ARCHDALE PEDESTRIAN & TRAILS PLAN

Prepared for the City of Archdale, North Carolina
Prepared by Alta Planning + Design

November 2018

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ACKNOWLEDGMENTS

Thanks to the local residents, business leaders, community leaders, and government staff who participated in the development of this study through meetings, events, volunteering, interviews, and review. Special thanks to those stakeholders who participated as steering committee members, listed below.

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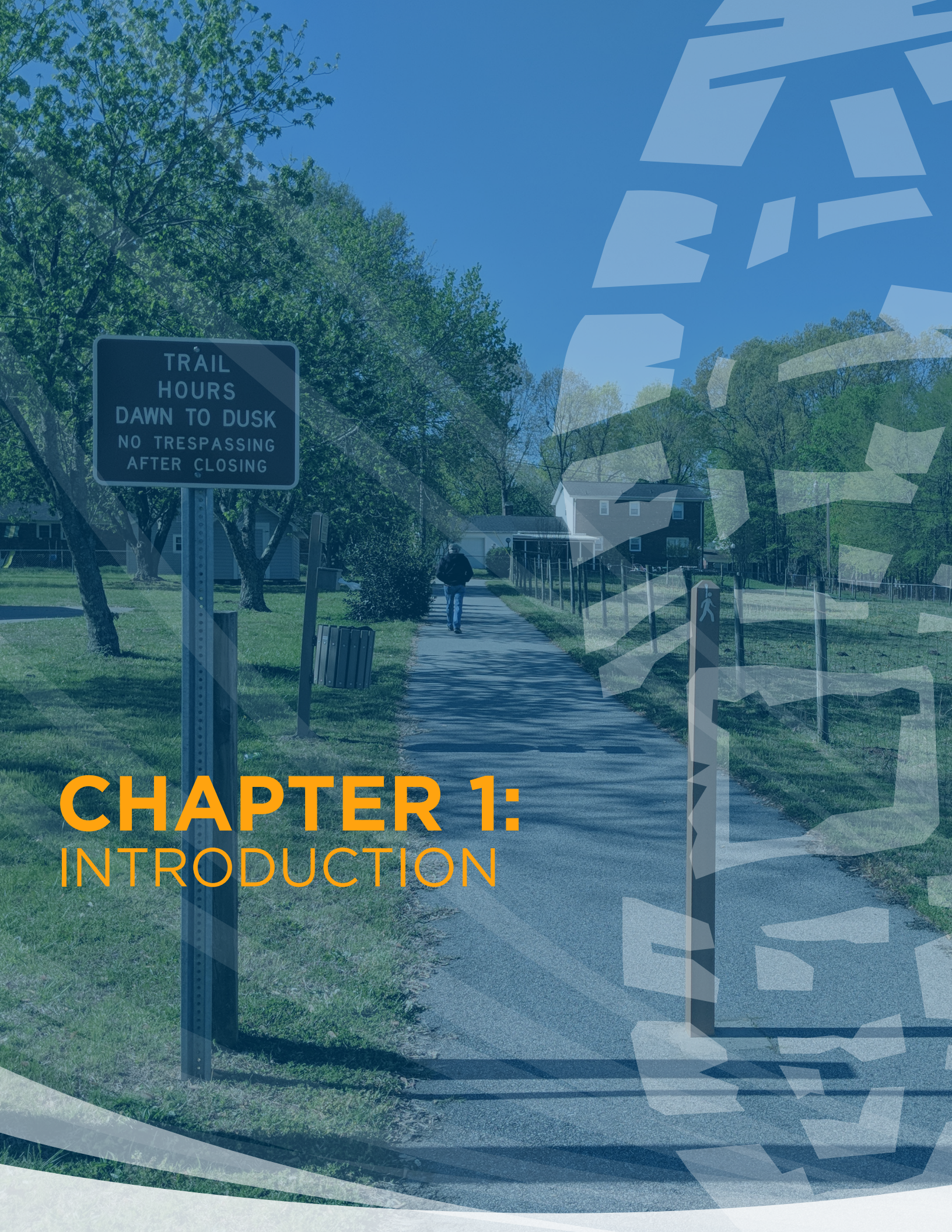


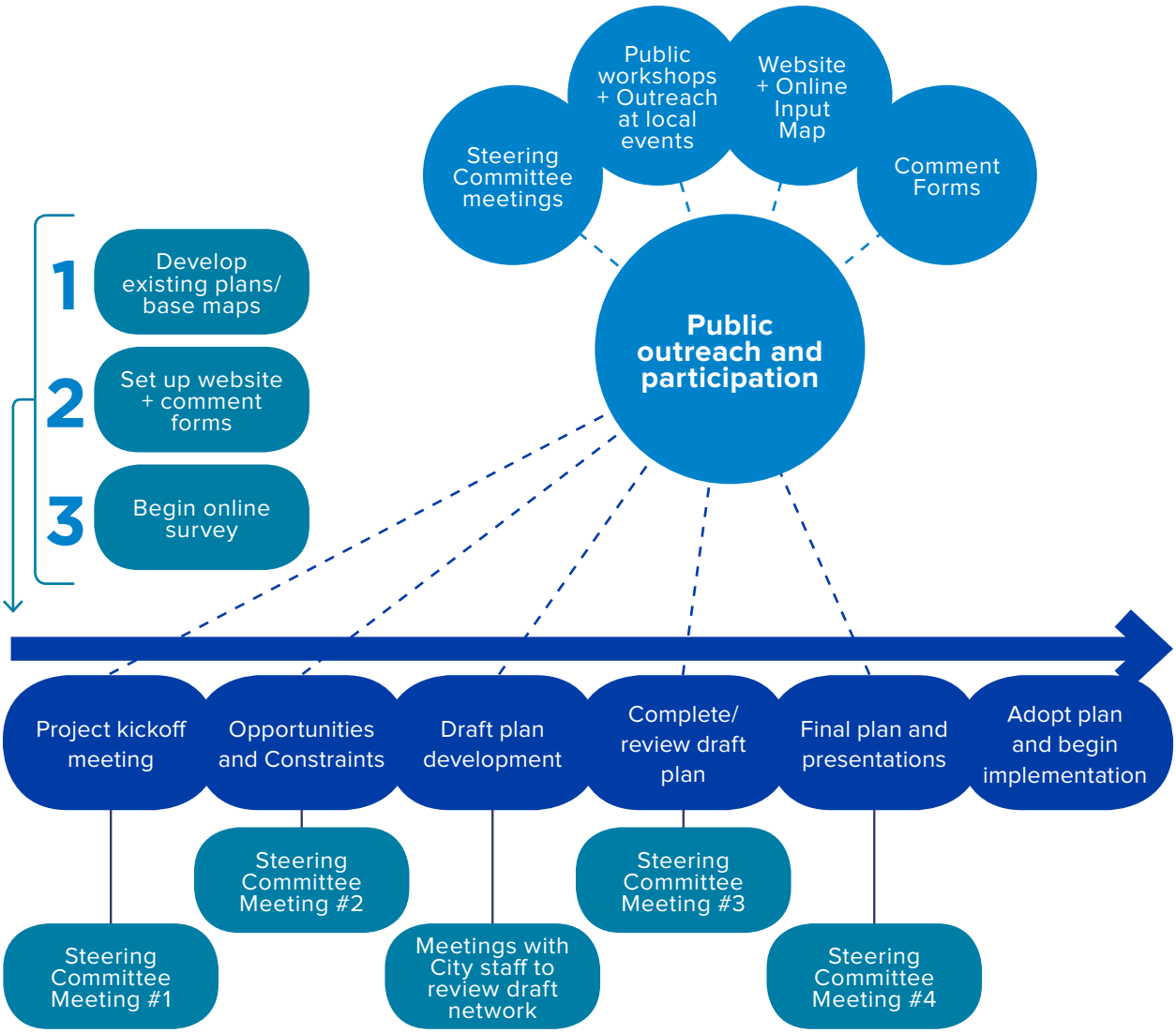
CHAPTER 1:
INTRODUCTION

PLANNING PROCESS

The Archdale Pedestrian and Trails Plan builds on past efforts and creates a new vision for walking in the region. The plan will be used by the City of Archdale to prioritize, fund, and implement high-quality infrastructure, high-impact programs, and supportive policies for walking.

This planning effort was made possible by joint funding from the City of Archdale and the High Point Urban Area Metropolitan Planning Organization (HPMPO).

The Archdale Pedestrian and Trails Plan process began in December 2017 and continued through to November 2018. The graphic below expresses the various planning activities and tasks undertaken and how they work together to form a dynamic and representative mobility plan for the City of Archdale.



VISION

"The City of Archdale will have a **network of high quality walkways** that **connect communities** and destinations**. People of all ages and abilities** will have access to comfortable and convenient walking routes, resulting in improved **mobility choice, economic opportunity, and healthier lifestyles."**

HOW TO GET THERE

The goals outlined below build upon the vision statement, relate to key themes from local plans, and expand upon national best practices.

Enhance Connectivity
Develop a network that links destinations and neighborhoods so people of all ages and abilities can safely and conveniently get where they want to go.

Improve Health
Enhance access to active transportation and outdoor recreation for health and wellness.

Encourage Economic Growth
Recognize the economic benefits of walkable communities, and capitalize on increased property values.

Increase Safety
Address the safety of the transportation system for the most vulnerable users and aim for zero pedestrian fatalities and serious injuries.

Promote Equity
Ensure that walking infrastructure is provided in the areas with the greatest need.

Increase Mobility
Provide active transportation choices that support healthy, safe, and walkable neighborhoods.

THE VALUE OF WALKABLE COMMUNITIES

HEALTH BENEFITS

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

For every 0.6 MILES **WALKED** there is a **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

and

29% LOWER RISK FOR WOMEN

Rahman, 2014 and 2015

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 a tool for conserving open space and preserving wetlands.

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

ECONOMIC BENEFITS

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

HOUSES IN HIGHLY **WALKABLE NEIGHBORHOODS** HAVE PROPERTY VALUES **$4,000 TO $34,000 HIGHER** THAN HOUSES IN AREAS WITH AVERAGE WALKABILITY.

Cortright, J. (2009). Walking the Walk: How Walkability Raises Housing Values in U.S Cities.

BUILDING **SIDEWALK AND BICYCLE FACILITIES** CREATES **36% MORE JOBS** THAN BUILDING HIGHWAYS AND ALMOST **100% MORE JOBS** THAN PAVEMENT IMPROVEMENTS.

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

40%

OF ALL TRIPS (IN THE US) ARE TWO MILES (OR LESS)

NHTS, 2009

DRIVING 4 MILES/DAY COSTS

$847/ year

in fuel and vehicle wear and tear

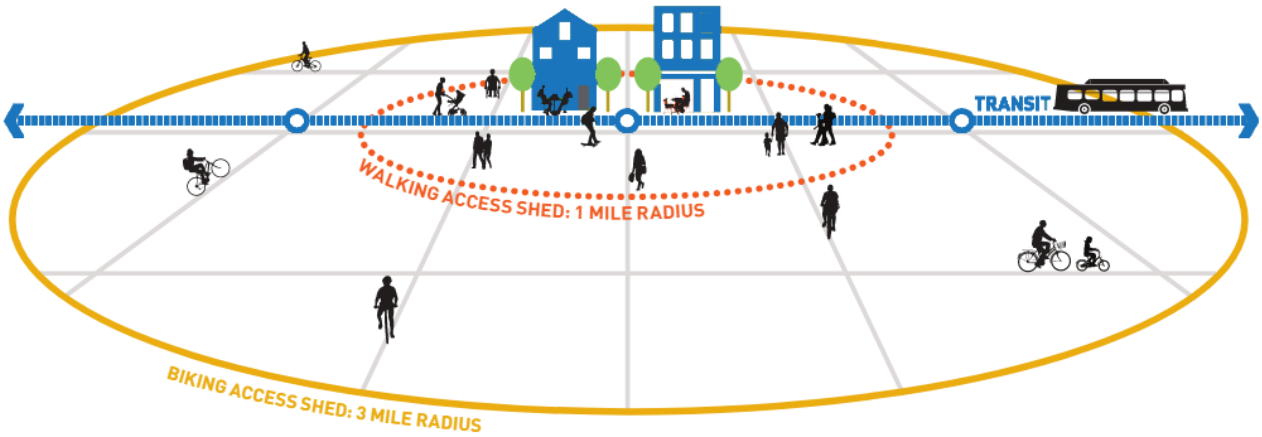
AAA, 2015

WALKING & BICYCLING **is FREE**

ACCESSIBILITY AND MOBILITY BENEFITS

Sidewalks and trails can be implemented at a low cost and serve as part of a multi-modal transportation system. In areas where public transit doesn't offer direct routes to employment centers, sidewalks and trails can serve as important connections between transit stops and workplaces.

ON AVERAGE, 40% OF ALL TRIPS WE MAKE ARE FOR A DISTANCE OF **TWO MILES OR LESS**—A DISTANCE THAT CAN EASILY BE COVERED BY A 10 MINUTE BIKE RIDE OR A 30 MINUTE WALK.



SAFETY BENEFITS

Pedestrian treatments and traffic calming help to save lives. Additionally, natural surveillance for trails and greenways occurs through increased numbers of trail users, creating an environment where behavior on the trail is monitored by trail users themselves.

A pedestrian hit by a vehicle traveling at **25 MPH**

has a **89%** chance of survival

A pedestrian hit by a vehicle traveling at **35 MPH**

has a **68%** chance of survival

A pedestrian hit by a vehicle traveling at **45 MPH**

has a **35%** chance of survival

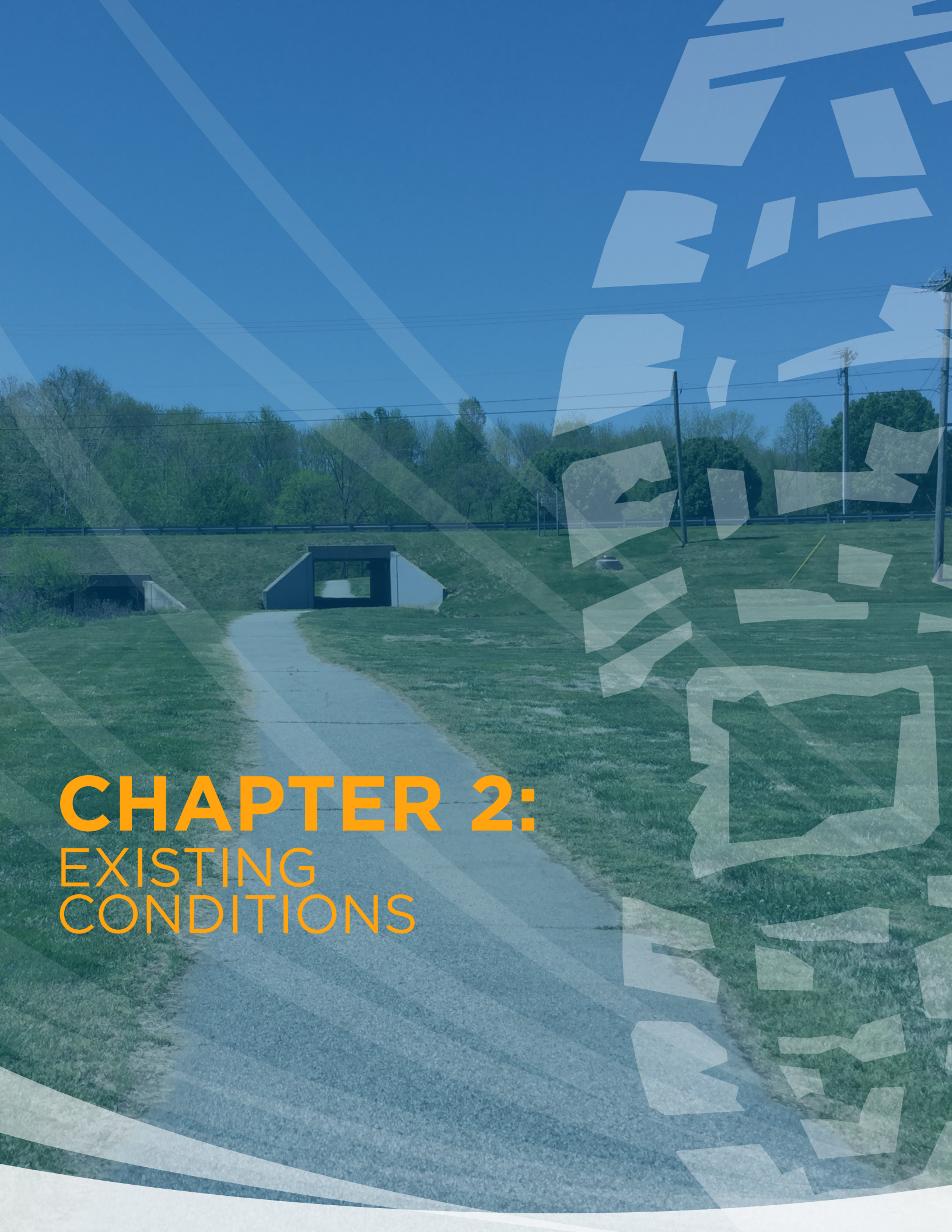
Rosén, E., & Sander, U. (2009). Pedestrian fatality risk as a function of car impact speed. Accident Analysis & Prevention, 41(3), 536-542.

"Communities designed to be walkable can **improve safety** not only for people who walk but for **all community members."**

- Surgeon General, 2015

	% DECREASE IN CRASHES
Install sidewalk to avoid walking along roadway	**65-89**
Increase enforcement to reduce speed	**70**
Install pedestrian refuge island	**56**
Add exclusive pedestrian phasing to signalized intersection	**34**

Federal Highway Administration. (2008). "Desktop reference for crash reduction factors."

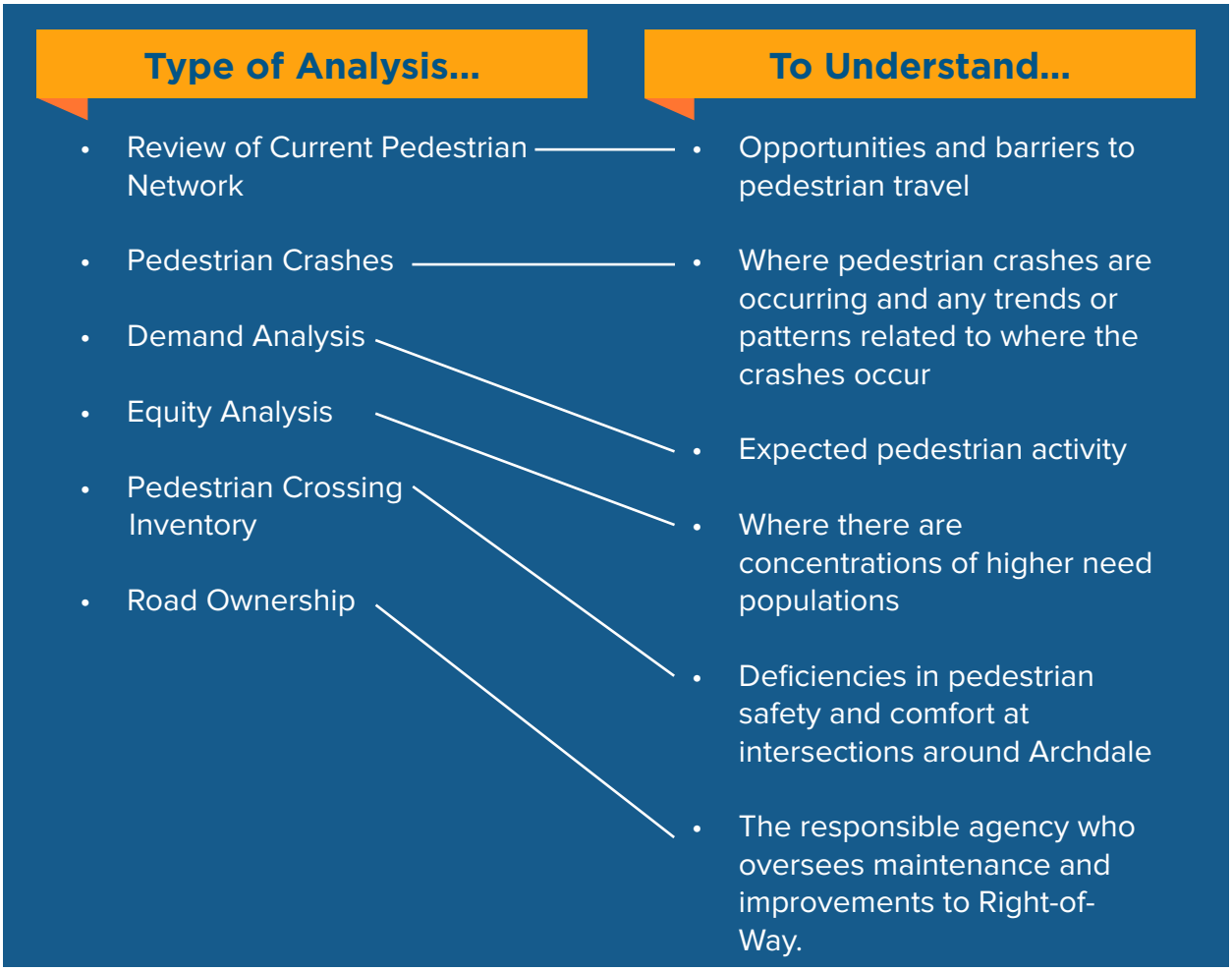


CHAPTER 2:
EXISTING CONDITIONS

EXISTING CONDITIONS ANALYSIS

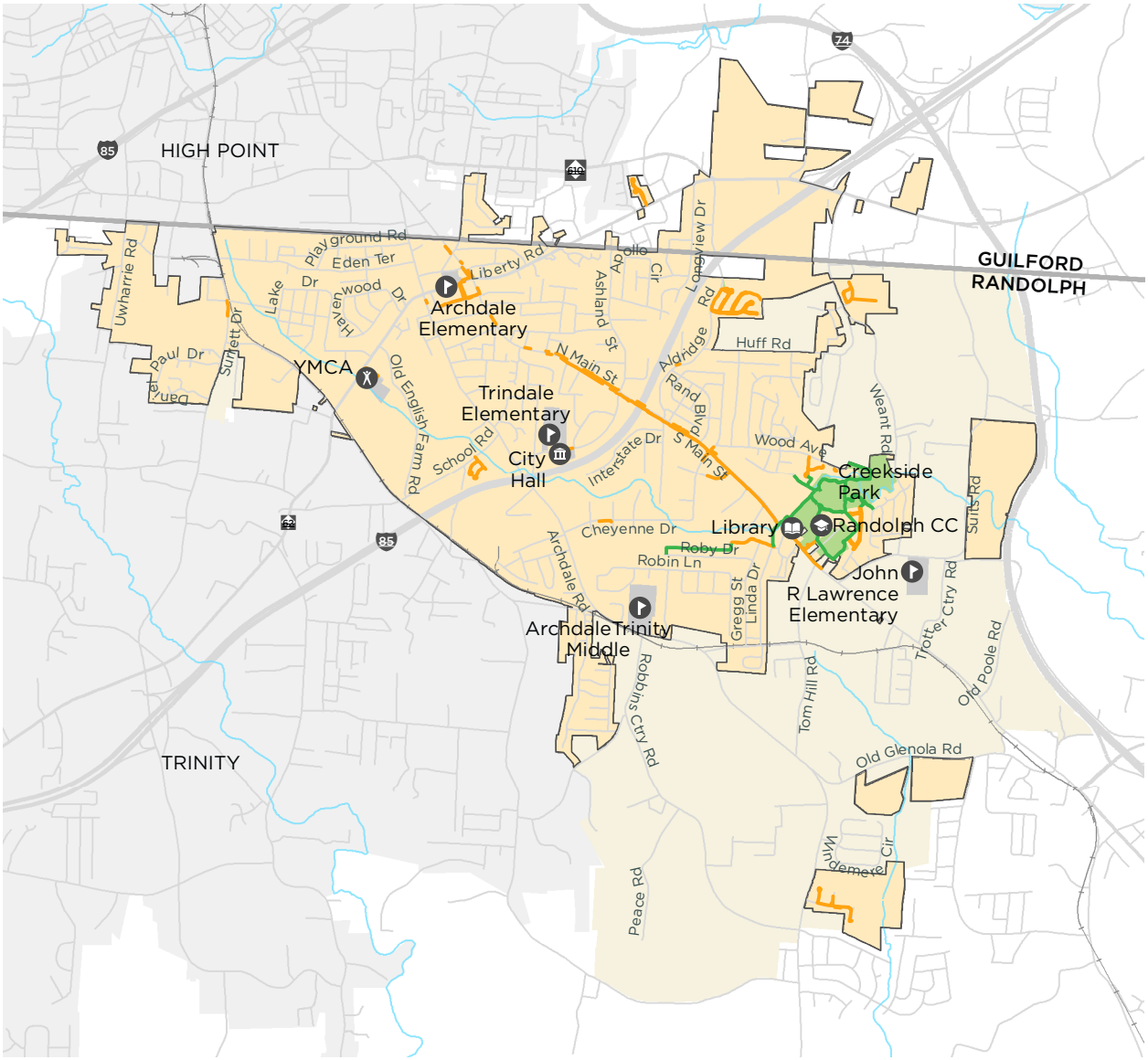
An existing conditions analysis was performed to better understand pedestrian trends and issues. The following pages feature different types of analyses that were conducted to take a closer look at current walking conditions in Archdale. Results of these analyses illustrate areas where improvements to safety and connectivity could be made.

The chart below provides an overview of the analyses conducted and how they relate to existing conditions in the region.



MAP 2.1 EXISTING CONDITIONS

Archdale, like many communities with a similar context, currently has a fragmented pedestrian network. There is, however, great potential to expand the trail network from Creekside Park and connect many neighborhoods and destinations with sidewalks, yield roadways, and shared use paths.



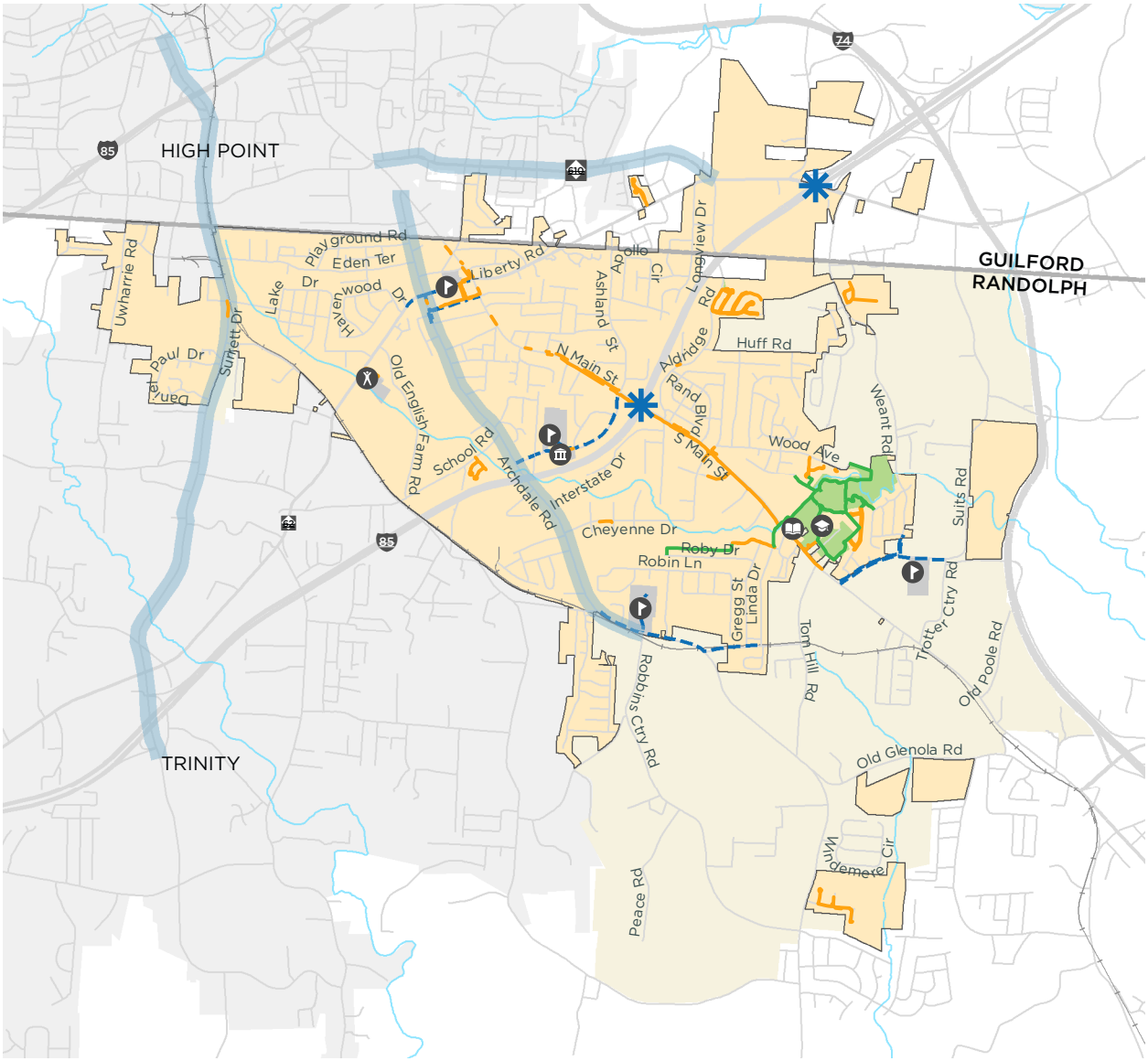
LEGEND

- Existing Shared Use Path
- Existing Sidewalk
- School
- City Hall
- Library
- Randolph CC
- YMCA
- Archdale
- Study Area (ETJ)
- Other Municipalities
- Stream

0 0.5 1 MILES

MAP 2.2 UPCOMING PROJECTS

NCDOT has five roadway projects in the planning and design phase (as of the publishing of this report). Two projects involve I-85 interchange redesigns and the other three are road widening projects. These projects present an opportunity to improve pedestrian connectivity.



WALKING IN ARCHDALE TODAY...

OPPORTUNITIES

Archdale provides many opportunities for new or improved pedestrian facilities. Low traffic volumes on many neighborhood streets would allow for the implementation of yield roadways that enhance safety with minimal cost and impact on communities. Archdale is also a growing community and new commercial and residential development could help fill in network gaps through policy changes in ordinances. Creekside Park has a well-developed trail network that is heavily used and could act as a hub for an expanding greenway network throughout the community. Rail lines, utility corridors, and riparian zones also provide excellent greenway potential.

Greenway in Creekside Park

Sidewalk in Creekside Park

Roby Greenway

CHALLENGES

The existing sidewalk network has inadequate coverage/connectivity with many micro gaps. The commercial corridor of Main St is most notably lacking in consistency and coverage leading to safety and comfort issues for pedestrians. Suburban auto-oriented development patterns typically weren't designed with the pedestrian in mind so distances and connectivity are challenges that are difficult to overcome. Intersections also generally lack safety infrastructure for pedestrians throughout Archdale. Intersections and facilities around schools lack proper safety, ADA, and comfort standards.

Trindale Road looking south from YMCA

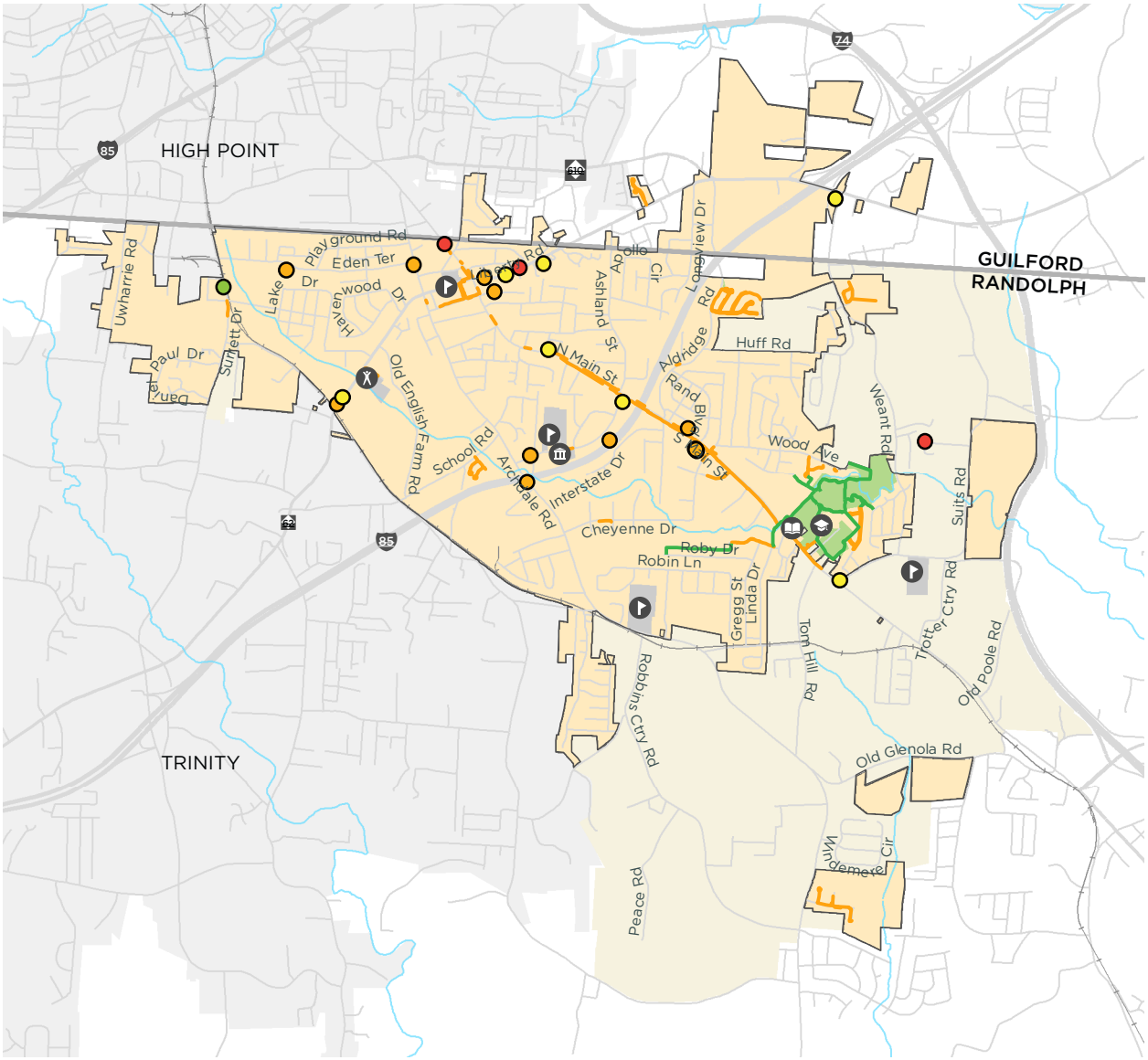
Looking south on Main Street at intersection of Main Street and Trindale Road

Trindale Road just east of Archdale Elementary School

Looking south on Archdale Road at intersection of Archdale Road and Trindale Road

MAP 2.3 PEDESTRIAN COLLISIONS

There were a total of 24 pedestrian-involved crashes in Archdale between 2007 and 2015. Of these, three resulted in a disabling injury. There was one fatality that took place on I-85 during this period. This instance was removed from the analyses because of extraordinary circumstances.

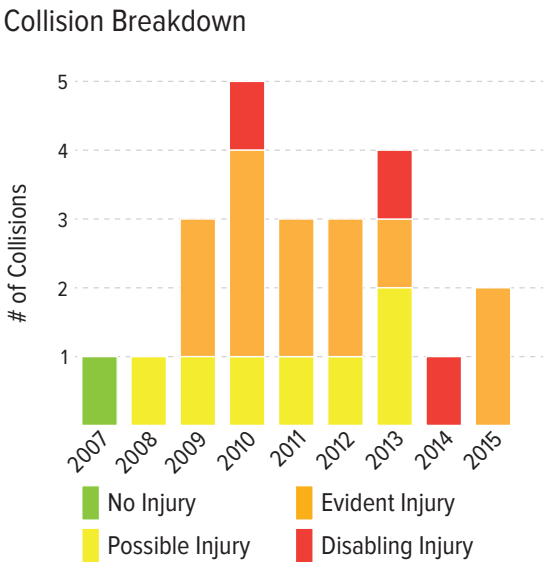


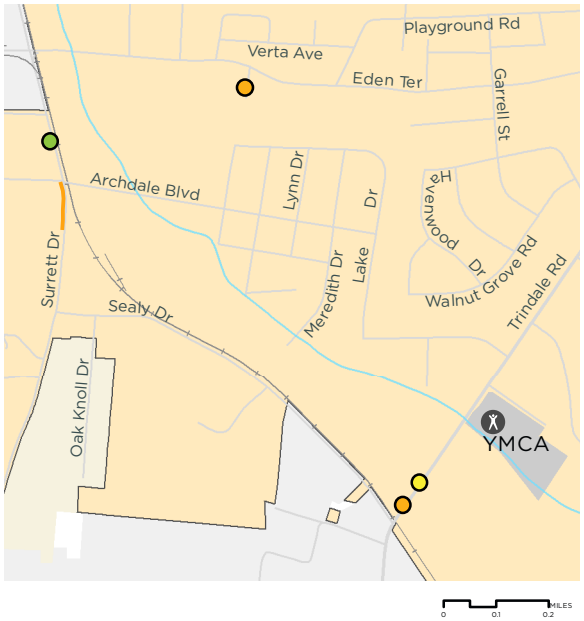
LEGEND

- No Injury
- Possible Injury
- Evident Injury
- Disabling Injury
- Existing Shared Use Path
- Existing Sidewalk
- School
- City Hall
- Library
- Randolph CC
- YMCA
- Archdale
- Study Area (ETJ)
- Other Municipalities
- Stream

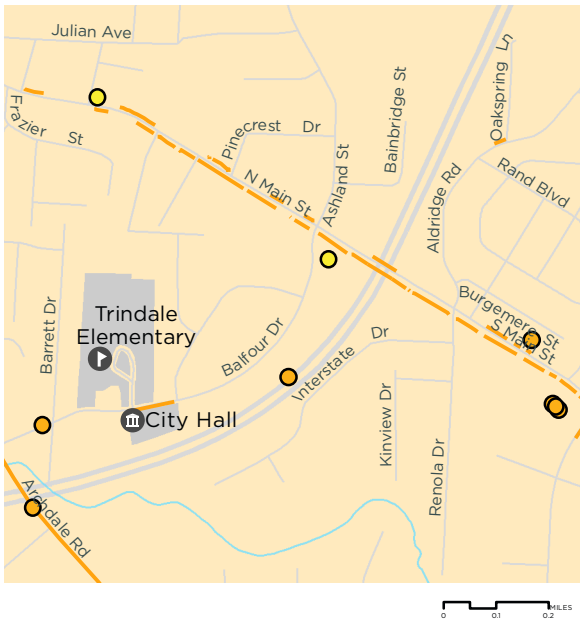
0 0.5 1 MILES

MAP 2.4 PEDESTRIAN COLLISIONS (DETAIL)

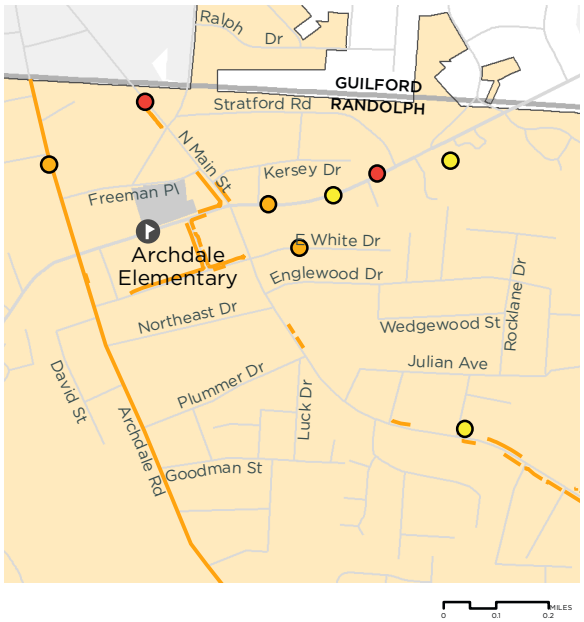




Trindale Road and Surrett Drive are two-lane, low-density roads that don't have pedestrian facilities along the roadway or at intersections.



All 6 of the collisions along Main Street occurred in parking areas. This could be the result of a lack of pedestrian awareness by drivers or from the use of parking areas as a perceived safer walking alternative to the roadway. There are currently no pedestrian facilities on-street or at intersections in the areas where crashes occurred at Balfour Drive or Archdale Road.



Two of four pedestrian crashes along Liberty Road involved crossings. The two crashes along Archdale Road and E White Drive took place as pedestrians were walking along the roadway. There are currently no pedestrian facilities on Archdale Rd, E White Drive, or Liberty Road.

EQUITY ANALYSIS

Transportation facilities are essential components in creating communities of opportunity and reducing the disproportionate economic and health burdens on communities of concern. Often, traditionally vulnerable populations, such as children, older adults, people of color, people with limited English proficiency, and low-income individuals rely heavily on affordable transportation options, specifically walking, biking, and transit.

The project team conducted an equity analysis using existing demographic information from the US Census Bureau. All data was obtained from the 2015 American Community Survey 5-year estimates and analysis was conducted at the census block group level for the City of Archdale.

The analysis scored the study area using the following economic and demographic indicators:

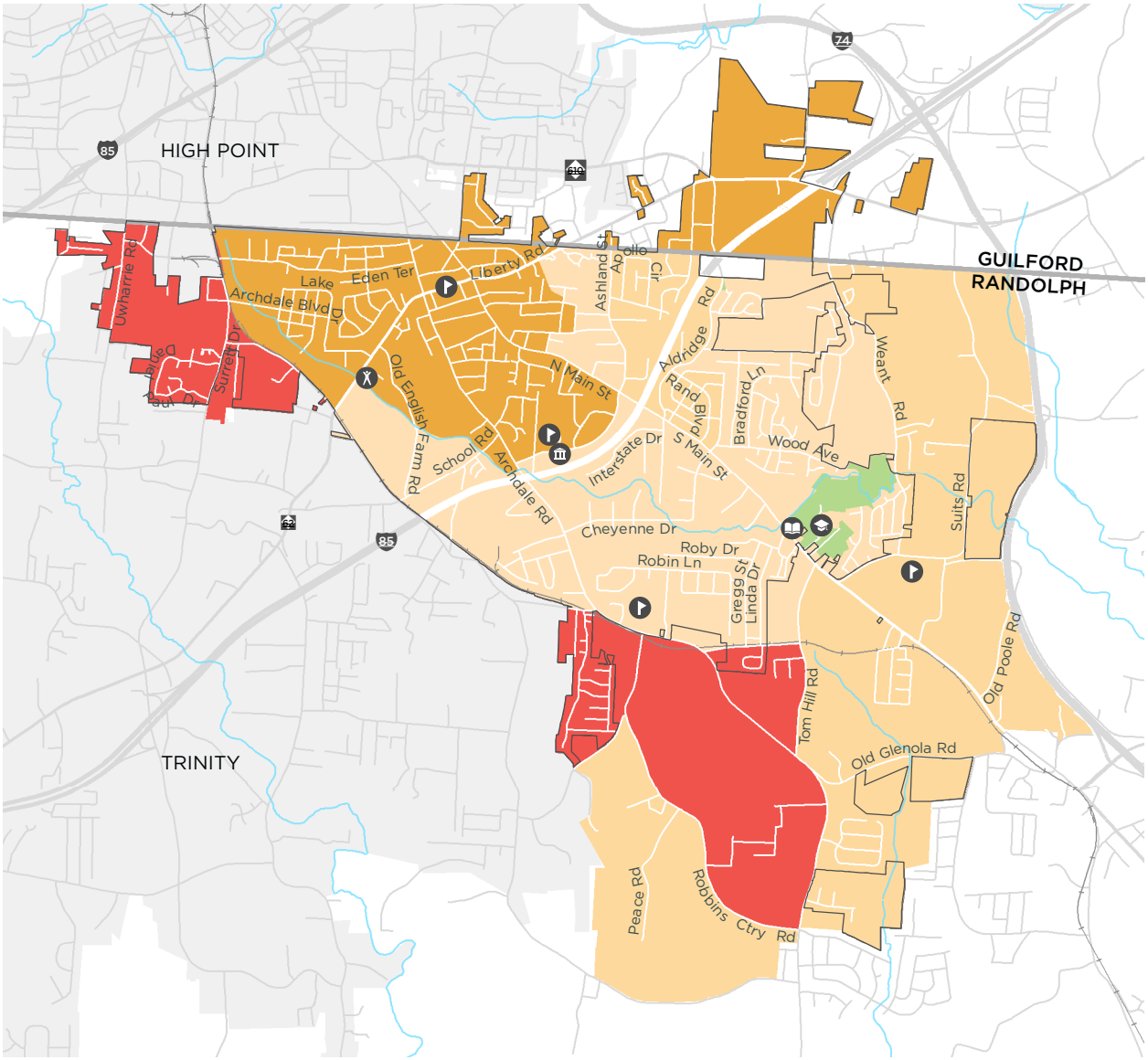
- **Age:** Individuals under the age of 18 and over the age of 65
- **Educational Attainment:** Population with no high school diploma or equivalent
- **Income:** Individuals of working age who are living at or below 200% of the Federal Poverty Level (FPL)
- **Limited English Proficiency (LEP):** Percentage of the population that identifies as not speaking English well or at all
- **Race:** Percentage of the population that identifies as non-white

KEY TAKEAWAY

Areas of higher need include the northwestern portions of the city, along with an area around the southern peninsula of the study area (just south of the City boundary). This area encompasses a wide diversity of uses including a large amount of low-density single-family residences, an industrial employment hub in the westernmost area, the Grubb Family YMCA, two schools and commercial development along Archdale Road, Main Street, and Liberty/Trindale Road. Higher need areas often point to populations that may be more reliant on walking as a form of transportation and with all of the destinations in this area, there is a clear directive to increase safety for pedestrians here.

The high need area to the south is much more rural and is almost exclusively residential. Pedestrian facilities should be at the forefront of the conversation as development continues in this direction. Creating safe, connected corridors to neighboring destinations should be a high priority.

MAP 2.5 EQUITY ANALYSIS



LEGEND

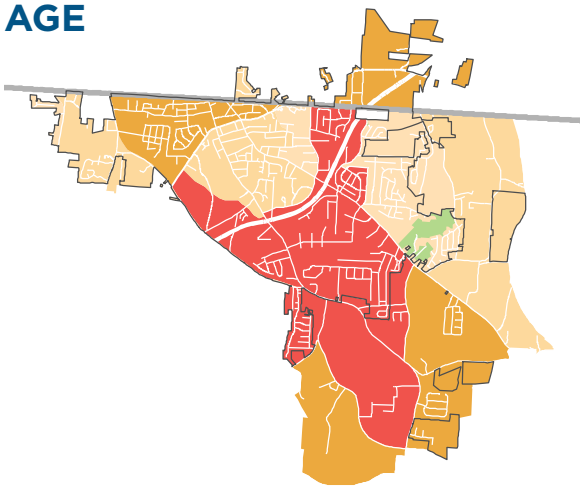
- Lowest Concentration of Need
- Highest Concentration of Need
- School
- City Hall
- Library
- Randolph CC
- YMCA
- Archdale
- Study Area (ETJ)
- Other Municipalities
- Stream

0 0.5 1 MILES

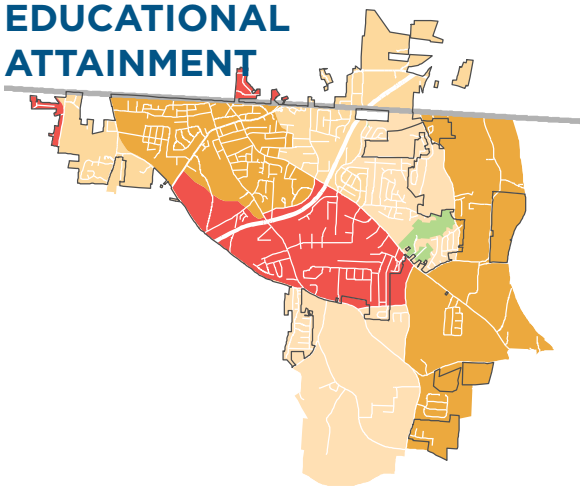
MAP 2.6 EQUITY ANALYSIS INPUTS

The maps below show the results of the numerous Equity Analysis inputs, i.e. Age, Educational Attainment, Income, Limited English Proficiency, and Race.

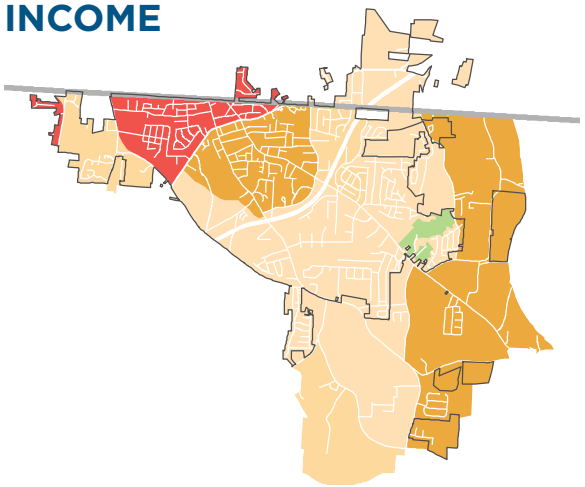
AGE



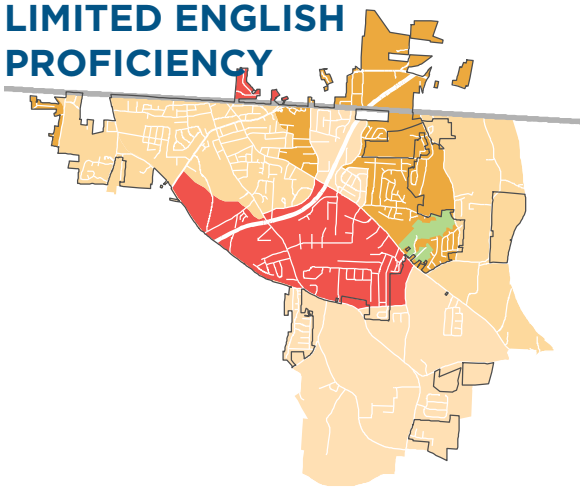
EDUCATIONAL ATTAINMENT



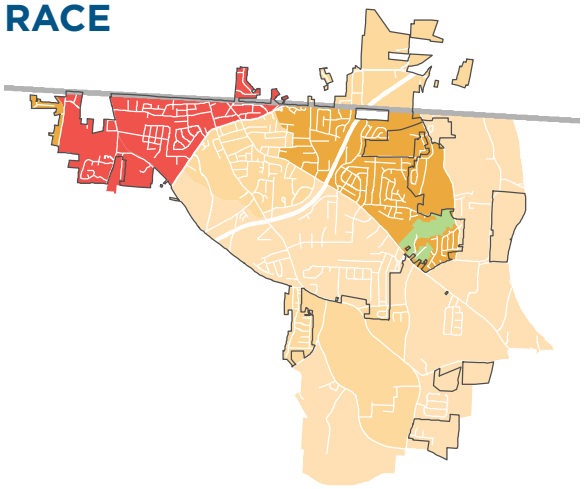
INCOME

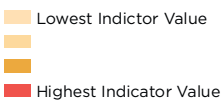


LIMITED ENGLISH PROFICIENCY



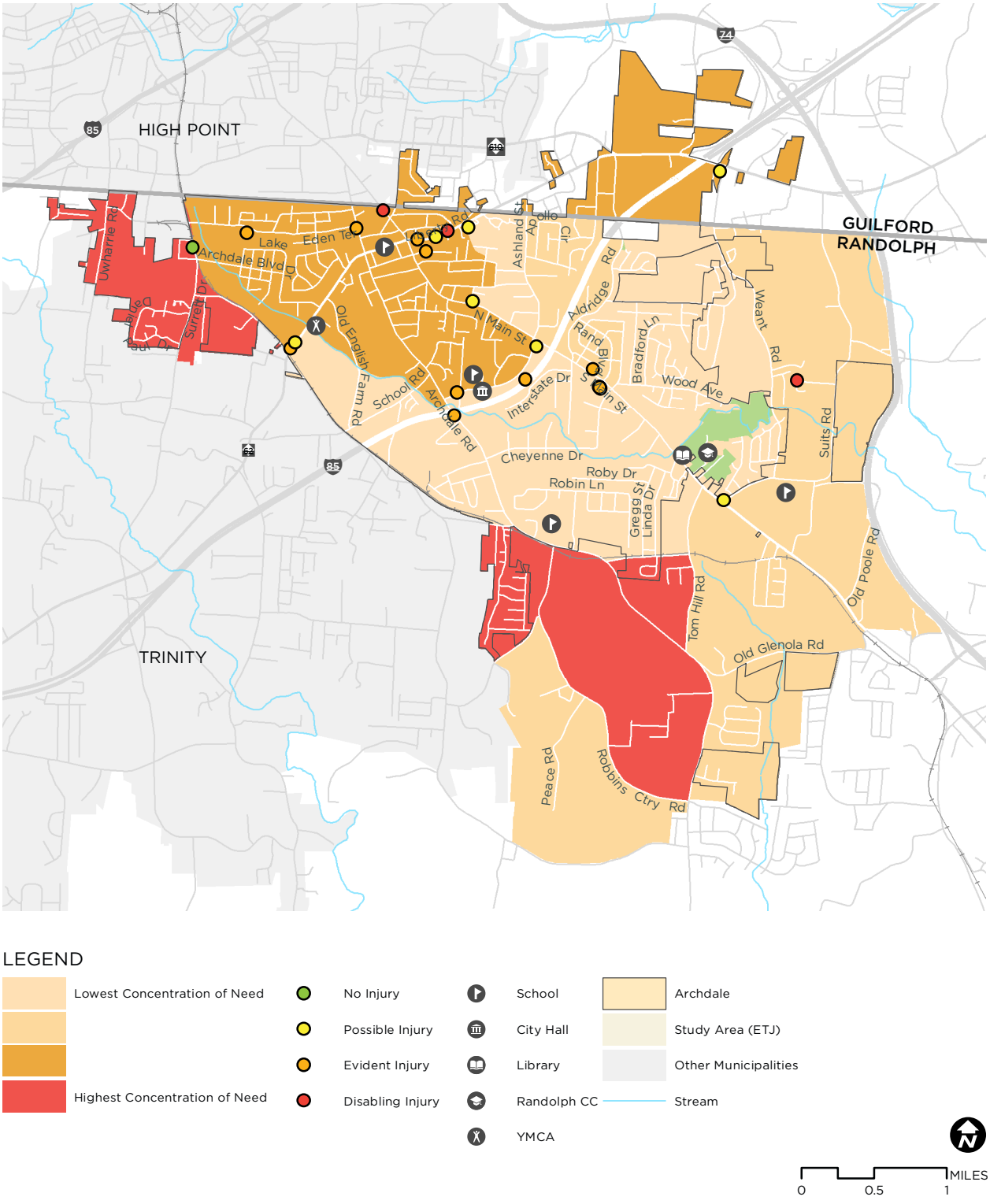
RACE





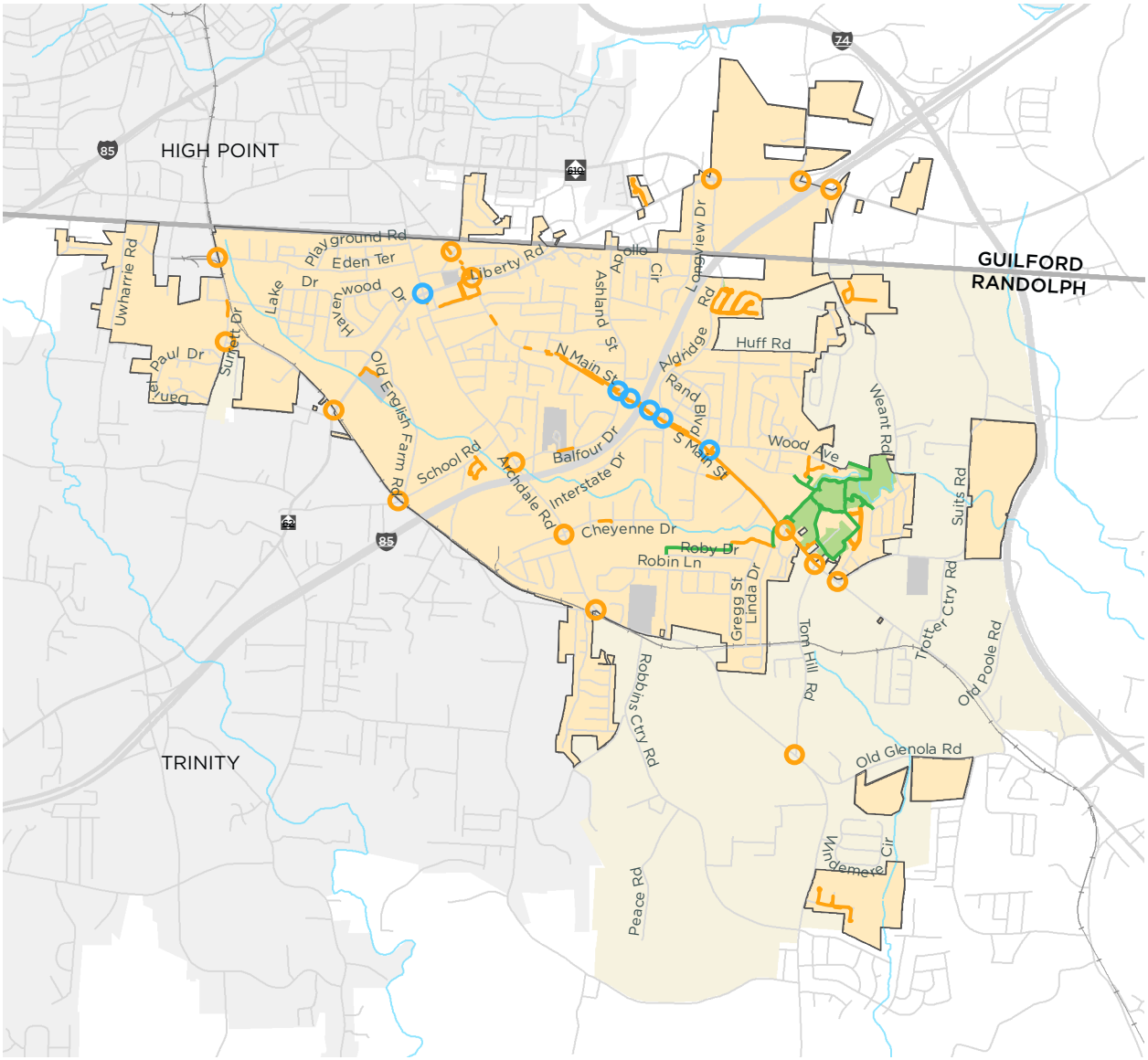
MAP 2.7 EQUITY AND PEDESTRIAN COLLISIONS

Layering the equity and collisions analysis shows that more collisions (62.5%) occur in, or directly adjacent to, areas of higher vulnerability.



MAP 2.8 PEDESTRIAN CROSSING INVENTORY

The map below is an inventory of all signalized intersections in Archdale. No signalized intersections have complete crossing treatments oriented toward the safety and comfort of pedestrians.



LEGEND

- Partial Pedestrian Facilities at Intersection
- No Pedestrian Facilities at Intersection
- Existing Shared Use Path
- Existing Sidewalk
- Archdale
- Study Area (ETJ)
- Other Municipalities
- Stream

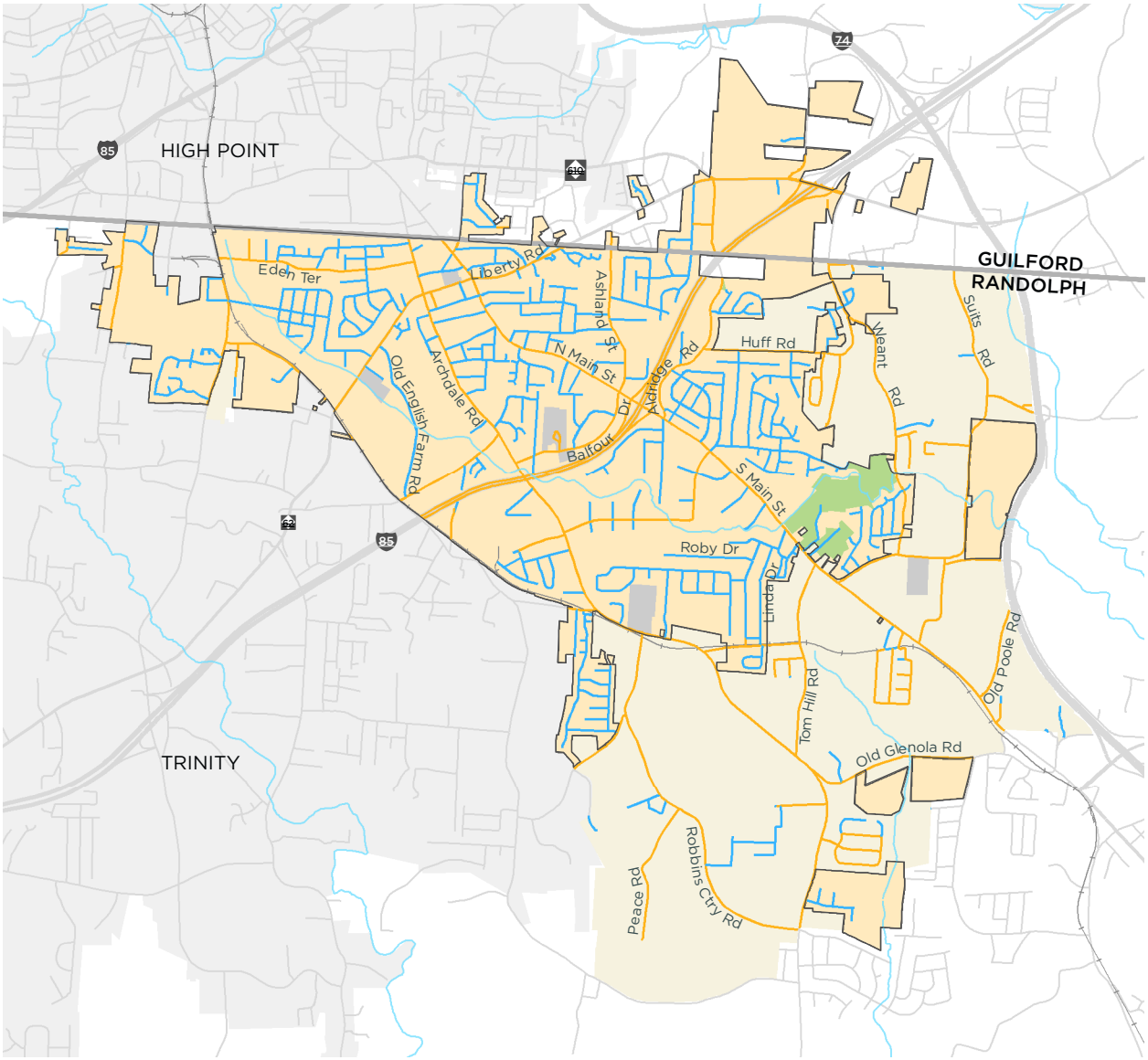
N

0 0.5 1 MILES

MAP 2.9 ROAD OWNERSHIP

LOCALLY MAINTAINED ROAD:
57.76 miles (53% of Archdale Roads)

NCDOT MAINTAINED ROAD:
50.48 miles (47% of Archdale Roads)



LEGEND

- Local Road
- NCDOT
- Archdale
- Study Area (ETJ)
- Other Municipalities
- Stream

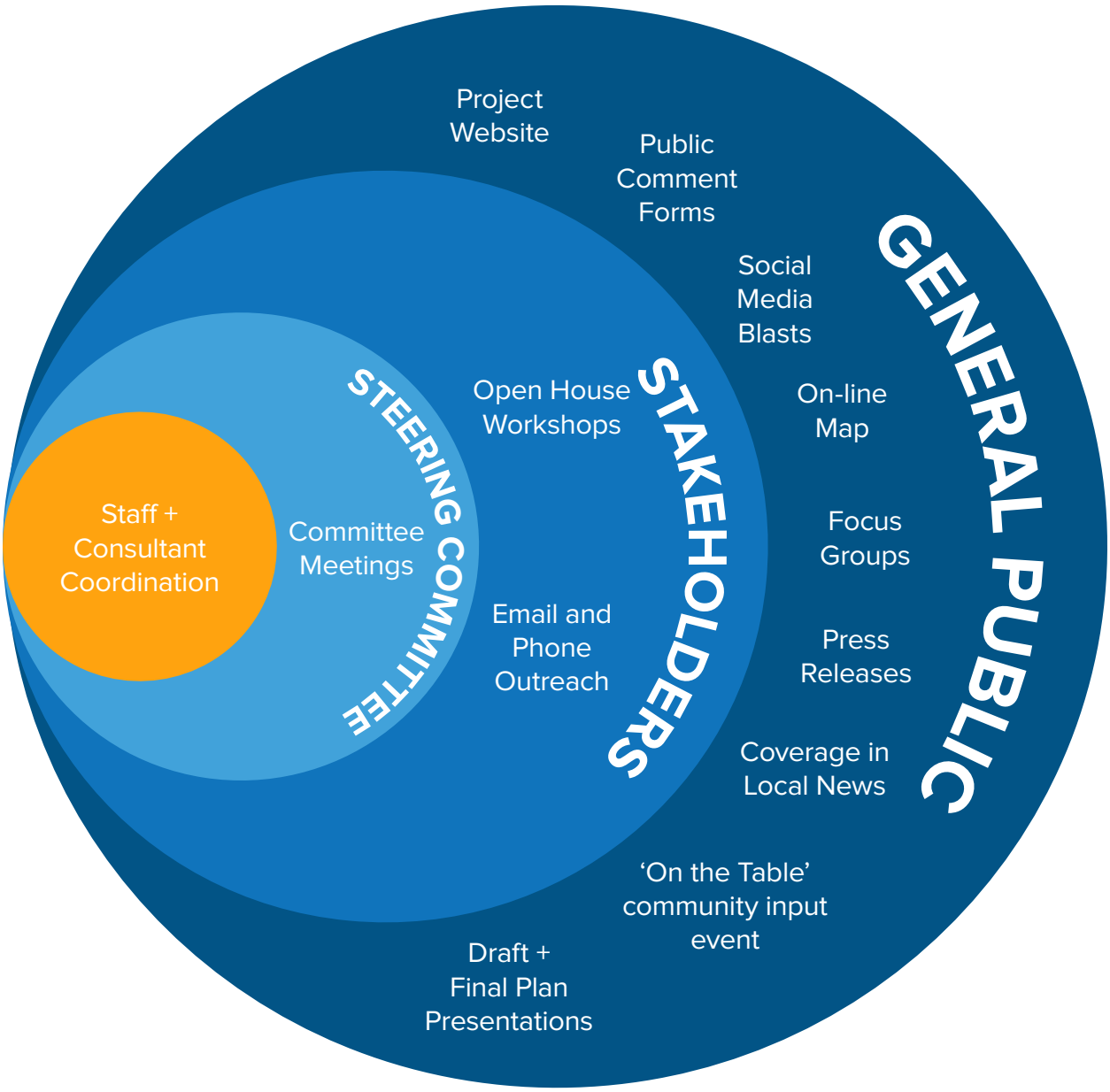
N

0 0.5 1 MILES

CHAPTER 3:
PUBLIC INVOLVEMENT

ENGAGEMENT OVERVIEW

The graphic below demonstrates the various ways public input was collected. The map on page 34 highlights the corridors that people identified on the on-line interactive map that are most in need of improvement.



WHAT WE HEARD...

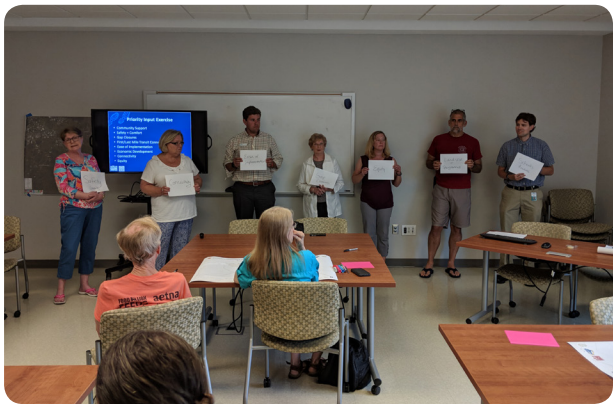
"As a citizen, I'd like to see continued expansion of sidewalks and greenways"

"We don't have a lot of crossings."

"Better crosswalks needed."

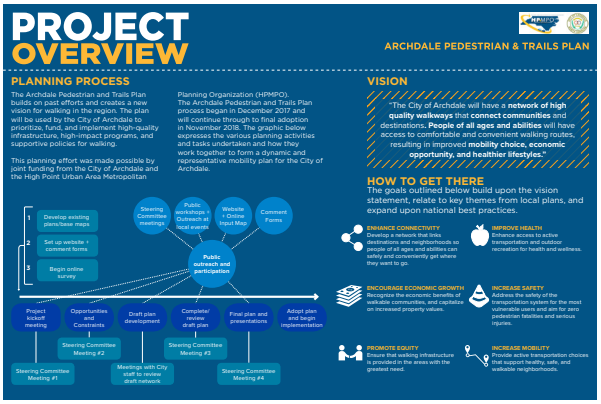
"I walk in the park almost daily..."

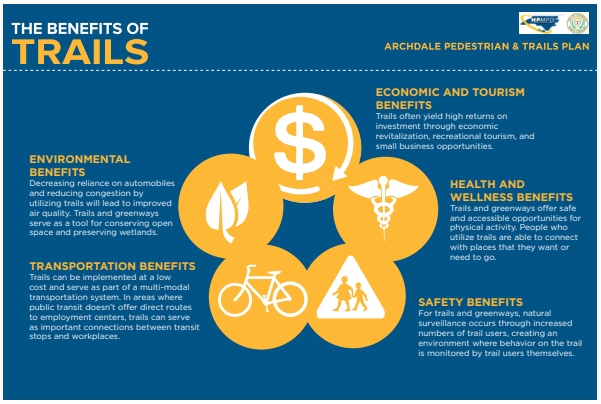
"Greenways and sidewalks are very important to citizens and visitors."

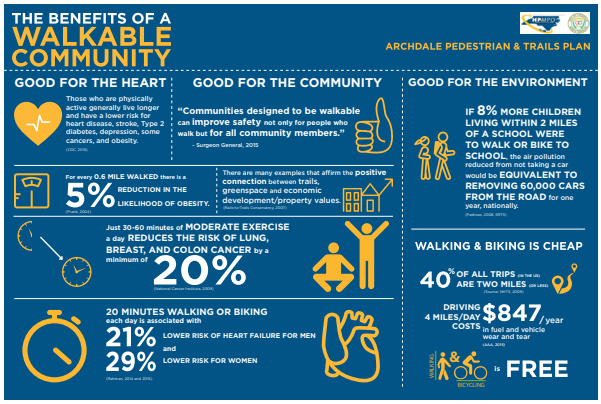


A project planner attended the End of Summer Bash on Saturday, September 22 at Creekside Park to chat with community members about the Archdale Pedestrian and Trails Plan. The event was well-attended and provided a good opportunity to discuss progress with the plan, recommendations, opportunities to still get involved, and to generally chat about pedestrian issues in the community.

The project boards, shown below, were also displayed at City Hall to encourage public comments on the draft plan.







SURVEY RESPONSES

88 responses

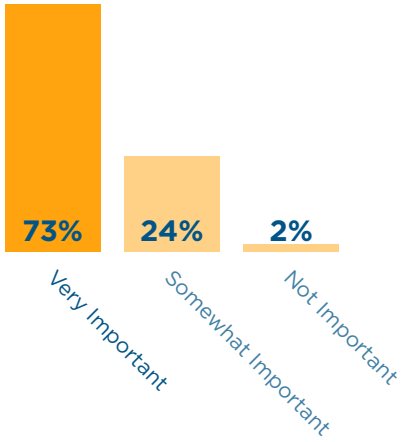
How would you rate walking conditions in Archdale?

FAIR 65%

25% said Excellent
10% said Poor

89 responses

How important to you is improving walking conditions in Archdale?



89 responses

When walking in Archdale, what is (or would be) the primary purpose of your trip?

#1 Exercise

#2 Enjoy Nature

#3 Recreation

#4 Socialize

88 responses

Most Important goals and outcomes of the Archdale Pedestrian and Trails Plan

#1 Safer Conditions for Walking

#2 More Choices for recreation and exercise

#3 Accessible Sidewalks and curb ramps

#4 More choices for transportation

41 responses

What destinations would you most desire to reach by walking?

- **Creekside Park**
- **K-12 Schools**
- **Archdale Public Library**
- **Existing Greenways**
- **YMCA**
- **Randolph Community College**
- **N. Main Street Businesses**

77 responses

Space dedicated for walking: which of the following apply to the pedestrian network in Archdale?

54% SIDEWALKS OR PATHS START AND STOP

41% NO SIDEWALKS, PATHS, OR SHOULDERS

78 responses

What is your relationship to Archdale?

70% I live here

29% I own property here

25% I visit here

17% I work here

73 responses

Roadway crossings: what do you think are the factors that most discourage pedestrians crossing roadways in Archdale?

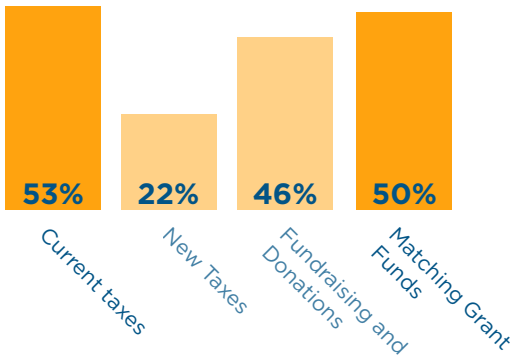
50% Need striped crosswalks or traffic signals

46% Heavy/fast motor vehicle traffic

43% Motorists failing to yield to pedestrians

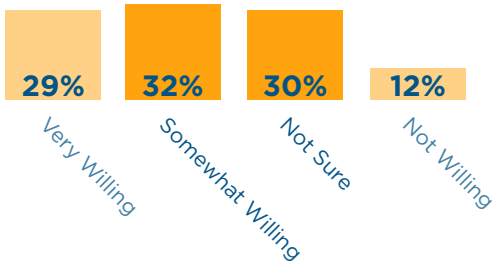
77 responses

How should pedestrian facilities be funded within Archdale?



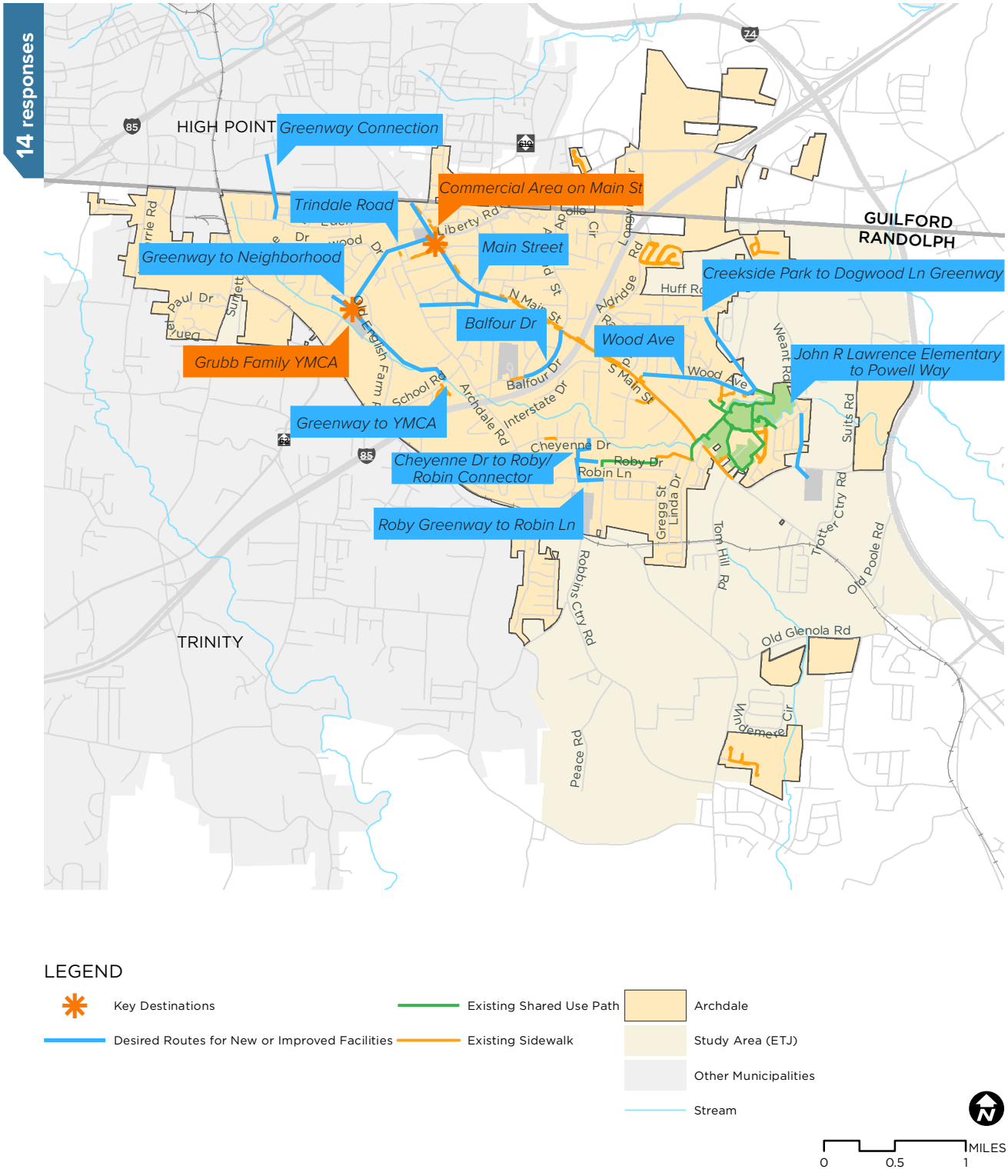
76 responses

How willing would you be to pay some increase in taxes to fund pedestrian facilities in Archdale?



MAP 3.1 USER-GENERATED MAP

The community had the opportunity to provide input via an online interactive map and hard copy interactive map that was posted at City Hall and brought to outreach events.



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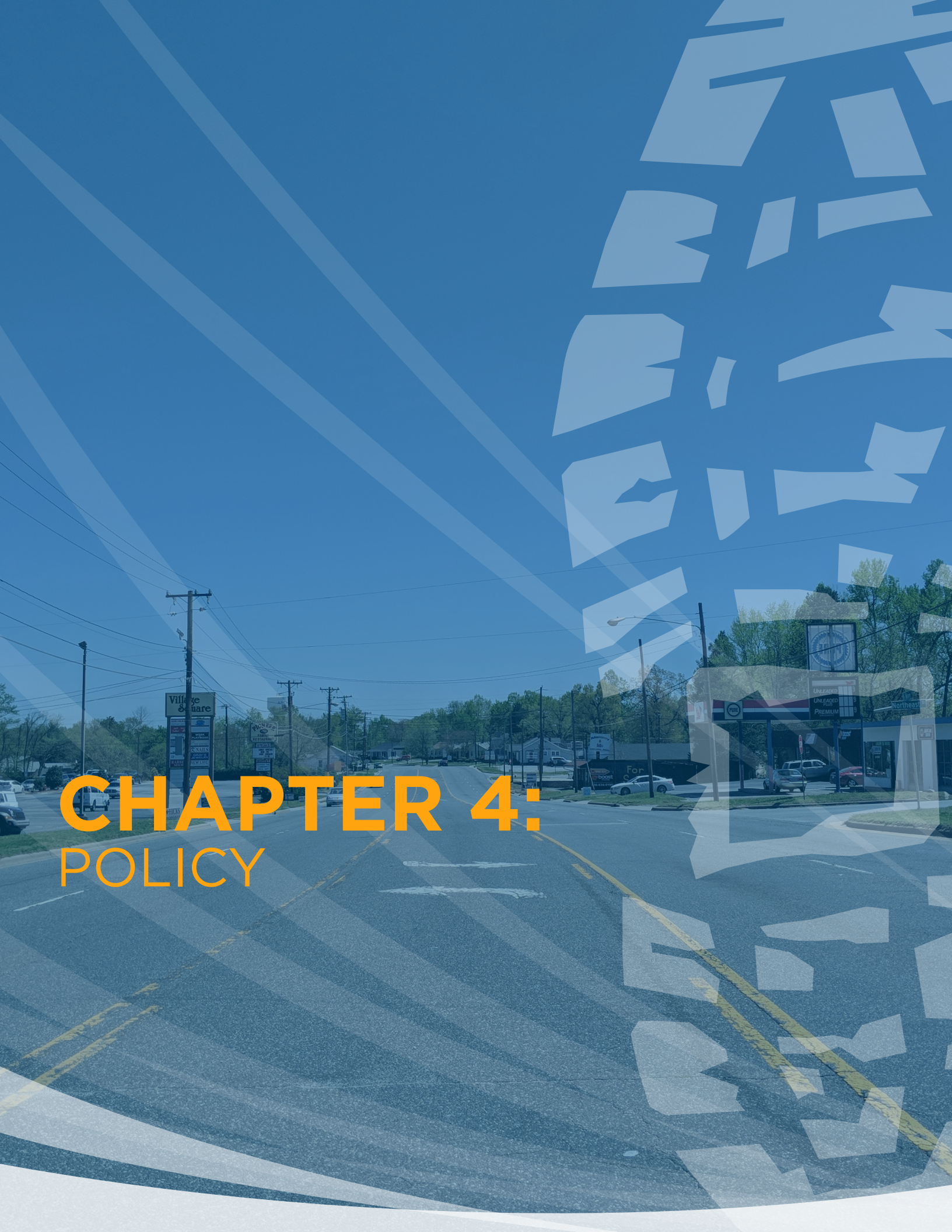


CHAPTER 4:
POLICY

OVERVIEW

One of the most cost-effective implementation strategies for Archdale is to establish land use and transportation policies and development regulations that promote walkable new development, programs, and capital projects. As part of a comprehensive approach to developing recommendations for a more walkable city, the project team reviewed Archdale's zoning and subdivision standards to identify general issues and opportunities impacting the pedestrian and greenway environment. Following is a review of Archdale's existing development regulations to identify model standards and opportunities for improvement that can be applied throughout the city. The project team identified appropriate model regulatory and policy language from around North Carolina and the U.S. for elements including pedestrian and greenway facilities, connectivity, Complete Streets, and bicycle parking to provide example methods for Archdale to maximize pedestrian and greenway improvements in conjunction with new development, redevelopment, and corridor improvement projects.

The recommendations below are organized into major categories of "Complete Streets and Greenways", "Pedestrian-oriented Urban Design Elements", and "Connectivity." All of the major categories are interrelated, but based on the existing conditions analysis, and the goals of this plan, the following key recommendations from the table below should be implemented first.

PRIORITY POLICY AND REGULATORY ACTION STEPS:

1. Update the Pedestrian Network Plan to include new facility recommendations.
2. During the upcoming Comprehensive Plan Update, policies recommended in this chapter should be considered, including the development of a comprehensive complete streets policy and implementation strategy.
3. Update development regulations and engineering standards to include and reflect best practices for pedestrian and greenway design.
4. Develop a policy that requires all projects (City, NCDOT, and regional) to take into account the recommendations of this plan to ensure that capital projects include recommended pedestrian treatments

Potential shared use path corridor near Roby Greenway

Table 4.1 - Development Ordinance Review

Topic/Strategies	Comments/Recommendations		
	Zoning Ordinance	Subdivision Ordinance & Construction and Development Guidelines	General Recommendations
1. Complete Streets and Greenways			
1.1. Implement Complete Streets Policy A complete streets policy allows cities and towns to work towards creating a street network that encourages pedestrian and bicycle travel and provides safe and comfortable roadways for all users.	No policy noted in the Zoning Ordinance. Needs Improvement. NCDOT's *Complete Streets Planning and Design Guidelines* will apply to all NCDOT-maintained streets in the City. The NCDOT guidelines also provide excellent guidance for locally maintained streets and street networks and complete streets planning and design processes, which can be applied in Archdale.	N/A	In addition to the very thorough NCDOT *Complete Streets Planning and Design Guidelines*, Smart Growth America provides great resources for designing streets that cater to all users, including a best practices guide co-authored with APA. Dunn, NC has one of the best complete street policy statements of any community in NC: *Zoning Ordinance Sec. 22-352. Circulation and connectivity. (a) Purpose and intent. The purpose of this section is to support the creation of a highly connected transportation system with the city in order to provide choices for drivers, bicyclists, and pedestrians; promote walking and bicycling; connect neighborhoods to each other and to local destinations such as schools, parks, and shopping centers; reduce vehicle miles of travel and travel times; increase effectiveness of municipal service delivery, and free up arterial capacity to better serve regional long distance travel needs.*
1.2 Develop Complete Street Design Guidelines for a variety of contexts and all street/roadway user groups The subsections below include recommendations for pedestrian-related elements of Complete Streets and complete pedestrian and greenway networks. Sidewalks, greenways, and streetscape amenities such as street trees and lighting are some of the most fundamental elements of Complete Streets for pedestrians and greenway users. Access management, multi-modal level of service assessments, and traffic calming are also critical for developing complete street networks for walking through the development review and capital project implementation process.	N/A	None required. Needs improvement. To begin with, consider adopting by reference for street design one or more of the following and including in the new UDO: - *NCDOT Complete Streets Planning and Design Guidelines* - *NCDOT Traditional Neighborhood Street Design Guidelines* - *NACTO Urban Street Design Guide* The design guidance should also be integrated and incorporated into the City's Construction and Development Guidelines.	The NCDOT Complete Street Guidelines include recommendations on complete street design elements for pedestrians and greenway users. Archdale could adopt and endorse the NCDOT guidelines and other national guidelines, including the NACTO Urban Street Design Guide: http://nacto.org/publication/urban-street-design-guide/ The design guidelines should be integrated into Archdale's development regulations. See examples from the *Raleigh Street Design Manual* (http://www.raleighnc.gov/content/extra/Books/PlanDev/StreetDesignManual/#1) and the *Charlotte Urban Street Design Guidelines*: http://charmeck.org/city/charlotte/transportation/plansprojects/pages/urban%20street%20design%20guidelines.aspx See also the excellent Major & Collector Street Plan: Implementing Complete Streets for Nashville/Davidson County, TN for policy guidance.

Table 4.1 - Development Ordinance Review

Topic/Strategies	Comments/Recommendations		
	Zoning Ordinance	Subdivision Ordinance & Construction and Development Guidelines	General Recommendations
1. Complete Streets and Greenways (continued)			
1.3. Require pedestrian accommodations, including by roadway type Pedestrian facilities should be determined based on street types and land uses of a given roadway corridor.	Archdale has very good sidewalk requirements that are generally based on street type and/or land use context. *Section 3.22 Sidewalk and Greenway Requirements* *Sidewalks and Greenways connecting residences, schools, and recreational areas are required. A network of sidewalks and greenways must be installed in all new developments following the designated circulation system shown on the Pedestrian Network Plan. Sidewalks and Greenways must be built according to construction standards found in Sections 1.6 and 1.7 of the City of Archdale Subdivision Ordinance, as well as the City of Archdale Construction and Development Guidelines.*	Archdale has very good sidewalk requirements that are generally based on street type and/or land use context. *Section 1-7 Standards for Sidewalks* *Have profiles drawn for residential collector type streets, . . . Given the nature of these streets, sidewalks shall be required on both sides of the street. This will reduce the possibility of pedestrian crossing accidents.* *Have profiles drawn for local streets having a minimum width of less than 28 feet face of curb to face of curb. Sidewalks will only be required on one side of the street.* *Sidewalks shall continue around the entire cul-de-sac providing access to all lots located within it.* *Sidewalks shall be required in all business districts.* *All sidewalks shall be a minimum 5 feet in width and 4 inches thick and shall be constructed as specified in the Construction and Development Guidelines.* The City should consider revising its ADA ramp detail in the *Construction and Development Guidelines* to include a perpendicular curb ramp specification, which are preferred by the US Access Board's ADA Standards (see Chapter 4, Ramps and Curb Ramps).	1. Consider a greater range of sidewalk requirements based on street and land use context. For example, the City's TND District requires different sidewalk widths in non-residential areas. In areas such as downtown and pedestrian-oriented business districts with buildings at the back of the sidewalk and ground level retail, sidewalks should be as wide as 10-16 feet wide. See the NCDOT Complete Street Planning and Design Guidelines for contextually-based streetscape and sidewalk design requirements. Consider including these guidelines by reference in local design guidance or requirements. Also: The design guidelines recommended as part of this plan should be considered for incorporation or inclusion by reference in the City's Zoning and Subdivision regulations and Construction and Development Guidelines. 2. Make the City's Fee-In-Lieu for Sidewalks and Greenways provisions (SO Section 1-7) more prescriptive as to when they can or cannot be used. The ordinance language is currently very permissive in allowing developers to opt out of building sidewalks and greenways. See the City of Asheville's ordinance for an example of more targeted language that Archdale could adapt: http://www.ashevillenc.gov/civicax/filebank/blobdload.aspx?BlobID=22887
1.4. Require designated bikeways (bike lanes, shoulders, greenways, etc) during new development or redevelopment	None required. Needs improvement.	None required. Needs improvement. The design guidance should also be integrated and incorporated into the City's *Construction and Development Guidelines*.	See Chapter 4 of the NCDOT *Complete Streets Planning and Design Guidelines* for guidance. Also, see: Chapters 6 of Wake Forest, NC UDO for recommendations for bikeways and greenways, esp. sections 6.8.2, 6.9, 6.10. http://www.wakeforestnc.gov/udo.aspx Chapter 7 of the Wilson, NC UDO regarding greenways. http://www.wilsonnc.org/wp-content/uploads/2014/12/CH-7-Parks-Open-Space.pdf

Table 4.1 - Development Ordinance Review

Topic/Strategies	Comments/Recommendations		
	Zoning Ordinance	Subdivision Ordinance & Construction and Development Guidelines	General Recommendations
1. Complete Streets and Greenways (continued)			
1.5. Require dedication, reservation or development of greenways	Excellent. *Section 3.22 Sidewalk and Greenway Requirements* *Sidewalks and Greenways connecting residences, schools, and recreational areas are required. A network of sidewalks and greenways must be installed in all new developments following the designated circulation system shown on the Pedestrian Network Plan. Sidewalks and Greenways must be built according to construction standards found in Sections 1.6 and 1.7 of the City of Archdale Subdivision Ordinance, as well as the City of Archdale Construction and Development Guidelines.*	Very good. *Standards for Greenways* *Greenways and connectors shall be planned following the designated circulation system shown on the Pedestrian Network Plan. Greenway stubs must extend to the neighboring property line. Developments that adjoin future greenways must provide a connection trail to the said greenways.* *The City of Archdale defines a Greenway as an 8 feet wide paved trail located on a 20 foot wide easement. Greenways may be dedicated to the City for maintenance and general upkeep. Greenway Connectors must be 4 feet wide and paved. Greenway connection trails will remain the property of the development. The development will retain all responsibility of maintenance and upkeep of said connections.*	Archdale has excellent requirements for the development of greenways in new developments. The primary updates needed are for trail width, which is recommended as 10 feet minimum by AASHTO. In many communities and in areas with higher usage expected, 12 feet is the minimum desired width for greenways. Greenway connectors should be a minimum of 5 feet to match sidewalk width guidance by ADA and PROWAG, but ideally 6 feet or more. Where greenway construction cannot politically or legally be required, consider offering incentives in the form of reduced fees, cost sharing, density bonuses, or reduction in other open space requirements when adopted greenways are constructed through private development. See the incentives offered by the City of Asheville to promote public policy goals for example: http://www.ashevillenc.gov/civicax/filebank/blobdload.aspx?BlobID=23087 For additional examples of incentives, see also: https://www.law.ufl.edu/_pdf/academics/centers-clinics/clinics/conservation/resources/incentive_strategies.pdf *See requirements in Wake Forest, NC UDO, Section 6.8.2 Greenways: "When required by Wake Forest Open Space & Greenways Plan or the Wake Forest Transportation Plan, greenways and multi-use paths shall be provided according to the provisions [that follow in the section cited above]."* *http://www.wakeforestnc.gov/udo.aspx*
1.6. Require new sidewalks, greenways, etc., to connect to existing facilities	N/A	Excellent. *Standards for Greenways* *Greenways and connectors shall be planned following the designated circulation system shown on the Pedestrian Network Plan. Greenway stubs must extend to the neighboring property line. Developments that adjoin future greenways must provide a connection trail to the said greenways.*	Connectivity of facilities is critical for walking and biking conditions. New development should be required to connect to or extend existing bicycle and pedestrian facilities. See the following for other examples: • Chapters 6 of Wake Forest, NC UDO for recommendations for bikeways and greenways, esp. sections 6.5.3, 6.8.2, 6.9, 6.10. http://www.wakeforestnc.gov/udo.aspx • Chapter 7 of the Wilson, NC UDO regarding greenways. http://www.wilsonnc.org/wp-content/uploads/2014/12/CH-7-Parks-Open-Space.pdf • New Hanover County, NC's EDZD Zoning District provides points for new developments that connect to the existing bikeway network and key destinations and provides a good definition of the bikeway network. (Section 54.1-14 and following.)
1.7. Consider pedestrian concerns and Level of Service (LOS) in Traffic Impact Analyses and other engineering studies Beyond LOS for motor vehicle travel at intersections, Archdale should consider adopting multi-modal of service standards where active transportation and transit use are expected to be high. Consideration of bicycle and pedestrian levels of service assure adequate facilities for bicyclists and pedestrians in new development and capital improvements. This also helps promote walking and bicycling and transit use as a legitimate means of transportation.	N/A	The City requires a traffic impact analysis for development of 50 or more housing units, however the TIA requirements do not include considerations for mitigation for pedestrian needs. Needs improvement.	The NCDOT Complete Streets Planning and Design Guidelines provides factors of "Quality of Service " and LOS for bicycle, pedestrian, and transit modes (See Chapter 3, page 39 and Chapter 5): http://www.completestreetsnc.org/wp-content/themes/CompleteStreets_Custom/pdfs/NCDOT-Complete-Streets-Planning-Design-Guidelines.pdf The City of Raleigh uses multimodal level of service approach in determining road improvements and traffic mitigation: http://www.raleighnc.gov/content/extra/Books/PlanDev/StreetDesignManual/#71 Charlotte, NC uses Pedestrian LOS and Bicycle LOS Methodologies for intersection improvements in their *Urban Street Design Guidelines*: http://charmeck.org/city/charlotte/transportation/plansprojects/pages/urban%20street%20design%20guidelines.aspx

Table 4.1 - Development Ordinance Review

Topic/Strategies	Comments/Recommendations		
	Zoning Ordinance	Subdivision Ordinance & Construction and Development Guidelines	General Recommendations
1. Complete Streets and Greenways (continued)			
1.8. Adopt traffic calming programs, policies, and standards Traffic calming on local streets increases safety and comfort for all roadway users, including pedestrians and cyclists. It also increases neighborhood livablility.	N/A	None required. Needs improvement.	FHWA has developed a comprehensive Traffic Calming ePrimer. The Town of Huntersville has a good Traffic Calming Policy. See also the NACTO Urban Bikeway Design Guide section on Bicycle Boulevards.
1.9. Develop an access management program or policy Limiting turning movements on major roadways and requiring cross-access between adjacent parcels of land, including commercial developments, is a great tool for reducing the amount of traffic and turning movements on major roads while increasing safety and connectivity for pedestrians, bicycles, and cars.	Good Requirements for access management are included in the referenced NCDOT policy. Consider adding language to match the Access Density guidelines in the NCDOT Complete Streets Guide noted at right. *Section 3.14 Entrances/Exits to Public Streets* *Entrances and exits to public streets shall be placed and constructed in accordance with the "Policy on Street and Driveway Access to North Carolina Highways" adopted by the North Carolina Department of Transportation (NCDOT), as amended. No portion of any entrance driveway leading from a public street shall be closer than 20 feet to the corner of any intersection measured from the right-of-way line. The width of any entrance driveway leading from the public street shall not exceed 30 feet at its intersection with curb or street line. No two driveways on a single lot leading from a public street shall be within 20 feet of each other measured along the right-of-way.*	N/A	The NCDOT *Complete Streets Planning and Design Guidelines* provides recommended "Access Density" guidelines (See Chapter 4, page 61 and 62 and following). These guidelines could be the basis for regulatory updates to the municipal codes.
2. Pedestrian-Oriented Urban Design Elements			
2.1 Require Planting Strips and Street Trees	None required. Although Section 10.3 requires a buffer strip and trees between a roadway and a parking lot, no specific requirement for a buffer strip between a sidewalk and the roadway is required nor are street trees between the roadway and the sidewalk required. (In some districts, including TND and Multifamily developments, buffer strips of 2-4 feet are required, but this dimension is not sufficient for planting shade trees. 8 feet is a recommended dimension for planting of large maturing trees. This dimension also allows space for driveway ramps that don't impact sidewalk slopes.) Needs improvement.	None required. Needs improvement.	When planted in a planting strip between the sidewalk and the curb, street trees provide a buffer between the pedestrian zone and the street. In addition to their value for improving the air quality, water quality, and beauty of a community, street trees can also help slow traffic and improve comfort for pedestrians. Trees add visual interest to streets and narrow the street's visual corridor, which may cause drivers to slow down. See NCDOT Complete Streets Planning and Design Guidelines (Chapter 4) for context-based pedestrian and "green" zone recommendations: http://www.completestreetsnc.org/wp-content/themes/CompleteStreets_Custom/pdfs/NCDOT-Complete-Streets-Planning-Design-Guidelines.pdf See also, Town of Wendell UDO Chapter 8, especially section 8.8, Street Trees: http://files.wendell.gethifi.com/departments/planning/zoning/udo-unified-development-ordinance/Chapter_8_-_amended_092611.pdf

Table 4.1 - Development Ordinance Review			
Topic/Strategies	**Comments/Recommendations**		
	Zoning Ordinance	**Subdivision Ordinance & Construction and Development Guidelines**	**General Recommendations**
2. Pedestrian-Oriented Urban Design Elements (continued)			
2.2 Require Pedestrian-Scale Street Lighting	N/A	Very Good. Consider adding additional detail on lighting type *Sec. 1-7 Standards for Street Lighting* *Decorative street lights are mandatory in all newly platted subdivisions. All public streets require an outdoor street lighting plan that shall be designed in accordance with the accepted Street Lighting standards described in the City of Archdale Construction and Development Guidelines. All decorative fixtures shall be located in the public right-of-way in a manner so as not to interfere with pedestrian or vehicular traffic.*	Pedestrian-scale lighting along streets and at intersections is one of the most important tools for pedestrian crash prevention. Archdale should consider adding additional detail to its good street lighting standards. See Town of Wendell UDO, Sections 11.10 and 11.11 for pedestrian-scaled lighting requirements by zoning district and for lighting requirements for greenways and walkways: http://files.wendell.gethifi.com/departments/planning/zoning/udo-unified-development-ordinance/Chapter_11_-_amended_071410.pdf
2.3. Adopt bicycle parking requirements	None required. Needs improvement.	None required. Needs improvement. Include bicycle parking specifications in the Construction and Development Guidelines.	Bicycles should receive equal consideration when calculating parking needs with specific calculations provided for determining the amount of bicycle parking provided by district type or land use type. Design and location standards for bicycle parking should be clearly stated to provide for safe and convenient access to destinations. Different standards of bicycle parking are needed for short-term visitors and customers and for longer term users like employees, residents, and students. See City of Wilson UDO, Chapter 9: Parking & Driveways, Section 9.4 and 9.6: http://www.wilsonnc.org/wp-content/uploads/2014/12/CH-6-Infrastructure-Standards.pdf Good standards for bicycle parking design can be found through the Association of Pedestrian and Bicycle Professionals' Bicycle Parking Guidelines. (www.apbp.org) Bicycle Parking Model Ordinance, Change Lab Solutions: http://changelabsolutions.org/publications/bike-parking City of SF Zoning Administrator Bulletin for designs/layout/etc. The bulletin is in itself a great document that includes limits on hanging racks, how to park family bikes, and various configurations: http://www.sf-planning.org/ftp/files/publications_reports/bicycle_parking_reqs/Leg_BicycleParking_ZABulletinNo.9.pdf

Table 4.1 - Development Ordinance Review

Topic/Strategies	Comments/Recommendations		
	Zoning Ordinance	**Subdivision Ordinance & Construction and Development Guidelines**	**General Recommendations**
3. Connectivity Requirements			
3.1. Connectivity Requirements *"[A] Good [street] network provides more direct (shorter) routes for bicyclists and pedestrians to gain access to the thoroughfares and to the land uses along them (or allows them to avoid the thoroughfare altogether). Likewise, good connections can also allow short-range, local [motor] vehicular traffic more direct routes and access, resulting in less traffic and congestion on the thoroughfares. This can, in turn, help make the thoroughfare itself function as a better, more complete street. For all of these reasons, a complete local street network should generally provide for multiple points of access, short block lengths, and as many connections as possible." (NCDOT Complete Streets Planning and Design Guidelines, p 59)*	The TND District has good maximum block length standards. This is a model that could be applied city-wide based on land use context. *SR 37. Traditional Neighborhood Development District (TND)* *e. No block shall be longer than 800 feet in length.* *f. Blocks that are larger than 500 feet in length should construct an alleyway at the midpoint of the block for vehicular access.*	The Subdivision Ordinance has good policy intent language, however, the maximum block lengths allowed are too large (1500-1800 feet) to allow for good connectivity for walkable neighborhoods. Needs improvement. *1-7 BLOCKS* *The purpose of this Subsection is to discourage long blocks lined with homes and other buildings, which reduces street connectivity and diminishes the efficiency of public and safety services, while increasing distances between residences and non-residential destinations or public gathering places. The maximum length of any blocks within a subdivision shall not exceed that as shown in the Table below.*	Development location, type, and intensity should determine the length of a block, with shorter blocks being more appropriate in areas of higher density. Maximum block length in any situation should rarely exceed 800-1000 feet for good connectivity. In areas with highest development density (urbanized, mixed use centers and high density neighborhoods) block lengths can be as little as 200 feet. In areas with blocks as long as 800 feet or greater, a pedestrian and/or bicycle path of 6-8 feet in width should be required, with an easement of 15-20 feet wide. See the example table on page 59 of the NCDOT *Complete Streets Planning and Design Guidelines* for a context-based approach to block size. Consider allowing larger blocks – up to a maximum, such as 800 feet – where development densities are expected be lower (> 4 dua). See City of Charlotte Subdivision Ordinance, Section 20-23 for example of connectivity requirements and block standards: http://ww.charmeck.org/Planning/Subdivision/SubdivisionOrdinanceCity.pdf
3.2. Revise block size requirements *"[A] Good [street] network provides more direct (shorter) routes for bicyclists and pedestrians to gain access to the thoroughfares and to the land uses along them (or allows them to avoid the thoroughfare altogether). Likewise, good connections can also allow short-range, local [motor] vehicular traffic more direct routes and access, resulting in less traffic and congestion on the thoroughfares. This can, in turn, help make the thoroughfare itself function as a better, more complete street. For all of these reasons, a complete local street network should generally provide for multiple points of access, short block lengths, and as many connections as possible." (NCDOT Complete Streets Planning and Design Guidelines, p 59)*	Good Requirements for commercial and multifamily developments. Consider connectivity requirements for other types of development as well. *Section 8.9 Cross-Access Required* *All parking areas in non-residential developments and large-scale multi-family developments shall be designed to allow for cross-access to adjacent compatible sites.*	None required. Needs improvement.	See notes above regarding Block Size. Requiring connectivity or cross-access between adjacent developments is a great tool for reducing the amount of traffic on major roads while increasing connectivity for pedestrians, bicycles, service vehicles, and neighborhood access. For good model language, see City of Wilson, NC UDO, Section 6.4: Connectivity: http://www.wilsonnc.org/wp-content/uploads/2014/12/CH-6-Infrastructure-Standards.pdf Or City of Wake Forest, NC UDO, Section 6.5, Connectivity: http://www.wakeforestnc.gov/udo.aspx Both codes above also provide requirements for when bicycle/pedestrian connections between parcels, public open space, and between cul-de-sacs is required. See also the excellent Major & Collector Street Plan: Implementing Complete Streets for Nashville/Davidson County, TN.
3.3. Limit dead end streets or cul-de-sacs Dead end streets or Cul-de-sacs, while good at limiting motor vehicular traffic in an area, are a severe hindrance for pedestrian and bicycle connectivity and overall neighborhood accessibility, including for emergency access and other services.	Not required. Needs improvement.	Not required. Needs improvement.	Make the maximum length for Cul-de-sacs 250-300 feet to limit the distance that a person biking or walking would have to travel along a cul-de-sac. Consider requiring other traffic calming/traffic diversion measures that allow for connectivity and improve the pedestrian and biking environment such as street trees, narrow street width standards, traditional traffic calming devices, emergency and/or bike/ped connections only between streets and T intersections. For good model language, see City of Wilson, NC UDO, Section 6.4: Connectivity: http://www.wilsonnc.org/wp-content/uploads/2014/12/CH-6-Infrastructure-Standards.pdf Or City of Wake Forest, NC UDO, Section 6.5, Connectivity: http://www.wakeforestnc.gov/udo.aspx

Table 4.1 - Development Ordinance Review

Topic/Strategies	Comments/Recommendations		
	Zoning Ordinance	Subdivision Ordinance & Construction and Development Guidelines	General Recommendations
4. Resources			
The following documents were referenced for this policy and regulatory review. Other references for best practices are listed in the columns on the far right.	City of Archdale Zoning Ordinance	City of Archdale Subdivision Regulations City of Archdale Construction and Development Guidelines	REFERENCED DOCUMENTS AND RESOURCES: 1. NCDOT Complete Streets Planning and Design Guidelines (July 2012): http://www.completestreetsnc.org/wp-content/themes/CompleteStreets_Custom/pdfs/NCDOT-Complete-Streets-Planning-Design-Guidelines.pdf 2. NCDOT Traditional Neighborhood Development (TND) Guidelines: https://connect.ncdot.gov/projects/Roadway/RoadwayDesignAdministrativeDocuments/Traditional%20Neighborhood%20Development%20Manual.pdf 3. City of Wilson, NC UDO: https://www.wilsonnc.org/development-services/unified-development-ordinance/ 4. Town of Wendell, NC UDO: http://www.townofwendell.com/departments/planning/development/zoning/udo-unified-development-ordinance 5. City of Wake Forest, NC UDO: http://www.wakeforestnc.gov/udo.aspx 6. See Town of Davidson, NC Planning Ordinance, https://www.ci.davidson.nc.us/1006/Planning-Ordinance 7. Association of Pedestrian and Bicycle Professionals' Bicycle Parking Guidelines. (www.apbp.org) 8. Making Neighborhoods More Walkable and Bikeable, ChangeLab Solutions: http://changelabsolutions.org/sites/default/files/MoveThisWay_FINAL-20130905.pdf 9. Getting the Wheels Rolling: A Guide to Using Policy to Create Bicycle Friendly Communities, ChangeLab Solutions http://changelabsolutions.org/bike-policies 10. Public Art: Citizen-Initiated Projects: https://www.raleighnc.gov/parks/content/Arts/Articles/CitizenInitiatedArt.html 11. NCDOT - North Carolina Public Art on the Right of Way Policy: https://connect.ncdot.gov/projects/Roadway/RoadwayDesignAdministrativeDocuments/North%20Carolina%20Public%20Art%20on%20the%20Right%20of%20Way%20Policy.pdf 12. Charlotte Paint the Pavement Project Guide: http://www.charlottenc.gov/civicinnovation/placemaking/Documents/PaintthePavement_with%20Attachments.pdf 13. Chapel Hill Artist-Designed Crosswalk Program: http://www.townofchapelhill.org/home/showdocument?id=28401 And other documents noted in this column in the rows above.

POLICIES TO SUPPORT COMPLETE STREETS

There are many elements that make a street complete and it's not always a one-size-fits-all approach. Rather, complete street principles are context sensitive and require engineering judgment. However, the elements described below highlight key complete street elements that should be considered along recommended complete street projects.

ADOPT A VISION ZERO STRATEGY

Vision Zero is the concept that no loss of life is acceptable on our roadways. Jurisdictions across the nation and across the world are adopting Vision Zero policies to eliminate preventable traffic deaths.

UPDATE LAND USE AND DEVELOPMENT CODES

Local codes that encourage or require short block lengths, mixed use developments with street-fronting retail, and a connected network of streets with high-quality sidewalks form the bedrock of livable communities.

RETHINK PARKING REQUIREMENTS

Parking policy reform includes better management of existing parking, pricing that reflects demand, lowering parking requirements for commercial and residential development, and bike parking minimums.

NEW MOBILITY

Stay up-to-date on current trends in new mobility and develop flexible policies that can adapt to the ever-evolving field of transportation, including micro-mobility, autonomous vehicles, shared use mobility, and new opportunities for placemaking with expanded mobility options.

CREATE SAFE WALKWAYS AND BIKEWAYS IN CONSTRUCTION ZONES

Walkways in construction zones should be routed on the same side of the street, run on or parallel to the closed sidewalk, and must comply with the Americans with Disabilities Act and the Manual on Uniform Traffic Control Devices.

ESTABLISH SPEED REDUCTION POLICIES

Traffic speed disproportionately threatens people walking and biking so speed should be managed through speed limit enforcement and traffic calming where appropriate.

ADOPT A COMPLETE STREET POLICY

A complete street policy asserts that all new street projects should accommodate all people who use the street, whether traveling on foot, bike, transit, or car.

SIDEWALK MANAGEMENT

With the on-set of new mobility options, it will be important for Archdale to evaluate and update policies to address ADA access and curb management, to ensure sidewalks remain accessible for users of all ages and abilities.

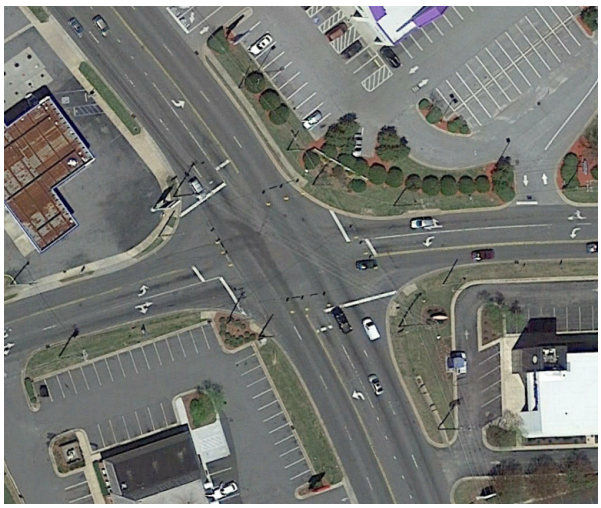
CROSSWALK POLICY

High visibility crosswalks are a type of treatment typically used to alert drivers and improve the safety and visibility of pedestrians. The preferred stamped crosswalks tend to cost more than using the traditional longitudinal stripe marking, which is painted onto the street, but stamping makes the crosswalks more prominent in a busy intersection. Archdale should adopt a policy that requires intersections to have stamped crosswalks whenever it is feasible to do so. This is especially applicable in streets with a high volume of cars, such as Main Street (see images below that show the intersection of Main Street and Trindale Road). It should be noted that many streets in Archdale, including Main Street and Trindale Road, fall under the jurisdiction of the state, so coordination with NCDOT would be required.

Some cities in North Carolina, and around the country, have developed policies, programs, and design standards that allow for the commission of public art on public right-of-way. These projects are often citizen-initiated and are usually located on low-volume roadways, either in neighborhoods or pedestrian-oriented commercial streets. These community beautification programs can be beneficial for placemaking, economic development, and pedestrian safety.

Policies and design standards directly targeting intersections should also be enacted to ensure a standardized approach to curb cuts, landscaping, ADA compliance, and connection to existing networks or places where future facilities may connect. Intersection design can influence a person's willingness to walk, their safety while waiting and crossing a street, and overall traffic control at the intersection.

Photo above: Painted sidewalk and crosswalk at 9th and Brevard in Charlotte, NC.



Top photo: Street level view of the intersection at Main Street and Trindale Road

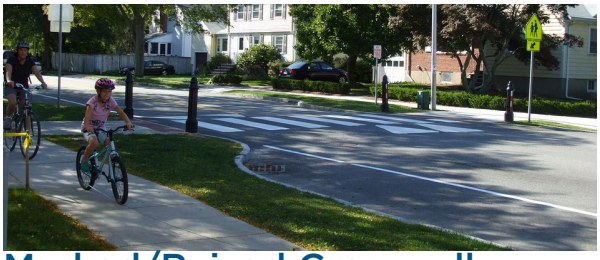
Photo above: Aerial view of Main Street and Trindale Road

CROSSING DESIGN GUIDANCE

Attributes of pedestrian-friendly intersection design include:

- CLEAR SPACE: Corners should be clear of obstructions. They should also have enough room for curb ramps, for transit stops where appropriate, and for street conversations where pedestrians might congregate.
- VISIBILITY: It is critical that pedestrians on the corner have a good view of vehicle travel lanes and that motorists in the travel lanes can easily see waiting pedestrians. Additionally, stamped crosswalks may pose visibility risks during low-light situations. High visibility ladder crosswalks are recommended over crossbars.
- LEGIBILITY: Symbols, markings, and signs used at corners should clearly indicate what actions the pedestrian should take.
- ACCESSIBILITY: All corner features, such as curb ramps, landings, call buttons, signs, symbols, markings, and textures, should meet accessibility standards and follow universal design principles.
- SEPARATION FROM TRAFFIC: Corner design and construction should be effective in discouraging turning vehicles from driving over the pedestrian area. Crossing distances should be minimized.
- LIGHTING: Adequate lighting is an important aspect of visibility, legibility, and accessibility.

These attributes will vary with context but should be considered in all design processes. For example, suburban and rural intersections may have limited or no signing. However, legibility regarding appropriate pedestrian movements should still be taken into account during design.



Marked/Raised Crosswalks

Median Refuge Islands

Minimizing Curb Radii

Curb Extensions

ADA Compliant Curb Ramps

BRIDGE CONSTRUCTION OR REPLACEMENT

Provisions should always be made to include a walking and bicycling facility as a part of vehicular bridges. All new or replacement bridges should accommodate two-way travel for all users. Even though bridge construction and replacement does not occur regularly, it is important to consider these policies for long-term pedestrian planning. NCDOT bridge policy states that sidewalks shall be included on new NCDOT road bridges with curb and gutter approach roadways. A determination of providing sidewalks on one or both sides is made during the planning process.

Top photo: Aerial view of current I-85 and Main Street bridge

Photo above: Aerial view of I-85 and Liberty Road bridge

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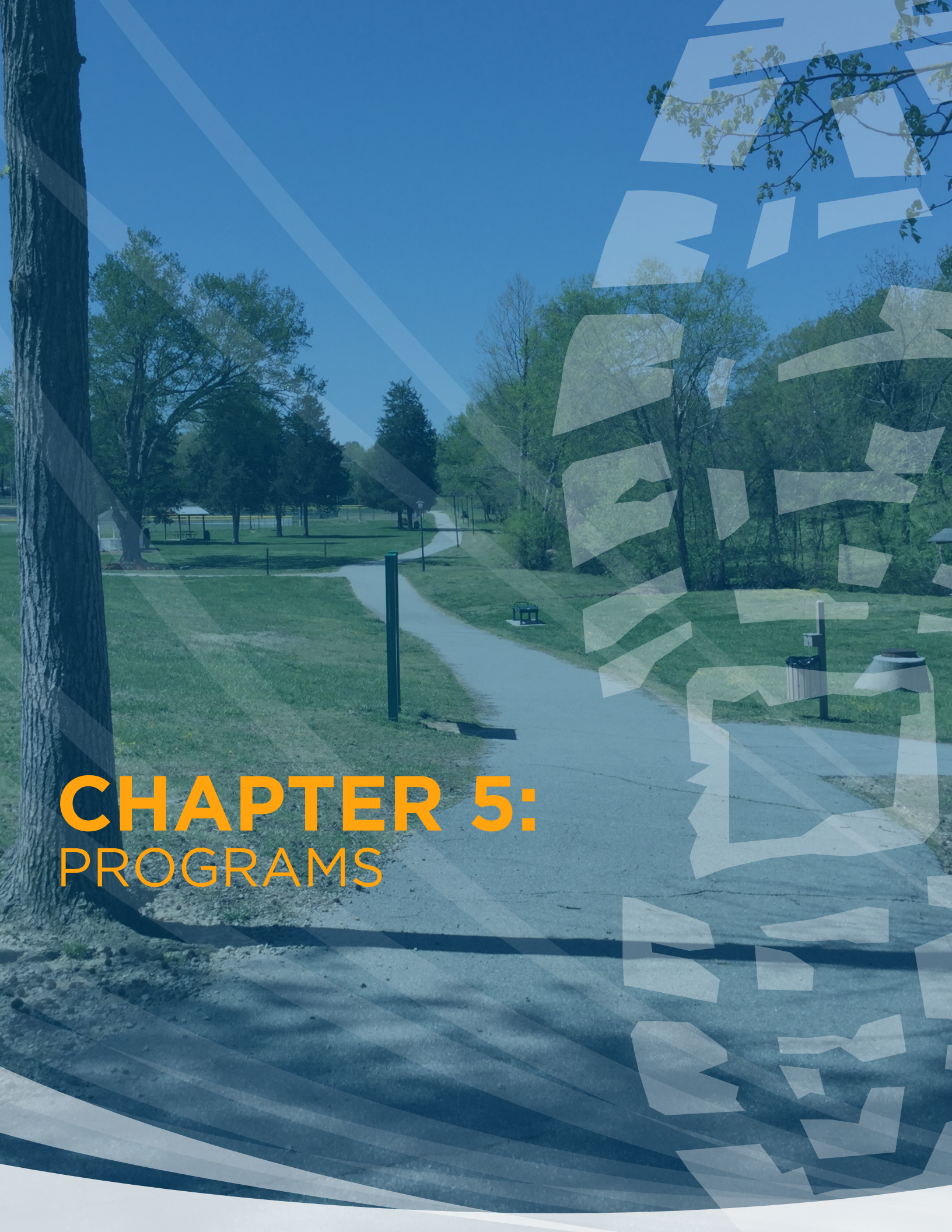
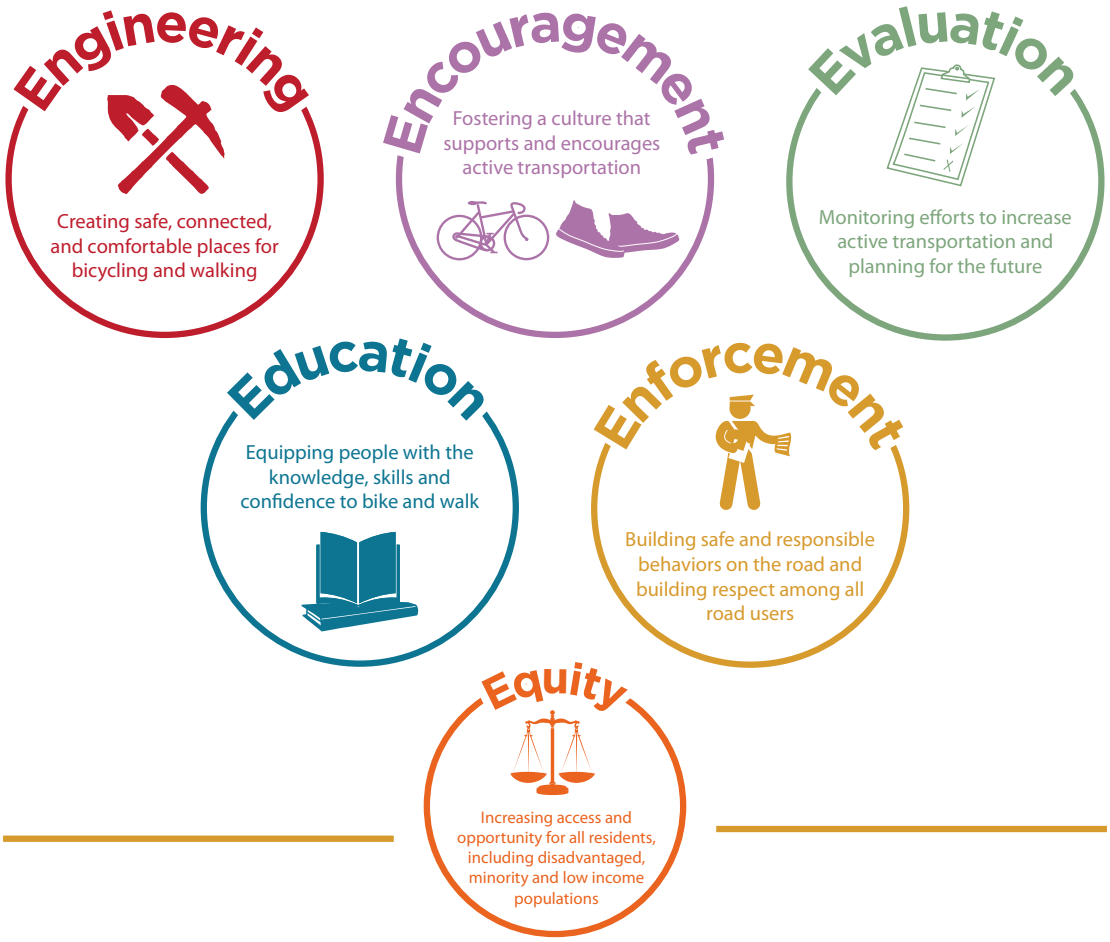


CHAPTER 5:
PROGRAMS

OVERVIEW

Infrastructure alone doesn't create and foster a pedestrian and trail friendly community. The ideal goal is to develop a culture of safe and enjoyable walking built on comprehensive actions and initiatives by diverse groups of people. A model used to describe this comprehensive approach is called the 6 E's: Engineering, Education, Encouragement, Enforcement, and Evaluation (see diagram below). Equity is added here as the non-traditional 6th E to ensure a focus on underserved communities.

The programmatic strategies in this chapter aim to improve safety, increase access to walking, and encourage community and economic development. The actions will increase the visibility of people who walk, communicate that all road users are expected to look out for each other no matter how they travel, create safer streets, and develop a common understanding of traffic safety.



POTENTIAL PARTNERS + STAKEHOLDERS

Existing and potential partners for Archdale pedestrian programs described in this chapter include:

ACTIVE ROUTES TO SCHOOL

Active Routes to School is a North Carolina Safe Routes to School (SRTS) project supported by a partnership between the N.C. Department of Transportation and the N.C. Division of Public Health. The Active Routes to School Project creates opportunities for youth to walk and bike to or at school. Active Routes to School Coordinators are available to provide technical assistance and support to schools and communities in planning Walk and Bike to School day events, building ongoing walk and bike to or at school programs, offering trainings on Safe Routes to School, building policy support for Safe Routes to School, and addressing safety features near schools. The goal of the project is to increase the number of elementary and middle school students who safely walk and bike to school.

Ten regional coordinators are based at local health departments across the state. Archdale is in two of these regions, but primarily lies in Region 6, which includes Randolph County. For more information, visit https://www.communityclinicalconnections.com/What_We_Do/Active_Routes_To_School/index.html

YMCA

The Carl & Linda Grubb Family YMCA of Archdale is a center of physical activity in the community, and can be a key partner in creating programs targeted at specific age groups and populations for increasing walking and other forms of physical activity. As a busy hub of community activity, it can also be a centralized location for awareness campaigns and disseminating information related to pedestrian and trail programs and events going on in the community.

ARCHDALE-TRINITY SCHOOL TAX DISTRICT

The Archdale-Trinity School District is an important partner for creating safe pedestrian environments and programming for schools. Safe Routes to School programming is a vital component of successful pedestrian plans so partnering with the school district, as well as individual member schools, is important to creating programs that are appropriate and coordinated with schools' curricula.

PARKS & RECREATION

Like the YMCA, the Parks & Recreation Department can be an important partner for creating educational and encouragement programs for walking in Archdale.

CHAMBER OF COMMERCE

The Chamber of Commerce is a key partner for creating relationships with local businesses and community leaders. These relationships can help support the City's pedestrian programming.

POLICE DEPARTMENT

The Archdale Police Department is a key partner for creating an enforcement campaign that encourages safe driving practices and pedestrian activity. Enforcement campaigns can reduce speeding in pedestrian zones, encourage proper yielding to pedestrians in crosswalks, and generally promote a sense of respect for all travelers regardless of whether one drives, walks, or bikes in Archdale.

SENIOR CENTER OF ARCHDALE

Partnering with agencies and organizations that advocate for the needs of those with disabilities or senior citizens is important for ensuring that the most vulnerable walkers in the community are being represented and accommodated. Elderly residents and those with mobility issues are often reliant on limited transportation options and access, and it is important to keep these issues at the forefront of the pedestrian planning process.

PROGRAM TOOLKIT

WATCH FOR ME, NC

Watch for Me, NC is an awareness campaign aimed at reducing the number of bicyclists and pedestrians hit and injured in crashes with vehicles. Piloted in the Triangle area, Raleigh was one of the first cities to launch the campaign in 2013. The campaign includes education during the months of October and November, and has been followed by targeted enforcement efforts by police departments. Communities across North Carolina are encouraged to apply to implement the program on an annual basis.

For more information, visit:
http://watchformenc.org/

- **Why Implement?** Residents expressed concern over high speed corridors and the failure of motor vehicle drivers yielding to pedestrians in crosswalks. Enforcement efforts, when combined with education messaging, can often improve pedestrian safety awareness.

LET'S GO NC!

Let's Go NC!, a Pedestrian and Bicycle Safety Skills Program for Healthy, Active Children, is an all-in-one educational package of lesson plans, materials, activities and instructional videos that encourages children in grades K-5 to learn about and practice fundamental skills that build safe habits.

This program was developed for the NCDOT's Division of Bicycle and Pedestrian Transportation and Safe Routes to School Program by NC State University's Institute for Transportation Research and Education. The curriculum aligns with NC Essential Standards and is endorsed by the NC Department of Public Instruction.

All lesson plans and materials are available for free online at https://www.ncdot.gov/initiatives-policies/safety/lets-go-nc/Pages/default.aspx.

- **Why Implement?** This package provides key guidance and materials to assist instructors in teaching bicycle and pedestrian safety to children at a young age.

SAFE ROUTES TO SCHOOL (SRTS)

Safe Routes to School (SRTS) Programs make walking and bicycling to school more accessible to children and encourage more children to walk and bicycle to school. This typically involves examining conditions around public schools and providing programs to improve bicycle/pedestrian safety, accessibility and use.

North Carolina's Safe Routes to School program is managed by the NCDOT Division of Bicycle and Pedestrian Transportation. It sponsors activities at the local level through a partnership with the North Carolina Division of Public Health to support the Active Routes to School Project. Safe Routes to School infrastructure projects are eligible to compete for funding through North Carolina's Strategic Transportation Investment (STI) program and other sources of funding for bike and pedestrian projects. For more information, visit: www.ncdot.gov/bikeped

Archdale has a SRTS Action Plan from 2011 that includes detailed programmatic and facility recommendations. Facility recommendations and some programs have been integrated into this plan but the full suite of programs should be re-evaluated by the applicable partners.

- **Why Implement?** Children are one of the most vulnerable users of the pedestrian network. Improving safe and efficient access to school can have several benefits (health, environment, education, etc).

WALKING SCHOOL BUS

Walking School Buses and Bike Trains allow students to walk or bicycle to school as a group, often with an adult volunteer. These could be daily, weekly, or monthly events. These programs encourage walking in school aged children as well as the adult chaperones. Schools in North Carolina that have walking school buses include Olive Chapel Elementary in Apex and Langston Farms Elementary in eastern North Carolina. For more information, visit www.walkingschoolbus.org

Volunteers can teach children safe pedestrian practices while walking to school.

- **Why Implement?** This group program encourages more walking to school and community fellowship through volunteering.

WALK AT SCHOOL PROGRAMS

Through this program, children are given the opportunity and are encouraged to increase how much they walk during school hours through competitions, prizes, goal setting, and other activities. This type of program is especially important for schools that do not have good walking or biking routes, or if students live too far to walk or ride bikes.

Best Practice Programs:

- Tigers on the Prowl is a popular walking program at Davidson Elementary School in Davidson, NC.
- The Creative Walking website provides resources and materials to create school walking wellness programs.
- WalkBike to School also provides examples and resources.
- **Why Implement?** Programs to encourage safe walking practices and physical activity during the school day is an equitable way to ensure all students benefit from Safe Routes to School programming.

NATIONAL WALK TO SCHOOL DAY

Students and their families are encouraged to use alternative modes to get to/from school. Individual students and classrooms receive incentive prizes. These events can occur more than once a year, ideally one in the fall and one in the spring, usually coinciding with the National Walk to School Day in October and National Bike to School Day in May.

- **Why Implement?** These annual events promote walking to school and create awareness around the pedestrian needs surrounding the school. Such events have a history of leading to policy and engineering changes that help make it safer and more convenient for students to walk to school on a regular basis.

Over 250 students participate in the annual Walk to School Day event at Northwoods Elementary in Cary, NC.

WAYFINDING SIGNAGE

Wayfinding signage helps orient pedestrians to key destinations and provides distances as well as approximate walking times to those destinations. Investing in a permanent wayfinding signage program is an important step in creating a more welcoming and accessible pedestrian environment.
As an interim step towards that goal, creating a temporary wayfinding signage system can be a cost-effective and fast way to promote walking in the near term. Clearly marking walking routes and loops with signs that specify distances and times to key destinations helps people say "Yes!" to walking. With the help of high school art students and teachers to design the signs, this can be a great way to engage the community and build a culture around walking.

- **Why Implement?** Signage improves the visitor experience and enjoyment by providing clear, accurate and quality information.

Walk [Your City] is an organization that works with communities to implement encouragement signs to highlight key destinations. Photo from program in Raleigh, NC.

SPEED FEEDBACK SIGNS

A speed feedback sign can be used to display the approaching vehicle speeds and the posted speed limits on roadways. Newer speed feedback signs record speed data which jurisdictions can use to evaluate roadway conditions. These feedback loops remind drivers to obey the speed limit and can be used in areas where traffic calming is needed to create a safe pedestrian environment.

- **Why Implement?** These interactive signs increase speed limit compliance and pedestrian comfort level along high volume corridors.

Speed feedback signs can be an effective and low cost tactic to reduce speed along corridors with high pedestrian activity.

ENFORCEMENT

These programs can cover a wide range of focuses including crosswalk stings, speeding, distracted driving, and distracted walking/bicycling. Increasing the presence/ enforcement at back-to-school times and/or daylight savings is also advised.

Best Practice Programs:

- Greenville, NC participated in a distracted driving research project, neighborhood speed watch program, installed speed feedback signs, and increased law enforcement before and after school.
- Volunteers in Arizona conducted a Neighborhood Speed Watch routine detection event which assisted law enforcement efforts, putting serial speeders on notice and bringing down average speeds.

- **Why Implement?** Enforcement of all traffic laws will improve safety for all users, especially the most vulnerable user, the pedestrian.

Example of speed feedback signs installed in Greenville, NC as part of a targeted enforcement campaign.

OPEN STREET EVENTS

Open street events are periodic street "openings" (i.e., "open" to users besides just cars; usually on Sundays) that create a temporary park that is open to the public for walking, bicycling, dancing, hula hooping, roller-skating, etc. Open street events promote health by creating a safe and attractive space for physical activity and social contact, and are cost-effective compared to the cost of building new parks for the same purpose.

This Plan recommends that the City of Archdale and local partner groups, consider hosting open street events annually. The City may choose a two-block section of street, with the intention of growing the spatial coverage of the event over time. Care should be taken to consult business owners and residents in advance about street events that may affect customer and neighborhood access.

- **Why Implement?** Open street events would activate community stakeholders around an annual event to promote pedestrian safety and Archdale livability.

San Francisco attracts more than 1,000 participants to their monthly Sunday Streets events.

WALK-FRIENDLY DESIGNATION

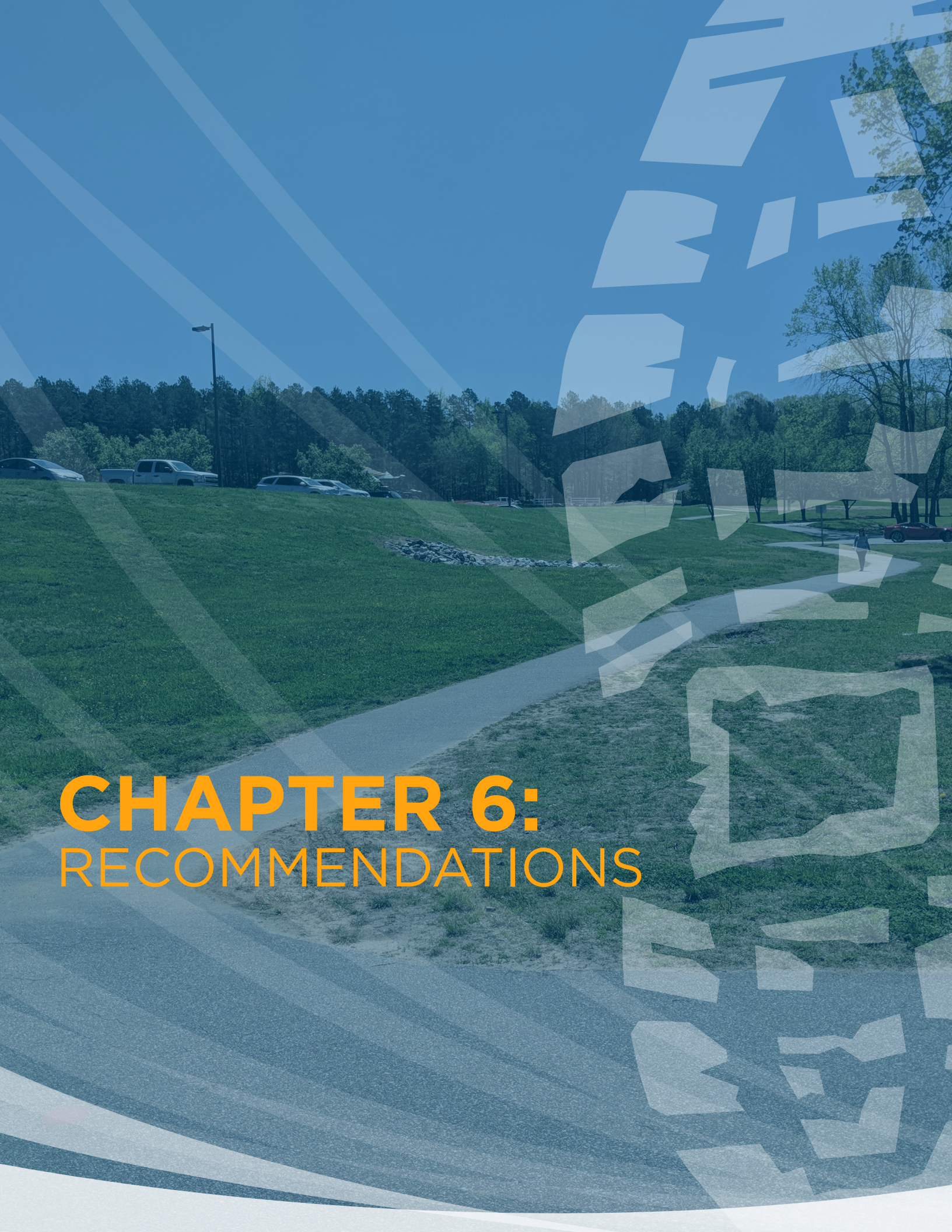
Walk friendly community assessments recognize existing successes in communities that promote walking, and provide a framework for communities trying to achieve higher walking rates. The program incorporates assessments in their score card that help a community gauge where they are excelling and where they are falling short.

Communities seeking status as WFC must make relevant advances in each of the Six E's. Implementation of this plan will position Archdale to apply for walk-friendly status as early as 2019 or once progress of the plan recommendations have been achieved.

WALK-FRIENDLY COMMUNITIES

The Walk Friendly Community (WFC) program is a national initiative led by the Pedestrian and Bicycle Information Center (PBIC) intended to encourage communities to improve their local walking environments.

- Review best practices and existing designated WFCs at: walkfriendly.org
- Download the WFC assessment tool at: http://walkfriendly.org/wp-content/uploads/2017/03/WFC_Assessment_Tool.pdf
- Submit the application on-line by either June 15 or December 15



CHAPTER 6:
RECOMMENDATIONS

INTRODUCTION

Developing the pedestrian and shared use path recommendations was a multi-step process involving ongoing dialogue with various stakeholders. Network recommendations were informed by both quantitative findings and a qualitative understanding of the City of Archdale.

CHAPTER OVERVIEW

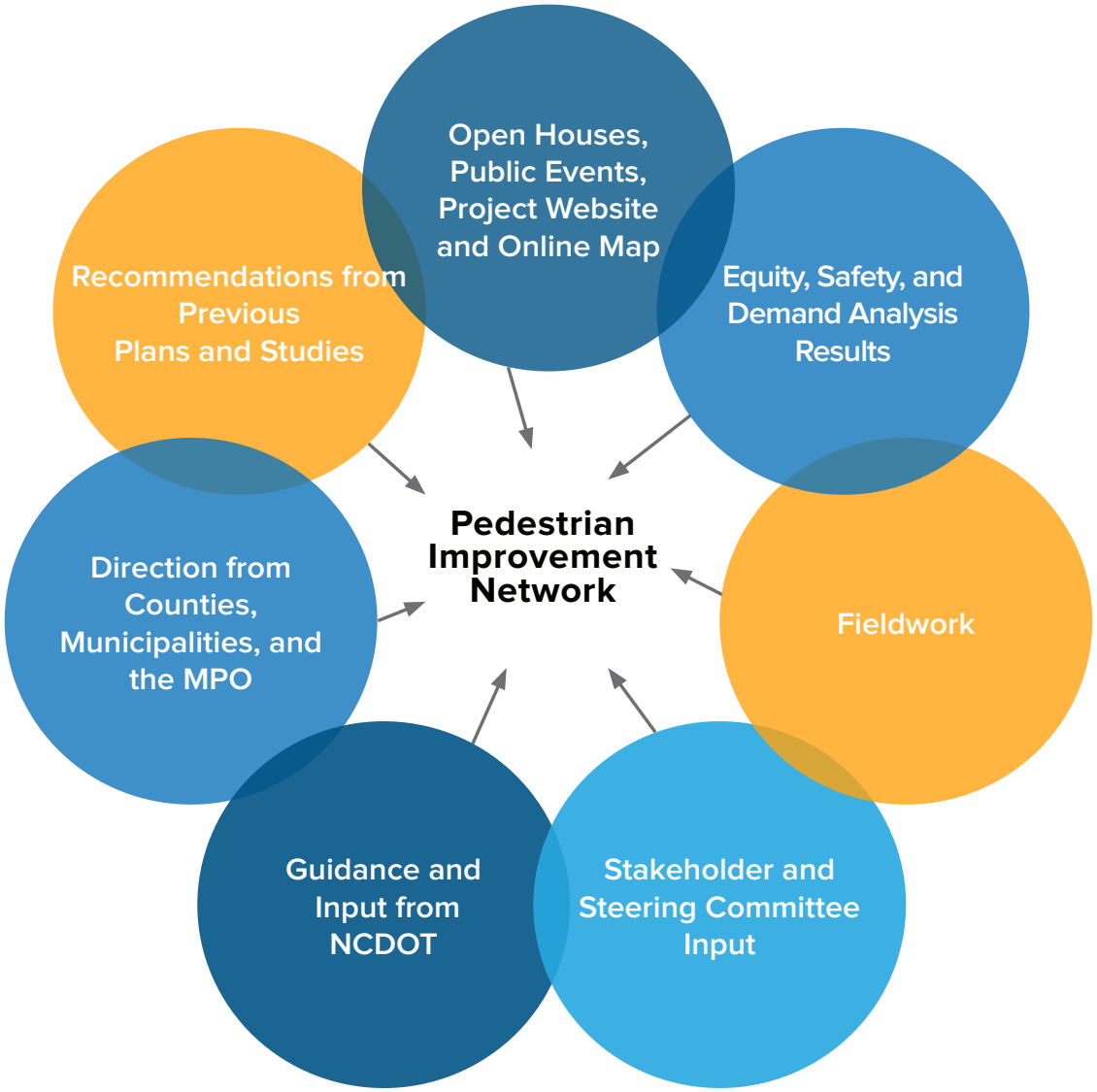
This chapter provides the necessary steps and guidance for delivering the recommendations of this Plan and is organized into the following sections:

Roby Greenway

NETWORK APPROACH

The proposed network seeks to:

- Reflect the plan's vision + goals
- Address the needs of all ages and abilities
- Balance the transportation system for all roadway users
- Integrate seamlessly with future development and land uses



IDENTIFYING PEDESTRIAN PROJECTS

SIDEWALK

Sidewalks provide dedicated space intended for use by pedestrians that is safe, comfortable, and accessible to all. Sidewalks are physically separated from the roadway by a curb or unpaved buffer space. Sidewalk recommendations are organized into two categories:

Proposed
Long-term

YIELD ROADWAY

A yield roadway is designed to serve pedestrians, bicyclists, and motor vehicle traffic in the same slow-speed travel area. Yield roadways serve bidirectional motor vehicle traffic without lane markings in the roadway travel area.

INTERSECTION TREATMENT

For city streets to meet the needs and demands of everyone using them, intersections—both large and small—need to function as safely and efficiently as possible. They also make traffic movement more intuitive, seamless, and predictable for those passing through.

COMPLETE STREET

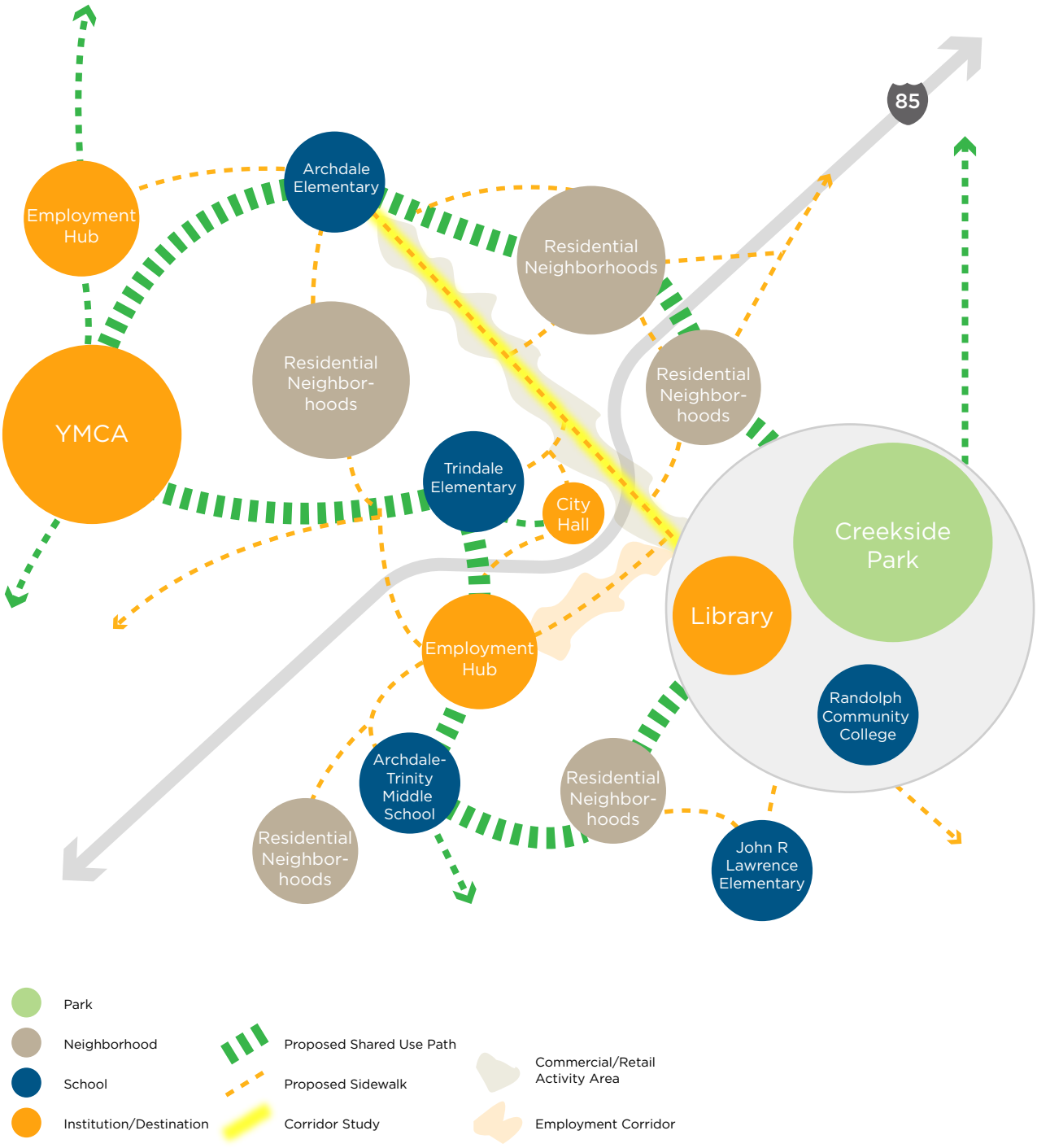
Complete Streets are roadways that can be safely accessed, crossed, traveled upon and alongside by all people regardless of their age, ability or travel mode. A connected network of Complete Streets will ensure healthier, more equitable transportation options and an improved quality of life for all community residents, including children, seniors, people with disabilities and people facing economic hardship. The Complete Streets approach to design is neither novel nor untested; transportation professionals know how to build great streets, and there are many examples of Complete Streets in communities nationwide.

SHARED USE PATH

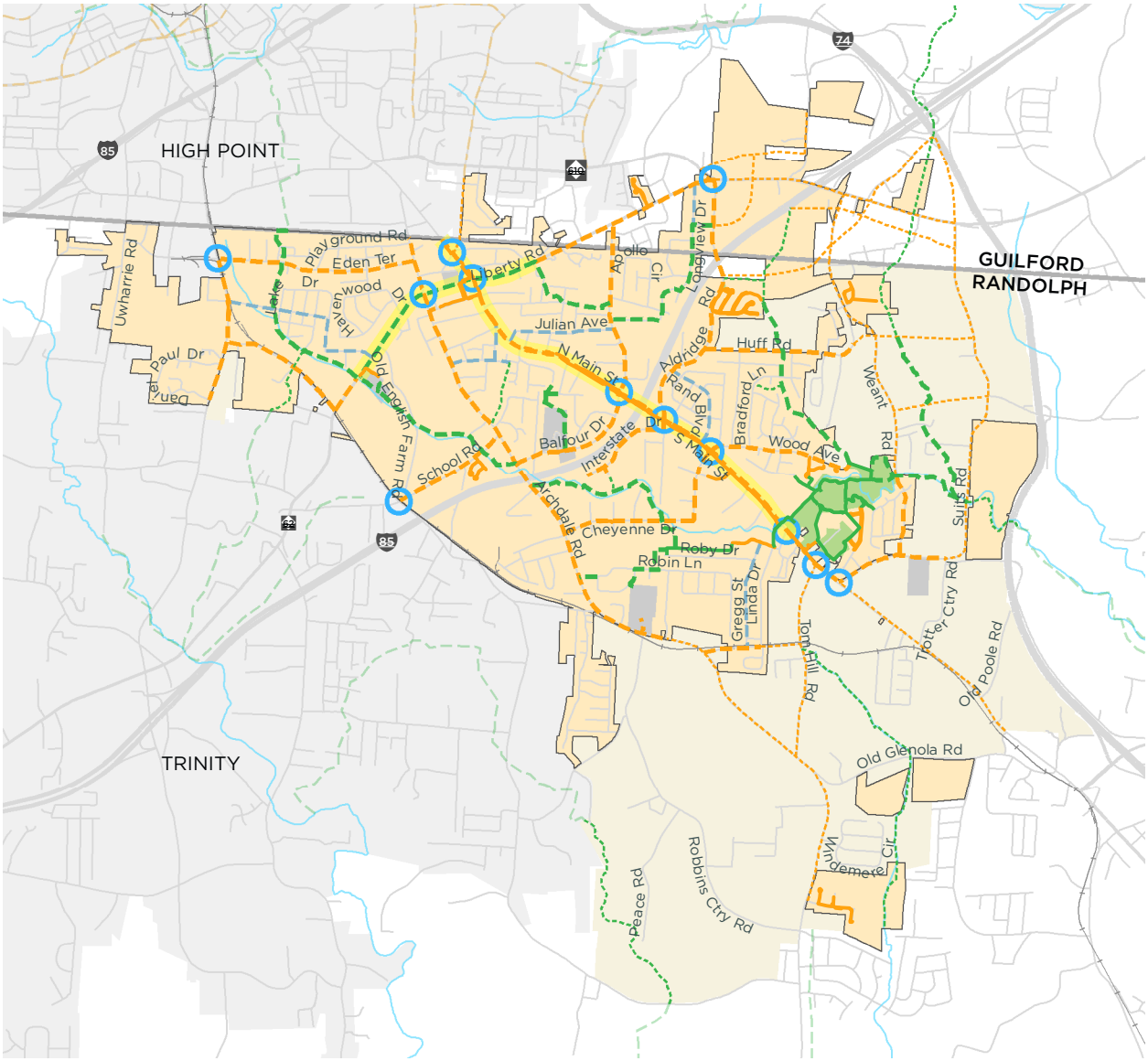
A shared use path provides a travel area separate from motorized traffic for bicyclists, pedestrians, skaters, wheelchair users, joggers, and other users. Shared use paths can provide a low-stress experience for a variety of users using the network for transportation or recreation.

MAP 6.1 CONCEPT MAP

The map below demonstrates the conceptual development of the network. Connectivity to destinations, neighborhoods, and regional links were all a priority.



MAP 6.2 COMPREHENSIVE RECOMMENDATION MAP



LEGEND

- Existing Shared Use Path
- Proposed Shared Use Path
- Long-Term Shared Use Path
- Existing Sidewalk
- Proposed/Programmed Sidewalk
- Long-Term Sidewalk
- Proposed Yield Roadway
- Proposed Corridor Study
- Intersection Improvement

IDENTIFYING PRIORITIES

As part of the planning process, project consultants, City staff and steering committee members identified key inputs to identify projects. These seven factors, illustrated below, were used to develop a phasing plan comprised of short-term, mid-term and long-term projects. These factors should be considered every time the City or NCDOT selects projects for implementation. Detailed cut sheets for priority projects identified through this process are included in Chapter 7.

SAFETY

Have there been any pedestrian crashes near the project area?

CONNECTIVITY

Does this project create links between destinations?

EQUITY

Is this project in an area of vulnerability?

GAP CLOSURES

Does this project close gaps between facilities?

EASE OF IMPLEMENTATION/ LOW COST

What is the cost compared to other projects?

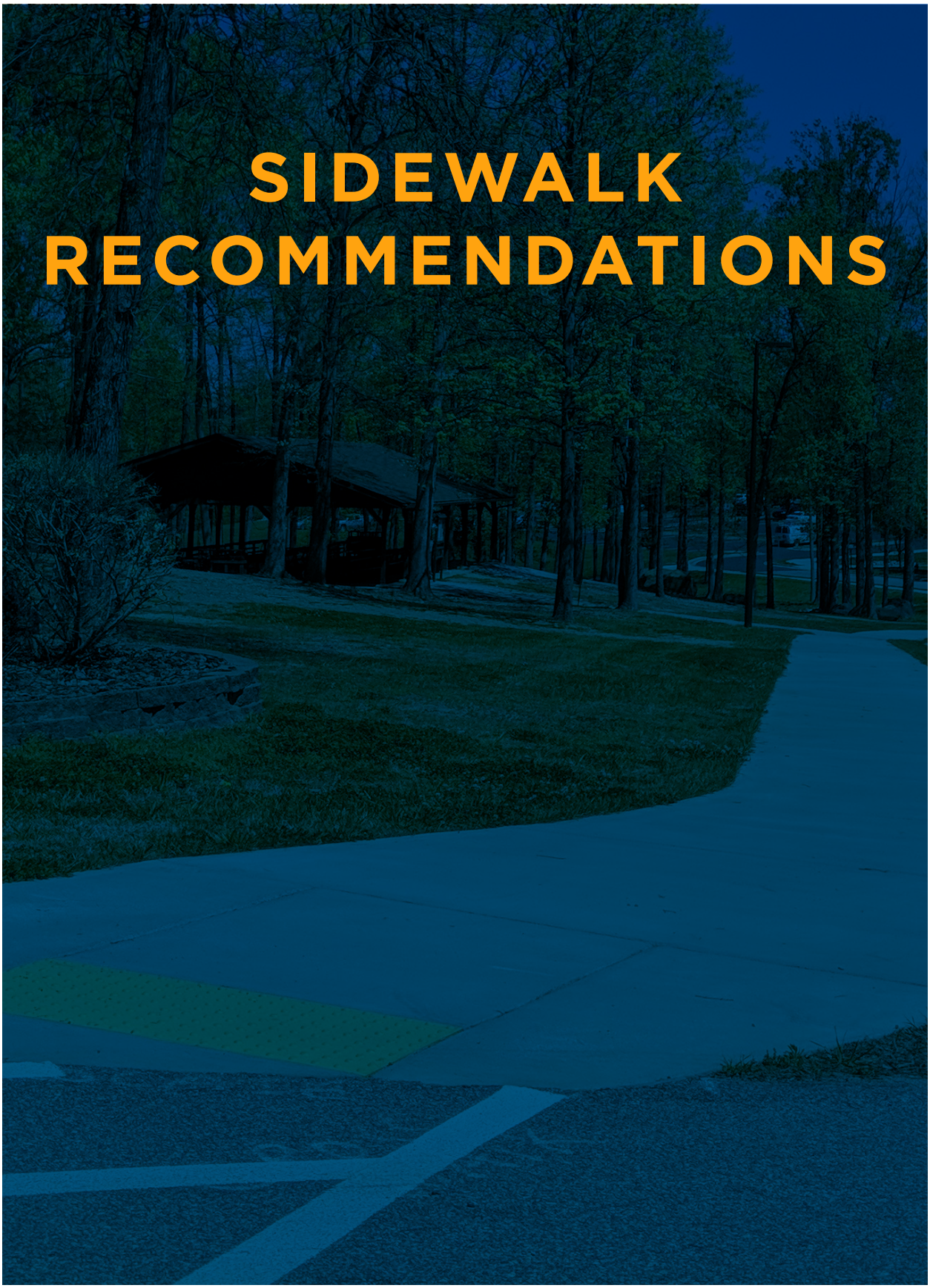
LAND USE/ PROGRAMMED

Are there upcoming land use or road projects that could include, or benefit from, ped/trail facilities?

SCHOOL ACCESS

Does this facility improve access to schools?

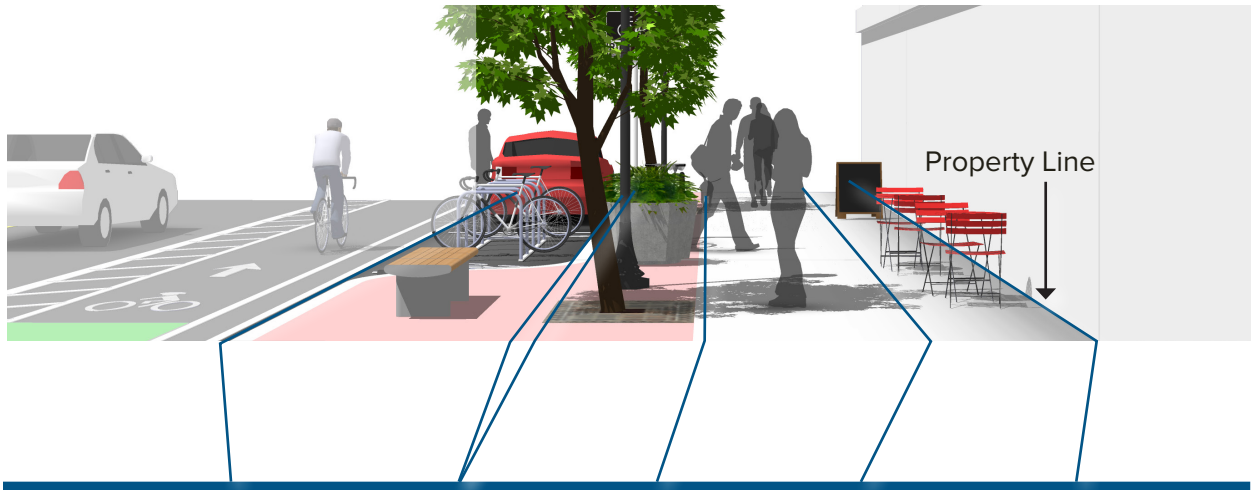
SIDEWALK RECOMMENDATIONS



DESIGN GUIDANCE

As discussed in the policy chapter, sidewalks should be placed on both sides of a street. All sidewalks should include adequate crossing treatments along with the appropriate facilities and dimensions, as referenced in the policy and design guidance.

Sidewalks should contain adequate width to accommodate high volumes and different walking speeds of pedestrians. The Americans with Disabilities Act requires a 4 foot clear width in the pedestrian zone plus 5 foot passing areas every 200 feet. Recommended dimensions shown below are based on the NCDOT Complete Streets Planning and Design Guidelines. Exact dimensions should be selected in response to local context and expected/desired pedestrian volumes.



Street Classification	Parking Lane/ Enhancement Zone	Furnishing/ Green Zone	Pedestrian Through Zone	Frontage Zone	Total Sidewalk Area
Local Streets	7 feet	4 - 8 feet	5 - 6 feet	N/A	9 - 14 feet
Commercial Areas	8 - 10 feet	6 - 8 feet	10 - 18 feet	2 - 8 feet	18- 34 feet
Arterials and Collectors	8 - 10 feet	6 - 8 feet	6 - 12 feet	2 - 4 feet	14 -24 feet

Six feet enables two pedestrians (including wheelchair users) to walk side-by-side, or to pass each other comfortably

Total sidewalk area excludes parking dimensions

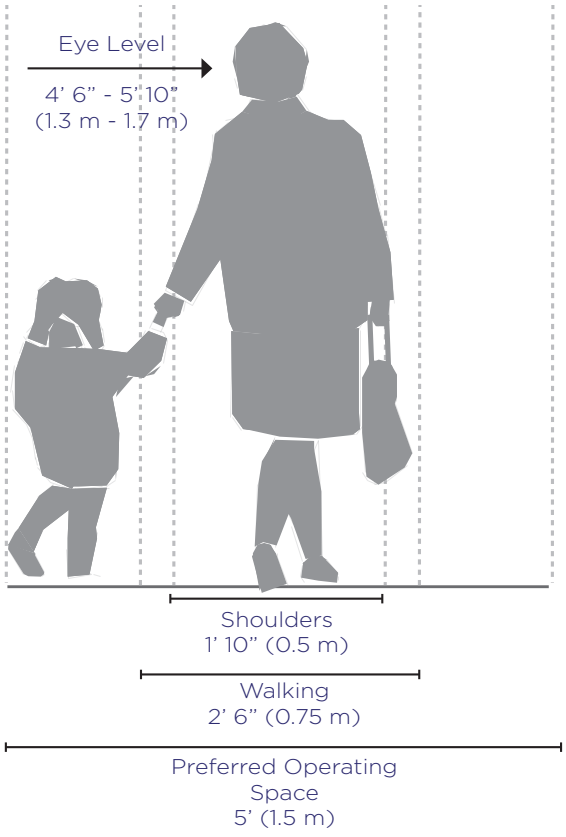
DESIGNING STREETS FOR ALL AGES

TYPES OF PEDESTRIANS

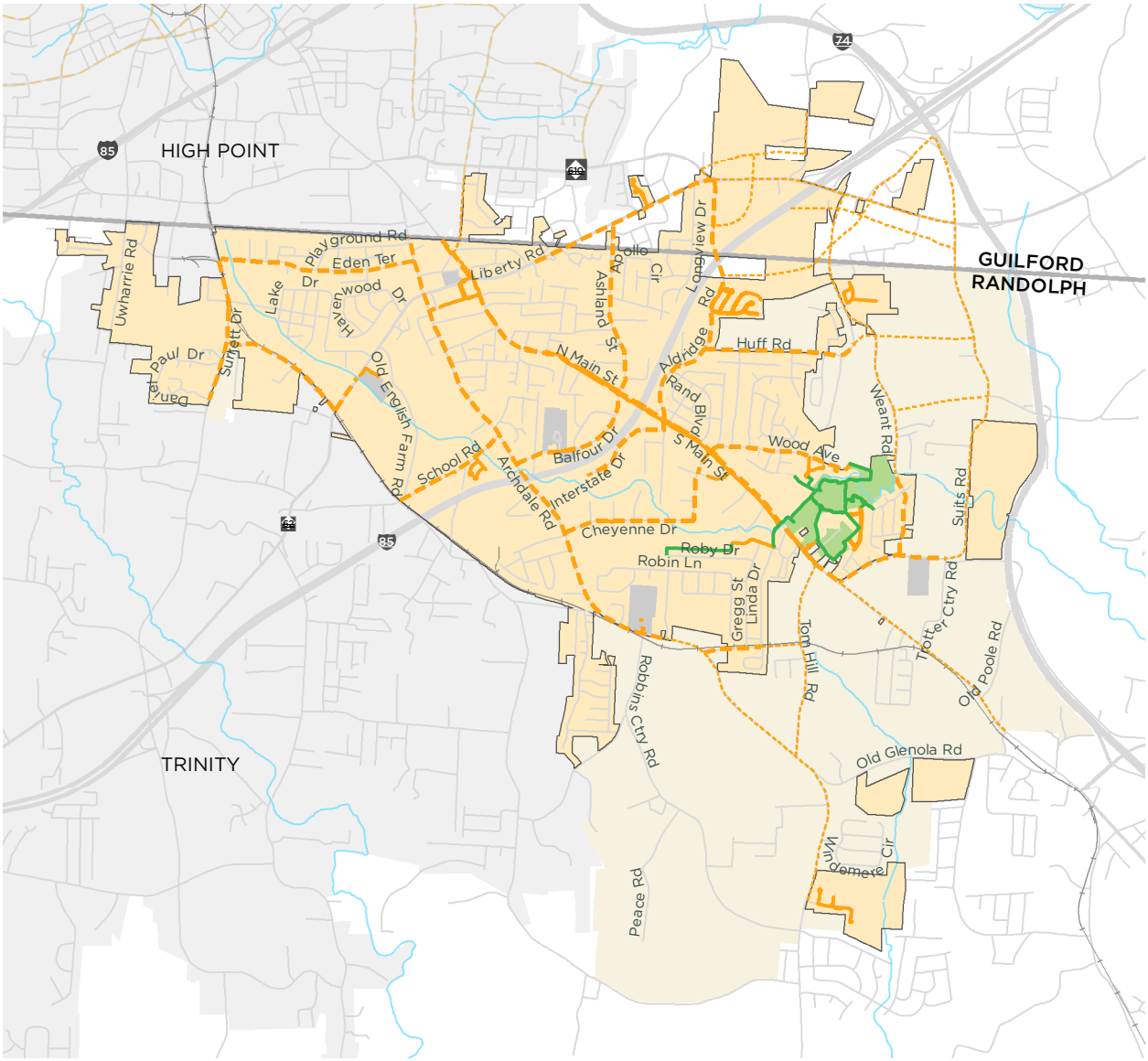
The transportation network should accommodate pedestrians with a variety of needs, abilities, and possible impairments. Age is one major factor that affects pedestrians' physical characteristics, walking speed, and environmental perception. Children have low eye height and walk at slower speeds than adults. Older adults walk more slowly and may require assistant devices to help with their walking stability, sight, and hearing. The table below summarizes common pedestrian characteristics for various age groups.

The Manual on Uniform Traffic Control Devices (MUTCD) recommends a normal walking speed of 3.5 feet per second when calculating the pedestrian clearance interval at traffic signals. The walking speed can drop to 3 feet per second for areas with older populations and persons with mobility impairments. The transportation system should accommodate these users to the greatest extent possible.

AGE	CHARACTERISTICS
0-4	Learning to walk
	Requires constant adult supervision
	Developing peripheral vision and depth perception
5-8	Increasing independence, but still requires supervision
	Poor depth perception
9-13	Susceptible to "darting out" in roadways
	Insufficient judgment
	Sense of invulnerability
14-18	Improved awareness of traffic environment
	Insufficient judgment
19-40	Active, aware of traffic environment
41-65	Slowing of reflexes
65+	Difficulty crossing street
	Vision loss
	Difficulty hearing vehicles approaching from behind



MAP 6.3 SIDEWALK RECOMMENDATIONS



LEGEND

- Existing Shared Use Path
- Existing Sidewalk
- Proposed/Programmed Sidewalk
- Long-Term Sidewalk
- Archdale
- Study Area (ETJ)
- Other Municipalities
- Stream

0 0.5 1 MILES

Table 6.1 Sidewalk Recommendations

Corridor	From	To	Length (mi.)	Safety	Connectivity	Ease of Implementation	Gap Closures	Equity	Land Use/ Programmed	School Access
Main St	Guilford County Line	Suits Rd	3.19	√	√		√	√	√	√
Archdale Trinity Middle	Archdale Trinity Middle School	Archdale Rd	0.10	√		√	√	√		√
Balfour Dr	Main St	Archdale Rd	0.82	√	√		√	√		√
White Dr	Existing Sidewalk on White Dr	Archdale Rd	0.07	√		√	√	√		√
Trindale Rd	YMCA	Sealy Dr	0.23	√	√	√		√		
Surrett Dr	Eden Ter	Daniel Paul Dr	0.86	√				√	√	
Carolina Ct	Interstate Dr	Terminus	0.07		√	√	√			
Eden Ter	Surrett Dr	Archdale Rd	1.16	√	√			√		
Lane Dr	Linda Dr	Archdale Rd	0.34		√			√		√
Liberty Rd	Aldridge Rd	Archdale Loop	1.18	√		√		√		
Cheyenne Dr	Comanche Rd	Archdale Rd	0.78	√	√		√			
Comanche Rd	Existing sidewalk near Main	Cheyanne Dr	0.37	√	√		√			
School Rd	Archdale Rd	Trinity Rd	0.71					√		√
Sealy Dr	Surrett Dr	Trindale Rd	0.79	√				√		
Suits Rd	Trotter Ctry Rd	Main St	0.68	√						√
Weant Rd	Muddy Creek Greenway (Creekside Park)	Suits Rd	0.50	√						√
Aldridge Rd	Liberty Rd	Main St	1.59		√					
Ashland St	Liberty Rd	Main St	1.03		√					
Interstate Dr and Renola Dr	Main St	Terminus	0.64		√					
Huff Rd	Aldridge Rd	Proposed Sidewalk (future road)	0.92							
Wood Ave	Main St and Tarheel Dr	Creekside Park	0.86							
TOTAL			**16.89**							

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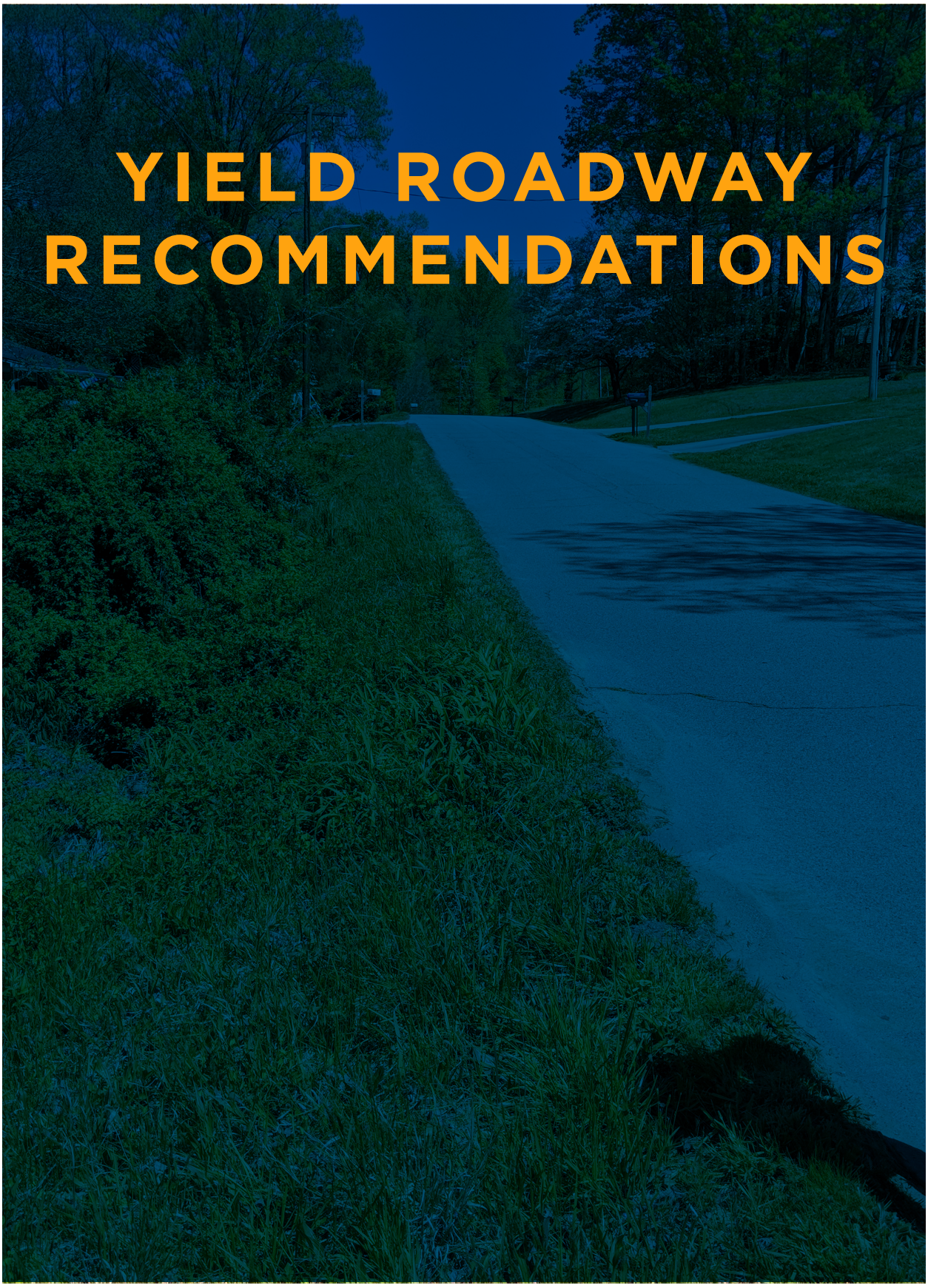
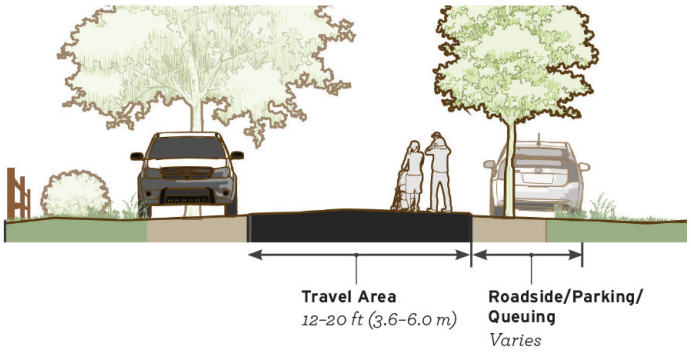


YIELD ROADWAY RECOMMENDATIONS

Yield roadways can effectively serve local travel needs, maintain aesthetic preferences, and is a common form for low-volume local rural roads. When operating at very-low volumes and at low speeds, pedestrians and bicyclists are comfortable walking within the travel area of the roadway.

Yield roadways are designed with narrow roadway dimensions to prioritize local access and community livability.



No markings are necessary to implement a yield roadway.

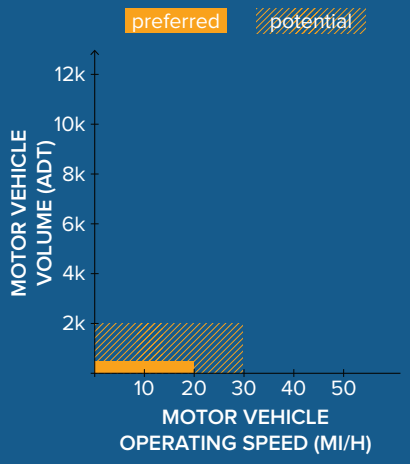
- Do not mark a center line within the travel area. The single two-way lane introduces helpful traffic friction and ambiguity, contributing to a slowspeed operating environment.

Use signs to warn road users of the special characteristics of the street. Potential signs include:

- A PEDESTRIAN (W11-2) warning sign with ON ROADWAY legend plaque.
- Use a Two-Way Traffic warning sign (W6-3) to clarify two-way operation of the road if any confusion exists.

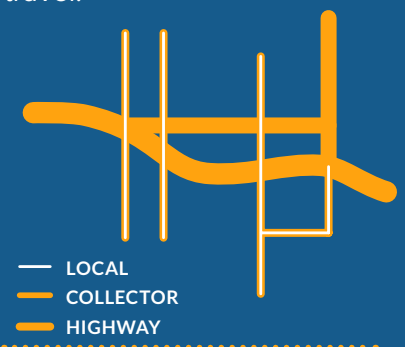
APPLICATION

SPEED AND VOLUME



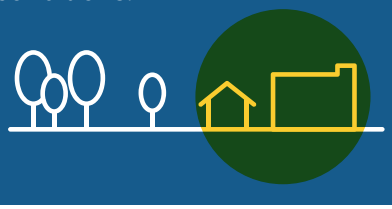
NETWORK

Local Residential roadways. Not for through motor vehicle travel.



LAND USE

Within built up areas, particularly near residential land uses where most traffic is familiar with prevailing road conditions.



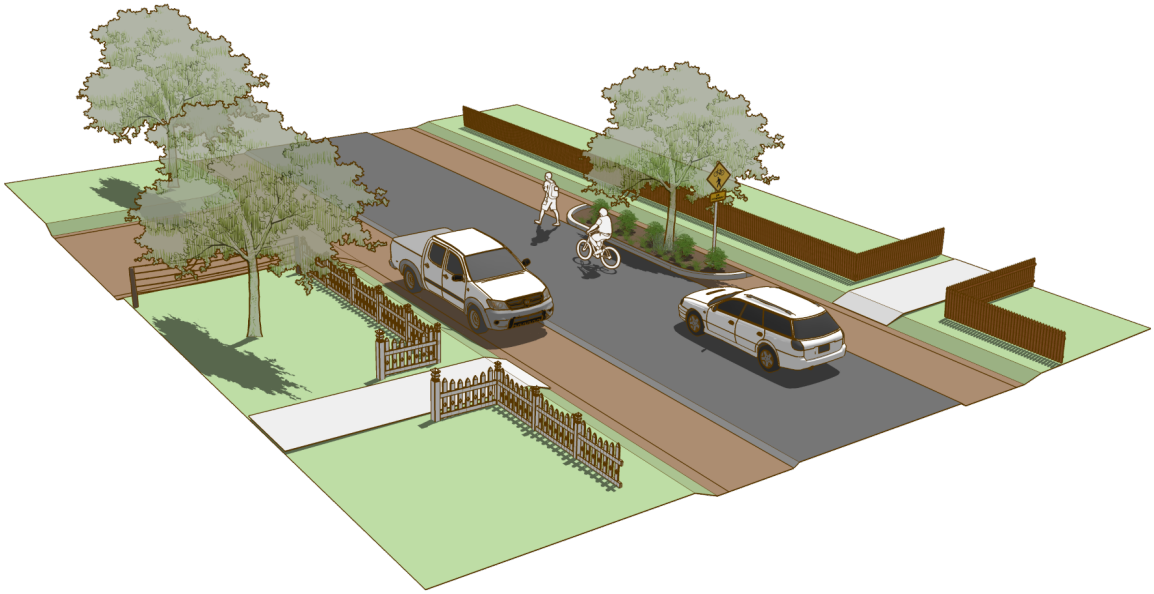


Diagram of a Yield Roadway from the FHWA Small Town and Rural Multimodal Networks document. Details about yield roadways and similar facilities can be found here: http://ruraldesignguide.com/

A PEDESTRIAN (W11-2) warning sign with ON ROADWAY legend plaque.

Use a Two-Way Traffic warning sign (W6-3) to clarify two-way operation of the road if any confusion exists.

MAP 6.4 YIELD ROADWAY RECOMMENDATIONS

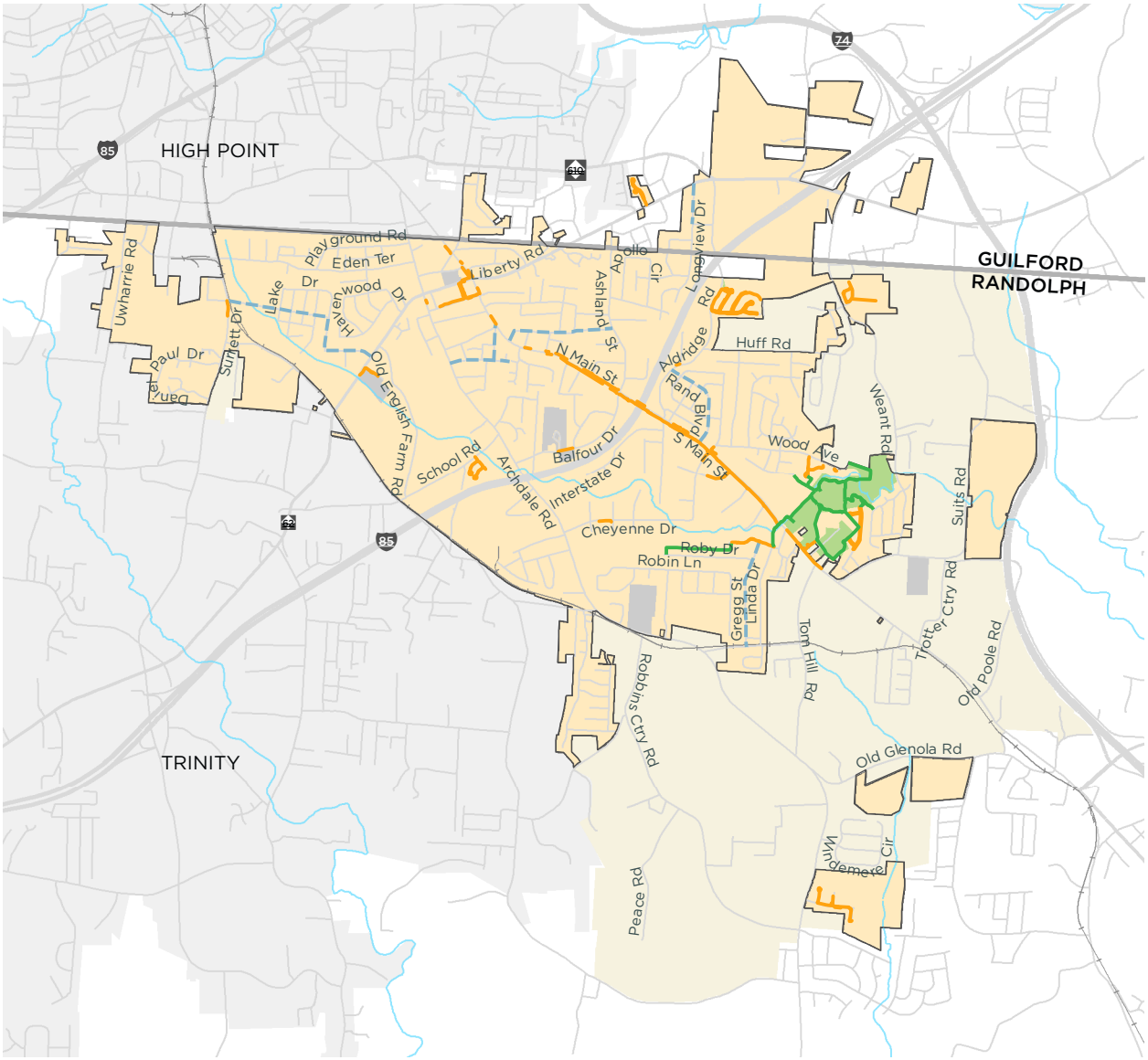


Table 6.2 Yield Roadway Recommendations

Corridor	From	To	Length (mi.)	Safety	Connectivity	Ease of Implementation	Gap Closures	Equity	Land Use/ Programmed	School Access
Archdale Blvd and Lake Dr	Surrett Dr	Trindale Rd	1.08	√	√	√		√		
Julian Ave	Ashland St	Main St	0.65		√	√		√		
Goodman St	Goodman Terminus	Archdale Rd	0.36			√		√		
Longview Dr	Liberty Rd	Burton Rd	0.24			√		√		
Luck Dr	Main St	Goodman St	0.21			√		√		
Gregg St	Macon Dr	Lane Dr	0.64			√				
Rand Blvd	Aldridge Rd	Main St	0.56			√				
TOTAL			**3.74**							

YIELD ROADWAY IMPLEMENTATION

Yield roadways are a design option when the cost or impact of installing sidewalks is prohibitive. The yield roadway recommendations highlighted on map 6.4 and in table 6.2 are intended to be city-initiated projects only. These recommendations should not be included when an updated Pedestrian Network Map is completed.

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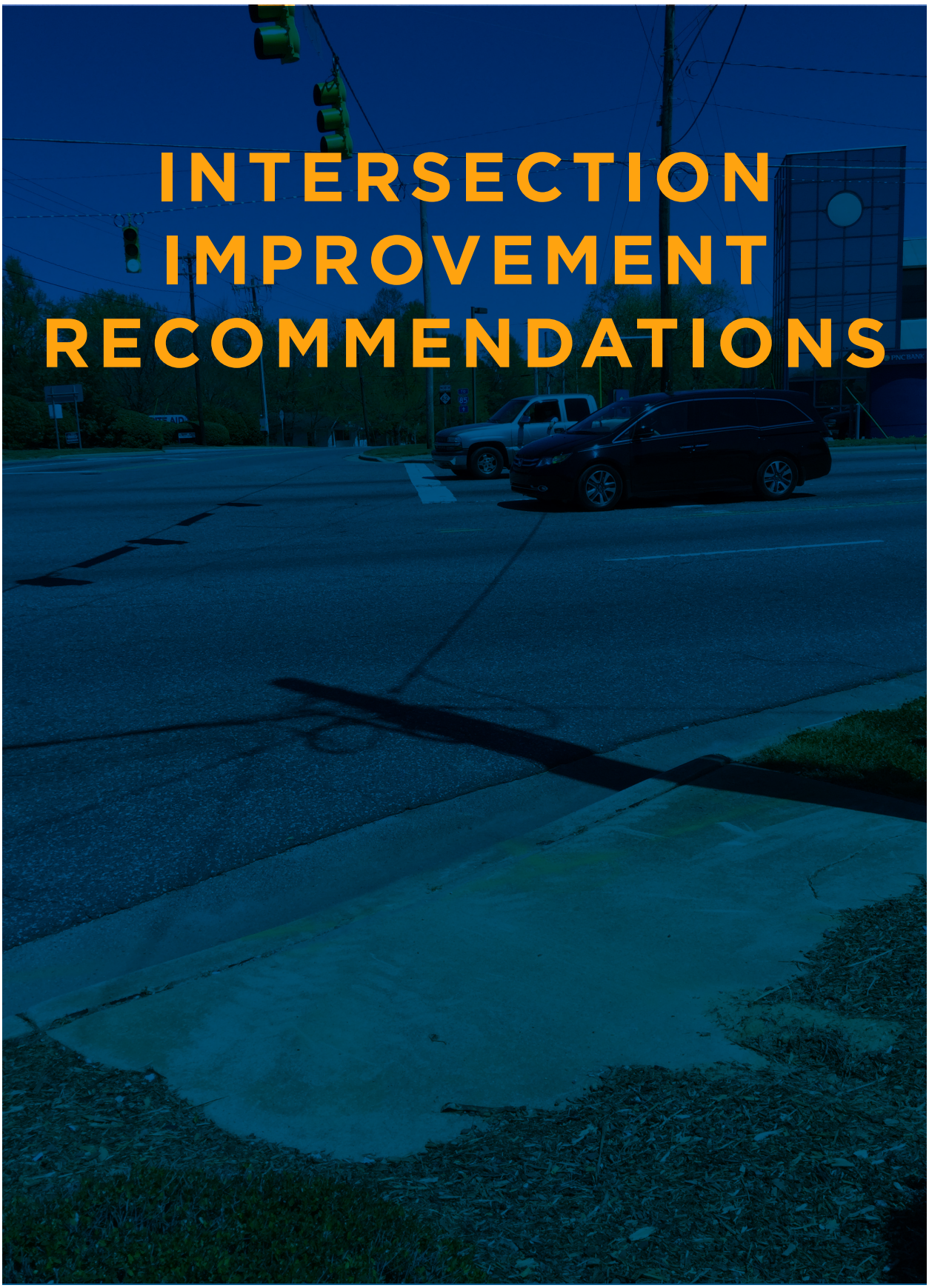


INTERSECTION IMPROVEMENT RECOMMENDATIONS

Intersections are an important part of the pedestrian network. Intersections have high potential conflict between pedestrians, bicyclists, and vehicles. However, intersections can be designed to help reduce these conflicts, making them safer for all users. Based on input from the public and the existing conditions analyses, several proposed intersection improvement projects have been identified. These locations are shown on the map on page 80.

The following guidelines should be considered when designing intersection improvements for pedestrians:

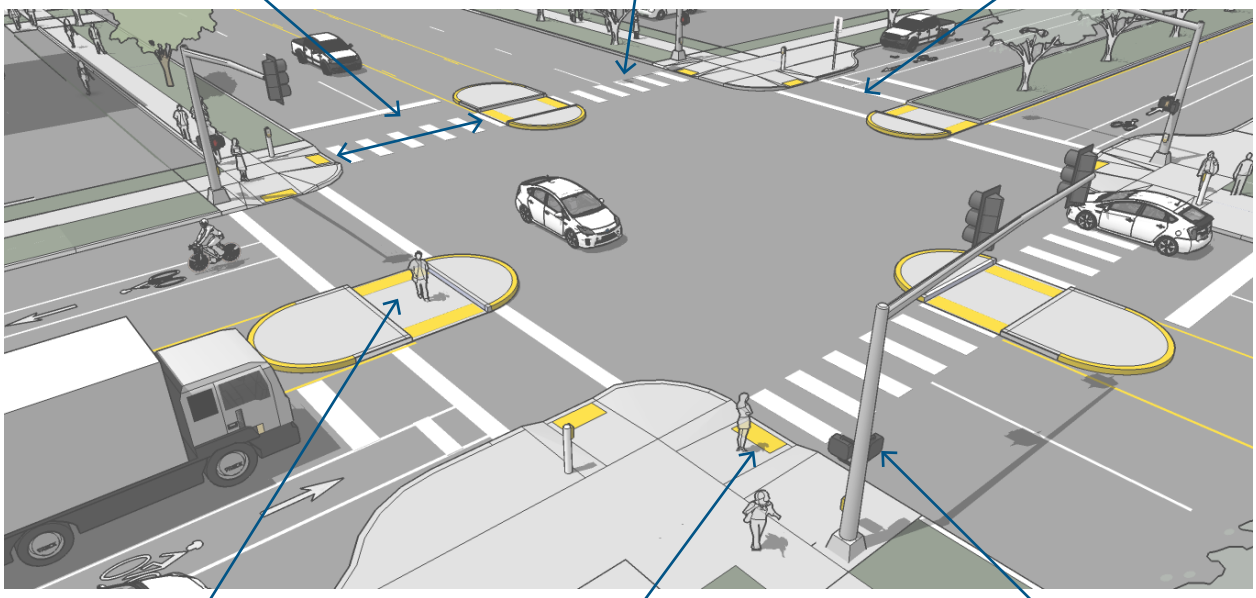
PEDESTRIAN INTERSECTION DESIGN GUIDELINES

The diagram below highlights best practices for pedestrian facility design at intersections.

The crosswalk should be located to align as closely as possible with the through pedestrian zone of the sidewalk corridor.

Continental markings provide additional visibility.

Parallel markings are the most basic crosswalk marking type.



Median refuge islands increase visibility and allow pedestrians to cross one direction of traffic at a time.

ADA compliant curb ramps allow all users to transition from the street to a sidewalk. Perpendicular curb ramps are preferred to diagonal curb ramps.

The use of a Leading Pedestrian Interval (LPI) to provide additional traffic-protected crossing time to pedestrians should be considered.

CROSSING TREATMENT SELECTION

The specific type of treatment at a crossing may range from a simple marked crosswalk to a full traffic signal or grade separated crossing. Before a marked crosswalk is installed, appropriate selection of crossing treatments should be evaluated in an engineering study, which should consider number of lanes, presence of a median, distance from adjacent signalized intersections, pedestrian volumes and delays, average daily traffic (ADT), speed limit, geometry of the location, possible consolidation of crossing points, availability of street lighting, and other appropriate factors.

PEDESTRIAN CROSSING CONTEXTUAL GUIDANCE At unsignalized locations		Local Streets 15-25 mph		Collector Streets 25-30 mph			Arterial Streets 30-45 mph							
FACILITY TYPE		2 lane	3 lane	2 lane	2 lane with median refuge	3 lane	2 lane	2 lane with median refuge	3 lane	4 lane	4 lane with median refuge	5 lane	6 lane	6 lane with median refuge
1	Crosswalk Only (high visibility)	✓	✓	EJ	EJ	X	EJ	EJ	X	X	X	X	X	X
2	Crosswalk with warning signage and yield lines	EJ	✓	✓	✓	✓	EJ	EJ	EJ	X	X	X	X	X
3	Active Warning Beacon (RRFB)	X	EJ	✓	✓	✓	✓	✓	✓	X	✓	X	X	X
4	Hybrid Beacon	X	X	EJ	EJ	EJ	EJ	✓	✓	✓	✓	✓	✓	✓
5	Full Traffic Signal	X	X	EJ	EJ	EJ	EJ	EJ	EJ	✓	✓	✓	✓	✓
6	Grade separation	X	X	EJ	EJ	EJ	X	EJ	EJ	✓	✓	✓	✓	✓

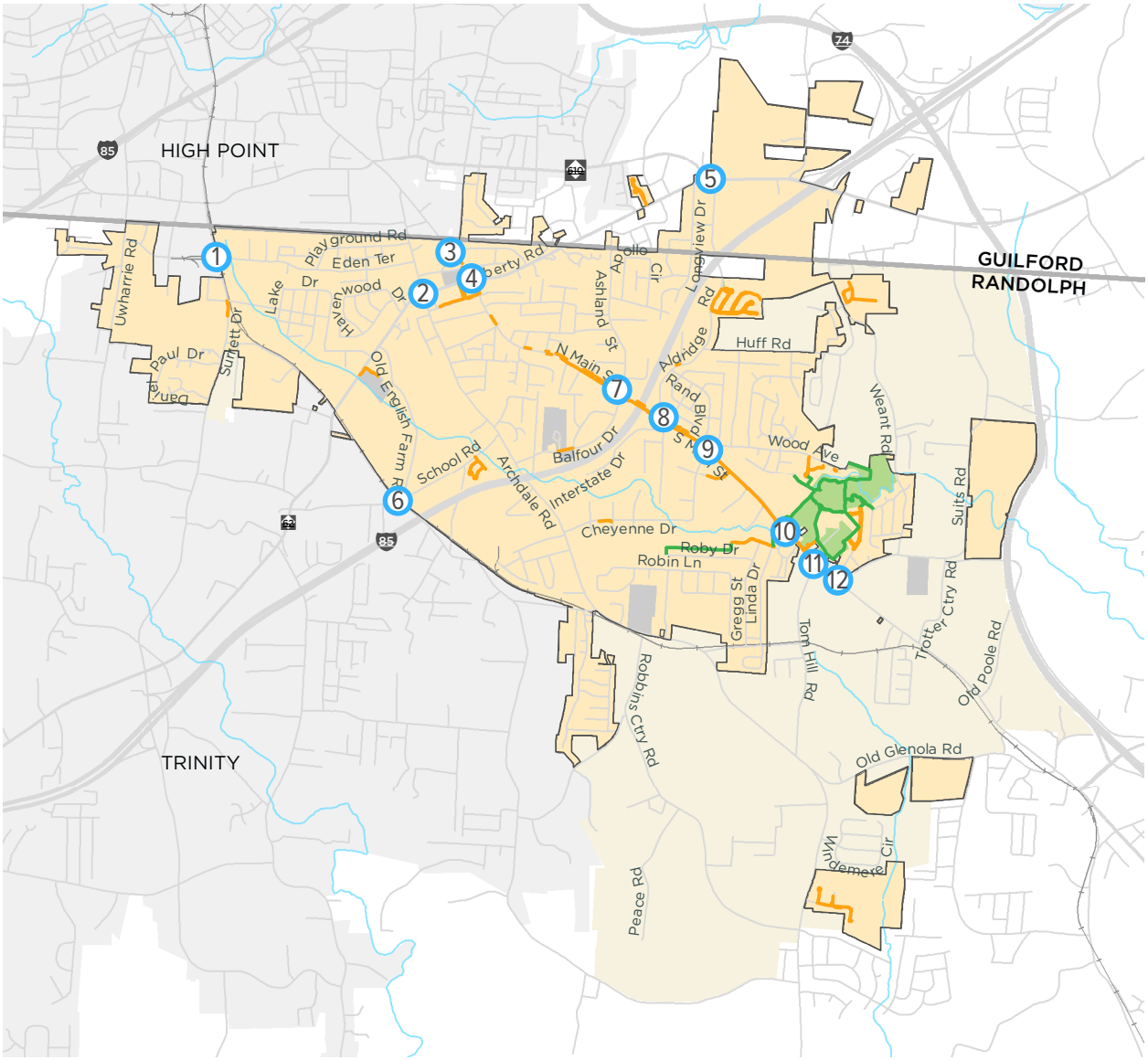
LEGEND	
Most Desirable	✓
Engineering Judgement	EJ
Not Recommended	X

MIDBLOCK CROSSINGS

Midblock crossings can provide legal crossings at locations where pedestrians want to travel, and can be safer than crossings at intersections because traffic is only moving in two directions. Locations where midblock crossings should be considered include:

- Long blocks (longer than 600 ft) with destinations on both sides of the street;
- Locations with heavy pedestrian traffic, such as schools or shopping centers; and
- Midblock transit stops, where transit riders must cross the street on one leg of their journey.

MAP 6.5 INTERSECTION IMPROVEMENTS



LEGEND

- Existing Shared Use Path
- Existing Sidewalk
- Intersection Improvement
- Archdale
- Study Area (ETJ)
- Other Municipalities
- Stream

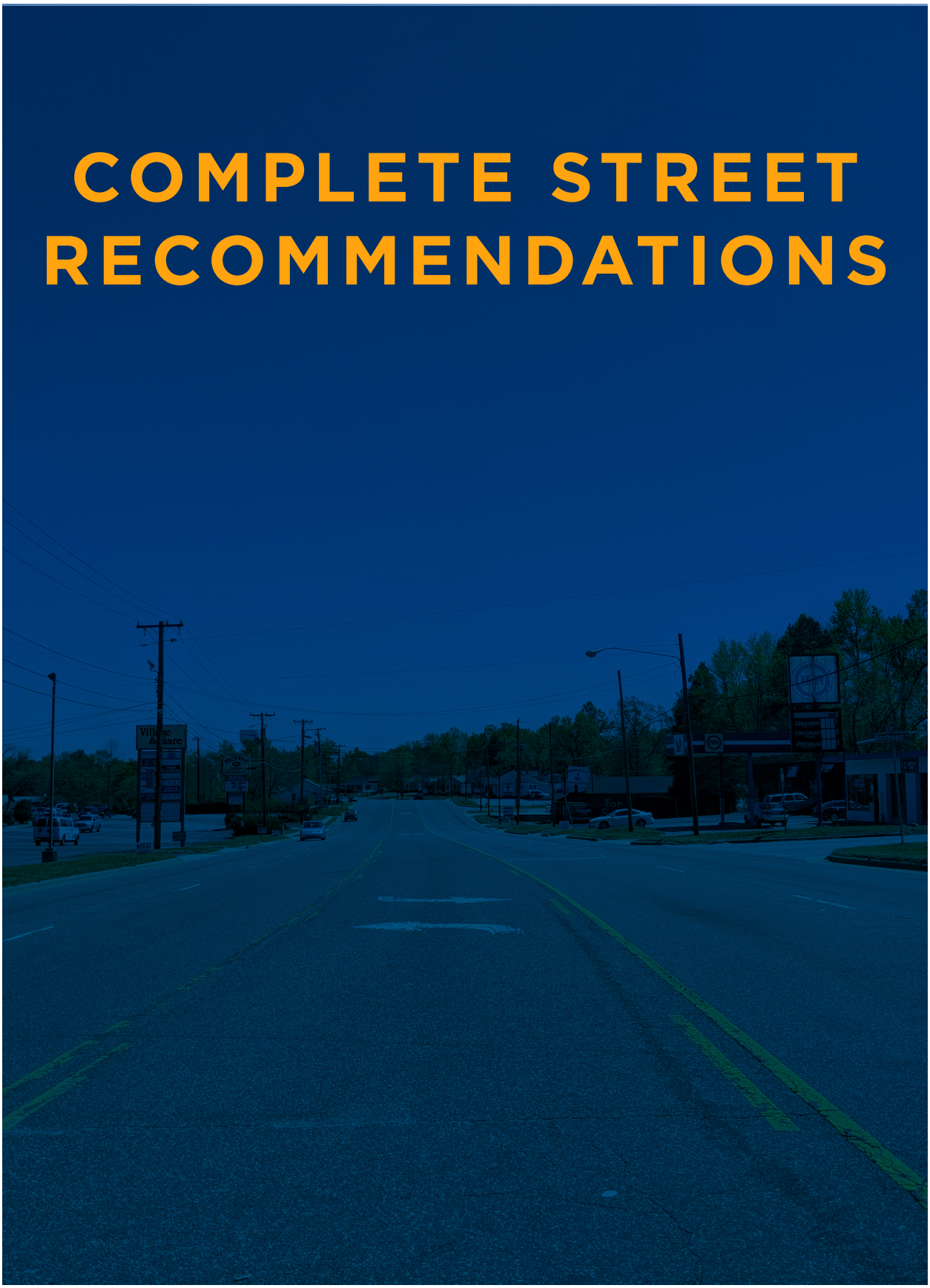
N

0 0.5 1 MILES

Table 6.3 Intersection Improvement Recommendations

ID #	Cross Street E/W	Cross Street N/S
1	Eden Ter	Surrett Dr
2	Trindale Rd	Archdale Rd
3	Petty St and Baker Rd	Main St
4	Trindale/Liberty Rd	Main St
5	Liberty Rd	Fairfield Rd and Aldridge Rd
6	School Rd	Trinity Rd
7	Balfour Dr and Ashland St	Main St
8	Aldridge Rd & Renola Dr	Main St
9	Tarheel Dr & Comanche Rd	Main St
10	Shean Dr	Main St
11	Tom Hill Rd	Main St
12	Suits Rd	Main St

COMPLETE STREET RECOMMENDATIONS



A complete street is a public or private street that is designed with street-fronting land uses, slow travel speeds, and pedestrian-oriented design features. These streets are often a portion of a larger, county road or State-owned highway and may need to balance competing needs and objectives.

The six elements described below highlight key principles of a complete street and page 45 provides a general overview of supporting policies.

FLEXIBLE DESIGN

Complete Streets can be constrained spaces, with more demand for roadway design features than there is typically space to accommodate. Decisions should be informed by local context and reflect the community vision.

MULTIMODAL DESIGN

Multimodal networks provide mobility options to all users and modes of travel. Complete streets become connections between modes, as motorists become pedestrians and pedestrians become transit users.

PLACEMAKING

Complete streets can strengthen community identity by creating enhanced aesthetics, spaces for civic activities, and creating conditions to attract and retain business. Successful places foster improved community cohesion and participation in public life.

INCREMENTALISM

Small projects can make a big difference. Opportunities such as roadway resurfacing or enhancements associated with individual development projects can be the first step in a gradual transformation. Corridor studies can also help the community set a vision and identify feasible alternatives.

ENVIRONMENTAL SUSTAINABILITY

Street trees and other vegetation can support a pleasant environment and are a key component of stormwater.

COMPACTNESS

No one mode or use should dominate the street. Providing compact, well delineated zones for each user creates a sense of belonging.

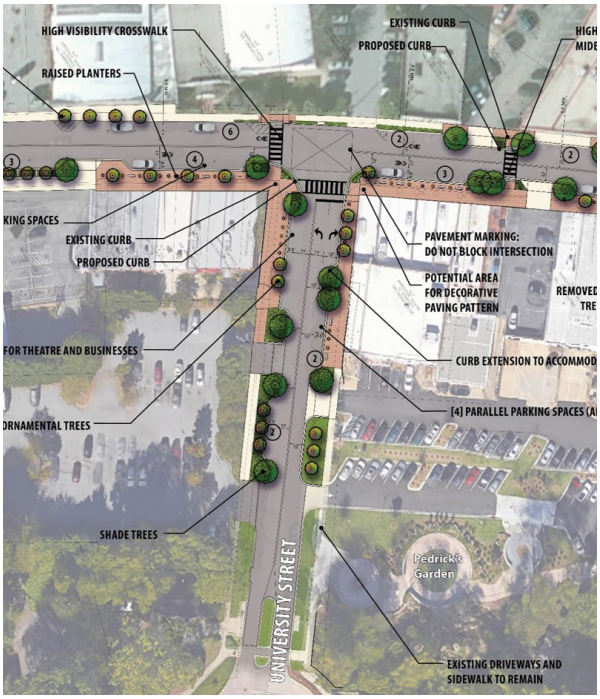
DESIGN GUIDANCE

A majority of roadways in the United States have been designed with the primary function of connecting places via automobile travel. Roadways designed in this fashion typically function as efficient conduits for motor vehicles, but are often poor connectors for other modes of transportation.

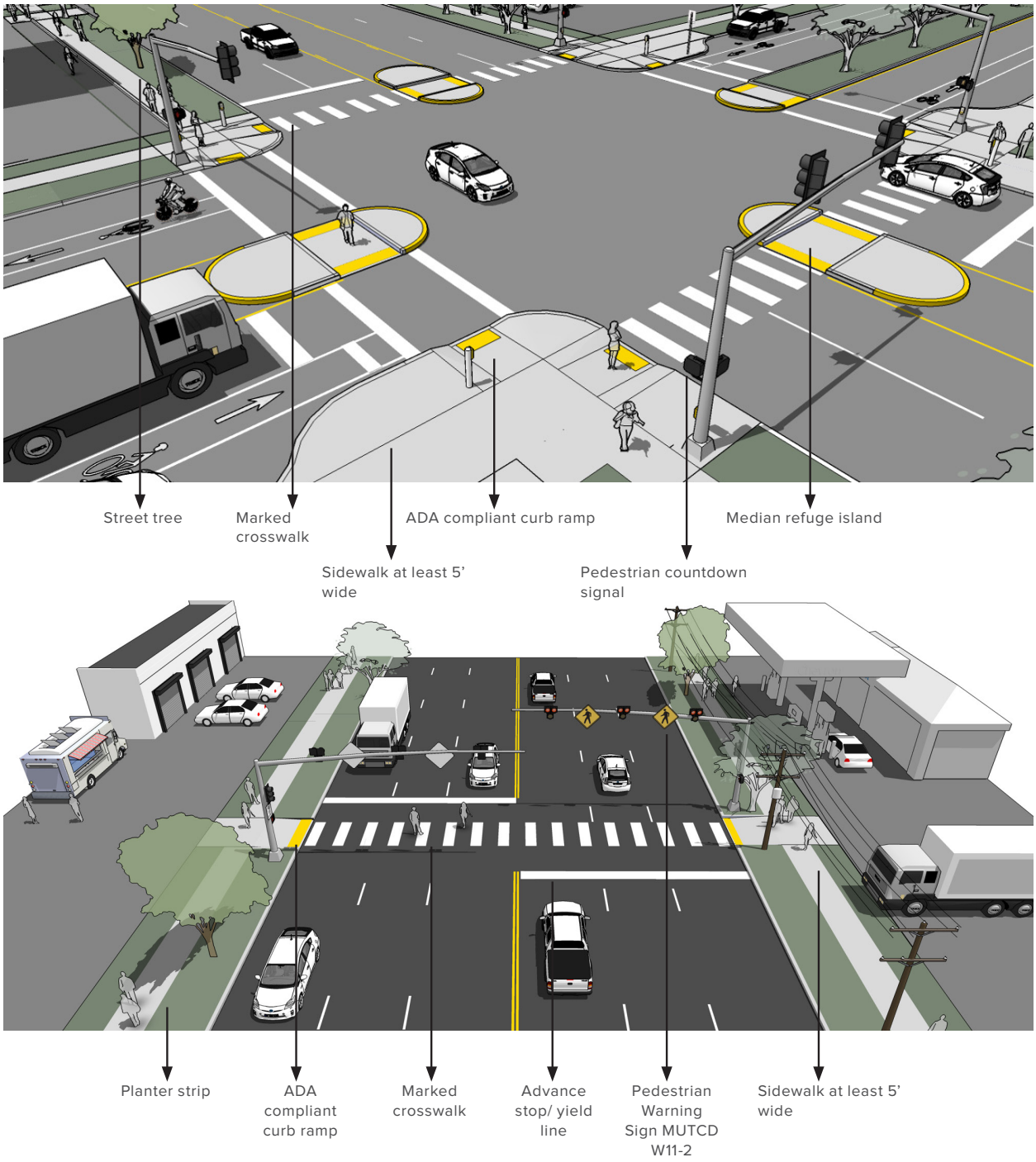
Streets have the ability to function as both a connection and a social space by establishing a relationship to the places where people live, work and play. The complete streets design philosophy is an approach that enhances current streets by enabling safe, convenient, and comfortable travel and access for users of all ages and all abilities regardless of their transportation mode. It is a person-oriented design philosophy that seeks to facilitate safe travel and a sense of place for those walking, driving an automobile, or riding public transportation.

Complete Streets are extremely context sensitive and require further engineering analysis and design to determine the appropriate treatments. Each corridor is different and thus requires different treatments. To select the appropriate treatments, planners and engineers must look at the land use and other elements along the corridor. The diagrams to the right are examples of pedestrian amenities and design options often seen in an enhanced corridor project. The project cutsheets in Chapter 7 has more details on design characteristics for enhanced corridor projects. The City of Archdale should also consult the NCDOT Complete Streets Planning and Design Guidelines, which includes a Complete Streets selection matrix.

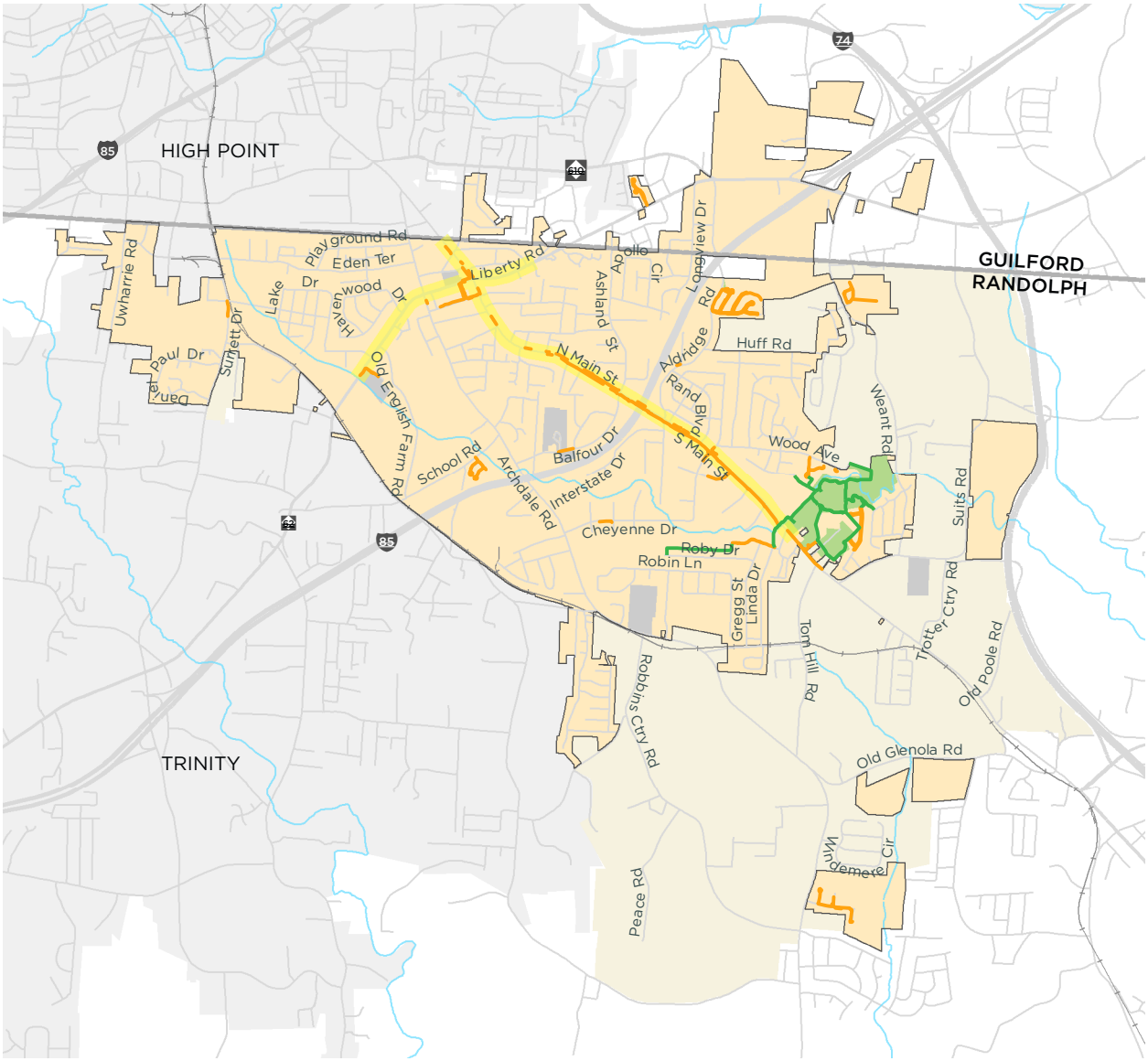
.



Complete Street concept example along Augusta Street in Greenville, South Carolina


Street tree
Marked crosswalk
Sidewalk at least 5' wide
ADA compliant curb ramp
Pedestrian countdown signal
Median refuge island
Planter strip
ADA compliant curb ramp
Marked crosswalk
Advance stop/ yield line
Pedestrian Warning Sign MUTCD W11-2
Sidewalk at least 5' wide

MAP 6.6 COMPLETE STREET CORRIDORS



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SHARED USE PATH RECOMMENDATIONS

SHARED-USE PATH LOOP

Shared-use trails are becoming an increasingly popular mode of transportation in growing cities across the United States. They allow pedestrians and cyclists with differing ages and skill levels to move from place to place safely and sustainably. Archdale's shared-use trail loop will be no different; it will connect major public destinations in Archdale together, giving people an alternative to driving. Major destinations include but are not limited to: the Creekside Park, the YMCA, City Hall, and many of Archdale's Public Schools. Besides connecting Archdale's public entities, it will also generate an economic boost to the existing commercial corridors of Main Street and Trindale Road.

APPROACH: In order to select the right location for the Archdale shared-use path loop, four main objectives were followed:

CONNECT TO DESTINATIONS

The primary objective of the loop is to connect residents to Archdale's public landmarks, such as:

- Existing Greenways
- Parks (i.e. Creekside Park)
- Recreational Facilities (i.e. YMCA)
- Schools
- Commercial Corridors
- Neighborhoods

INCREASE PEDESTRIAN ACCESS

A main obstacle in the creation of the loop is Interstate 85. In order to make Archdale accessible for pedestrians, there need to be safe options for people to cross I-85 because of the barrier it creates between east and west Archdale. The loop would enable two ways to cross I-85:

- An underpass with widened side path along Archdale Road
- Aldridge Road bridge updates with sidewalks

USE EXISTING PUBLICLY OWNED LAND

In order to implement the loop quickly and at a limited cost, the route was selected based on the location of:

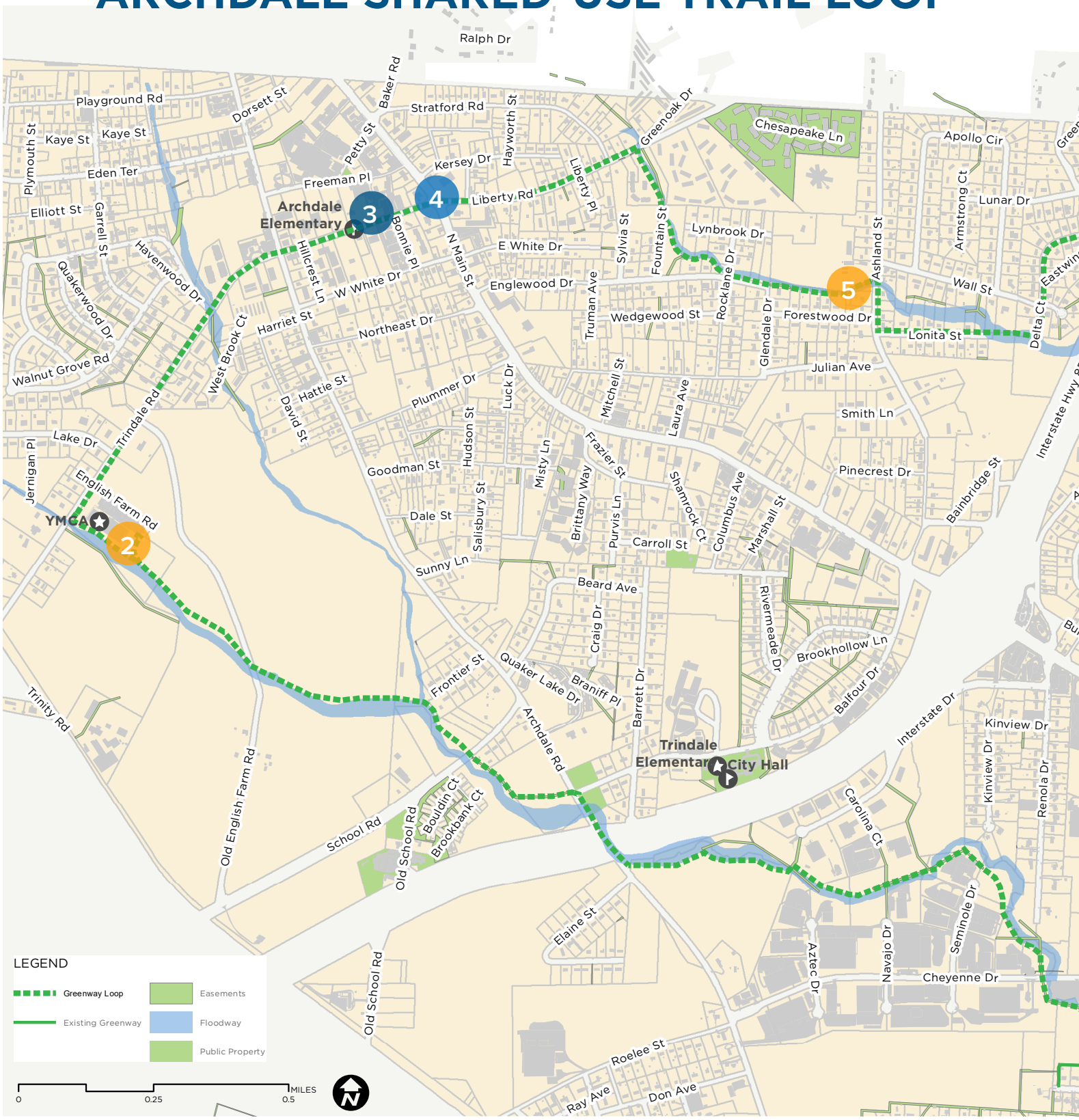
- Public lands
- Greenway Easements
- Roadway right-of-way

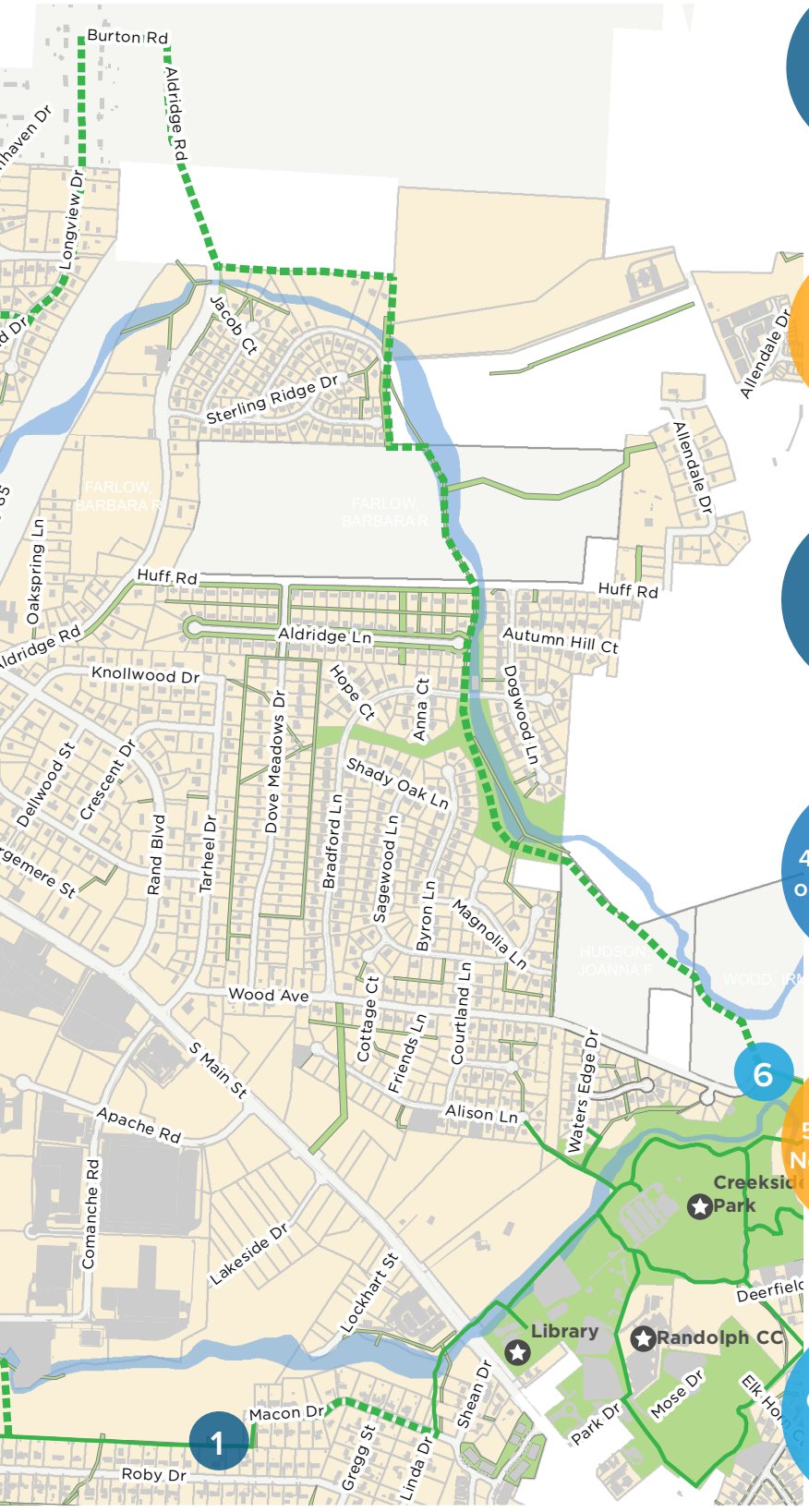
FOLLOW STREAM CORRIDORS

Where greenway easements and right-of-way are not available, the route is to be located along stream corridors. This offers:

- Environmental education opportunities
- Combined stormwater and trail projects and increased funding chances
- Less of an impact to private residences

ARCHDALE SHARED-USE TRAIL LOOP





1: Existing Greenway

2: YMCA

3: Archdale Schools

4: Businesses on Main Street

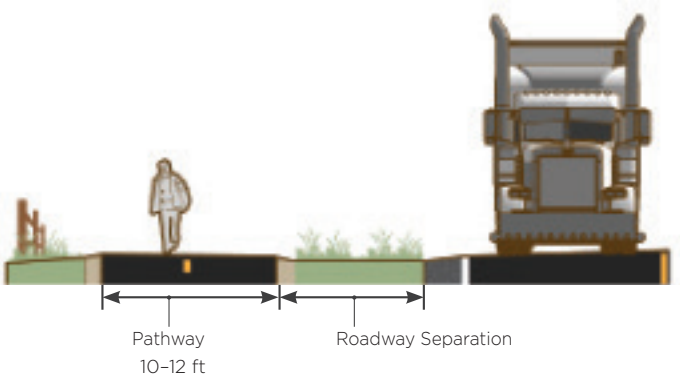
5: Residential Neighborhoods

6: Creekside Park

SHARED USE TRAIL (ALONG THE ROADWAY)

A shared use trail along the roadway is a bi-directional path located immediately adjacent and parallel to a roadway. These trails can offer a high-quality experience for users of all ages and abilities as compared to on-roadway facilities in heavy traffic environments, allow for reduced roadway crossing distances, and maintain rural and small town community character.

A shared use trail along the roadway can encourage bicycling and walking in areas where high-volume and high-speed motor vehicle traffic would otherwise discourage it.



ROADWAY SEPARATION

Separation from the roadway should be informed by the speed and configuration of the adjacent roadway and available right-of-way and engineering judgment.

- Preferred minimum separation width is 6.5ft. Minimum separation is 5ft.
- Separation narrower than 5ft is not recommended without the use of a physical barrier.
- Special consideration at intersections and driveways.
- Trail width and roadway separation can be reduced when located in residential neighborhoods to reduce impact.

APPLICATION

SPEED AND VOLUME

For use on roads with high volumes, and moderate-to high-speed motor vehicle traffic. Roads with few driveways are preferred to reduce potential conflict points.

NETWORK

For use on arterial links on the regional or local biking and walking network.

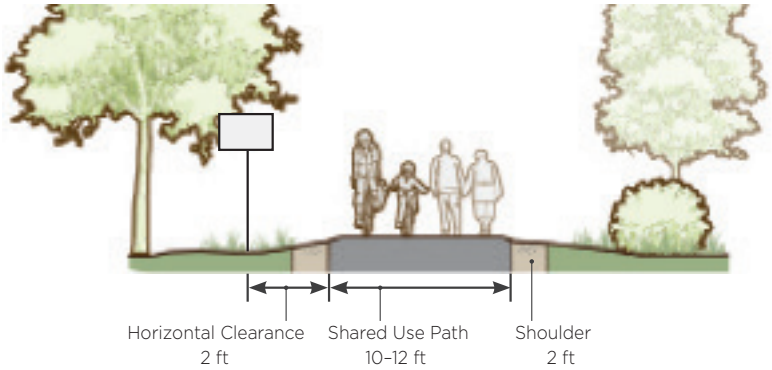
LAND USE

For use inside of built-up areas to provide a dedicated space for pedestrians and bicyclists.

SHARED USE TRAIL (OFF-ROAD)

A shared use trail that is off-road provides a travel area separate from motorized traffic for bicyclists, pedestrians, skaters, wheelchair users, joggers, and other users. Shared use trails can provide a low-stress experience for a variety of users using the network for transportation or recreation.

Off-road trails follow utility corridors, railroad alignments (both active and abandoned), and greenway/stream corridors.



WIDTH

The geometric design of shared use trails should support the speed and volume of expected user types.

- 10 ft -12ft width is recommended in most situations and will be adequate for moderate to heavy use.
- A 2 ft shoulder should be provided on each side of the path, kept clear of vertical elements or obstructions.

APPLICATION

SPEED AND VOLUME

Paths operating in independent corridors are fully separated from traffic. Facility provision is based on opportunity and connectivity rather than roadway context. In some cases, an independent corridor may offer similar connectivity and access to destinations as a nearby roadway.

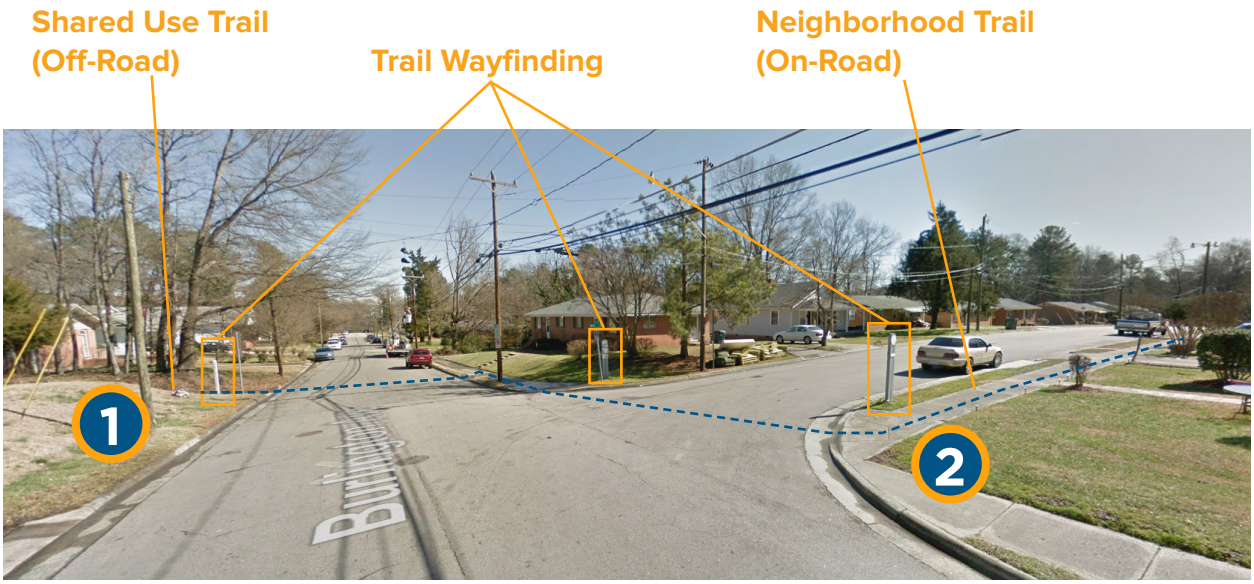
NETWORK

Serves connections independently of the street network. May function as a network alternative road.

LAND USE

Generally appropriate outside of built-up areas, and also as a corridor connection within urban areas.

EXAMPLE OF SHARED USE TRAIL TRANSITIONING IN A NEIGHBORHOOD SETTING



Rocky Creek Trail in Durham, NC

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MAP 6.7 SHARED USE PATH RECOMMENDATIONS

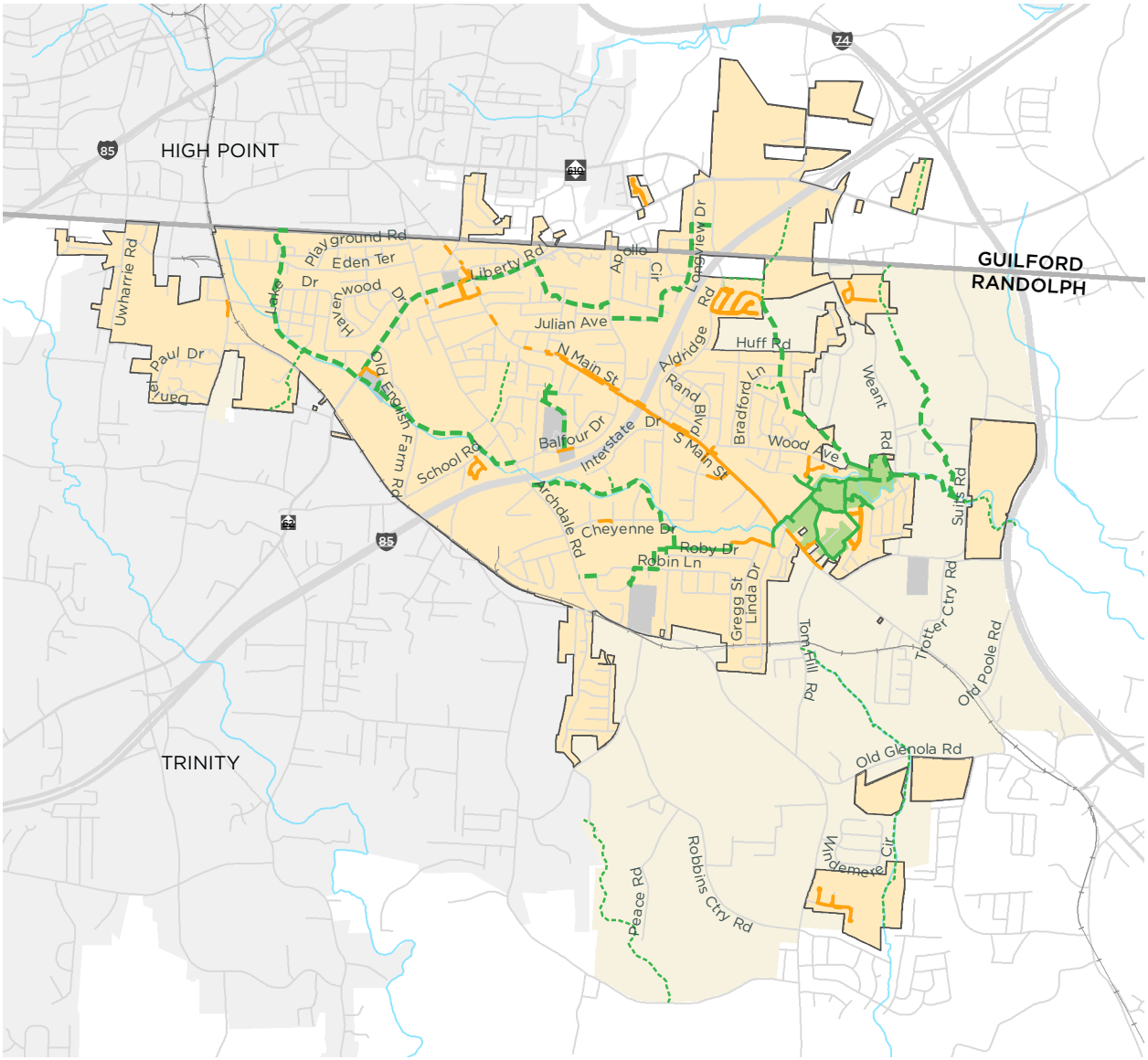

Table 6.4 Shared Use Path Recommendations

Corridor	From	To	Length (mi.)	Safety	Connectivity	Ease of Implementation	Gap Closures	Equity	Land Use/ Programmed	School Access
Roby to Archdale Trinity Middle	Roby Greenway	Archdale Trinity Middle School	0.46	√	√	√	√	√		√
Trindale Elementary Local Connector	Beard Ave	Balfour Dr	0.39	√	√	√	√	√		√
Trindale Elementary Local Connector	Columbus Ave and Davidson St	Trindale Elementary Local Connector	0.07	√	√	√	√	√		√
Trindale Elementary Local Connector	Carroll St	Trindale Elementary Local Connector	0.10	√	√	√	√	√		√
Trindale Elementary Local Connector	Shamrock Ct	Trindale Elementary Local Connector	0.06	√	√	√	√	√		√
Archdale Loop (Trindale Rd - Maple Grove Ct to YMCA)	Maple Grove Ct	YMCA	1.32	√	√			√		√
High point to YMCA	SW High Point Greenway	YMCA	1.27	√	√			√		
Archdale Loop	Liberty Rd	Ashland St	0.61		√			√		
Archdale Loop (City Hall to YMCA)	YMCA	Balfour Dr	1.21		√			√		
Archdale Loop (Lonita, Eastwind, Longview)	Aldridge Rd	Ashland St	1.10		√		√			
Archdale Loop (Park to City Hall)	Archdale Rd	Roby Greenway	1.19		√					√
Eastern Creekside Park Loop	Creekside Park Trail	Creekside Park Trail	0.42			√			√	
Local Connector	Robin Ln and Robin Cr	Archdale Rd	0.11				√			√
Hope Valley Road to Archdale Parks and Recreation	Hope Valley Rd	Creekside Park	1.18		√					
East Greenway Connector	Huff Rd	Park to Suits Connector	1.10							
Park to Suits Connector	Creekside Park	Suits Rd	0.52							
TOTAL			**11.11**							

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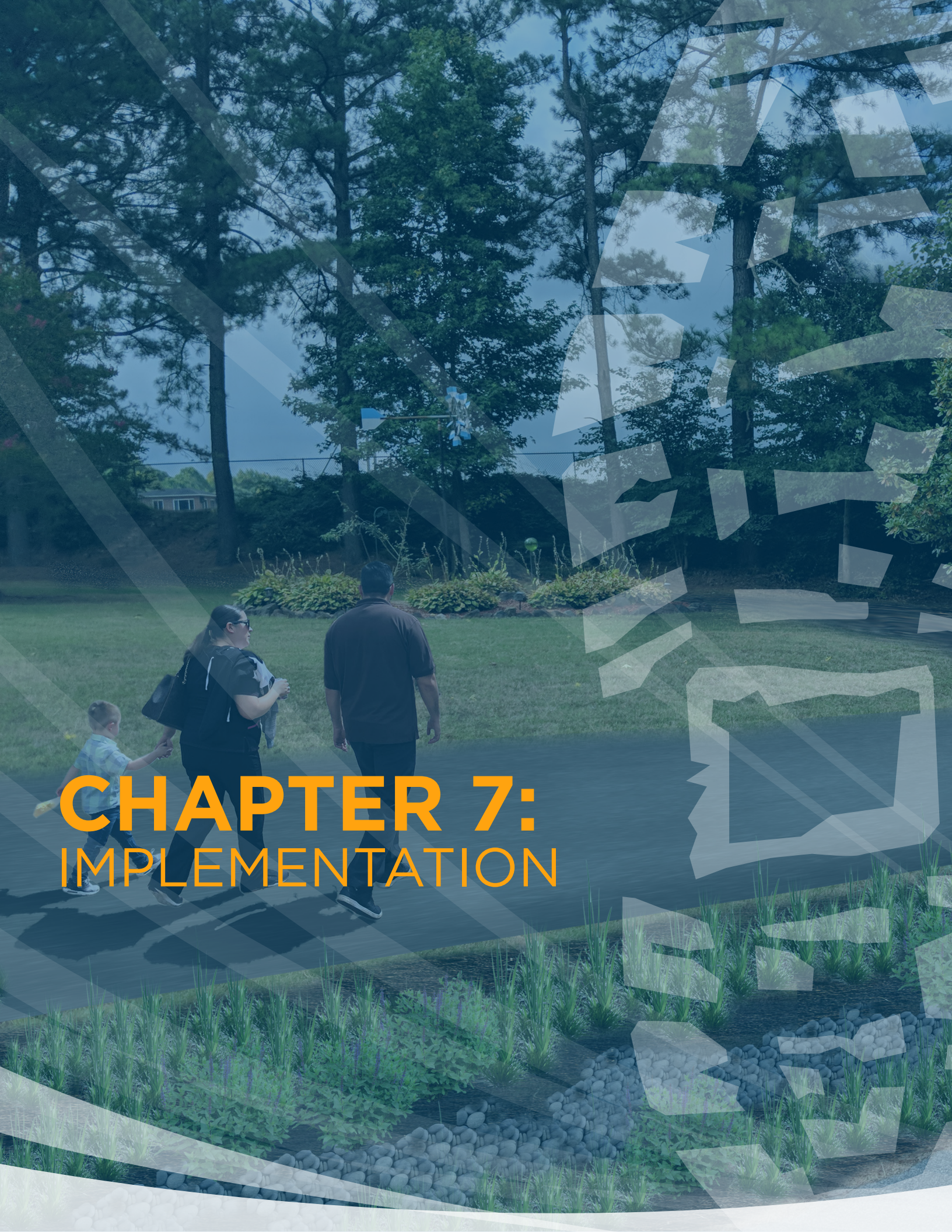


CHAPTER 7:
IMPLEMENTATION

OVERVIEW

This chapter defines the priorities and structure for managing the implementation of the Archdale Pedestrian & Trails Plan. Implementing the recommendations within this plan will require leadership and dedication to pedestrian and trail facility development on the part of a variety of agencies. Equally critical, and perhaps more challenging, will be meeting the need for a recurring source of revenue. Even small amounts of local funding could be very useful and beneficial when matched with outside sources. Most importantly, the City need not accomplish the recommendations of this plan by acting alone; success will be realized through collaboration with regional and state agencies, the private sector, and non-profit organizations.

Given the present day economic challenges faced by local governments (as well as their state, federal, and private sector partners), it is difficult to know what financial resources will be available at different time frames during the implementation of this plan. However, there are still important actions to take in advance of major investments, including key organizational steps, the initiation of education and safety programs, and the development of strategic, lower-cost sidewalk and crossing facilities. Following through on these priorities will allow the key stakeholders to prepare for the development of larger pedestrian and trail projects over time, while taking advantage of strategic opportunities as they arise.

CHAPTER OVERVIEW

This chapter provides the necessary steps and guidance for delivering the recommendations of this Plan and is organized into the following sections:

HOW TO USE THIS PLAN

At the heart of every successful pedestrian and trails plan is a coordinated effort by City staff, law enforcement, and other partners to support safe travel on foot. Everyone has a key role to play in implementing this plan.

City of Archdale staff and elected/ appointed officials should use this report to establish programs and policies that educate, encourage, and prioritize infrastructure investments proposed throughout the city.

CITY OF ARCHDALE

City staff can use this report to document travel behaviors, existing roadway design deficiencies, and specific improvement opportunities. Coordination with NCDOT will be key to implementing several recommendations. This plan provides documentation and recommendations to refer to in shaping NCDOT projects and activities.

NCDOT

NCDOT staff, specifically within Divisions 7 and 8, can use this plan to get familiar with proposed priority projects. NCDOT will play an integral role in the design, construction, and maintenance of pedestrian facilities throughout the city. During the project scoping process, the city and MPO can communicate with NCDOT personnel to affect how STIP projects are formulated and designed.

ARCHDALE POLICE DEPARTMENT

Archdale Police can use this plan to target enforcement efforts on identified areas with high crashes, and to complement potential education and encouragement campaigns. Police department input can also help improve the recommended programs aimed at addressing safety issues and promoting active travel. Education of Archdale Police Department about bicycling and pedestrian laws is also needed.

PEDESTRIAN ADVISORY COMMITTEE

A Pedestrian Advisory Committee can use this plan as a framework for coordinating the development of the policies and programs recommended for the city. They can also use the programs chapter to advocate for improvements in Archdale. An active Pedestrian Advisory Committee will be instrumental in implementing the plan.

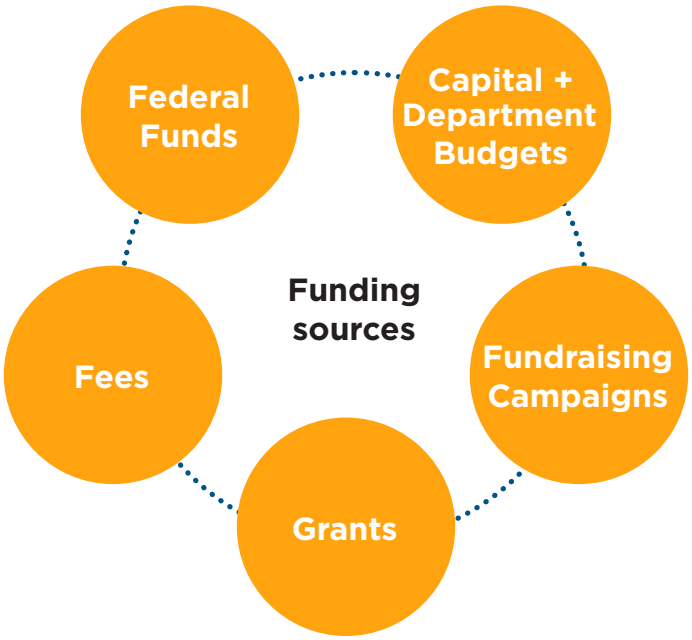
LOCAL STAKEHOLDERS

Local stakeholders can use this plan to understand and confirm the conditions in their neighborhoods and near their organizations (if applicable) as well as become familiar with the ways in which they can support program goals. In many cases, education and encouragement programs require these dedicated volunteers. Local stakeholders can also provide input on NCDOT processes and projects.

FUNDING SOURCES

In order to achieve the goals of this plan, the City of Archdale and the High Point MPO will need to fund improvements from a variety of funding sources and partners. Funding sources will need to be opportunistic and consistent in order to implement this plan. Five primary funding sources make up the core funding strategy for this plan:

- **Federal Funds.** There are several federal funding programs that can be used for walking and trail projects that are administered by the North Carolina Department of Transportation (NCDOT) to the High Point MPO or local jurisdictions. Safety funds, transportation alternatives (TA), Congestion Mitigation and Air Quality Improvement Program (CMAQ) funds, and Federal Surface Transportation Program (SLX) funds are possible federal funding opportunities.
- **Capital & Department Budgets.** The City of Archdale can use the concepts and policies presented in this Plan to implement it through regularly scheduled capital projects, such as streetscape projects, street resurfacing, or new public or private property construction.
- **Fees.** User fees or development impact fees provide an opportunity to generate revenue to fund infrastructure projects, such as sidewalk and trail construction, as well as programs, such as pedestrian education classes.
- **Grants.** Competitive grants through public agencies or through private or non-profit foundations can generate additional resources for projects and programs.
- **Fundraising Campaigns.** Fundraising through neighborhood groups, advocacy groups, or even crowd-funding can help generate additional resources for projects and programs.



FUNDING SOURCES BY BUDGET SIZE AND PROJECT TIMELINE

Given the constant change in funding availability at local, state, and federal levels, it is difficult to know what financial resources will be available at different time frames during the implementation of this plan. The following table highlights funding options to consider for projects of various sizes.

Small Budget - Short Term	Small Budget - Long Term	Large Budget - Short Term	Large Budget - Long Term
• Neighborhood Associations • Crowdsourcing • Non-Profit Grants • Impact Fees • Infrastructure • North Carolina Department of Transportation Division Safety Funds • Dedicated local tax sources • Local health departments • Individual donors	• Federal Transportation Funds (FAST Act programs) • HUD and EPA funds • Capital Improvement budget funds • North Carolina Department of Transportation	• Foundation grants • Individual donors • Public-Private Partnerships • Infrastructure bonds • Dedicated local tax sources	• Federal Transportation Funds

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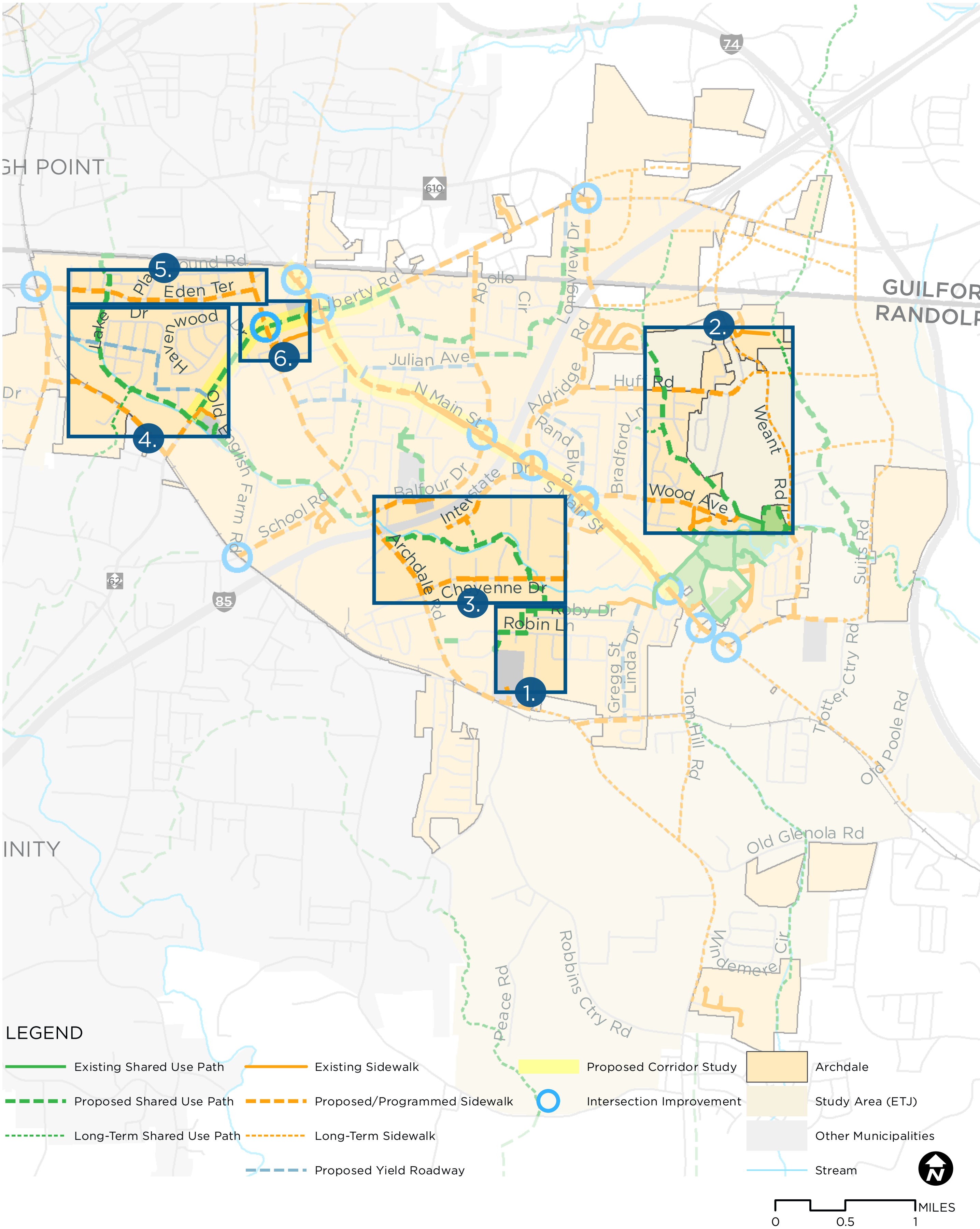
PRIORITY PROJECT CUTSHEETS

Six priority projects were identified through existing conditions evaluations and feedback from the project steering committee. While these projects are prioritized, the City still has the flexibility to implement as funding and project opportunities arise.

The following pages offer detailed information on each of the selected priority projects, including individual project maps. These sheets were designed based on the types of information required by potential funding partners, and feature the following information:

- Project length
- Facility Types
- Trip Generators
- ROW needs
- Estimated Construction Costs
- Estimated Land Acquisition Costs
- Annotated Map of Project Corridor

PRIORITY PROJECT CUTSHEETS


GH POINT
GUILFORD
RANDOLPH
INITY
74
610
85
62
1.
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Eden Ter
Lake Dr
Havenwood
Old English Farm Rd
Liberty Rd
Apollo Cir
Longview Dr
Julian Ave
N Main St
Aldridge Rd
Rand Blvd
Huff Rd
Bradford Ln
Weant Rd
Wood Ave
S Main St
Balfour Dr
Interstate Dr
School Rd
Archdale Rd
Cheyenne Dr
Roby Dr
Robin Ln
Gregg St
Linda Dr
Tom Hill Rd
Trotter Ctry Rd
Suits Rd
Old Poole Rd
Old Glenola Rd
Windemere Cir
Robbins Ctry Rd
Peace Rd
LEGEND
Existing Shared Use Path
Proposed Shared Use Path
Long-Term Shared Use Path
Existing Sidewalk
Proposed/Programmed Sidewalk
Long-Term Sidewalk
Proposed Yield Roadway
Proposed Corridor Study
Intersection Improvement
Archdale
Study Area (ETJ)
Other Municipalities
Stream
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1

1. SHARED-USE PATH: ARCHDALE PARKS AND RECREATION TO ARCHDALE-TRINITY MIDDLE SCHOOL

This project connects the Archdale Parks and Recreation to Archdale Trinity Middle School. The proposed greenway connection follows existing public easements and stays within roadway right-of-ways until it reaches the middle school. Since most of the trail alignment is located along trail easements, only a few meetings with nearby private residential property owners will be needed.

PROJECT AT A GLANCE

- Project type: greenway, sidepath, cross-walks
- Length: 2,400 ft (0.45 miles)
- Trip Generators:
  - » Archdale Parks and Recreation
  - » Archdale-Trinity Middle School
  - » Nearby neighborhood

PARCEL INFORMATION

Property Type	Length	# of Parcels
Industrial	0 LF	0
Residential	0 LF	0
Public	2,400 LF	4

POTENTIAL PERMITTING NEEDS

- Randolph County/Archdale Stormwater Management (National Pollutant Discharge Elimination System General Permit)
- Randolph County/Archdale Land Disturbance Permit

POTENTIAL PARTNERSHIPS

- City of Archdale
- Randolph County Schools

ESTIMATED CONSTRUCTION COST

Quantity	Item	Cost
2,400 LF	Asphalt Trail	$391,000
	Contract Cost	$391,000
	Design and Engineering Cost	$76,245
	Acquisition Cost	$0
	30% Contingency Cost	$117,300
	Total Construction Cost	$584,545

OPPORTUNITIES AND CONSTRAINTS

1. The trail follows along the edge of a property's fence line, along a public easement.
2. The trail moves along the north side of the road in front of residential property and within the right-of-way.
3. The trail crosses Robin Lane and will need a high-visibility crosswalk.
4. The trail is to be located on the east side of Robin Circle in front of residential properties and within the right-of-way.
5. The trail connects to the Archdale Trinity Middle School; due to the topography, the trail would need to switchback.

5. ARCHDALE-TRINITY MIDDLE SCHOOL CONNECTION

DESIGN CONSIDERATIONS

1. A Greenway with a 10 foot buffer follows alongside Robin Circle, until it reaches Trinity Middle School.
2. In the space between Robin Circle and the greenway, the existing ditches could be replaced by rain gardens for stormwater runoff.
3. A mulch or dirt pedestrian pathway leads to existing stairs, for a quick and alternative access route to the middle school ball park.
4. To create an ADA accessible pathway to the middle school and ball park, the pathway would have to switchback for a length of 240 feet, in order to reach the ball park at a 4.5% grade.

This is not a design plan; precise locations and elements should be designed in accordance with engineering standards and NCDOT review.

2. SHARED-USE PATH LOOP: HOPE VALLEY ROAD TO ARCHDALE PARKS AND RECREATION

This project connects single family homes in East Archdale to Creekside Park through a separated greenway. The main obstacles in this segment are the two mid-block crossings. Other problem areas to consider are where the trail routes through private property not located within Archdale's jurisdiction. Regionally, this project will help to link East Archdale to public parks.

PROJECT AT A GLANCE

- Project type: greenway, mid-block crossings
- Length: 6,300 ft (1.2 miles)
- Trip Generators:
  - » Creekside Park
  - » Single family houses in S. Main Archdale

PARCEL INFORMATION

PROPERTY TYPE	LENGTH	# OF PARCELS
Commercial	0 LF	0
Residential	2,200 LF	2
Public	6,000 LF	5

POTENTIAL PERMITTING NEEDS

- Randolph County/Archdale Floodplain Development Permit
- Randolph County/Archdale Stormwater Management (National Pollutant Discharge Elimination System General Permit)
- Randolph County/Archdale Land Disturbance Permit
- FEMA Conditional Letter of Map Revision (CLOMR)
- FEMA Letter of Map Revision (LOMR)
- U.S. Army Corps of Engineers Section 401/404 Permit

POTENTIAL PARTNERSHIPS

- City of Archdale

ESTIMATED CONSTRUCTION COST

Quantity	Item	Cost
6,300 LF	Asphalt Trail	$578,000
2	Mid-Block Crossing	$23,000
30 LF	Bridge	$60,000
	Contract Cost	$661,000
	Design and Engineering Cost	$171,860
	Acquisition Cost	$2,800
	30% Contingency Cost	$198,300
	Total Construction Cost	$1,033,960

OPPORTUNITIES AND CONSTRAINTS

1. The trail will follow a creek within already obtained easements located on the west side.
2. The trail crossing at Huff Road will need a mid-block crossing and flashing beacon.
3. After the trail crosses Huff Road, it enters property owned by the City of Archdale. Within this property it follows the creek on the west side.
4. The trail crosses Bradford Lane, requiring a mid-block crossing.
5. The trail enters into private land not currently within the City of Archdale's jurisdiction.
6. The trail ends on public land connecting to existing trails within the City of Archdale's Creekside Park.

2. HUFF ROAD CROSSING

DESIGN CONSIDERATIONS

1. ADA-accessible ramps connecting to sidewalk at each end of the high-visibility crosswalk should be installed.
2. Add sidewalks along Huff Road to allow for pedestrian access to residences and the park.
3. A high-visibility crosswalk should be installed across Huff Road to allow for residents to safely access the residential neighborhoods.
4. Add Pedestrian Warning Signs (MUTCD W11-2).

This is not a design plan; precise locations and elements should be designed in accordance with engineering standards and NCDOT review.

3. SHARED-USE PATH LOOP: ARCHDALE PARKS AND RECREATION TO ARCHDALE CITY HALL

This project connects the Archdale Parks and Recreation to the Archdale City Hall. The proposed greenway connection follows Muddy Creek. A key to this project is an underpass at Cheyenne Drive and at Interstate 85. Most of the trail alignment already has trail easements, therefore only a few negotiations with private industrial property owners remain. Another difficulty is the trail being located in the floodplain, which will require boardwalk and bridges at times. This area already contains a cleared path, which would make this an easy yet scenic option.

PROJECT AT A GLANCE

- Project type: greenway, roadway underpasses
- Length: 9,000 ft (1.7 miles)
- Trip Generators:
  - » Archdale Parks and Recreation
  - » Archdale City Hall
  - » Trindale Elementary School
  - » Archdale Industrial Park

PARCEL INFORMATION

Property Type	Length	# of Parcels
Industrial	3,700 LF	10
Residential	2,800 LF	4
Public	2,100 LF	1

POTENTIAL PERMITTING NEEDS

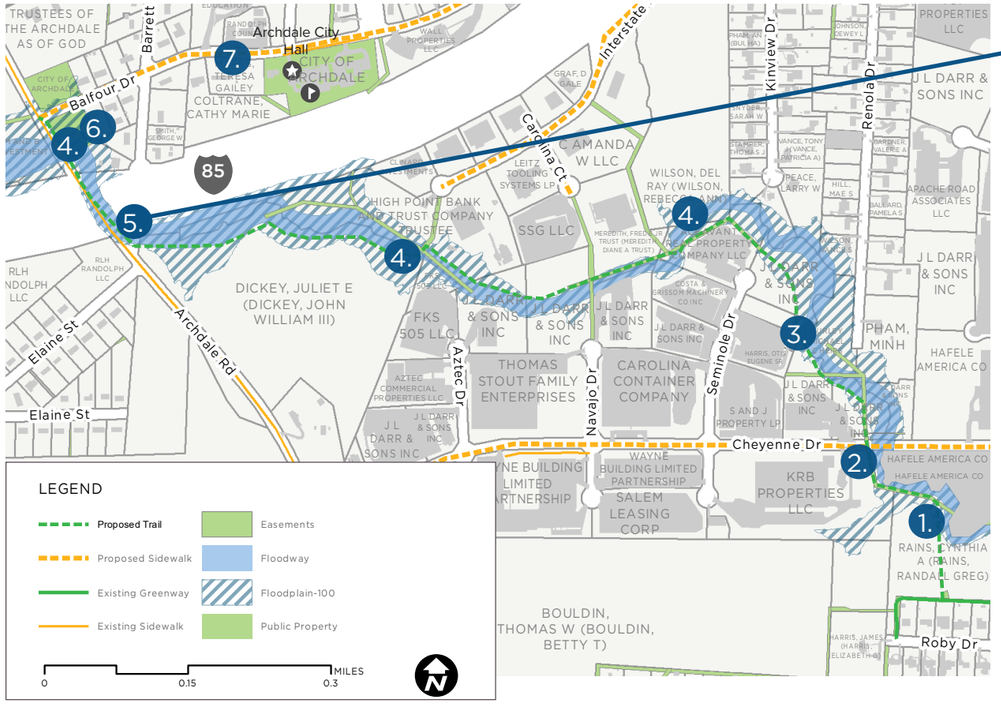
- Randolph County/Archdale Floodplain Development Permit
- Randolph County/Archdale Stormwater Management (National Pollutant Discharge Elimination System General Permit)
- FEMA Conditional Letter of Map Revision (CLOMR)
- FEMA Letter of Map Revision (LOMR)
- U.S. Army Corps of Engineers Section 401/404 Permit

POTENTIAL PARTNERSHIPS

- City of Archdale
- Hafele America
- J L Darr & Sons Inc
- KRB Properties LLC
- Aceavant Real Property Company LLC

ESTIMATED CONSTRUCTION COST

Quantity	Item	Cost
8,100 LF	Asphalt Trail	$1,156,000
1,000 LF	Boardwalk	$500,000
120 LF	Bridge	$240,000
	Contract Cost	$1,896,000
	Design and Engineering Cost	$492,960
	Acquisition Cost	$15,688
	30% Contingency Cost	$568,800
	Total Construction Cost	$2,973,488



OPPORTUNITIES AND CONSTRAINTS

1. The trail follows along the edge of a property's fence line.
2. The underpass beneath Cheyenne Drive has enough clearance and width for a trail.
3. The trail is located along privately owned industrial sites, therefore more conversations and negotiations with the property owners are needed before planning continues.
4. The trail crosses over Muddy Creek and will need a bridge at these locations.
5. There is enough width underneath Interstate 85 for a separated multi-use path.
6. A publicly owned property is located at the intersection of Balfour Drive and Archdale Road, and can be used for a trailhead.
7. Balfour Drive has sufficient right-of-way for a sidepath up to the City of Archdale City Hall and Trindale Elementary.

5. INTERSTATE 85 UNDERPASS

DESIGN CONSIDERATIONS

1. Archdale Road is to be widened from two 12-foot lanes to two 14 -foot lanes with a 12-foot center turn lane and 5-foot sidewalks.
2. The proposed greenway would align with the portion of the Archdale Road widening underneath I-85. In order to create a safe passage for bi-directional bikers and pedestrians, the proposed sidewalk should be increased to at least 10 feet, at this point. The widening will increase the road by 8 feet on the east side, which will leave 24 feet between the roadway and the bridge pillars, which is sufficient room for an increased pathway.
3. After the underpass, the greenway continues onto public land, where a trailhead and park could be located.

This is not a design plan; precise locations and elements should be designed in accordance with engineering standards and NCDOT review.

4. SHARED-USE PATH LOOP: YMCA TO HIGH POINT

This project connects Archdale residents to the YMCA and to High Point. The proposed greenway connection follows Muddy Creek. A key to this project is six mid-block crossings at Trindale Road, Meredith Drive, Archdale Boulevard, Eden Terrace, Verta Avenue and Corina Circle. Regionally, this project will help to link Archdale and High Point with further connectivity potential to Jamestown and the proposed Jamestown Deep River Trail.

PROJECT AT A GLANCE

- Project type: greenway, on-road connection (roadway crossings, wayfinding and sidewalks)
- Length: 6,400 ft (1.2 miles)
- Trip Generators:
  - » James English Farm
  - » YMCA

PARCEL INFORMATION

Property Type	Length	# of Parcels
Commercial	1,600 LF	3
Residential	3,700 LF	6
Public	1,100 LF	2

POTENTIAL PERMITTING NEEDS

- Randolph County/Archdale Floodplain Development Permit
- Randolph County/Archdale Stormwater Management (National Pollutant Discharge Elimination System General Permit)
- Randolph County/Archdale Land Disturbance Permit
- FEMA Conditional Letter of Map Revision (CLOMR)
- FEMA Letter of Map Revision (LOMR)
- U.S. Army Corps of Engineers Section 401/404 Permit

POTENTIAL PARTNERSHIPS

- City of Archdale
- James English Farm
- YMCA

ESTIMATED CONSTRUCTION COST

Quantity	Item	Cost
6,400 LF	Asphalt Trail	$587,000
6	Midblock Crossing	$30,000
60 LF	Bridge	$120,000
	Contract Cost	$737,000
	Design and Engineering Cost	$191,620
	Acquisition Cost	$34,050
	30% Contingency Cost	$221,100
	Total Construction Cost	$1,183,770

OPPORTUNITIES AND CONSTRAINTS

1. Crossing Trindale will require a high-visibility crosswalk with rapid flashing beacons, due to high speeds of traffic.
2. The trail follows along Muddy Creek on the north side, allowing residential access.
3. Meredith Drive dead ends, allowing for a safe trail crossing.
4. At this point the trail moves to the south side.
5. The trail crosses Archdale Blvd, which will be upgraded with sidewalks, allowing for a safer crossing at this point.
6. The trail crosses Eden Terrace, where it will most likely need a high-visibility crosswalk and rapid flashing beacon.

LEGEND

- Proposed Trail Option
- Proposed Sidewalk
- Existing Greenway
- Existing Sidewalk
- Easements
- Floodway
- Floodplain-100
- Public Property

0 0.15 0.3 MILES

1. YMCA TRINDALE ROAD CROSSING IMPROVEMENTS

DESIGN CONSIDERATIONS

1. ADA-accessible ramps connecting to sidewalk at each end of the high-visibility crosswalk should be installed.
2. A multi-use path should be installed along Trindale Road and connect to the YMCA.
3. A high-visibility crosswalk should be installed across Trindale Road allowing for pedestrians to safely access the residential neighborhoods.
4. Add Pedestrian Warning Signs (MUTCD W11-2).
5. Add rain gardens in existing drainage swales for further water filtration from increased impervious surfaces.

This is not a design plan; precise locations and elements should be designed in accordance with engineering standards and NCDOT review.

5. SIDEWALK: EDEN TERRACE: SURRETT DRIVE TO ARCHDALE ROAD

This sidewalk project connects the industrial and residential areas along Eden Terrace to Archdale Rd. With future facility improvements along Archdale and Trindale Rd, this connection will provide this neighborhood safe access to nearby employment centers and destinations, including Archdale Elementary School. Additionally, the sidewalk will eventually connect to a proposed greenway near Corina Cir which will link these neighborhoods to key destinations and neighborhoods around the city.

The greatest challenge will be acquiring the necessary increase in ROW to develop a sidewalk.

PROJECT AT A GLANCE

- Project type: sidewalk
- Length: 6,100 ft (1.2 miles)
- Trip Generators:
  - » Industrial uses at Surrett Dr and Eden Terrace
  - » Apartment complexes near Terrace Trace Ct
  - » Businesses at Eden Terrace and Archdale Rd
  - » Single family households on Eden Terrace

PARCEL INFORMATION

PROPERTY TYPE	LENGTH	# OF PARCELS
Commercial	3,750 LF	13
Residential	8,750 LF	73
Public	0 LF	0

POTENTIAL PARTNERSHIPS

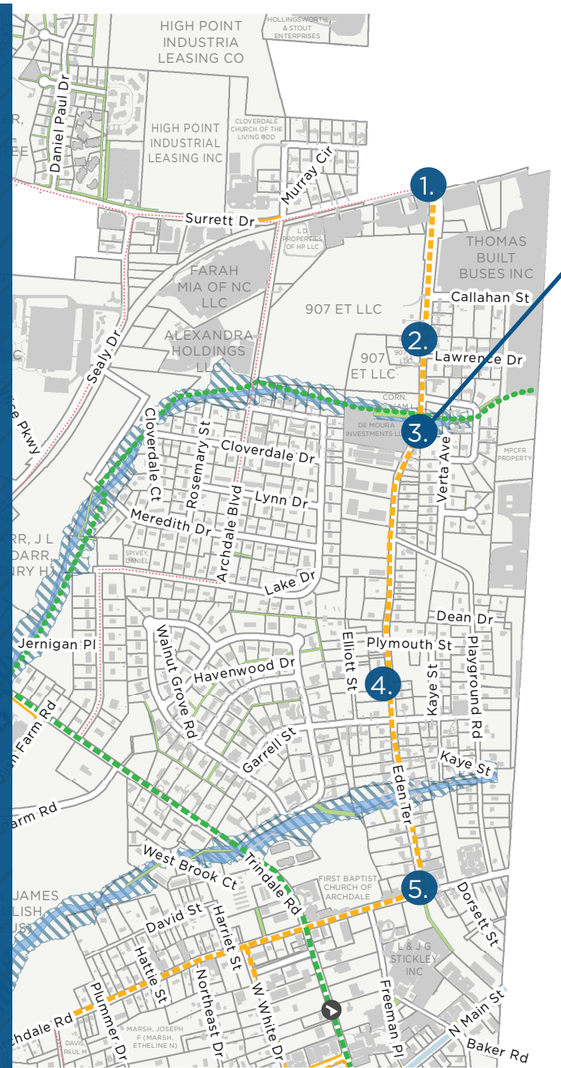
- City of Archdale
- NCDOT

ESTIMATED CONSTRUCTION COST

Quantity	Item	Cost
6,100 LF	Sidewalk	$643,000
	Contract Cost	$643,000
	Design and Engineering Cost	$125,385
	Acquisition Cost	$0
	30% Contingency Cost	$192,900
	Total Construction Cost	$961,285

OPPORTUNITIES AND CONSTRAINTS CONT.

1. Where Eden Terrace meets Surrett Drive is a concentration of large footprint industrial employers.
2. The sidewalk then passes low density single family residences, many with frontages on Eden Terrace.
3. Future connection to city greenway trail that connects the residences and businesses along Eden Terrace to destinations around the city. To prepare for this connection the sidewalk should be on the southern side of Eden Terrace.
4. The largest constraint is the potential takings from local residents and businesses along Eden Terrace.
5. The sidewalk terminates at Archdale Rd where it will connect with future sidewalk facilities to the north and south.



LEGEND

- Proposed Trail Option
- Proposed Shared Use Path
- Long-Term Recommendation
- Proposed Sidewalk
- Proposed Shared Street
- Corridor Study
- Easements
- Floodway
- Floodplain-100
- Public Property

3. EDEN TERRACE IMPROVEMENTS

DESIGN CONSIDERATIONS

1. ADA-accessible ramps connecting to sidewalk at each end of the high-visibility crosswalks should be installed.
2. Add sidewalks along Eden Terrace to allow for pedestrian access to residences and the park.
3. A high-visibility crosswalk should be installed across Eden Terrace allowing for residents to safely access the residential neighborhoods.
4. The greenway should cross Eden Terrace at an existing roadway intersection for better visibility.

This is not a design plan; precise locations and elements should be designed in accordance with engineering standards and NCDOT review.

6. CORRIDOR IMPROVEMENTS: MAIN STREET

Main Street is the primary commercial corridor in Archdale. It is sixty feet wide with four lanes of traffic and a center turn lane. Existing sidewalks are disconnected along this corridor, making it a dangerous and undesirable place for pedestrians. Hotels, restaurants, shops and residences line this corridor increasing the need for pedestrian access.

PROJECT AT A GLANCE

- Project type: Complete street (intersection improvements, sidewalks, wayfinding, bus stops, medians, landscaping)
- Trip Generators:
  - » Archdale City Hall
  - » Archdale Elementary School
  - » United States Postal Service
  - » 5 Hotels off of Main Street
  - » Commercial restaurants and shops
  - » Residences

PARCEL INFORMATION

The Main Street right-of-way has an additional 15' on either side of the roadway, for sidewalk and grass buffer.

POTENTIAL PARTNERSHIPS

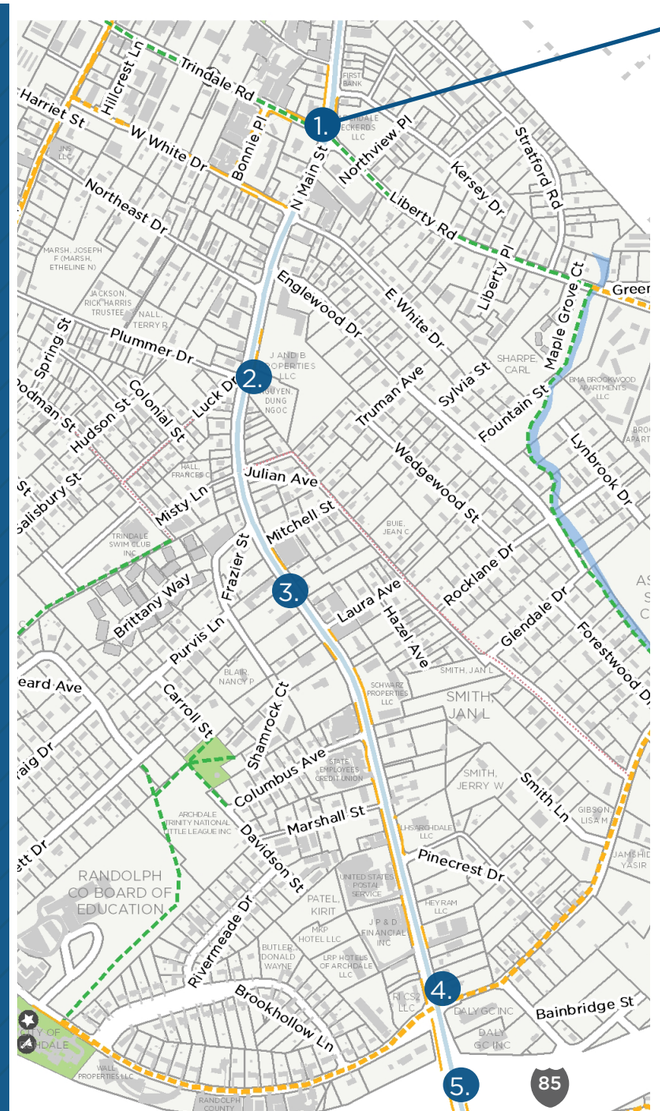
- City of Archdale
- NCDOT
- Commercial businesses along Main Street
- Residences along Main Street

ESTIMATED CONSTRUCTION COST FOR MAIN STREET INTERSECTION

Quantity	Item	Cost
8,300 LF	Sidewalk	$498,000
	Intersection Improvements	$82,000
	Contract Cost	$590,000
	Design and Engineering Cost	$113,000
	Acquisition Cost	$0
	30% Contingency Cost	$174,000
	Total Construction Cost	$867,000

OPPORTUNITIES AND CONSTRAINTS

1. A greenway crossing at Main Street will require high-visibility crosswalks with pedestrian traffic signals, due to high speeds of traffic.
2. Sidewalks should be continued along the entire stretch of Main Street.
3. Turning access should be controlled for increased pedestrian safety through the addition of medians and the consolidation of driveways.
4. A sidewalk crossing at Main Street will require high-visibility crosswalks with pedestrian traffic signals, due to high speeds of traffic.
5. The diverging diamond intersection that is to be constructed will require collaboration with NCDOT to make sure that it will have pedestrian infrastructure to allow for a safe crossing of Interstate 85.



1. MAIN STREET INTERSECTION: MAIN STREET AND TRINDALE ROAD

DESIGN CONSIDERATIONS

1. Decrease the intersection's turning radii in order to shorten the length for pedestrian crossing and to slow down the cars turning right.
2. ADA-accessible ramps connecting to sidewalk at each end of the high-visibility crosswalk should be installed.
3. High-visibility crosswalks should be installed across Main Street and Trindale Road to allow residents to safely access the commercial businesses along the corridor.
4. Add Pedestrian Countdown Signals.
5. A multi-use path should be installed along Trindale to connect the YMCA, Main Street, nearby neighborhoods and schools.
6. Reduce and consolidate driveways along Main Street, especially near intersections, to decrease the amount of pedestrian and vehicle conflict zones.

This is not a design plan; precise locations and elements should be designed in accordance with engineering standards and NCDOT review.

ARCHDALE PEDESTRIAN & TRAILS PLAN

Prepared for the City of Archdale, North Carolina
Prepared by Alta Planning + Design

November 2018