIN Corridor Profile

5 COLLEGE RD S (OLEANDER DR TO JEFF GORDON DR)



Collisions Summary

	All	KSI	At Intersection	Youth Victim
Pedestrian	28	5	12	0
Bicycle	28	2	13	4
Vehicle (KSI only)	--	11	--	--
Total	56	18	25	4

Collision data provided by NCDOT, 2011-2021.

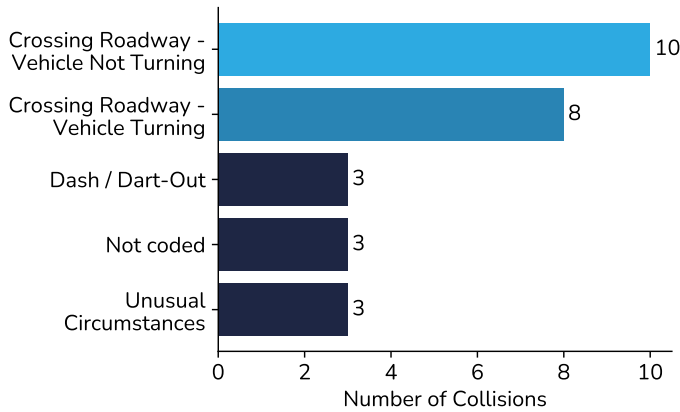
Context Summary

Speed Limit	40 - 45 MPH
Number of Lanes	7 lanes
Road Configuration	Two-Way, Divided, Unprotected Median
Pedestrian Volumes*	3870
Bicycle Volumes*	530
Car Volumes*	147k

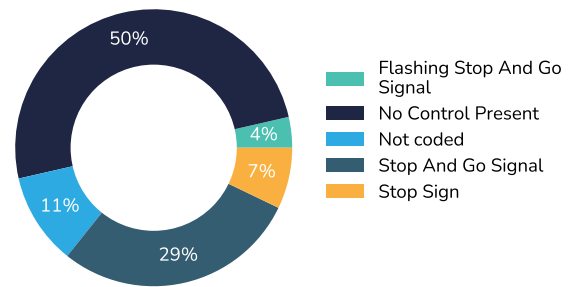
*Modeled weekday volumes from Replica Places

Pedestrian Crash Group

(Top Five Most Common Responses)

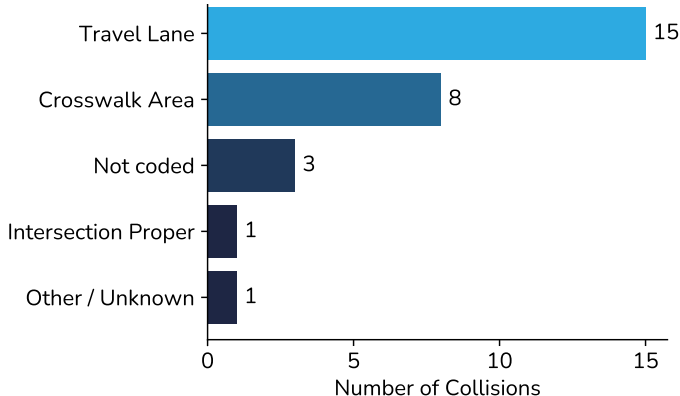


Traffic Control for Intersection Collisions

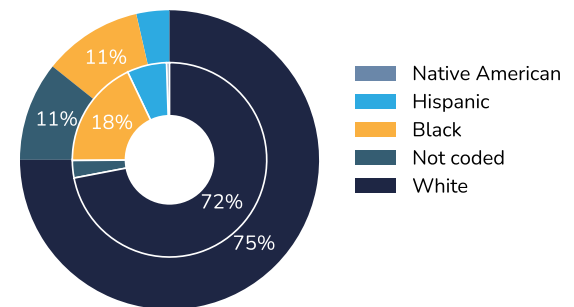


Pedestrian Location at Time of Collision

(Top Five Most Common Responses)



Race of Pedestrian Victim



*Inner ring indicates citywide racial demographics, ACS 2020 5-Year Estimates

Pedestrian HIN Corridor Profile

6 3RD ST (RED CROSS ST TO WOOSTER ST)



Collisions Summary

	All	KSI	At Intersection	Youth Victim
Pedestrian	28	3	19	0
Bicycle	8	0	6	2
Vehicle (KSI only)	--	6	--	--
Total	36	9	25	2

Collision data provided by NCDOT, 2011-2021.

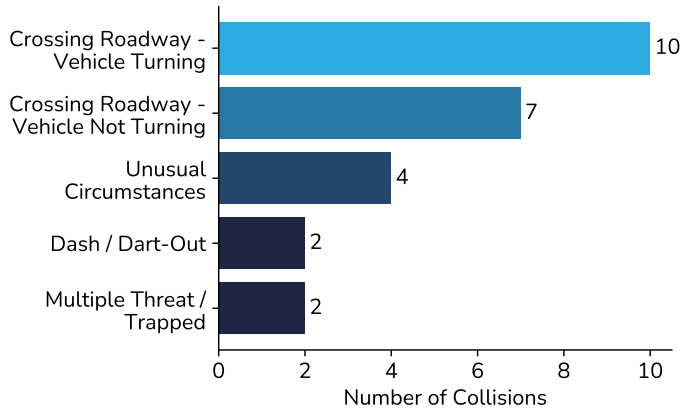
Context Summary

Speed Limit	30 - 35 MPH
Number of Lanes	4 lanes
Road Configuration	Two-Way, Not Divided
Pedestrian Volumes*	671
Bicycle Volumes*	123
Car Volumes*	35.9k

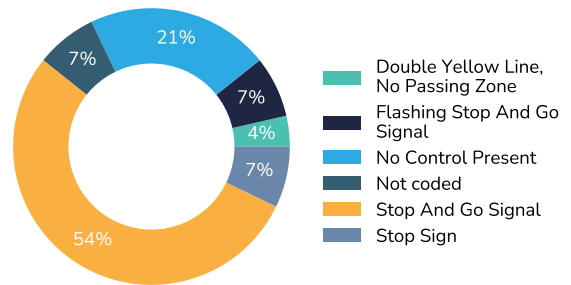
*Modeled weekday volumes from Replica Places

Pedestrian Crash Group

(Top Five Most Common Responses)

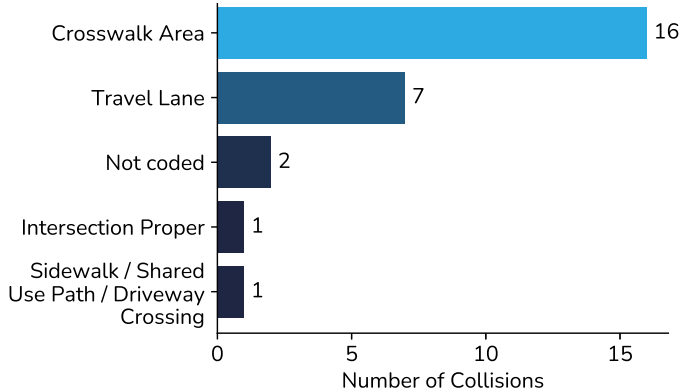


Traffic Control for Intersection Collisions

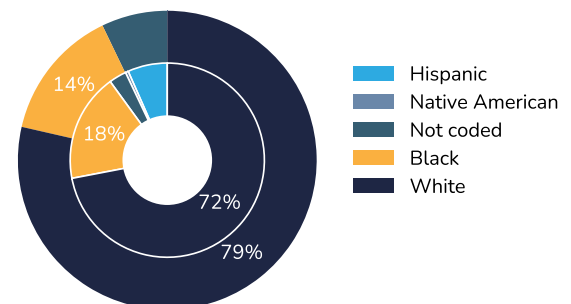


Pedestrian Location at Time of Collision

(Top Five Most Common Responses)



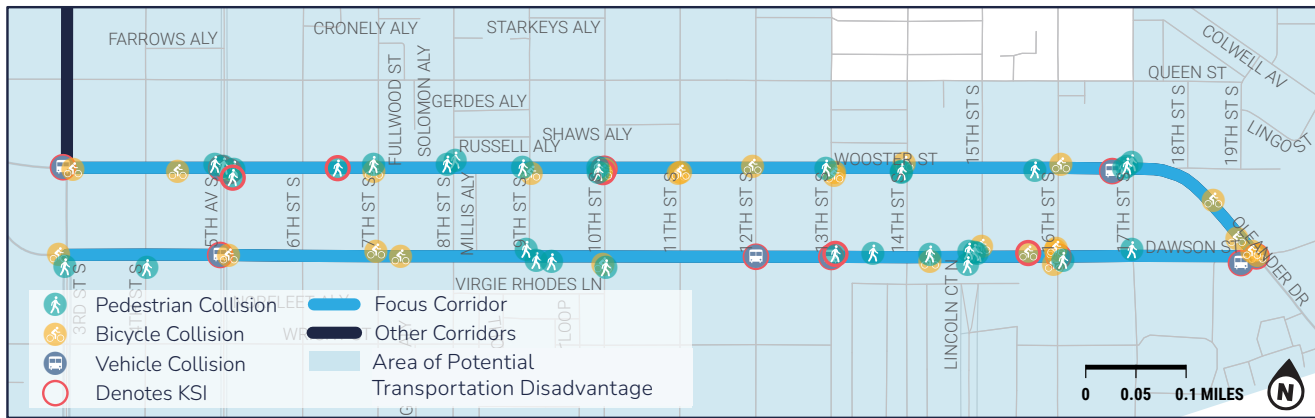
Race of Pedestrian Victim



*Inner ring indicates citywide racial demographics, ACS 2020 5-Year Estimates

Pedestrian HIN Corridor Profile

7 WOOSTER/DAWSON ST (3RD ST TO OLEANDER DR)



Collisions Summary

	All	KSI	At Intersection	Youth Victim
Pedestrian	33	3	16	0
Bicycle	29	3	18	4
Vehicle (KSI only)	--	11	--	--
Total	62	17	34	4

Collision data provided by NCDOT, 2011-2021.

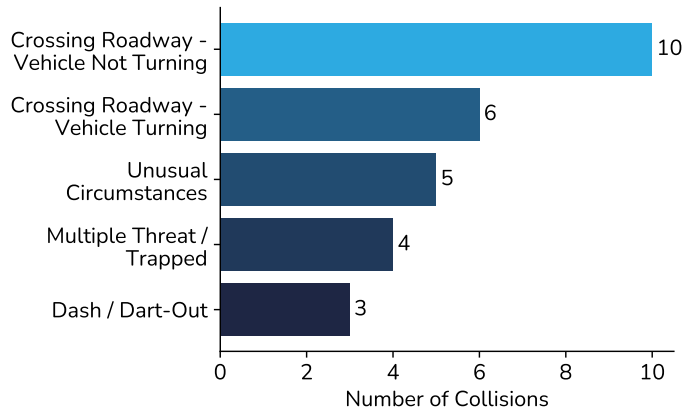
Context Summary

Speed Limit	30 - 35 MPH
Number of Lanes	4 lanes
Road Configuration	One-Way, Not Divided
Pedestrian Volumes*	560
Bicycle Volumes*	95
Car Volumes*	110k

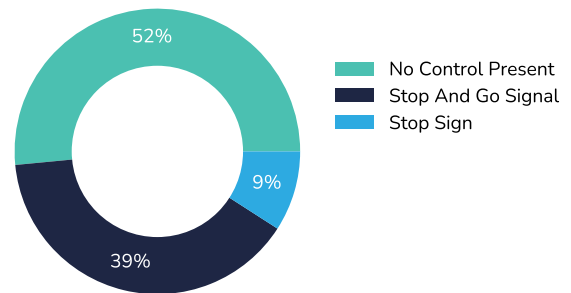
*Modeled weekday volumes from Replica Places

Pedestrian Crash Group

(Top Five Most Common Responses)

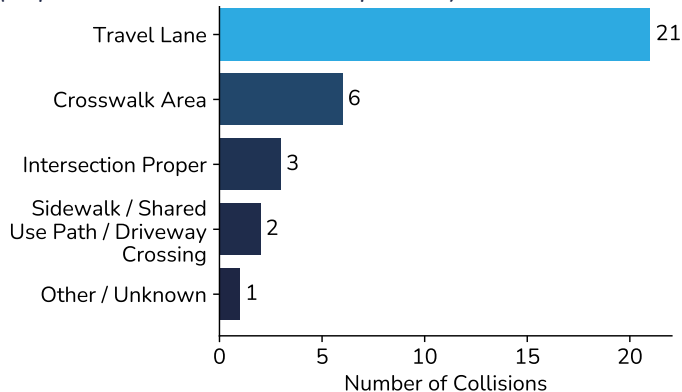


Traffic Control for Intersection Collisions

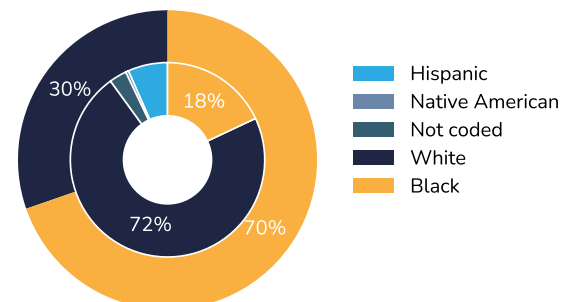


Pedestrian Location at Time of Collision

(Top Five Most Common Responses)



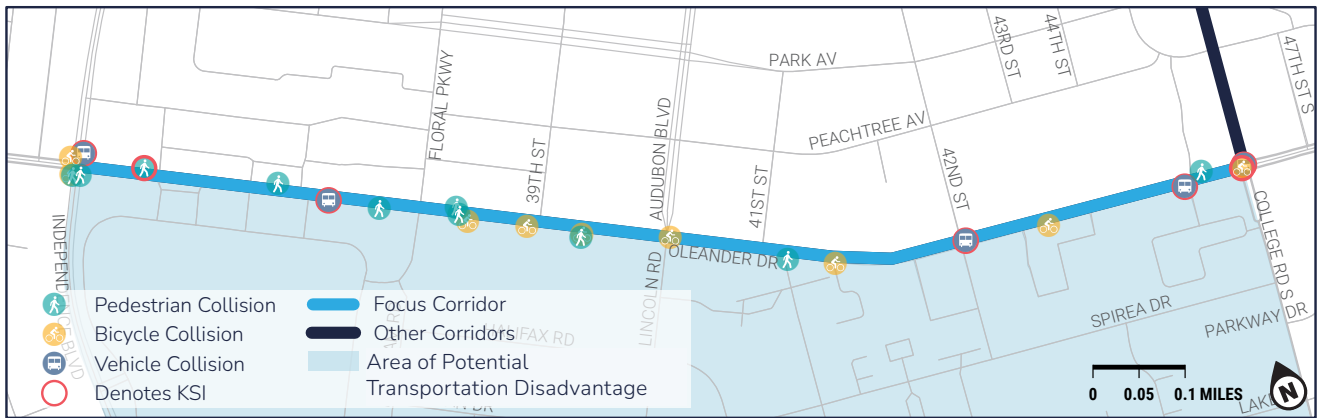
Race of Pedestrian Victim



*Inner ring indicates citywide racial demographics, ACS 2020 5-Year Estimates

Pedestrian HIN Corridor Profile

8 OLEANDER DR (INDEPENDENCE BLVD TO COLLEGE RD)



Collisions Summary

	All	KSI	At Intersection	Youth Victim
Pedestrian	10	1	3	0
Bicycle	9	1	3	0
Vehicle (KSI only)	--	5	--	--
Total	19	7	6	0

Collision data provided by NCDOT, 2011-2021.

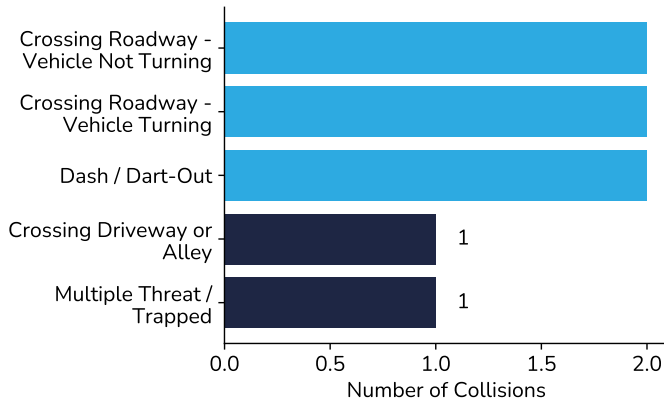
Context Summary

Speed Limit	40 - 45 MPH
Number of Lanes	7 lanes
Road Configuration	Two-Way, Divided, Unprotected Median
Pedestrian Volumes*	1500
Bicycle Volumes*	202
Car Volumes*	75.4k

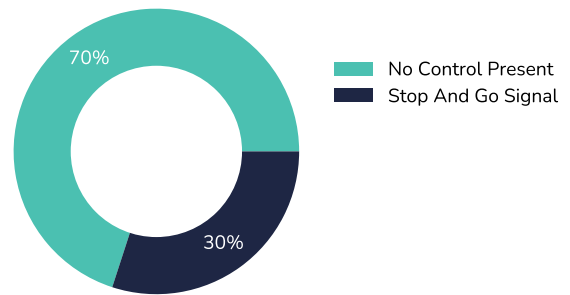
*Modeled weekday volumes from Replica Places

Pedestrian Crash Group

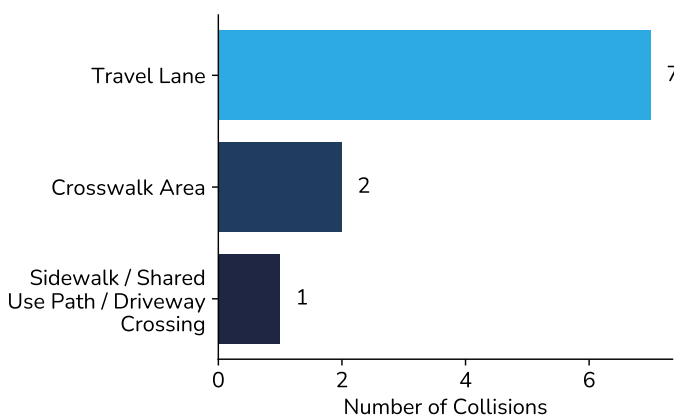
(Top Five Most Common Responses)



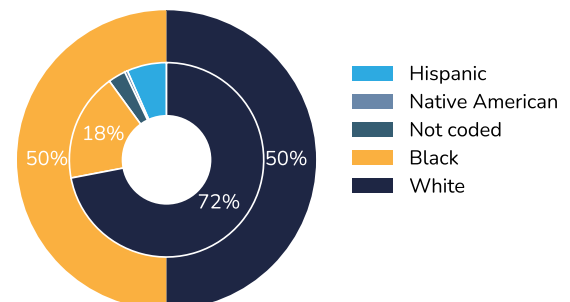
Traffic Control for Intersection Collisions



Pedestrian Location at Time of Collision



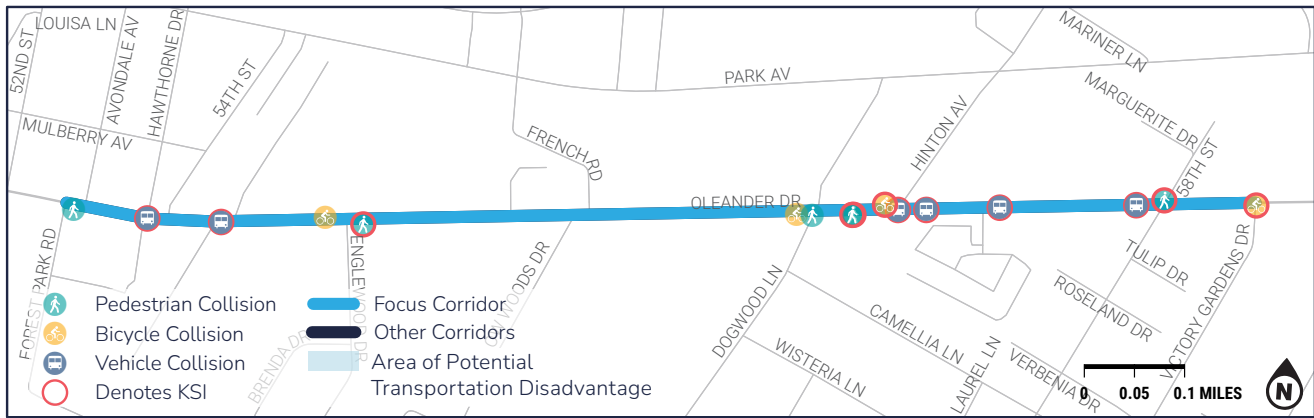
Race of Pedestrian Victim



*Inner ring indicates citywide racial demographics, ACS 2020 5-Year Estimates

Pedestrian HIN Corridor Profile

9 OLEANDER DR (FOREST PARK RD TO VICTORY GARDENS DR)



Collisions Summary

	All	KSI	At Intersection	Youth Victim
Pedestrian	6	4	2	0
Bicycle	4	2	1	0
Vehicle (KSI only)	--	6	--	--
Total	10	12	3	0

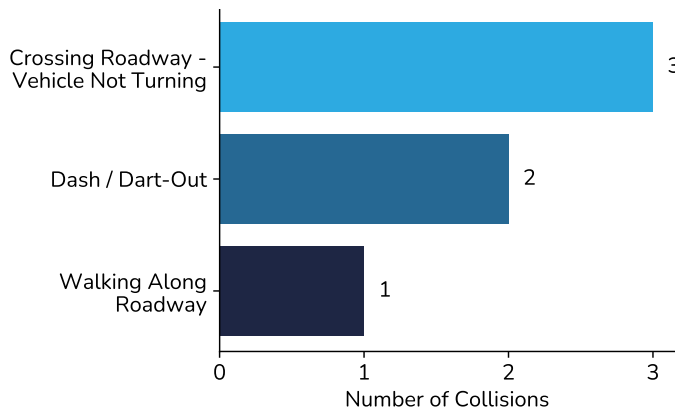
Collision data provided by NCDOT, 2011-2021.

Context Summary

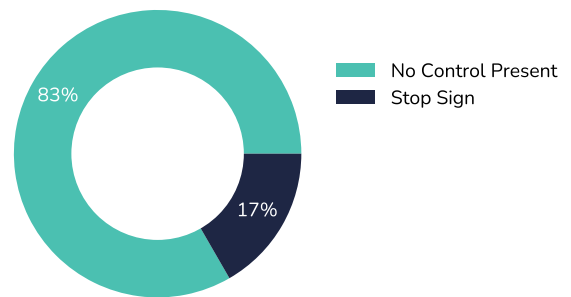
Speed Limit	40 - 45 MPH
Number of Lanes	5 lanes
Road Configuration	Two-Way, Not Divided
Pedestrian Volumes*	709
Bicycle Volumes*	92
Car Volumes*	44.6k

*Modeled weekday volumes from Replica Places

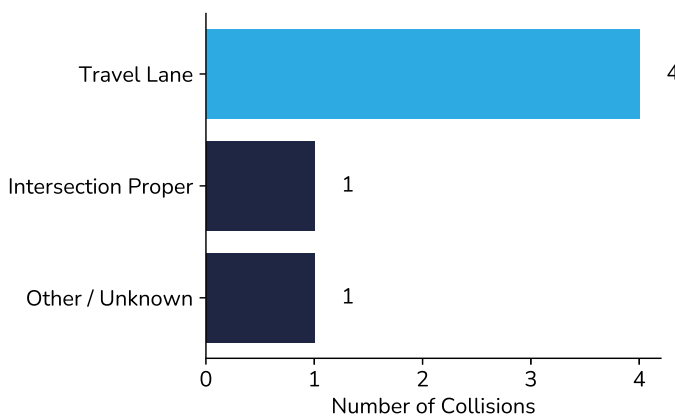
Pedestrian Crash Group



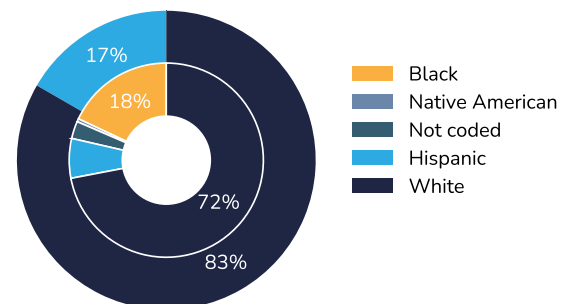
Traffic Control for Intersection Collisions



Pedestrian Location at Time of Collision



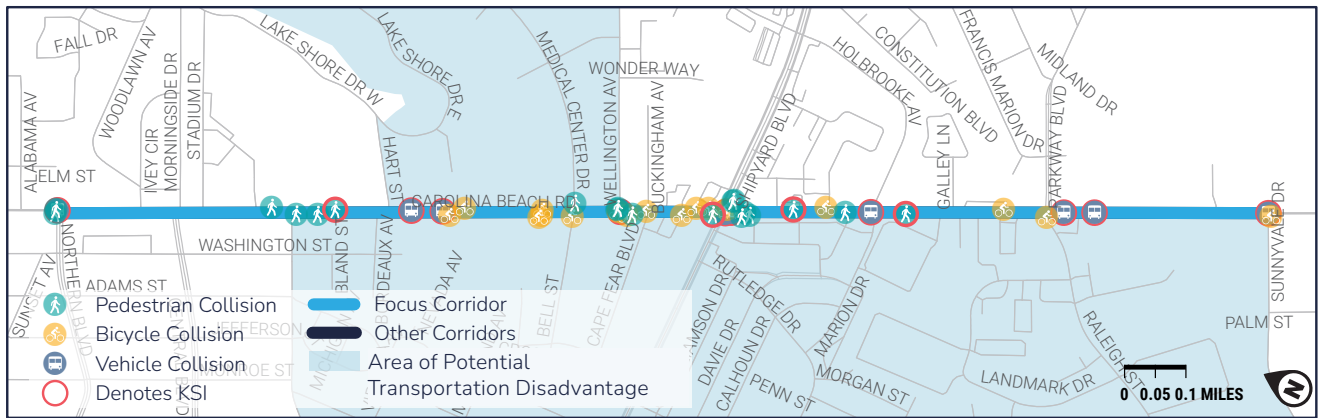
Race of Pedestrian Victim



*Inner ring indicates citywide racial demographics, ACS 2020 5-Year Estimates

Pedestrian HIN Corridor Profile

10 CAROLINA BEACH RD (NORTHERN BLVD TO SUNNYVALE DR)



Collisions Summary

	All	KSI	At Intersection	Youth Victim
Pedestrian	19	4	4	0
Bicycle	17	0	6	4
Vehicle (KSI only)	--	11	--	--
Total	36	15	10	4

Collision data provided by NCDOT, 2011-2021.

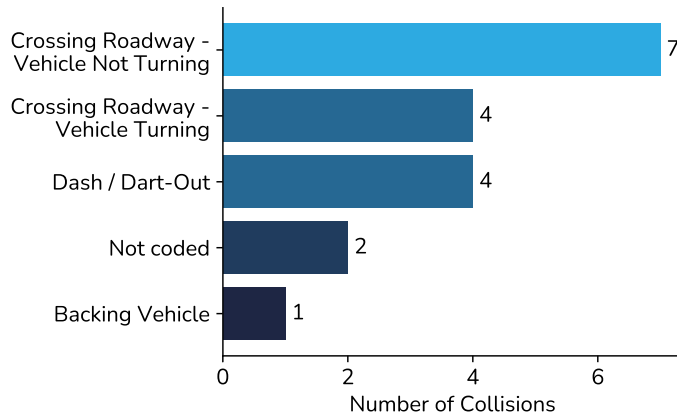
Context Summary

Speed Limit	40 - 45 MPH
Number of Lanes	5 lanes
Road Configuration	Two-Way, Not Divided
Pedestrian Volumes*	1360
Bicycle Volumes*	135
Car Volumes*	57.1k

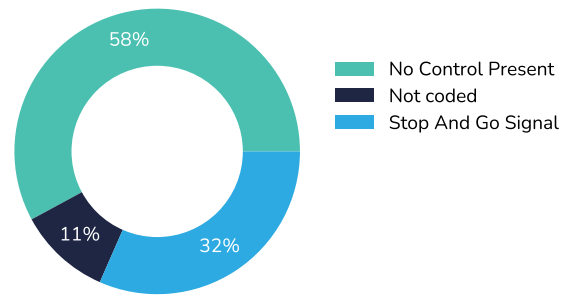
*Modeled weekday volumes from Replica Places

Pedestrian Crash Group

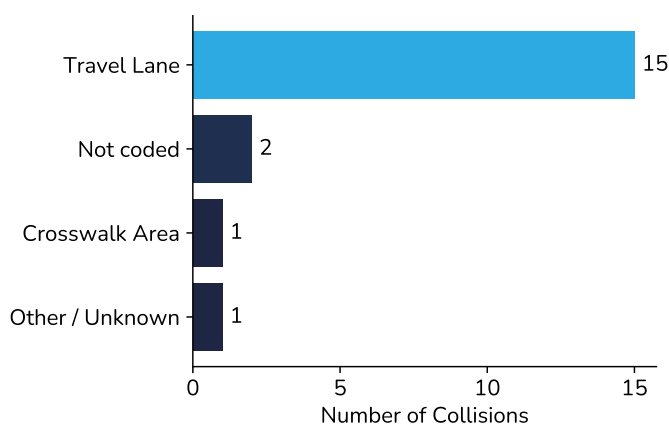
(Top Five Most Common Responses)



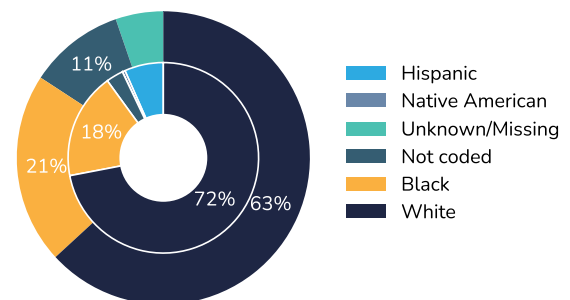
Traffic Control for Intersection Collisions



Pedestrian Location at Time of Collision



Race of Pedestrian Victim



*Inner ring indicates citywide racial demographics, ACS 2020 5-Year Estimates

2021-2022 Citywide Pedestrian Safety Study

The City of Wilmington and NCDOT undertook a pedestrian safety study in 2021-2022 to understand pedestrian crash and injury trends, patterns, and risk factors. These findings, in conjunction with the HIN analysis from this Walk Wilmington Pedestrian Plan update, will help the City and NCDOT prioritize and implement data-driven safety improvements where they will have the greatest impacts.

BACKGROUND

Wilmington and NCDOT completed this study as part of the pilot for NCDOT's Pedestrian Safety Improvement Program (PSIP), a comprehensive and data-driven program that uses multiple data sources and analysis methods to prioritize pedestrian safety improvements. PSIP projects are proactive, coordinated with state and local projects, and integrated with the state's Highway Safety Improvement Program (HSIP) and other existing plans and policies.

METHODS

The study analyzed crash data from 2011 to 2020 in Wilmington. The comprehensive approach identified specific locations where the most crashes occurred ("hot spots"), as well as systemic risk factors such as roadway type, land use, population density, seasonality/time of day, and demographics.

The study team also conducted two Road Safety Audits (RSAs) with City of Wilmington and NCDOT staff in 2022.

PEDESTRIAN CRASH KEY FINDINGS

Crash Hot Spots

- ▶ UNC-Wilmington campus
- ▶ Greater Downtown, Sunset Park, and Brookwood neighborhoods
- ▶ Carolina Beach Rd (US 421) Business & Commercial Corridor
- ▶ Oleander Dr (US 17) Corridor

Overall Crash Statistics

- ▶ Wilmington's pedestrian crash rate was 48 crashes per 100K residents in 2019 (the highest among NC large cities).
- ▶ Wilmington's K/A crash rate was 4th highest among NC large cities in 2019.
- ▶ Annual K/A crashes declined from 2015-2018 but increased in 2019.
- ▶ 51% of crashes occurred at intersections and 44% occurred at non-intersections.
- ▶ 50% of all K/A crashes occurred at non-intersections.

K/A crashes refer to crashes where a pedestrian was killed or severely injured, as defined by the KABCO injury severity scale.

Lighting

- ▶ Dark conditions accounted for 47% of all crashes and 75% of all K/A crashes.

Signals

- ▶ 45% of all crashes occurred at or near a signalized intersection.
- ▶ 16% of crashes near signalized intersections were reported as K/A injuries.

Roadway Type

- ▶ 75% of K/A crashes occurred on NCDOT-maintained roadways.
- ▶ NCDOT-maintained roadways account for 15% of centerline miles in Wilmington but 82% of fatal pedestrian crashes and 65% of serious injury crashes.
- ▶ The highest percentage of K/A crashes occurred on 40-45 mph roads (62% of fatal and 39% of serious injury crashes).
- ▶ Two-lane and five-lane roadways had the highest share of pedestrian K/A crashes with 23% on two-lane and 23% on five-lane roadways.

Demographics

- ▶ 75% of all crashes and 80% of K/A crashes occurred in areas with minority populations higher than the New Hanover County average.
- ▶ 91% of all crashes and 92% of K/A crashes occurred in areas where the poverty rate is above the New Hanover County average.

- ▶ 31% of pedestrians in crashes were reported as Black/African American, despite that group accounting for only 18.4% of Wilmington's total population.
- ▶ 30-to-39 year olds had the highest share of all crashes (18%).
- ▶ 50-to-59 year olds had the highest share of K/A crashes (24%).

RECOMMENDATIONS

This study's implementation plan identified priority corridors, focus areas, and future HSIP intersections for 2022-2027. Key areas include:

- ▶ S 17th St/S 16th St (Elmore St to Shipyard Blvd)
- ▶ S Kerr Ave (McClelland Dr to Peachtree Ave)
- ▶ Wrightsville Ave (Kerr Ave to Oak Crest Dr)
- ▶ Carolina Beach Rd/Shipyard Blvd intersection area
- ▶ Carolina Beach Rd near Southside Park
- ▶ Wooster St/Dawston St area
- ▶ Market St downtown area
- ▶ Market St (23rd St to College Rd)
- ▶ College Rd (Oleander Dr to New Centre Dr)
- ▶ Oleander Dr/Greenville Loop Rd area
- ▶ Eastwood Rd/US 17 area

To view a map of the complete recommendations, visit:

<https://vhb.maps.arcgis.com/apps/mapviewer/index.html?webmap=ea173b-5b42084a74a11abc7830924747>

Conclusion

Wilmington is actively improving walkability through infrastructure projects, planning efforts, pedestrian safety programs, and policy changes that support the objectives of safety, connectivity, and equity. The existing conditions analysis showed which parts of Wilmington's pedestrian network are working well and identified many areas where the city could focus its efforts to improve walkability even more.

Key Takeaways

- **Pedestrian activity** is concentrated around downtown, UNC-Wilmington, larger neighborhoods, and several business/commercial hubs.
- Existing shared-use paths and trails are well-utilized, but **maintenance and connections** to/from these facilities need to be priorities, based on public survey responses.
- **High-speed urban roadways** such as College Road, Market Street, Oleander Drive, and Carolina Beach Road are a safety concern and connectivity challenge for people walking. Of the ten HIN priority corridors, all have speed limits of **35mph or greater, and six have 45mph speed limits.**
- Seamless **integration between the WAVE Transit system and the pedestrian network** is a citywide issue, with many transit stops lacking sufficient walking infrastructure and amenities.
- High numbers of **tourists and visitors** in Wilmington represent an opportunity but also a challenge, as these groups may be willing to walk but are more likely to need **guidance on routes and directions.**
- Areas where TDI scores are highest have significant overlap with the pedestrian HIN. **In other words, many of the areas with the greatest potential for transportation disadvantage are also the least safe for walking in Wilmington.**
- Several of the HIN priority corridor detail sheets also indicate racial disparities in safety outcomes, showing that **pedestrian victims were disproportionately Black** compared to the overall proportion of Black residents in Wilmington.

Next Steps

The following chapters identify **specific projects at the nexus of the key plan goals (safety, equity, and connectivity) and feasibility.** By focusing on implementable projects, programs, and policies that will have the greatest impact, Wilmington can efficiently allocate resources in the near-term while planning and anticipating long-term needs to create a more walkable city.