



Lyman Walkability Corridor Study

July 2017

ACKNOWLEDGEMENTS

PUBLIC PARTICIPANTS

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Additionally, we would like to thank our project steering committee members for their time and thoughtful input and advice. These individuals are:

Lisa Bollinger, SPATS
Caroline Parris, SPATS
Sherry Dull, SPATS
Kelley Gilbert, Spartanburg County
Joan Holliday, Spartanburg County
Ron Kirby, Spartanburg County
Julie McMakin, Spartanburg County
Dale Seay
Andrea Kelsey, Safe Routes to School
Sherry Barrett, Upstate Forever
Kristina Pava, SCDHEC
Penny Phillips, SCDOT
Gregg Miller, Town of Lyman
Larry Chappell, Town of Lyman
Jay Beeson

LYMAN WALKABILITY CORRIDOR STUDY PROJECT STAKEHOLDERS

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PROJECT CONSULTANTS

Alta Planning + Design
638 East Washington Street
Greenville, SC 29601
www.altaplanning.com



Gather Consulting
www.gatherconsulting.com



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TABLE OF CONTENTS

INTRODUCTION	7
Project Background	8
Community Profile	9
What is Walkability?	11
Why Plan for Pedestrians?	12
EXISTING CONDITIONS	15
Overview	16
Review of Previous Planning Efforts	17
Project Identification + Base Maps	18
Community Base Map	19
Pedestrian Safety Overview	20
Health + Equity Overview	22
Access to Healthy Foods	23
Health Risks	24
Physical Activity + Health	25
COMMUNITY ENGAGEMENT + PLAN DEVELOPMENT	29
Planning Process	30
Planning Charrette	31
Project Vision + Goals	33
RECOMMENDATIONS	35
Overview	36
Overview Map of Recommendations	37
Shared-Use Path + Sidewalk Network	38
Intersection Improvements	40
APPENDIX	43
Applicable Design Guidelines	44
Map Enlargements	54
Cost Estimates	65

PROJECT VISION

Lyman prioritizes **family-friendly public spaces**, **community-to-community connections**, and **convenient access** to local destinations for all residents. With **safe** and **inviting** roadways for all users, **walkable** streetscapes, and a **growing network** of paths and trails, Lyman and the Middle Tyger area is known as a **neighborly, attractive, and healthy** place to live and work.



PROJECT GOALS

- Connect neighborhoods and their residents to parks, schools, and one another.
- Improve pedestrian connectivity to local destinations, grocery stores, and downtowns.
- Seamlessly link and improve mobility between Lyman, Duncan, and Wellford.
- Connect with the Lyman Rail-Trail and grow the path and trail network.
- Identify near-term, capital improvement projects that will positively impact the walking and biking environment.
- Develop high-quality facilities that are context-appropriate, inviting, accessible, and safe for all users.
- Leverage prior pedestrian planning efforts and upcoming capital improvement projects of SPATS, Spartanburg County, SCDOT, and others.
- Engage the strong network of community partners working to advance walkability in Spartanburg County.
- Strengthen partnerships with School District 5 to support and grow Safe Routes to School activities and local participation.
- Elevate family-friendliness, walkability, and healthy lifestyles as cornerstones of the Middle Tyger community image.





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INTRODUCTION



Don't underestimate the power of vision to change the world... What you contribute can fundamentally change the paradigm or way of thinking about problems.

– Leroy Hood

PROJECT BACKGROUND

Through a recent grant from the Centers for Disease Control and Prevention (CDC), the South Carolina Department of Health and Environmental Control (DHEC) is leading an effort to increase pedestrian planning throughout South Carolina. The effort is part of the DHEC South Carolina Prevention and Health Across Systems and Environments (SC PHASE) Pedestrian Master Planning Project.

SC PHASE Pedestrian Master Planning is part of a three-year project to develop Pedestrian Master Plans for sixteen communities in fifteen counties throughout the state.

Beyond the basic tenets of walkability and pedestrian safety, key elements of the program initiative are:

- **Equity-based planning**
- **Community engagement**
- **Safe pedestrian access to healthy foods**

Lyman is one of the 16 communities to participate in SC PHASE Pedestrian Master Planning.

Pedestrian Master Plans play a critical role in fostering walk-friendly communities by creating the conditions to support and encourage safe walking environments. Such plans provide the basis for new community norms where walking is seen as practical and appealing for people of all ages and abilities by providing for the infrastructure, programs, and amenities to support healthy choices and active transport. With 25.1 percent of South Carolinian adults reporting no leisure-time physical activity, and 56.6 percent of high school students reporting not being physically active on five or more days, **finding ways to support more walking as an accessible and convenient form of physical activity will be vital to improving the health of South Carolina's residents.**

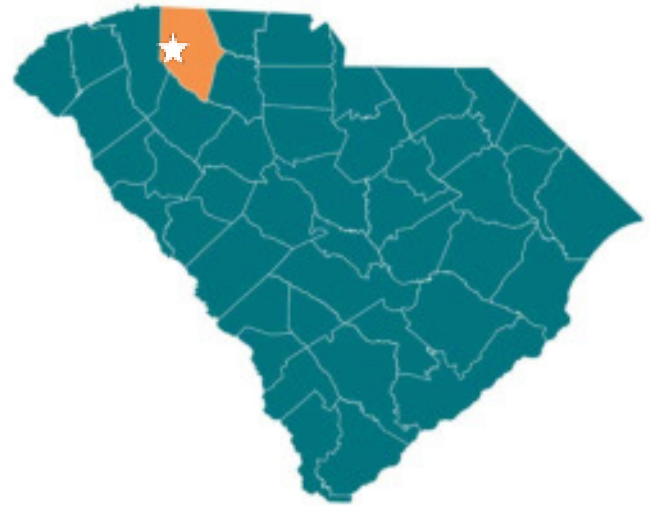


The community currently lacks sidewalks in key locations, particularly along major thoroughfares and around schools on Holly Springs Road.

COMMUNITY PROFILE

Lyman is a town in Spartanburg County, and a part of the Middle Tyger Area that includes the neighboring communities of Duncan and Wellford. These communities are nestled along the Middle Tyger River and framed between the North and South Tyger Rivers.

The Town of Lyman originally grew around a general store owned by Augustus Belton Groce, which opened in the mid-1870s. This led the community to become known as Groce's Stop. In 1923, the Groce family sold over 700 acres to Pacific Mills; by the following year the Lyman Printing and Finishing Mill had been constructed, and by 1927, Pacific Mills had built 375 homes as housing for their employees. The town was then renamed in memory of Arthur T. Lyman, a former mill president. Lyman prospered for years as a textile town, but by 2005 the last mill was closed.



Reference map of Lyman within Spartanburg County and the state

According to the 2015 American Community Survey, there were 3,350 people in the town of Lyman.



School traffic plays a major part in the community's use and perception of Holly Springs Road.

¹ U.S. Census Bureau, 2010 Census

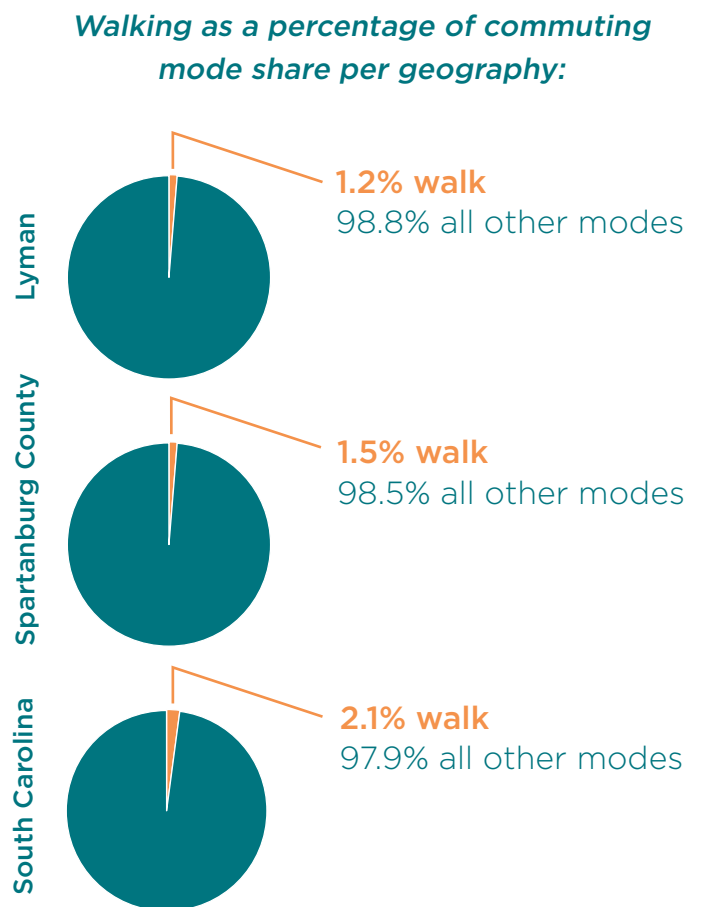
The racial make-up of Lyman is predominantly white at 94.9%, with 5.1% non-white or Hispanic/Latino residents. For comparison, South Carolina is about 67% white and 28% Black or African-American.²

The median income for households in Lyman is \$47,400, a figure slightly above that of the county (\$43,907) and state (\$44,779). Given this disparity in income level, it is not surprising then that the community's poverty rate of 9.2% is lower than the county and state poverty rates (17.5% and 18.3%, respectively).

In terms of travel mode share across the community, the vast majority of residents commute to work in private vehicles. **1.2% of the working population walk to work which is lower than Spartanburg County and the state average.** This statistic is probably reflective of the fact that Lyman is largely a residential area with most people traveling outside of the community for work trips.

It is important to note that mode share does not paint a full picture of need and demand. Mode share data is collected through an American Community Survey question which asks for the "primary" way a resident gets to work. This excludes walking commutes that occur as a secondary mode (for example, walking to a bus) and also excludes trips to destinations other than work, which typically account for 80% of trips in a community. **Moreover, those households in Lyman who do not have access to vehicles (over 1.2%)** and those households with access to only one vehicle (13.1%) may walk out of necessity, but would opt to walk to work if a safe and comfortable walking environment with adequate infrastructure existed.

Safety is key in encouraging and sustaining pedestrian activity. State traffic collision data show that **Spartanburg County has a pedestrian fatality rate of 2.22 deaths per 100,000 people, compared to a rate of 2.3 fatalities per 100,000 people for the state.**³ Finding ways to lower this rate to zero in the Lyman area will be an important goal for this project.



² U.S. Census Bureau 2010-2014 American Community Survey 5-Year Estimates

³ Dangerous by Design - South Carolina

WHAT IS WALKABILITY?

Walkability is more than the ability to walk. It is a holistic approach for evaluating a streetscape or community's design, and a means to understand the factors that influence and encourage pedestrian activity. **The goals of a walkable place** are multi-faceted and context-specific but typically include the following:

- increase personal mobility by providing alternatives to driving private automobiles
- increase personal mobility with ADA-accessible streetscapes
- stimulate vibrancy in commercial and social realms of a community
- increase access, proximity, and convenience to more destinations through a well-connected network of sidewalks, crosswalks, and walking trails
- create an attractive place with inviting street orientations, landscaping, street furniture, and architectural design

There is no single, catchall walkability definition or one specific metric for measuring walkability. However, across the various attempts at a comprehensive definition, common themes emerge. Apart from the potentially obvious features that encourage walkability, like sidewalks and frequent, visible crossings, **walkable places also incorporate the following key principles:**

- human-scaled environment
- strong sense of place
- physical access
- connected walkways and street pattern
- mix of land uses
- density and location of facilities
- managed parking

Lyman has a basis of existing facilities and features that will support and contribute to its goal of becoming more pedestrian-friendly. This Plan presents opportunities to build off of those existing resources.



WHY PLAN FOR PEDESTRIANS?

Imagine Lyman in 20 years...

as a place where **people choose to walk** — not out of necessity, but because **it is a convenient and enjoyable transportation choice**.

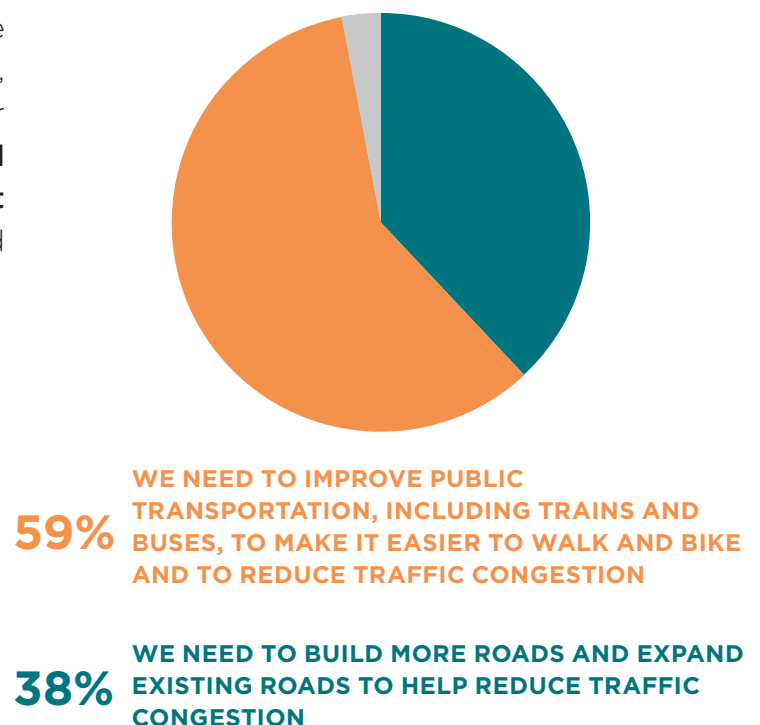
Development is well-designed and accessible so that residents have many of their everyday needs within walking distance. **Pedestrian-friendly streets are prevalent throughout the community**, and parents feel perfectly safe letting their **children walk or bike to school, parks, or other destinations by themselves**, or as part of an enjoyable and healthy family outing. Older adults who no longer drive can easily access grocery stores and medical appointments. Because the **streets are safer and a growing pedestrian network connects more people to more places**, people are walking in record numbers. Obesity rates decline, and **families in all parts of the community can easily access healthy food**. Serious **pedestrian collisions have dropped substantially**.

The **cumulative outcome of this environment has resulted in substantial savings** for the community and taxpayers. Road maintenance is less expensive as fewer cars are on the roads, and residents save money on gas while the air quality improves for everyone. **Commercial centers attract more local businesses that want to invest in a vibrant, active community** and cater to the growing population.

An increasing number of communities and their leadership are seeing the potential of a future like this one; **a future where better active transportation environments are critical parts of transforming and revitalizing our communities, making them more desirable places to live, work, and visit**. This movement is a direct result of the nationwide demand for more livable communities and transportation options.

In 2010, Transportation for America conducted a nationwide survey that showed 59% of Americans in urban and rural areas preferred **a transportation future that “[improves] public transportation and makes it easier to walk and bike over building more roads and expanding existing roads.”** See Figure 1.1 below. And 73% [of respondents felt] they ‘have no choice but to drive as much as they do’, with 57% desiring to spend less time in the car.”

Figure 1.1 Americans’ Preferences to Reduce Traffic Congestion



SUMMARY TABLE OF WALKABILITY BENEFITS

ECONOMIC BENEFITS	
Public infrastructure savings	Compact, walkable communities save costs on road building and maintenance of other public infrastructure.
Attracts businesses	Walkable communities have lower vacancy rates and increasingly attract businesses that want to offer convenient amenities and short commutes.
Reduces individual transportation costs	Residents of walkable communities save money on costs associated with transportation, including vehicle ownership costs, operating costs, and parking costs.
Magnet for millennials and baby boomers	Demand for walkable communities is growing, especially among millennials and boomers – both generations that wish to drive less and be able to easily reach destinations on foot.
Increases housing values	Walkable communities have higher housing values and have higher stability than auto dependent communities during a recession.
Improves socioeconomic mobility	Walkable areas have concentrated amenities such as jobs that are easily accessible to low-income residents and provide greater opportunities for economic mobility.
Attracts visitors	Walkable communities attract tourist dollars with lively streets, engaging storefronts, short distances between attractions and a unique sense of place.
Attracts recreation spending	Walkable communities are great places for outdoor recreation. Multi-use trails and safe streets can attract bicyclists and events such as triathlons that pump money into the local economy.

SUMMARY TABLE OF WALKABILITY BENEFITS

HEALTH BENEFITS	
Improves physical health	Places that encourage walking have lower rates of chronic disease related to physical inactivity such as diabetes, heart disease, and osteoporosis. A simple walk improves balance, limits sickness, strengthens muscles and builds bone mass, as well as burns more fat than jogging. People who live in walkable neighborhoods are two times as likely to get enough physical exercise as those who do not.
Improves mental health	Walkable communities can prevent the onset of cognitive decline and improve mental function. Walking can also prevent and reduce the symptoms of depression and anxiety, stimulating a sense of well-being through released endorphins.
SAFETY BENEFITS	
Improves safety for all road users	Streets that are designed for pedestrians have safety benefits for all users of the road, including bicyclists and drivers. Sidewalks, medians, and traffic calming have particular direct effects. Safety in numbers - more people walking and biking - has proven to be an indirect safety improvement that reduces the risk of a collision.
ENVIRONMENTAL BENEFITS	
Improves air quality	By reducing the distance to amenities and increasing the safety of walking to destinations, more trips can be made by walking while reducing emissions and reliance on fossil fuels.
Preserves open space and greenspace	Compact, walkable development allows for more green space, water sources, and wildlife habitat to be preserved.

EXISTING CONDITIONS

A photograph of a street intersection. In the foreground on the right, a traffic light pole holds a diamond-shaped yellow sign with a black border and a traffic light symbol (red, yellow, and green circles). Below the sign is a circular red LED pedestrian crossing signal. The background shows a two-lane road with a white line, a dark SUV with blue lights, and a dark pickup truck. There are trees, utility poles, and houses in the distance under a cloudy sky.

*Whether you live in a city or a small town, and whether you drive a car, take the bus, or ride a train, at some point in the day, **everyone is a pedestrian.***

– Anthony Foxx

OVERVIEW

This chapter provides an overview of the major components of Lyman's existing environment for walking. **This includes a review of previous planning efforts and an assessment of the primary opportunities and constraints that exist for the development of a safe and connected pedestrian network.** The assessment is based on the project team's field observations and GIS-based mapping analysis, as well as public input which is detailed in the following chapter.

The Existing Conditions Chapter summarizes the information gathered and critical outcomes of this assessment and discovery process, including:

- Review of Existing Planning Efforts
- Analysis of Opportunities and Constraints
- Equity and Healthy Food Access Analysis

REVIEW OF PREVIOUS PLANNING EFFORTS

Multiple prior planning efforts and studies are relevant to walkability in Lyman. This includes the *Spartanburg County Bicycle & Pedestrian Master Plan* (2009), the *SPATS Long-Range Transportation Plan* (2016), and a *Safe Routes to School Assessment* (2013). Key findings from the plans are summarized below.

SPATS Long-Range Transportation Plan

In 2016, SPATS and project consultants developed Long-Range Transportation Plan 2040, a vision for the future of the SPATS region. The plan identifies strategies, implementation partners, and infrastructure improvements that will impact Lyman in the coming years. In particular, the plan recommends new sidewalks along the 358 and 292 corridors near and through Lyman.

Safe Routes to School Assessment

In 2013, the SCDOT's Safe Routes to School Resource Center conducted a Student Travel Tally Report for Lyman Elementary. The tally was conducted using the Student Travel Questionnaire from the National Center for Safe Routes to School. The tally identified no children walking or biking to school. In the morning commute, 24 percent traveled by school bus, and 35 percent in the afternoon.

Spartanburg Bicycle & Pedestrian Master Plan

In 2009, SPATS and project consultants completed a pedestrian and bicycle master plan for Spartanburg County. The plan offers specific recommendations for 13 municipalities within the county. For Lyman, the plan identifies key destinations, key issues, priority projects, and a priority intersection for improving pedestrian access and safety. The plan proposes bike lanes and sidewalks on Holly Springs Road, Inman Road, and Greenville Highway. It proposes paved shoulders and a sidewalk on Pine Ridge Road. The plan identifies several shared-use path opportunities that connect directly to Holly Springs Road and Greenville Highway as well.

Additionally, upcoming projects will dovetail with this study. This includes an SCDOT project to redesign the intersections at Inman Road and Holly Springs Road (SC 358), and US 29 (Greenville Highway) and Inman Road, and Pine Ridge Road at US 29 (Greenville Highway).

PROJECT IDENTIFICATION + BASE MAPS

Project stakeholders selected connections to Holly Springs Road and Greenville Highway to be the focus of a corridor improvement study, based on the key findings and priority recommendations of previous planning documents, and its potential to dramatically increase connectivity for Lyman residents. Based on GIS data provided by Spartanburg County and its partners, the project team created a map illustrating the study area and its existing context.

These corridors include the following opportunities:

- Two schools;
- Proximity to downtown Lyman;
- Substantial new residential growth on these roads;
- Three upcoming SPATS and SCDOT intersection projects that connect to Holly Springs Road (SC 358) and Pine Ridge Road;
- Strong coordination among neighboring communities;
- The new Lyman rail trail;
- The Middle Tyger Community Center, which is a major area destination; and
- Organizational and institutional partners like Mary Black Foundation, Partners for Active Living, Upstate Forever, and School District 5

At the same time, these corridors have several challenges, such as the following:

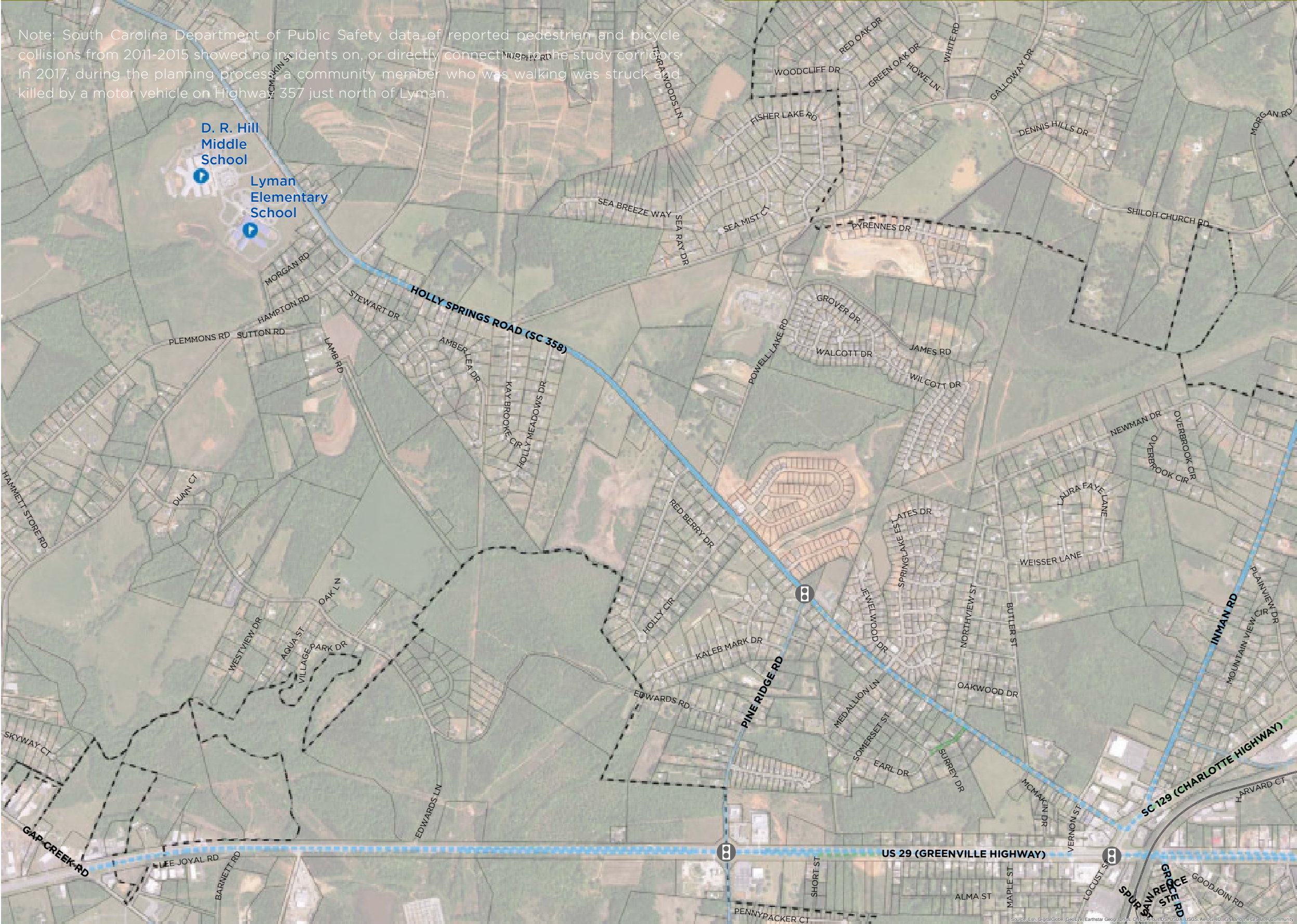
- disconnected subdivisions;
- no existing bike or pedestrian access;
- future access and safety is limited by major highways on two sides (Hwy 29 and 292); and
- inadequate crossing facilities along the corridors.

COMMUNITY BASE MAP

1 OVERVIEW

MIDDLE TYGER CORRIDOR STUDY

Note: South Carolina Department of Public Safety data of reported pedestrian and bicycle collisions from 2011-2015 showed no incidents on, or directly connecting to, the study corridors. In 2017, during the planning process, a community member who was walking was struck and killed by a motor vehicle on Highway 357 just north of Lyman.



PROPOSED SPATS

- SHARED-USE PATH
- BIKE LANE
- BIKE ROUTE
- SHARED LANE MARKING
- PAVED SHOULDER
- WIDE OUTSIDE LANE
- SIDEWALK
- OTHER

OVERLAYS

- RAILROAD
- PARCEL
- LYMAN LIMITS

POINTS OF INTEREST

- SCHOOLS
- INTERSECTION PROJECT

0 1FEET
525



PEDESTRIAN SAFETY OVERVIEW

Pedestrian fatalities are on the rise. Between 2003 and 2012, 47,025 pedestrians were killed walking on streets in the U.S. In 2012 alone, 4,743 pedestrians died, an increase of 7% over 2011. Meanwhile, the number of vehicle drivers and passengers who died in traffic crashes declined by a third during this period. The rise in pedestrian fatalities while overall traffic fatalities declined means pedestrians now account for more than 15% of all traffic fatalities.

Pedestrian safety is a growing concern in South Carolina, too. Pedestrian fatalities in the state rose 23.8% between 2008 and 2012, outpacing national trends. The table below summarizes fatality figures for the state during this time.

South Carolina ranks 45th in the nation for levels of walking mode share, yet ranks 2nd in the nation for walking fatality rates. As previously mentioned, Spartanburg County has a pedestrian fatality rate of 1.22 deaths per 100,000 people, slightly lower than the state rate of 2.3 deaths per 100,000 people.

While reasons for the increase in pedestrian crashes are difficult to pinpoint, demographic shifts, more people walking, and higher numbers of pedestrians on dangerous, high-speed

arterials all likely play a role. A number of factors impact pedestrian safety. Visibility, driver and pedestrian behavior, time of day/year, access to safe crossings, and traffic volume all play a role. However, key factors such as speed, the number of traffic lanes, and roadway design disproportionately affect safety for vulnerable roadway users.

According to Fatality Analysis Reporting System data, **58.8% of all pedestrian deaths in South Carolina were on arterials** — wide, high speed roads built primarily for the purpose of motor vehicle traffic over other modes. Similarly, **78.8% of South Carolina’s pedestrian fatalities occurred on roads with a speed limit of 40 mph or higher.**⁶

South Carolina Department of Public Safety data of reported pedestrian and bicycle collisions from 2011-2015 showed no incidents on, or directly connecting to the study corridors. This does not reflect demand for pedestrian and bicycle trips in the area, but rather, is influenced by the lack of existing safe facilities to invite use by people walking and biking. In 2017, during the planning process, a community member who was walking was struck and killed by a motor vehicle on Highway 357 just north of Lyman.

Pedestrian Fatality Figures for South Carolina:

	2008	2009	2010	2011	2012	% change
Pedestrian Fatalities	101	89	90	113	125	23.76%
Pedestrian Fatality Rate per 100,000 people	2.23	1.94	1.94	2.41	2.65	18.83%
Pedestrians as Percent of all Traffic Fatalities	10.97%	9.96%	11.12%	13.65%	11.6%	5.74%



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Some populations are disproportionately affected by unsafe walking conditions. Households without access to vehicles are more reliant on walking, yet often live in areas where suburban street patterns and dangerous arterial roads predominate. Older adults require more time at crossings and are more vulnerable to injury when a collision occurs. Older adults are also more susceptible to other non-collision events which do not involve a motor vehicle but which can cause injury. These “pedestrian only” events such as tripping on sidewalks and slipping on curbs, are not typically captured when discussing pedestrian safety but are important considerations in this plan.⁷

Children are also disproportionately affected by unsafe walking conditions. Children often walk to schools built along unsafe arterial or major roads, putting them at higher risk. Children also use neighborhood streets as areas to ride bikes and play games. They often go unseen by drivers though.

Nearly one-third of all Americans do not drive.

This includes all children and adolescents who are not of age, 21% of all seniors over 65 years-old, people with disabilities, and those who cannot afford to drive.⁸

Pedestrian injuries occur at a higher rate than pedestrian fatalities. Official crash statistics, however, do not capture a significant portion of these injury-causing collisions. Collisions that go unreported and near miss incidents are not reflected in most collision statistics, and thus may not be fully representative of safe walking conditions. This is especially true when accounting for whether a pedestrian injury

occurred in the roadway (1.7 times more likely to report than non-roadway locations), the severity of the injury (1.3 times more likely to report when hospitalized), and the age of the pedestrian (ages 15-24 are significantly less likely to report a collision even after controlling for location and severity).⁷

In recent years, a series of successful national campaigns have targeted drunk driving, seat belt use, and distracted driving. For people in vehicles, the resources and focus dedicated to safety has saved thousands of lives. A similar dedication to creating safe streets for pedestrians will encourage walkability, improve health outcomes, and improve livability for all residents.



Dangerous by Design is a report issued by Smart Growth America's National Complete Streets Coalition. The Smart Growth organization also issues state-specific versions with nuanced relevant data. The report documents preventable pedestrian fatalities and details measures that can be taken to make streets safer for all road users.

⁶ Dangerous by Design - South Carolina

⁷ Federal Highway Administration Office of Safety - Bike/Ped Documents
*Police-reporting of Pedestrians and Bicyclists
Treated in Hospital Emergency Rooms*

⁸ Smart Growth America Senate Fact Sheet

HEALTH + EQUITY OVERVIEW

Recognizing that bicycle and pedestrian infrastructure and access to outlets for healthy foods are inextricably linked, this chapter provides an analysis of the existing conditions for accessing healthy food by way of active transportation. More than six percent of Spartanburg County households do not have access to a vehicle and nearly 30 percent have access to only one.⁹ These statistics highlight the importance of providing active transportation choices for Spartanburg County's most vulnerable community members to access healthy foods.

⁹ <http://map.feedingamerica.org/county/2015/overall/south-carolina/county/spartanburg>

¹⁰ <https://www.fns.usda.gov/sites/default/files/snap/2015-SNAP-Retailer-Management-Year-End-Summary.pdf>



0.02%
of all SNAP dollars in the US
are spent at farmers markets¹⁰

ACCESS TO HEALTHY FOODS

Walkable and safe access to supermarkets, grocery stores, farmers markets, and specialty markets is important, because they give consumers access to a variety of fruits and vegetables. Diets rich in fruits and vegetables offer a number of health benefits and have been linked to a lower prevalence of obesity.

Most Americans, especially those with a low income, consume far fewer fruits and vegetables than recommended by current dietary guidance. Communities with limitations in resources, disposable income, language proficiency, and transportation often have restricted access to, and knowledge about, a variety of healthy food options.

While there is general agreement that consumption of fresh, healthy foods such as fruits, vegetables, and whole grains are necessary for health and nutritional well-being, many communities across the region have negative health and economic consequences caused by a lack of access to high-quality food. Grocery stores, farmers markets, and community gardens tend not to be as readily available to people in low-income, low-access communities. The result is an over-dependence on neighborhood convenience stores with limited offerings of fresh foods sold, frequently for a high price. This **food insecurity** leads to myriad health and nutritional and long-term sustainability implications.

Therefore, the creation of active transportation routes such as sidewalks, pedestrian malls, and bicycle paths between all neighborhoods and grocery stores, farmers markets, or other healthy food outlets can ease this disparity in accessibility, and help lower rates of chronic disease and lower levels of obesity.

¹¹ <http://map.feedingamerica.org/county/2015/overall/south-carolina/county/spartanburg>



**23.5 million people
in America lack access to a
supermarket within one mile
of their home¹¹**

HEALTH RISKS

Spartanburg County is not considered part of the CDC-designated “Diabetes Belt”, though the South Carolina Department of Health and Environmental Control (SC DHEC) offers a number of strategies and solutions to combat obesity including, eating more meals at home, eating more fruits and vegetables on a daily basis, opting for water over a soda or other sugary beverage, and right-sizing portions. The CDC recommends eating healthy and staying active as two key ways to prevent, delay, and manage diabetes.

Specific health risk data at the community level does not exist for Lyman; however, county-level data shows that:

- **Approximately 31.7% of Spartanburg County adults are obese.** (Obesity is measured as a Body Mass Index [BMI] greater than 30).¹²
- **32.5% of children are overweight or obese.**¹³
- **Only 48.3% of adults are meeting weekly physical activity recommendations.**¹⁴
- **The food insecurity rate for the county is 15.0%.** This is slightly lower than the state average of 16.4%. Food insecurity is defined by the USDA as a state in which “consistent access to adequate food is limited by a lack of money and other resources at times during the year.”¹⁵

¹² <http://map.feedingamerica.org/county/2015/overall/south-carolina/county/spartanburg>

¹³ *Ibid.*

¹⁴ *Ibid.*

¹⁵ *Ibid.*

¹⁶ *Ibid..*



PHYSICAL ACTIVITY + HEALTH

Walking can be a critical form of transportation, particularly for older adults who no longer drive, young or disabled people who cannot drive, and for people who do not have access to a vehicle. Apart from walking as a means for transportation, walking serves a vital role in maintaining and improving one's health.

The CDC recommends 60 minutes of physical activity for children per day, 150 minutes of physical activity for adults per week, and 150 minutes of aerobic and muscle-strengthening activity per week. The parks and recreation facilities in Lyman provide ample access to exercise opportunities, however, accessing these destinations on foot is challenging.

State-level physical activity data show that:

- **26.2% of South Carolina's adults** reported that during the past month, they **had not participated in any physical activity**.¹⁷
- **43.9% of all South Carolina adults meet physical activity recommendations.** This is 8.8% lower than the national rate.

¹⁷ <http://www.countyhealthrankings.org/app/south-carolina/2017/rankings/spartanburg/county/outcomes/overall/snapshot>

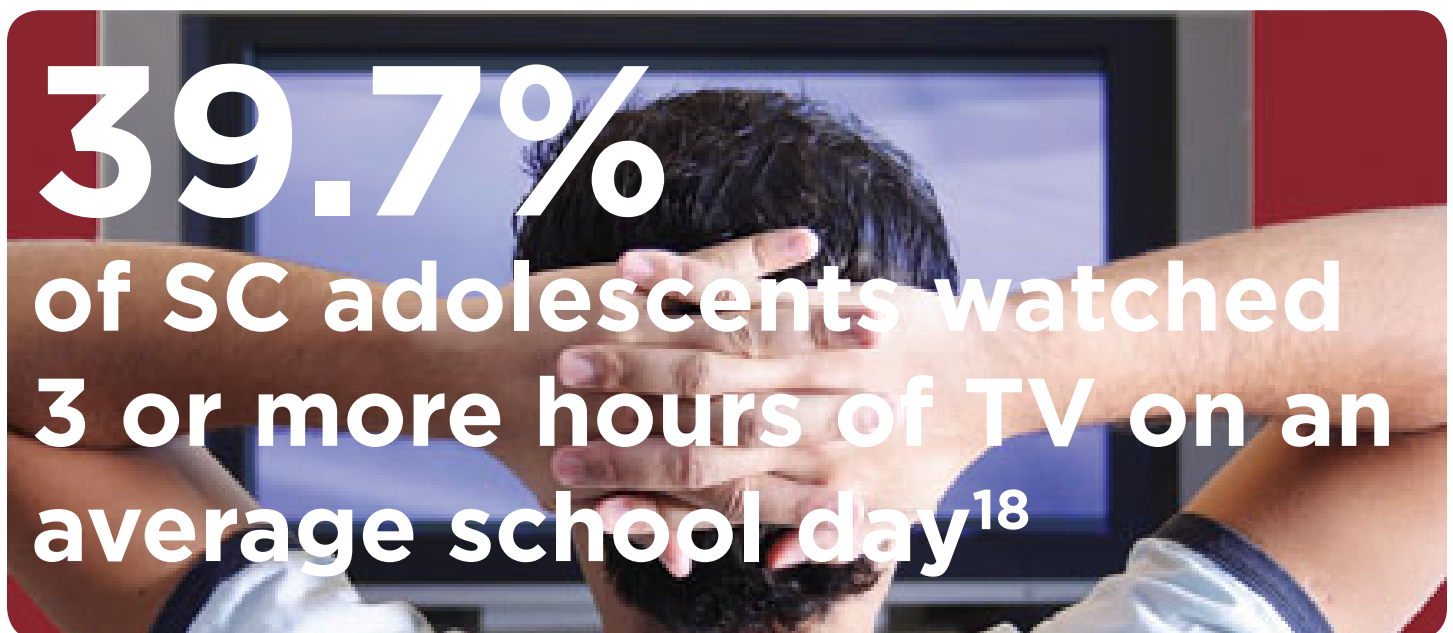
¹⁸ Ibid.

- **21.3% of South Carolina adults did not participate in at least 60 minutes of physical activity** on any day during the 7 days prior to the survey.

Additionally, data on youth physical activity show that:

- **Percent of children in poverty is steadily increasing at 27% in South Carolina.** This is significant because **children living below the poverty line are 159% more likely to be deprived of recess.**
- **Students who walk to school every day had 24 more minutes of physical activity per day.**

Physical inactivity and obesity rates in SC have consistently worsened over the past few years. One way to reverse this trend, apart from diet and exercise, is to expand mobility options. Providing the freedom to walk to places supports a healthy lifestyle. In turn, this boosts not only the community's physical activity level, but also increases mobility, accessibility, and quality of life for all residents. **The Holly Springs corridor is home to two schools, so increasing active access to these facilities will increase opportunities for physical activity in the community.**





**SPATS PLANNED
BIKE | PED FACILITIES**

- SHARED-USE PATH
- BIKE LANE
- BIKE ROUTE
- SHARED LANE MARKING
- PAVED SHOULDER
- WIDE OUTSIDE LANE
- SIDEWALK
- OTHER
- Highways

OVERLAYS

- WALKSHED (1/2 MILE)
- LYMAN LIMITS
- RAILROAD

POINTS OF INTEREST

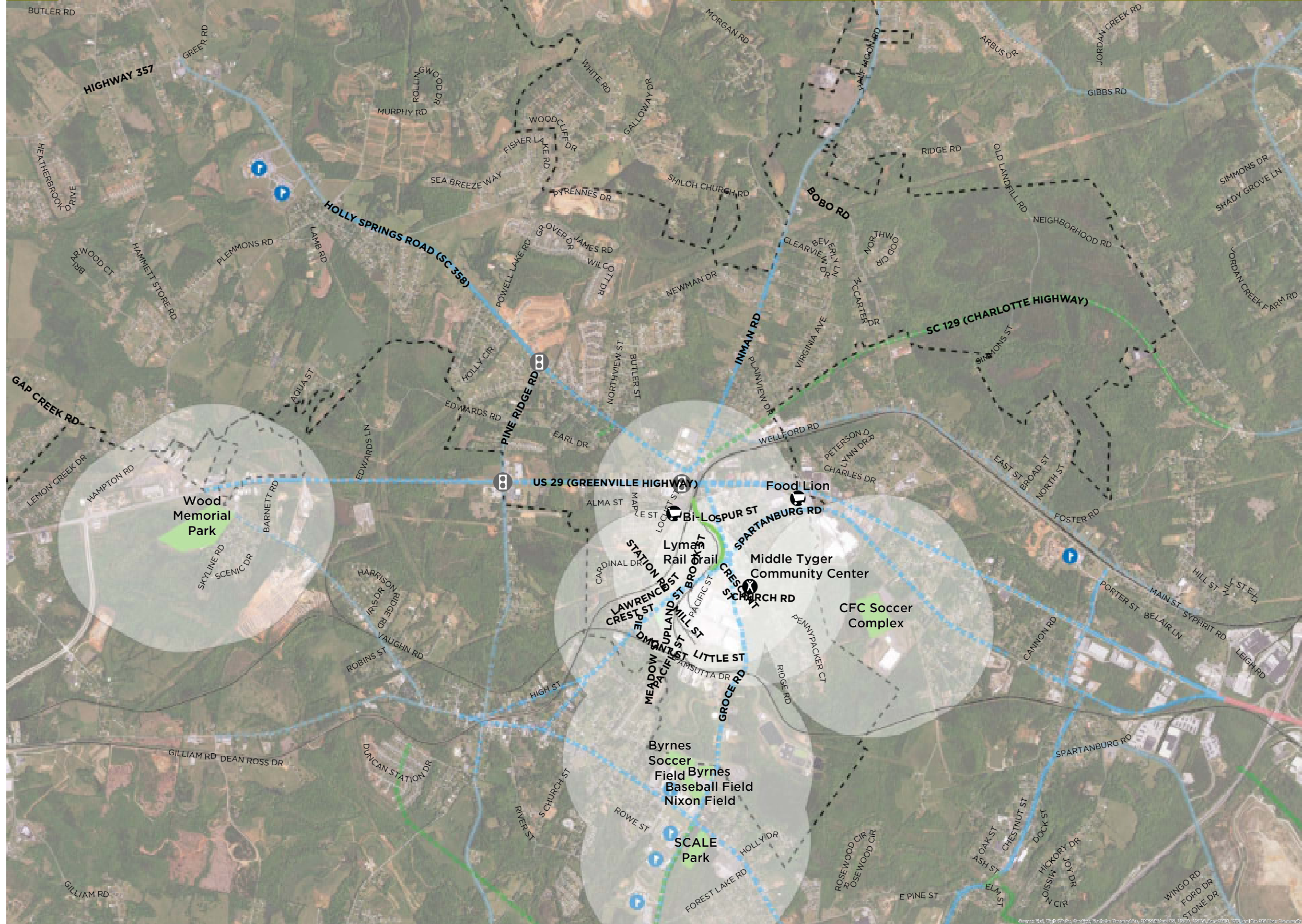
- HEALTHY FOOD OUTLET
- TRAILS
- PARKS
- SCHOOLS
- INTERSECTION PROJECT

0 1,100 FEET



1 ACTIVE SPACE ANALYSIS MAP

MIDDLE TYGER CORRIDOR STUDY



SPATS PLANNED BIKE | PED FACILITIES

- SHARED-USE PATH
- BIKE LANE
- BIKE ROUTE
- SHARED LANE MARKING
- PAVED SHOULDER
- WIDE OUTSIDE LANE
- SIDEWALK
- OTHER
- Highways

OVERLAYS

- WALKSHED (1/2 MILE)
- LYMAN LIMITS
- RAILROAD

POINTS OF INTEREST

- RECREATION CENTER
- TRAILS
- PARKS
- HEALTHY FOOD OUTLET
- SCHOOLS
- INTERSECTION PROJECT

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COMMUNITY ENGAGEMENT + PLAN DEVELOPMENT



We shall give people the opportunity to have a meaningful impact on the development of plans and programs that may affect them. Participation should be broad enough to include those who lack formal organization or influence.

– AICP Code of Ethics

PLANNING PROCESS

At the center of the planning process was the multi-day charrette conducted by the project team. Charrette activities included multiple progress presentations, stakeholder input sessions, and meetings with a variety of local representatives. The adjacent agenda shows what each day held for charrette participants.

**Oh the places you'd go...
in a more walkable Lyman!**

*Share your ideas for a more accessible, safer
Holly Springs Road and Pine Ridge Road!*

Public Visioning Session
Tuesday, April 18 • 6:00 PM
Pacific Place at the Event Center • 59 Groce Road

Master Plan Unveiling
Thursday, April 20 • 6:00 PM
Pacific Place at the Event Center • 59 Groce Road

For a complete schedule please visit the www.SPATSmopo.org
or contact Caroline Paris: 864-596-3460



Hosted by SPATS, Led by Alta Planning + Design
With support from South Carolina Department of
Health & Environmental Control



What is a charrette?

“Charrette” has come to describe the rapid, intensive, and creative work session in which a design team focuses on a particular design problem and arrives at a collaborative solution. Charrettes are solution-oriented.

Charrette Schedule

TUESDAY APRIL 18

12PM	DESIGN TEAM ARRIVAL
	STEERING COMMITTEE KICK-
5PM	OFF MEETING
6PM	PUBLIC PRESENTATION #1: WHAT IS YOUR VISION?

WEDNESDAY APRIL 19

7:30 AM	SCHOOL OBSERVATION
9AM	ELECTED OFFICIALS
10AM	SCDOT, MPO/ AND COUNTY STAFF MEETING
	UTILITIES MEETING
12PM	NEIGHBORHOODS
2PM	NON PROFITS + ADVOCATES
3PM	SCHOOL REPRESENTATIVES
5PM	PROJECT UPDATE & PUBLIC DESIGN PIN-UP SESSION

THURSDAY APRIL 20

8AM-NOON	STUDIO SESSION
6PM	PUBLIC PRESENTATION OF PRELIMINARY RECOMMENDATIONS

PLANNING CHARRETTE

PROJECT STAKEHOLDERS & COUNTY STAFF KICK-OFF MEETING (TUESDAY)

During this working meeting, guidelines, actions, methods, processes, and goals were identified. The charrette agenda was reviewed and input sessions established.

The base maps were reviewed and approved for use as the existing conditions map. The Elected officials and county staff shared their goals and vision for the project including potential priority corridors to be evaluated. Prior to this meeting, the Project Team toured the corridors several times with local stakeholders, noting special interest areas, opportunities, and constraints.

FOCUS GROUPS & DROP IN (WEDNESDAY)

Seventeen individuals attended two focus groups and one drop-in during the Lyman Corridor Study charrette on Wednesday, April 19. Twelve community members who live in Pine Ridge Acres, Spring Lake Estates, Holly Heights, and along Holly Springs Road participated in the resident focus group at noon. Representatives from the Mary Black Foundation and Partners for Active Living participated in the nonprofit focus group at 2. The principal of Lyman Elementary school, an assistant superintendent for Spartanburg School District 5, and a SC Safe Routes to School representative attended the schools drop-in.

Focus group participants made the following suggestions for improving Pine Ridge Road and Holly Springs Road (SC 358) for pedestrians, cyclists, and vehicles.

1. Near DR Hill Middle and Lyman Elementary schools

Walking safety was a concern near the schools. Suggestions include adding sidewalks on both sides, adding crosswalks, removing and/or leveling the ditches near the road, re-evaluating the speed limit, and adding sidewalks on the roads leading into the school.

2. Traffic flow

Traffic flow along the entire stretch of Holly Springs Road (SC 358) during the morning and afternoon commute was a huge concern. Recommendations include adding an additional two lanes and adding a middle turning lane.

3. Three-way intersection

Residents were unhappy with the traffic at the three way stop at Pine Ridge Road and Holly Springs Road (SC 358). Some expressed that

it was an improvement from before, but many feel that more improvement is needed. Almost everyone agreed that putting a signal at the three way stop that was timed according to the time of day and traffic flow would help alleviate some of the issues at that intersection. Other suggestions included crosswalks and pedestrian crossing buttons.

4. Intersection of US 29 and SC 358 and SC 129

The functionality of this intersection was highly criticized. Many felt that the intersection needs to be totally redone. Some suggestions included the following: re-routing SC 358 to intersect with US 29 rather than SC 129, turning the intersection into a roundabout, making it “right in, right out” and removing left hand turns, moving the entrance to the bank, and adding back access parking for dollar general and Burger King so vehicles can avoid going through the intersection.

5. Subdivisions

While some people feel comfortable walking on the streets in their subdivision, many expressed a desire to have sidewalks added on the roads in the subdivisions, as well as along Holly Springs Road (SC 358).

6. Destinations

The focus groups expressed interest in being able to access several destinations along Pine Ridge Road and Holly Springs Road (SC 358) on foot or by bike. These destinations include: Burger King, the post office, the library, the rail trail, Groce Road, town hall, and the gas station and restaurant north of the schools on Holly Springs Road (SC 358).

7. Neighborhood connectivity

Some residents recommended a walking path connecting the neighborhoods to one another with the possibility of the off-street path giving access all the way up to the schools.

STAKEHOLDER PRESENTATION OF PRELIMINARY RECOMMENDATIONS (THURSDAY)

The intensive research, field work, and analysis portions of the charrette led project team members to glean information about current walking conditions in the community, and to develop **targeted recommendations for addressing existing opportunities** related to walking. The following were identified as opportunities:

- Potential **partnership with schools** to initiate and champion programmatic walking efforts and also to solicit funding for infrastructure improvements to encourage students to walk to school
- Enhance **neighborhood streets** where people already like walking and replicate those **pedestrian-friendly spaces** elsewhere across the community
- **Leverage the existing sidewalk network** to create a more complete network by filling in critical gaps and expanding width for shared use with bicycling.

PROJECT VISION + GOALS

Throughout the planning process, the charrette team worked to develop a project vision statement and a list of project goals. These elements are designed to guide the specific plan recommendations detailed in the following chapter.

PROJECT VISION

Lyman prioritizes **family-friendly public spaces**, **community-to-community connections**, and **convenient access** to local destinations for all residents. With **safe** and **inviting** roadways for all users, **walkable** streetscapes, and a **growing network** of paths and trails, Lyman and the Middle Tyger area is known as a **neighborly, attractive, and healthy** place to live and work.

PROJECT GOALS

- Connect neighborhoods and their residents to parks, schools, and one another.
- Improve pedestrian connectivity to local destinations, grocery stores, and downtowns.
- Seamlessly link and improve mobility between Lyman, Duncan, and Wellford.
- Connect with the Lyman Rail-Trail and grow the path and trail network.
- Identify near-term, capital improvement projects that will positively impact the walking and biking environment.
- Develop high-quality facilities that are context-appropriate, inviting, accessible, and safe for all users.
- Leverage prior pedestrian planning efforts and upcoming capital improvement projects of SPATS, Spartanburg County, SCDOT, and others.
- Engage the strong network of community partners working to advance walkability in Spartanburg County.
- Strengthen partnerships with School District 5 to support and grow Safe Routes to School activities and local participation.
- Elevate family-friendliness, walkability, and healthy lifestyles as cornerstones of the Middle Tyger community image as a cornerstone of the Spartanburg County's community image.



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RECOMMENDATIONS



*All the fancy economic development strategies, such as developing a biomedical cluster, an aerospace cluster, or whatever the current economic development 'flavor of the month' might be, do not hold a candle to **the power of a great walkable ... place.***

-- Jeff Speck

OVERVIEW

This chapter presents the proposed Lyman pedestrian network improvements identified during the charrette process and supplemented through input from the project team, field work, and the equity analysis. The proposed improvements are intended to make walking safer and more accessible for everyone along the corridor. The recommendations are organized as follows:

- **Overview Map of Recommendations** — This map paints a high-level picture of corridors and areas that have been identified as community priorities. These projects have the potential to create the most positive impact for all road users.
- **Project Cutsheets** — These spreads are intended to convey what recommendations can look like to residents and stakeholders, as well as assist in applying for implementation funds. The projects detailed in individual cutsheets are crucial catalysts for economic development, walkability, and quality of life in Lyman.

It is important to note that while this plan offers an action plan for creating a more walkable Lyman, **the recommendations of the plan should not preclude other investments in the pedestrian environment that are not included in this report.** This Plan provides a useful framework for proactively seeking funding and advancing projects from concept to implementation. This proactive approach does not, however, lessen the need to consider opportunistic improvements as well, such as the timeliness of capitalizing on a new development or capital project, streetscape enhancement project, SCDOT corridor improvement, upgrade to an intersection, or new trail connection.

Actionable Next Steps

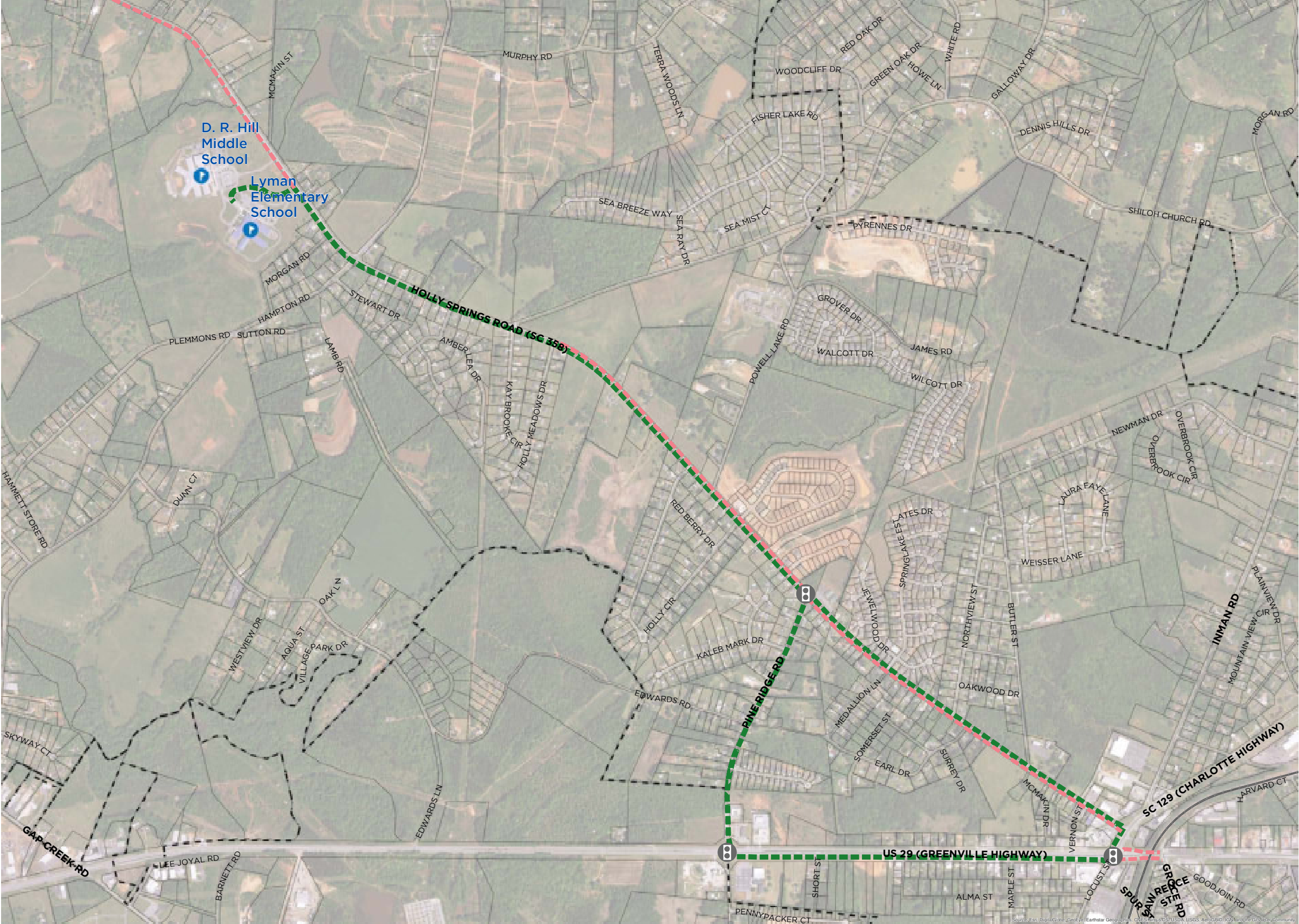
FUND: Identify funding for the Lyman corridor improvements based on the phasing plan and cost estimates in the Appendix of this plan.

BUILD: Ensure implementation meets standards of quality, safety, comfort, and consistency by referencing the design guidance provided in the Appendix of this plan.

CONNECT: Look for opportunities to coordinate pedestrian enhancements with regularly-programmed maintenance activities, new developments, and large roadway construction projects that connect to the Holly Springs Road Corridor (SC 358) or other key destinations in Lyman.

PROMOTE: Partner with local stakeholders such as SPATS, School District 5, Spartanburg County, Upstate Forever, and other local partners and interested community members to develop programs that support walk-friendly policy changes.

OVERVIEW MAP OF RECOMMENDATIONS



BIKE | PED FACILITIES

- SHARED USE PATH
- SIDEWALK

OVERLAYS

- RAILROAD
- PARCEL
- LYMAN LIMITS

POINTS OF INTEREST

- SCHOOLS
- INTERSECTION PROJECT

Shared Use Path + Sidewalk Network

Lyman has numerous residential communities and two schools along the Holly Springs Road (SC 358) corridor. Multiple shopping and dining detinations are located along Greenville highway. Pine Ridge Road connects these corridors, offers more residential communities, and ultimately links to downtown Duncan A network of shared use paths and sidewalks along these corridors will help to provide a continuous connection between each school, as well as between the various commercial and civic destinations.

Over the past fifty years, rates of children walking to school have steadily declined due to a number of factors including suburban sprawl, lack of sidewalks, high rates of car ownership, infrequent and unsafe roadway crossings, high volume and high speed roads, and perception of safety. The resounding impact has been a precipitous increase in childhood obesity, increased transportation costs for schools and families, and increased health care costs. **Lyman Elementary School, D.R. Hill Middle School, and their associated walking/biking access corridors were thus identified as priority pedestrian connections.** The underpinning of these priority connection recommendations is to address known safety issues. Safer, calmer streets promote walking and bicycling and are thus invariably conducive to active transportation users of all ages and abilities to enjoy. In some cases, the shared use path will be an extension of the existing sidewalk system. Wherever the shared use path crosses major intersections, it is recommended to provide high visibility crossings and pedestrian signals at signalized intersections.

The shared use path can also serve to connect residents to healthy food options via an expansion of the services offered at existing retail outlets. For instance, the Market could work with local farmers to provide fresh produce at various times throughout the week.

The charrette team developed two potential reconfigurations for Holly Springs Road (SC 358). The existing roadway is depicted in the below, with the two potential solutions at right.



Shared Use path along Holly Springs Road (SC 358).



Shared Use Path + Sidewalk Network

Existing conditidions (top image) and two improved options (middle and bottom) for Pine Ridge Road.



Above: Photosimulation of Pine Ridge Road with three traffic lanes and a shared-use path.

Elements of a Strong Network

- + Crossing Improvements
- + Traffic Signals
- + Traffic Calming
- + Seamless Sidewalk Network
- + Wayfinding
- + Trail Amenities
- + Parallel Sidewalk network

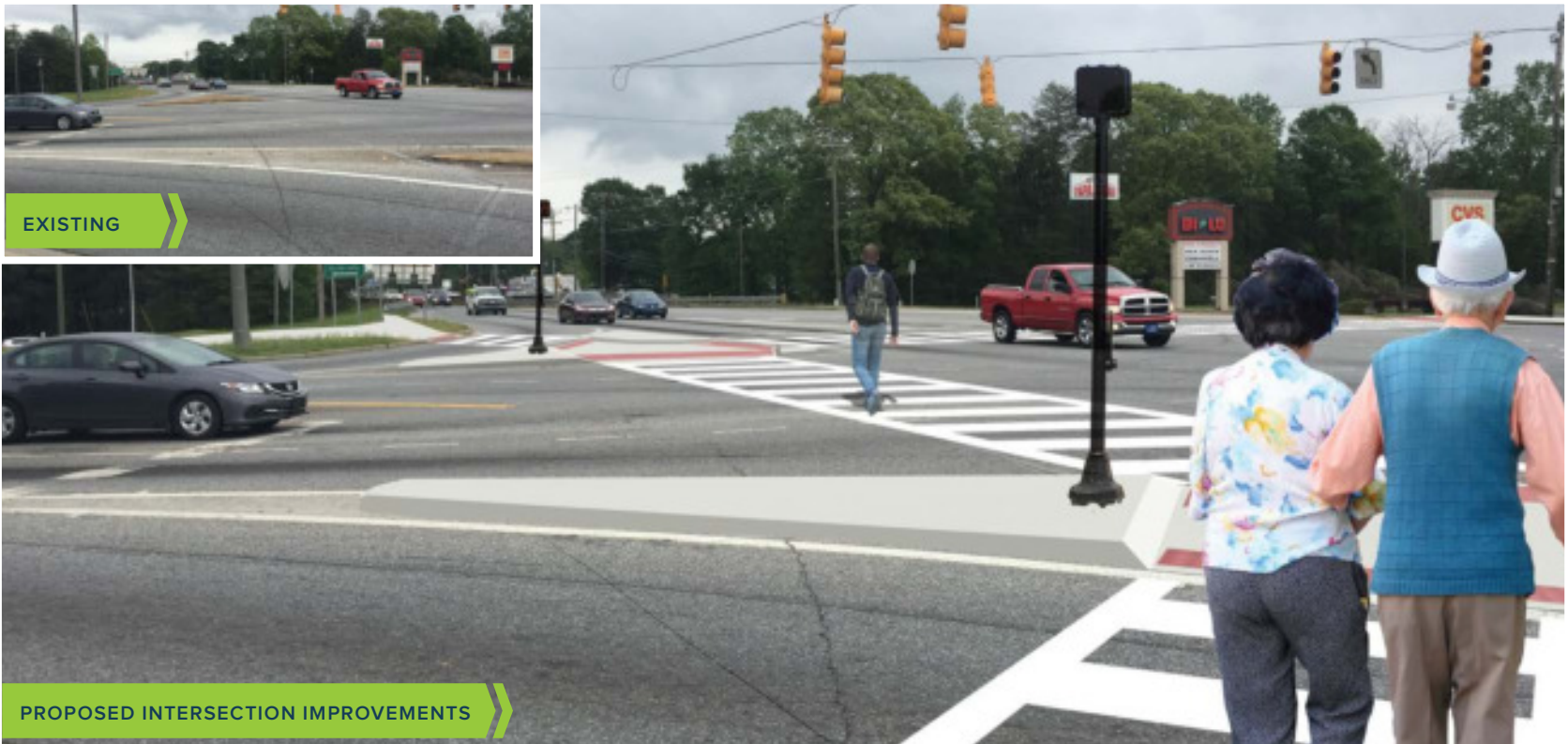
Intersection Enhancements

A proposed shared use path along Holly Springs Road (SC 358), Pine Ridge Road, and US 29 (Greenville Highway) will connect numerous homes and businesses to these amenities. Safe crossings at roadway intersections and school entrances are crucial to the safety and success of the pedestrian environment.

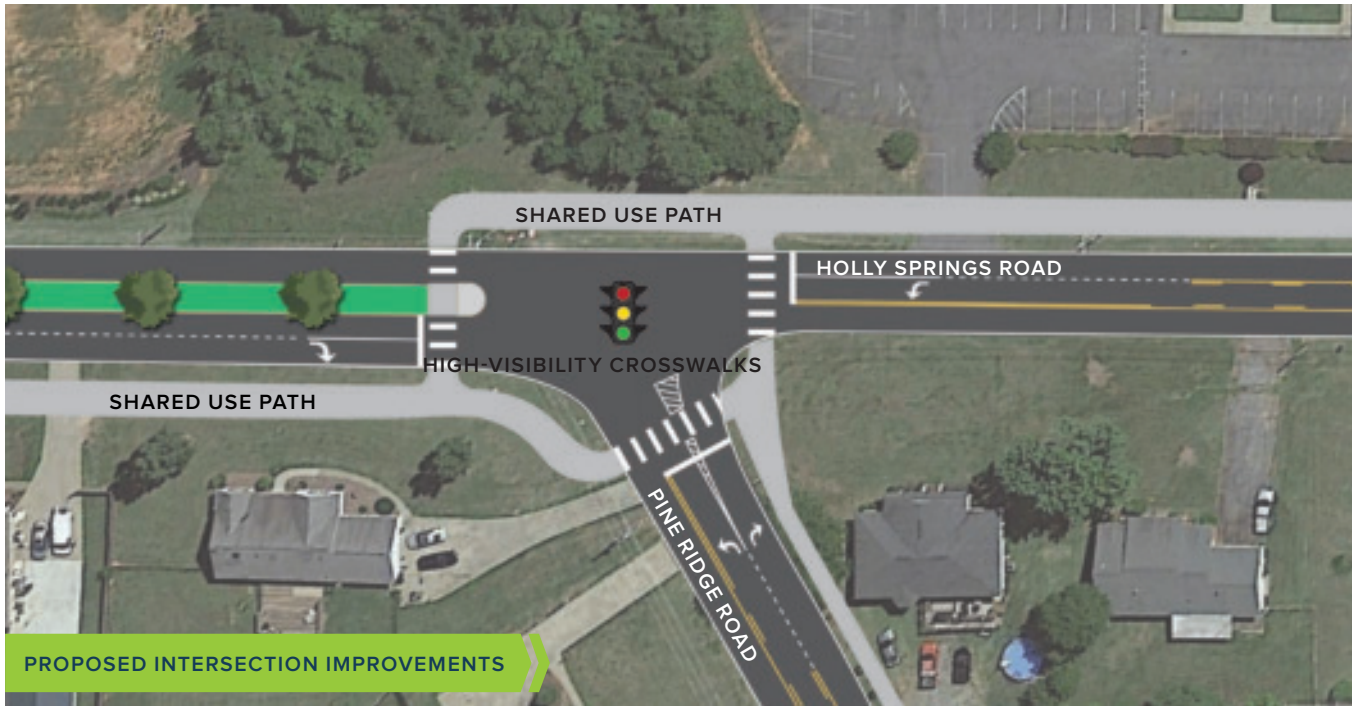
At a minimum, pedestrian crossings should be improved at:

- Holly Springs Road (SC 358) and Pine Ridge Road;
- Holly Springs Road (SC 358) and SC 129 (Charlotte Highway);
- SC 129 (Charlotte Highway) and US 29 (Greenville Highway); and
- US 29 (Greenville Highway) and Pine Ridge Road.

Enhancements to these roadway crossings will provide safer routes for students to access to D.R. Hill Middle School and Lyman Elementary School. Additional midblock crossing should be provided at major neighborhood entrances and school entrances.



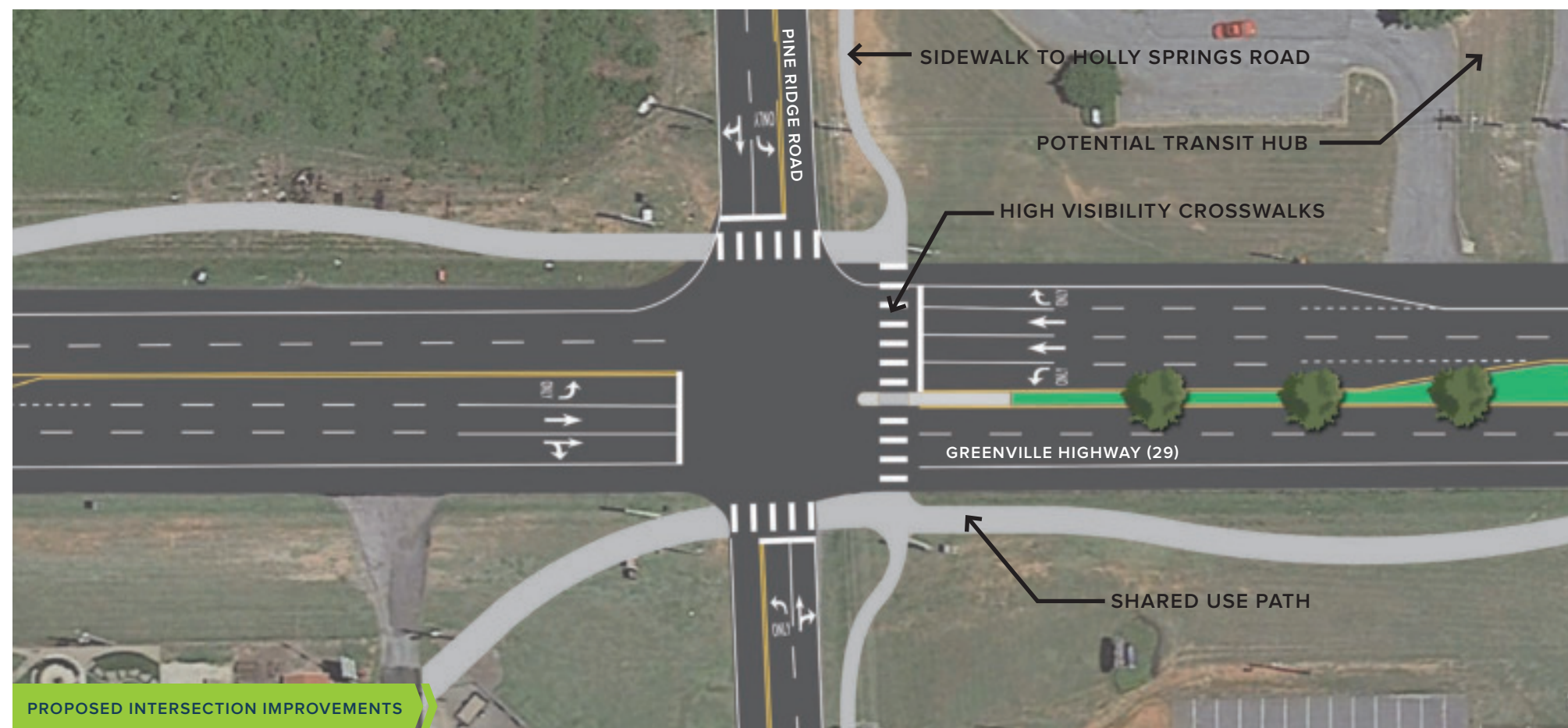
Proposed intersection enhancements at Pine Ridge Road at US 29 (Greenville Hwy.) (above) and Holly Springs Road at SC 129 (Charlotte Hwy.)



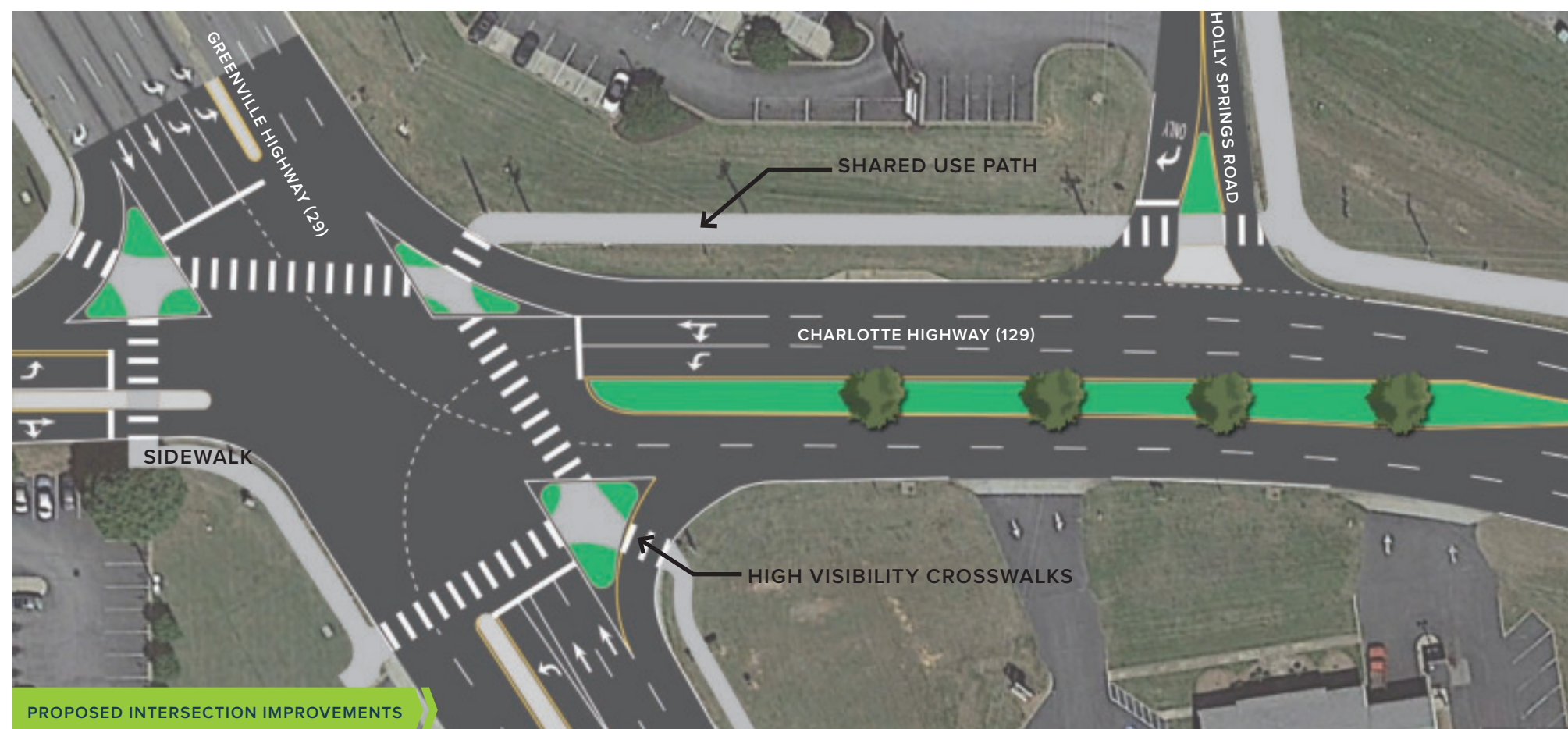
Intersection improvements at Holly Springs Road (SC 358) and Pine Ridge Road.



Recommended signalized intersection of Pine Ridge Road and Holly Springs Road (SC 358).



This intersection would also be an ideal candidate for a transit hub. This would allow people to walk, bike or carpool to a central location to capitalize on transit facilities for commuting to work.



This intersection, known locally as “Malfunction Junction,” will require substantial roadway, pedestrian, and access improvements to create a safer, pedestrian-friendly environment.

Proposed intersection enhancements at Pine Ridge Road at US 29 (Greenville Highway) (above) and Holly Springs Road (SC 358) at SC 129 (Charlotte Highway) and US 29 (Greenville Highway).

Intersection Enhancements

KEY RECOMMENDED IMPROVEMENTS

- + High-Visibility Crosswalks
- + Pedestrian-Scale Lighting
- + Pedestrian Refuge Islands
- + Traffic Signal Modification
- + Wayfinding Signage



Proposed intersection enhancements at Pine Ridge Road at US 29 (Greenville Highway).



Proposed intersection enhancements at Holly Springs Road at SC 129 (Charlotte Highway) and US 29 (Greenville Highway).

APPENDIX: DESIGN GUIDELINES, MAPS + COST ESTIMATES



Lowly, unpurposeful and random as they appear, sidewalk contacts are the small change from which a city's wealth of public life must grow.

– Jane Jacobs

APPLICABLE DESIGN GUIDELINES

OVERVIEW

At the state and national levels, there are existing guidelines that apply to pedestrian facilities, as well as shared use paths and bicycle facilities. While these documents are not absolute standards, many public agencies require projects to meet the guidelines as a minimum condition for key dimensions including slope, horizontal and vertical clearances, and surface condition, signage, and pavement markings.

The guidelines recommended in this document are intended to assist Lyman staff and consultants in the selection and design of pedestrian facilities and their ancillary facilities. The standards draw together best practices by facility type from public agencies and municipalities nationwide. In addition, all applicable local design and construction standards will need to be followed.

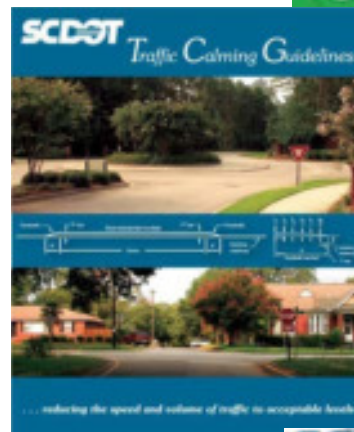
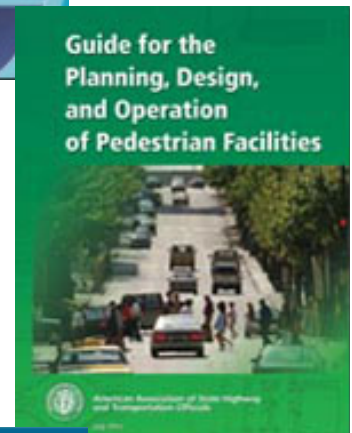
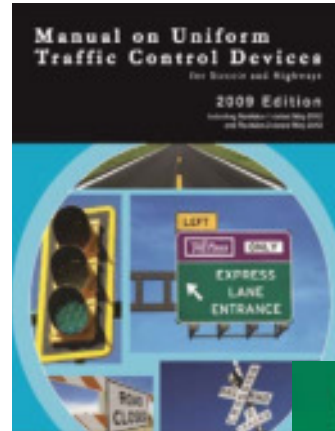
National Guidelines

- Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices* (MUTCD) defines the standards used by road engineers nationwide to install and maintain traffic control devices on all public streets, highways, trails, and private roads open to public traffic. The MUTCD is the primary source for guidance on lane striping requirements, signal warrants, and recommended signage and pavement markings.
- American Association of State Highway and Transportation Officials (AASHTO) *Guide for the Planning, Design, and Operation of Pedestrian Facilities* provides guidance on dimensions, use, and layout of specific pedestrian facilities. The standards and guidelines presented by AASHTO provide basic information, such as minimum sidewalk widths, and recommended signage and pavement markings.
- The United States Access Board's proposed *Public Rights-of-Way Accessibility Guidelines* (PROWAG), the ICC/ANSI A117.1 *Accessible and Usable Buildings and Facilities*, the 2010 *ADA Standards for Accessible Design* (2010 Standards) which contains standards and guidance for the construction of accessible facilities. This includes requirements for sidewalk curb ramps, slope requirements, and pedestrian railings along stairs. Some of these treatments are not directly referenced in the current versions of the AASHTO Guide or the MUTCD, although many of the elements of these treatments are found within these documents. In all cases, engineering judgment is recommended to ensure that the application makes sense for the context of each treatment, given the many complexities of urban streets.

State Guidelines

SCDOT has published a number of technical documents for traffic engineering which are available online. Specific publications and manuals include:

- *SCDOT Supplement to the MUTCD*
- South Carolina Department of Transportation *Highway Design Manual and Engineering Directive Memoranda*
- *2009 Edition of Signal Design Guidelines* which details standard methodology of handling signal requests, as well as the review, design, installation, operation, and maintenance of traffic signals.
- *Guidelines for School Transportation Design* is a supplement to SCDOT's Access and Roadside Management Standards (ARMS) and offers design assistance to maintain safe and efficient traffic operations in and around school premises.
- *Railroad Inspection Procedure Manual* provides guidance for grade crossing inspectors, ensuring compliance and uniformity.
- *Traffic Calming Guidelines* provides guidance concerning traffic calming by describing eligibility requirements, application forms, various traffic calming measures, and construction specifications.



DESIGN NEEDS OF PEDESTRIANS

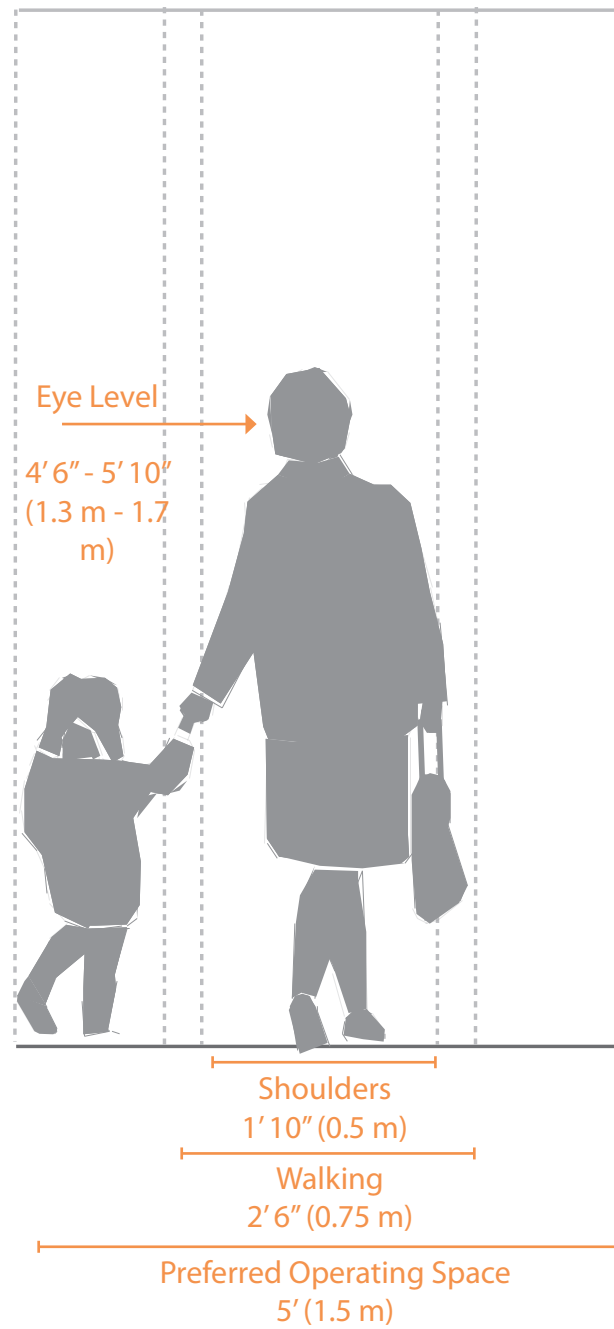
No one pedestrian is the same. Each pedestrian has a variety of characteristics and the network of pedestrian facilities in Lyman should accommodate a variety of needs, abilities, and possible impairments. Age is one major factor that affects pedestrians’ physical characteristics, walking speed, and environmental perception. Children have low eye height and walk at slower speeds than adults. They also perceive the environment differently at various stages of their cognitive development. Older adults walk more slowly and may require assisted devices for walking stability, sight, and hearing. The adjacent table summarizes common pedestrian characteristics for various age groups.

As a rule of thumb, the MUTCD recommends a normal walking speed of three and one half feet per second when calculating the pedestrian clearance interval at traffic signals. The walking speed can drop to three feet per second for areas with older populations and persons with mobility impairments. While the type and degree of mobility impairment varies greatly across the population, the pedestrian network should accommodate these users to the greatest reasonable extent.

Pedestrian Characteristics by Age

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 “dart out” intersection dash Poor judgment Sense of invulnerability
14-18	Improved awareness of traffic environment Poor judgment
19-40	Active, fully aware of traffic environment
41-65	Slowing of reflexes
65+	Difficulty crossing street Vision loss Difficulty hearing vehicles approaching from behind

Source: AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities. 2004. Exhibit 2-1.



DESIGN NEEDS OF MOBILITY
ASSISTED DEVICE USERS

As the American population ages, the number of people using mobility assistive devices (such as manual wheelchairs or powered wheelchairs) increases.

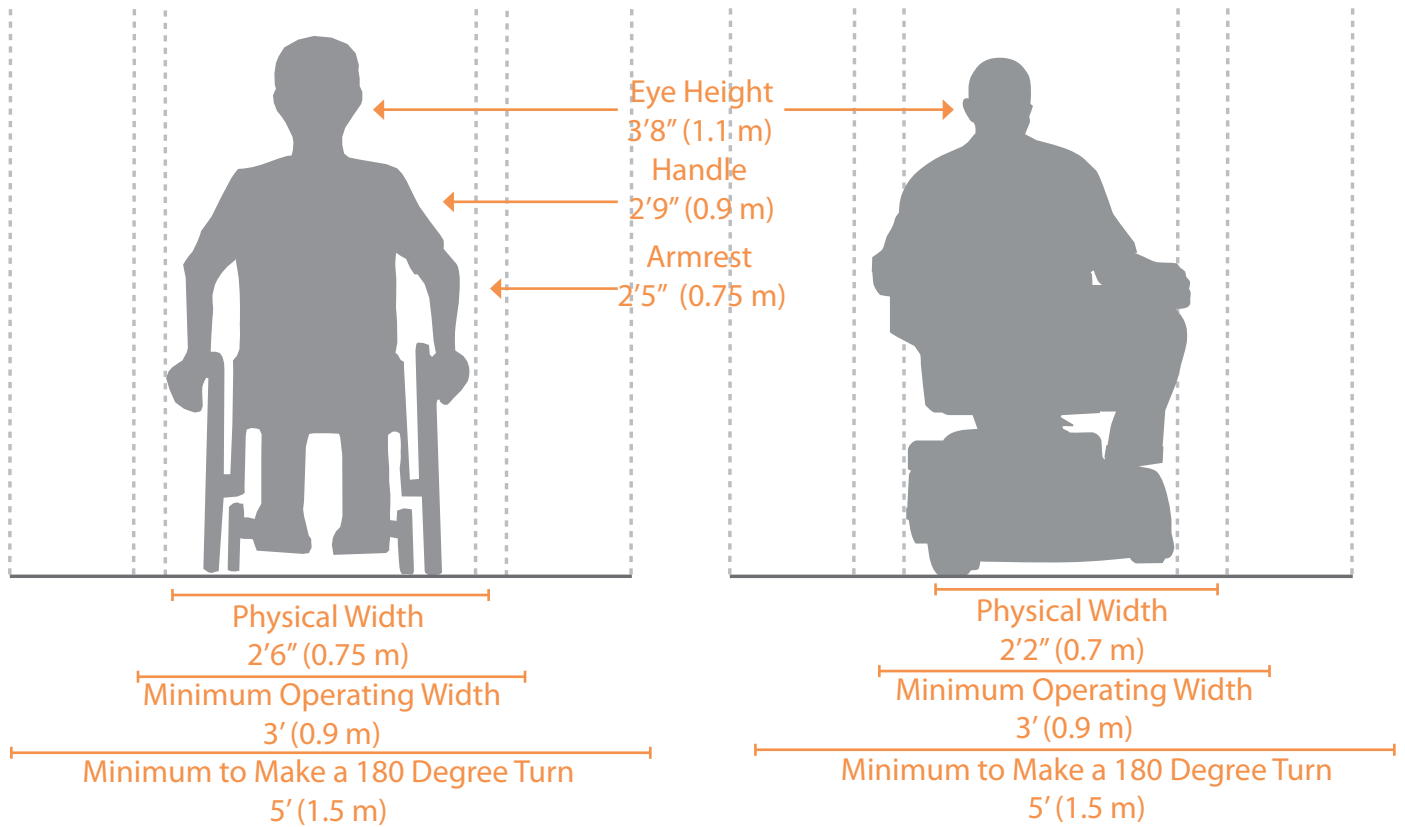
Manual wheelchairs are self-propelled devices. Users propel themselves using push rims attached to the rear wheels. Braking is done through resisting wheel movement with the hands or arm. Alternatively, a second individual can control the wheelchair using handles attached to the back of the chair.

Power wheelchairs use battery power to move the wheelchair. The size and weight of power wheelchairs limit their ability to negotiate obstacles without a ramp. Various control units are available that enable users to control the wheelchair movement, based on user ability (e.g., joystick control, breath controlled, etc).

Maneuvering around a turn requires additional space for wheelchair devices. Providing adequate space for 180 degree turns at appropriate locations is an important element for accessible design.

Wheelchair User Typical Speed	
User	Typical Speed
Manual Wheelchair	3.6 mph
Power Wheelchair	6.8 mph

Wheelchair User Design Considerations	
Effect on Mobility	Design Solution
Difficulty propelling over uneven or soft surfaces.	Firm, stable surfaces and structures, including ramps or beveled edges.
Cross-slopes cause wheelchairs to veer downhill.	Cross-slopes of less than two percent.
Require wider path of travel.	Sufficient width and maneuvering space.



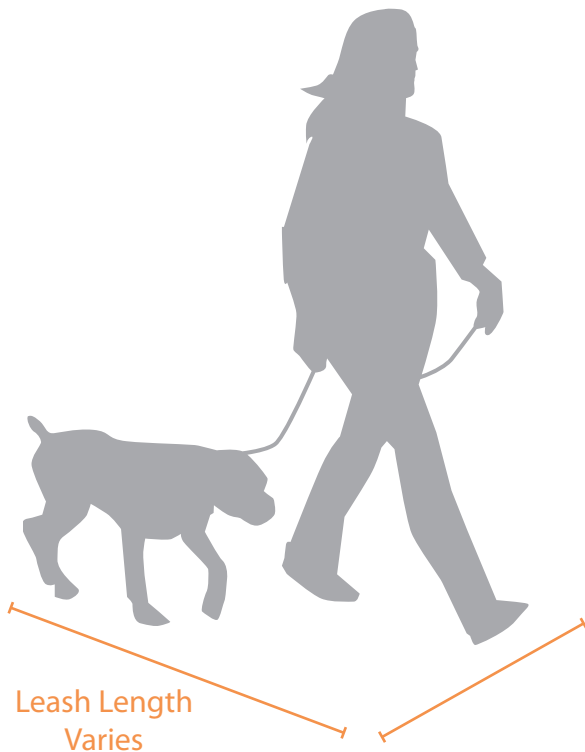
Source: FHWA. *Characteristics of Emerging Road and Trail Users and Their Safety*. (2004).

DESIGN NEEDS OF DOG WALKERS

Dog walking is a common and anticipated use on sidewalks. Dog sizes vary largely, as does leash length and walking style, leading to wide variation in possible design dimensions.

Sidewalks designed to accommodate wheelchair users are likely to provide the necessary dimensions for the average dog walker. Amenities such as dog waste stations, particularly in downtown and residential settings, enhance conditions for dog walkers.

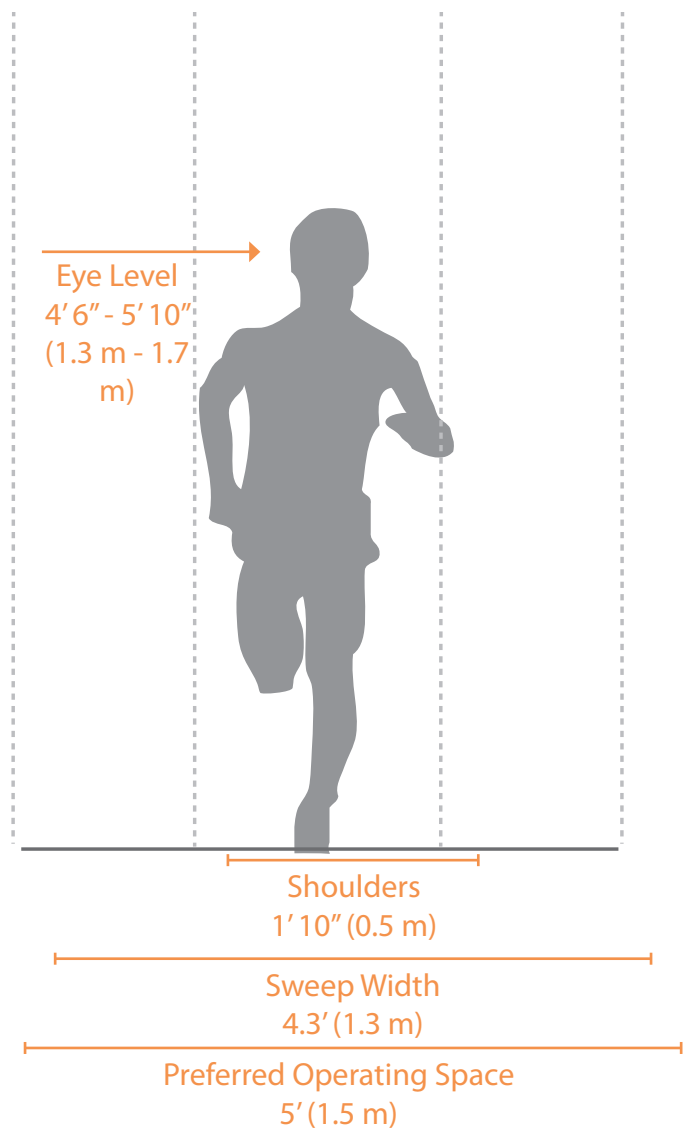
Dog walker vertical and horizontal dimensions are same as runner dimensions, pictured at right



DESIGN NEEDS OF RUNNERS

Running is an important fitness and recreation activity commonly performed in neighborhoods, in and around parks, across college campuses, and through downtown.

Typical Speed



Source: FHWA. *Characteristics of Emerging Road and Trail Users and Their Safety*. (2004).
USDOJ. *2010 ADA Standards for Accessible Design*. (2010).

WAYFINDING

The ability to navigate through a community is informed by landmarks, natural features, and other visual cues. Wayfinding signs should indicate:

- Direction of travel
- Location of destinations
- Location of access points

Wayfinding signage can also include minutes to reach destinations, and calories burned by walking there.

These signs increase a pedestrian's comfort and accessibility to key destinations across the community. Wayfinding signage can serve many purposes including:

- Helping to familiarize users with the community's sidewalk network and the areas it reaches
- Helping users identify the best routes to destinations
- Helping overcome a "barrier to entry" for people who do not currently walk
- Wayfinding signs also visually cue motorists that they are driving near a pedestrian-oriented corridor and should use caution. Signs are typically placed at key locations leading to and along routes, including the intersection of multiple routes.

AMENITIES

When designing functional, attractive, and inviting streetscapes, the small details matter. Elements such as lighting fixtures, public art, benches, and other amenities help create a unique identity for each community. It is important that these details work together to create a complete experience for all users.

Trash & Recycle Receptacles

Trash and recycle receptacles provide for proper maintenance and appearance of the pedestrian facilities system. For recycling receptacles, signage should be provided indicating what recyclables are accepted. Consider including educational signage about the importance of recycling and the environmental benefits.

Guidance

- Locate receptacles at each intersection and each seating area (one per every two benches).
- Placement of other receptacles will depend upon the location of concessions, facilities and areas of group activities.
- Receptacles need to be accessible to maintenance personnel.
- Receptacles should be selected using the following criteria:
 - Expected trash/recycling amount
 - Maintenance and collection program requirements
 - Durability
- Receptacles should be appropriately situated on the sidewalk so as not to interfere with pedestrian movement.

Seating

Seating along sidewalks and paths provides a place for users to rest, congregate, contemplate, or enjoy art, nature, and interpretive elements. Benches can be designed to support the community's identity or be strictly utilitarian.

Guidance

- Locate benches along streetscapes where appropriate, or where there is a demand by users. Providing seating at every block is the goal.
- Provide benches in areas that provide interesting views, are close to other amenities like trash receptacles and lighting, and offer shade.
- Drainage should slope away from the bench.
- Wheelchair access should be possible alongside benches. Provide access with a hardened surface such as concrete or asphalt.
- Seating should be securely anchored to the ground.



Public Art & Sculpture

Public art engages the community through artists' work and creates a memorable experience for pedestrians. Art and sculpture can create an identity for the community and strengthen the emotional connection between Lyman and its residents and visitors. Depending on the scale and form, it can become an "event" in itself and serve as a public attraction.

Public art can be aesthetic and/or functional, and double as sitting or congregational areas. Memorable installations can act as landmarks and serve as valuable wayfinding tools. Public art can be a device for telling a compelling and memorable story about the area's history.

Guidance

- Artists can be commissioned to provide art at one or multiple locations throughout Lyman. When appropriate, artists could be engaged as part of the corridor planning and development process.
- Artists should be encouraged to produce artwork in a variety of materials for sites along the corridor.
- When appropriate, consider developing furnishings and amenities with artistic intent. Key locations could be areas to highlight through the inclusion of public art. Consider how to provide continuity between elements while maintaining the unique styles of multiple artists.
- Provide art displays on streetscapes with anticipated high use and user exposure.
- Consider community based art and temporary installations.

Lighting

Lighting along sidewalks and paths should be analyzed on a case-by-case basis with full consideration of the maintenance commitment lighting requires. In general, lighting is not appropriate for sidewalks where there is little to no development. Lighting can improve visibility along corridors and intersection crossings at night for all pedestrians. Lighting may also be necessary for day-time use in tunnels and underpasses.

Guidance

- Recommended locations for lighting include the following:
 - Entrances and exits of bridges and underpasses and in tunnels;
 - Street crossings;
 - Central business districts;
 - Historic walking routes.
- Low-cost light emitting diodes (LED) offer a wide range of light levels and can reduce long term utility costs.
- Design lighting levels appropriate to each situation.
- Lighting should be at pedestrian scale.
- Solar powered lighting is available where utility collection is difficult or when alternative energy sources are desired.
- Avoid light fixtures at eye level that could impair visibility.
- Direct glare or excessive illumination on to adjacent properties, streets, or sidewalks should be avoided.

MAP ENLARGEMENTS



BIKE | PED FACILITIES

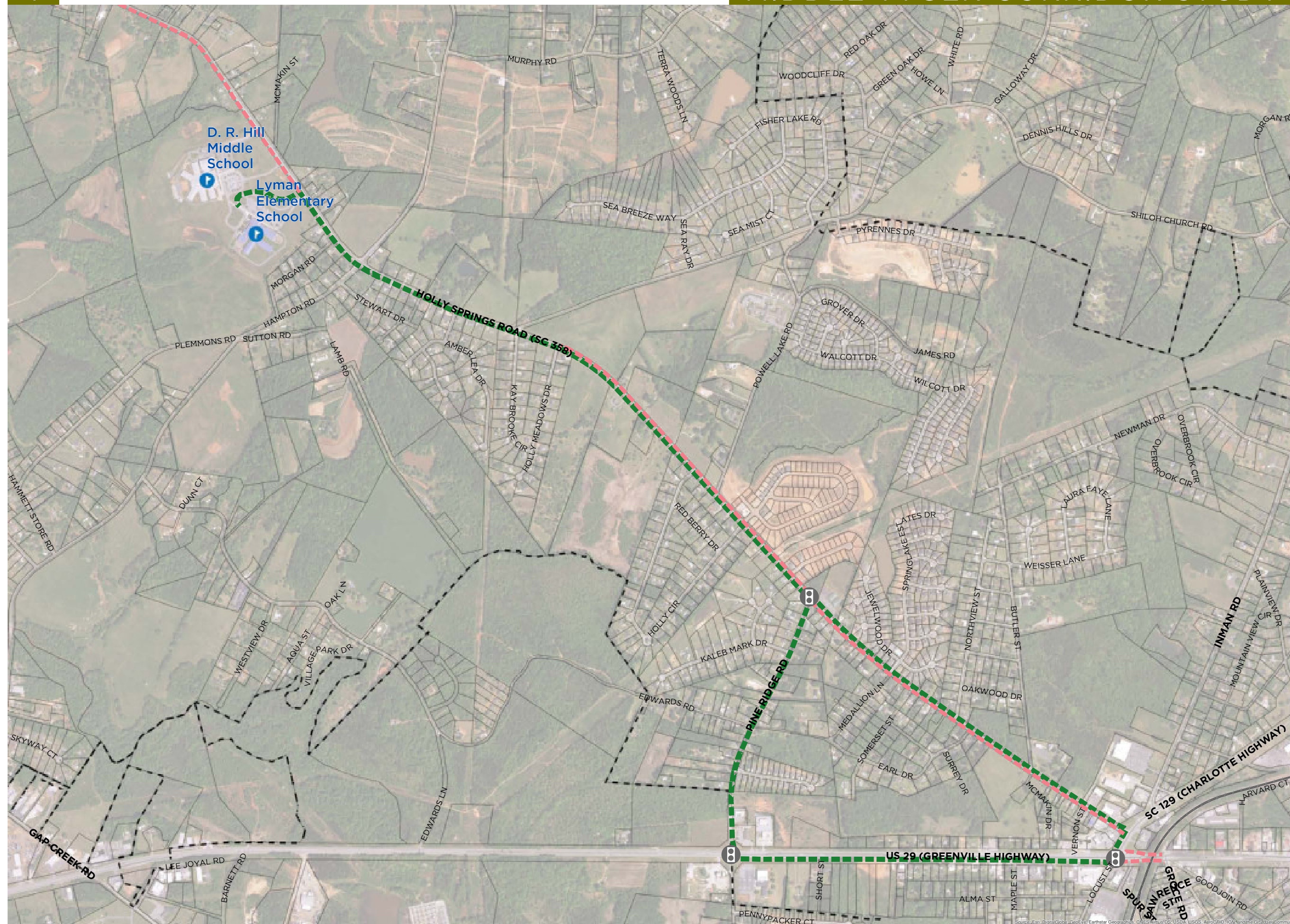
- SHARED USE PATH
- SIDEWALK

OVERLAYS

- RAILROAD
- PARCEL
- LYMAN LIMITS

POINTS OF INTEREST

- SCHOOLS
- INTERSECTION PROJECT



0 530 FEET



**BIKE | PED FACILITIES**

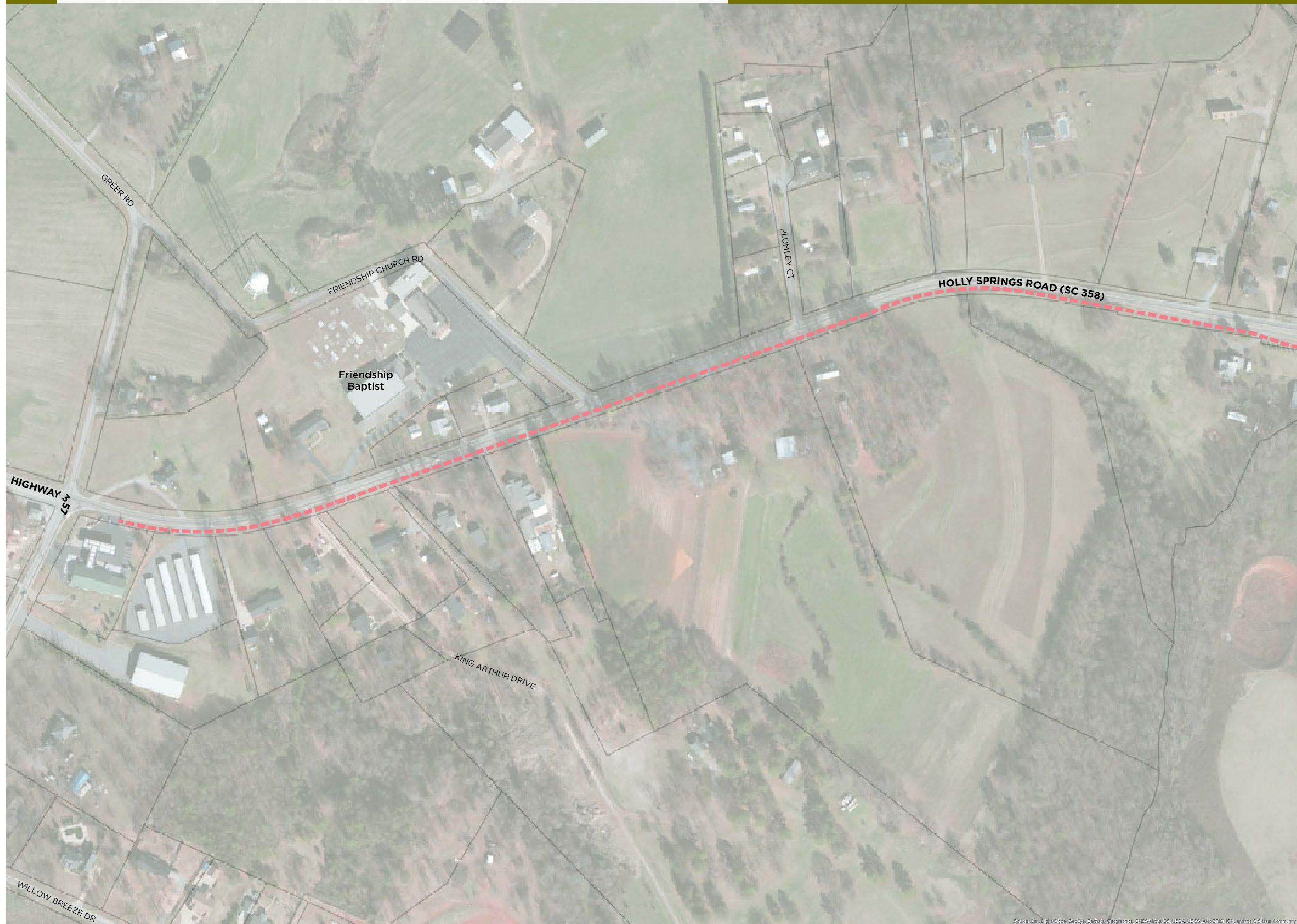
- SHARED USE PATH
- SIDEWALK

OVERLAYS

- RAILROAD
- PARCEL
- - - LYMAN LIMITS

POINTS OF INTEREST

- 📍 SCHOOLS
- 🚧 INTERSECTION PROJECT



0 100 FEET



**BIKE | PED FACILITIES**

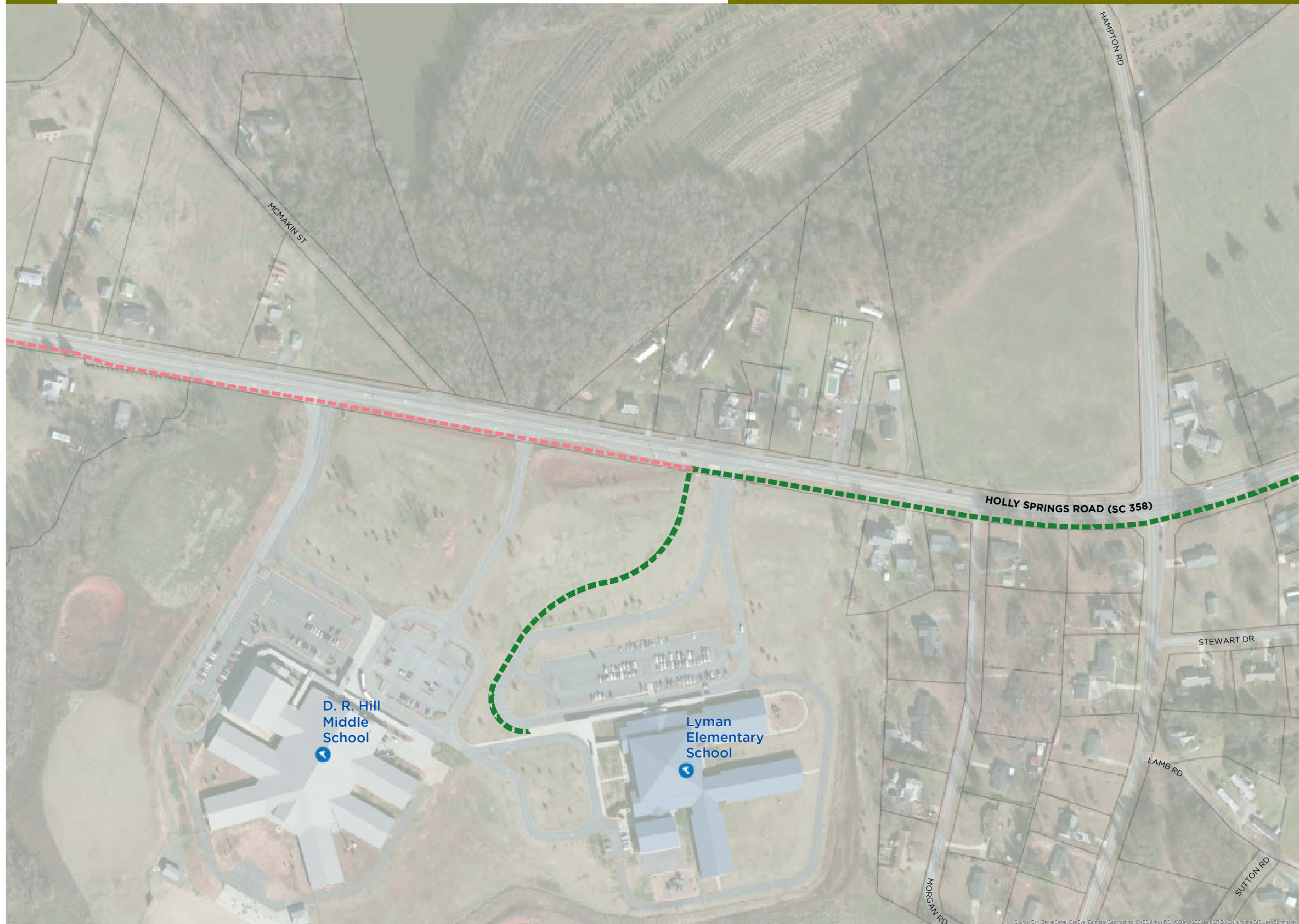
- SHARED USE PATH
- SIDEWALK

OVERLAYS

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POINTS OF INTEREST

- 📍 SCHOOLS
- 🚦 INTERSECTION PROJECT



0 100 FEET



**BIKE | PED FACILITIES**

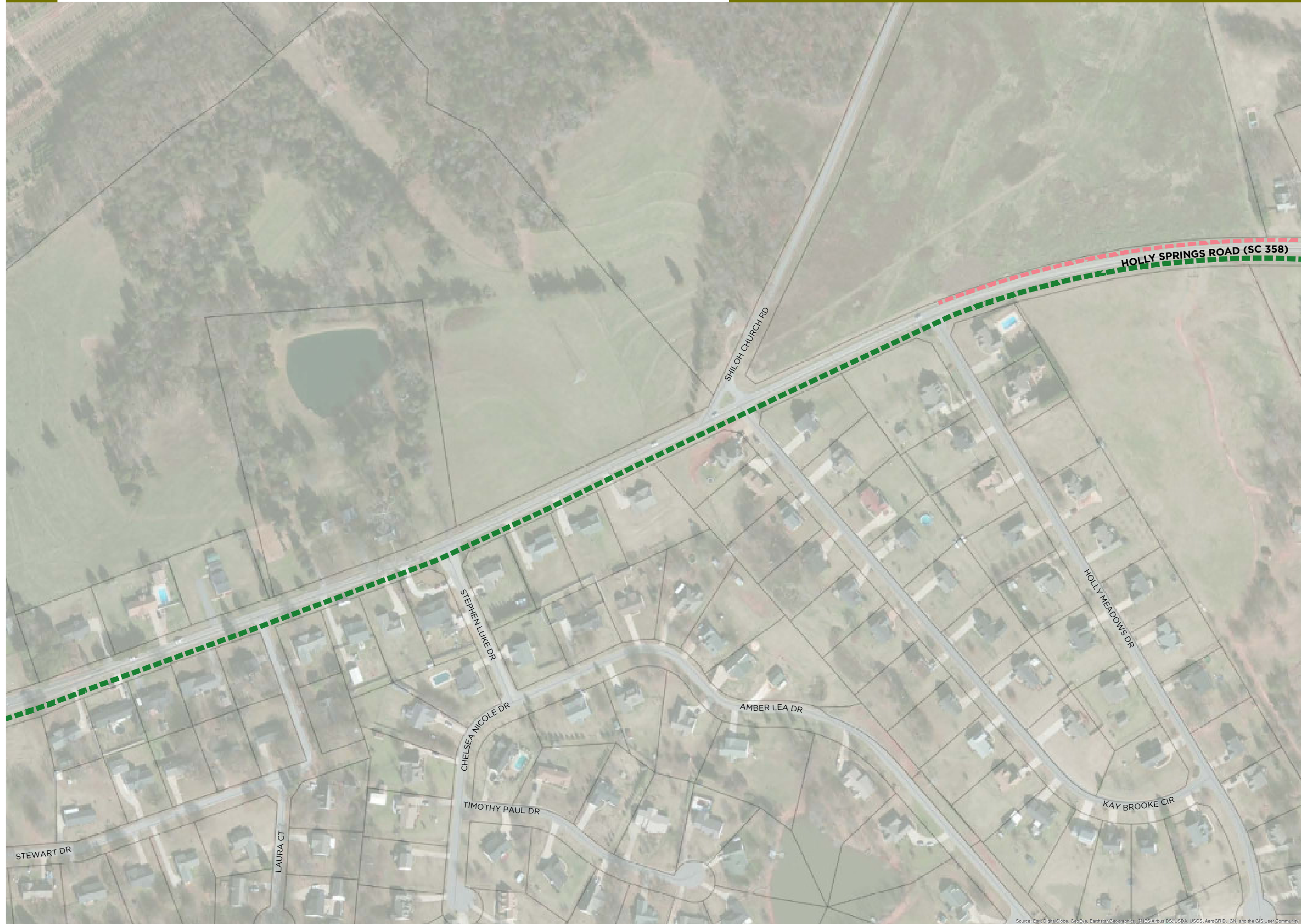
- SHARED USE PATH
- SIDEWALK

OVERLAYS

- RAILROAD
- PARCEL
- - - LYMAN LIMITS

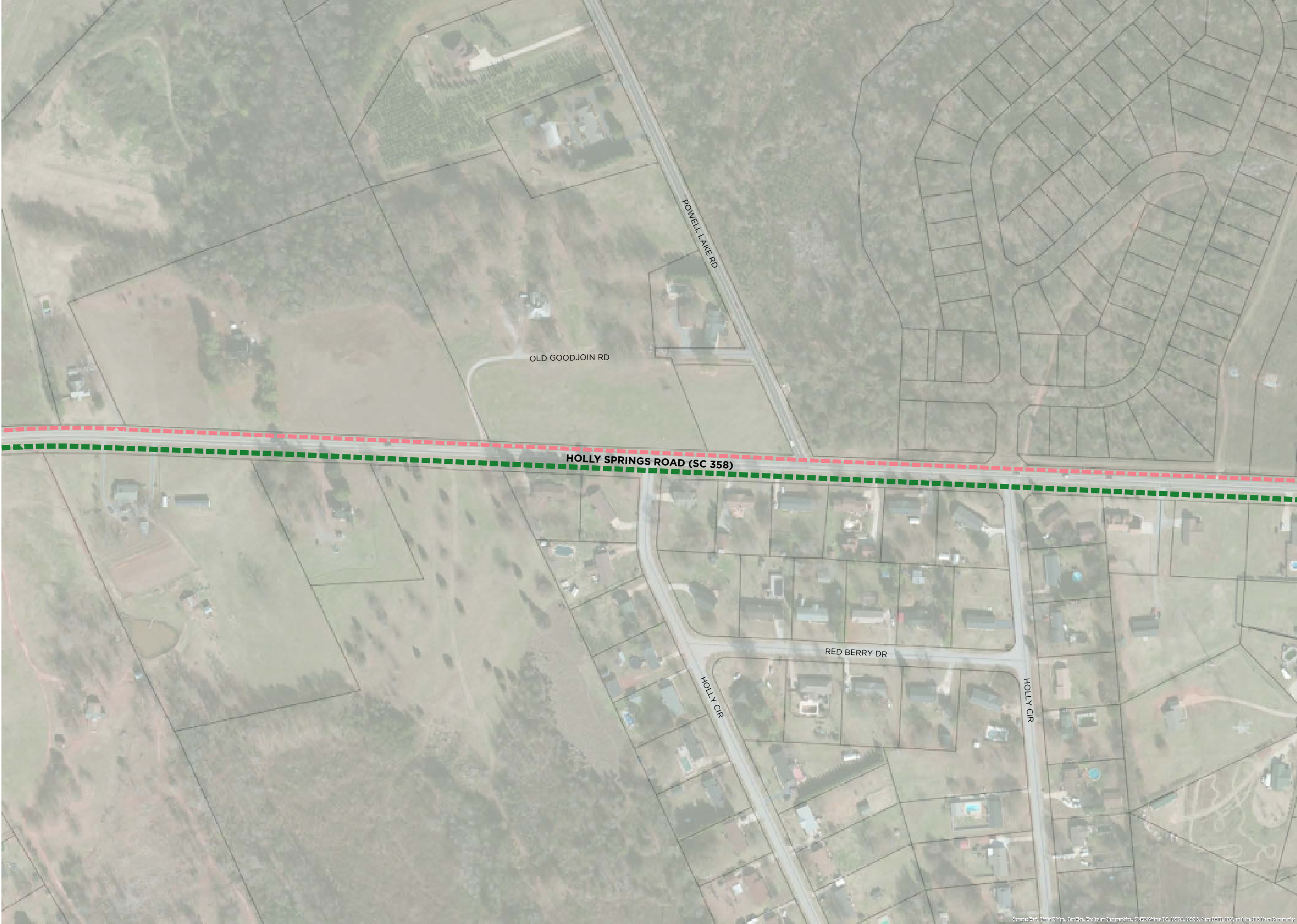
POINTS OF INTEREST

- 📍 SCHOOLS
- 🚦 INTERSECTION PROJECT



0 100 FEET





BIKE | PED FACILITIES

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- SIDEWALK

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0 100 FEET





BIKE | PED FACILITIES

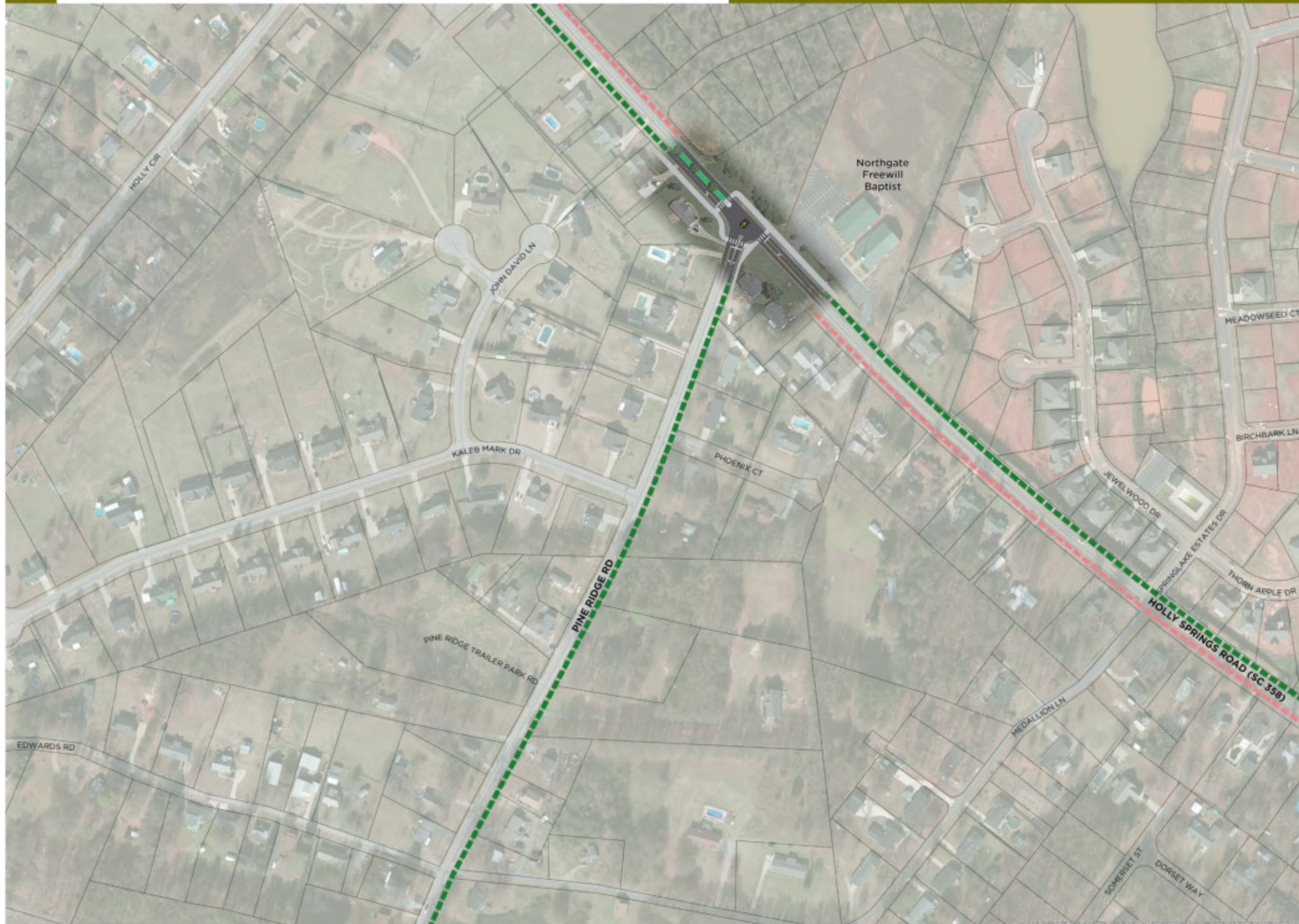
- SHARED USE PATH
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0 100 FEET





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0 100 FEET



COST ESTIMATES

Lyman Corridor Study 4.20.17 Cost Estimates

Holly Springs Road Improvements

5' Sidewalk

10' Shared Use Path

From Hwy 357 to Pine Ridge Road		
Project Length	12,700	LF
Item	Unit Cost / LF	Total Cost
5' Sidewalk	\$45	\$571,500
10' Shared Used Path	\$175	\$2,222,500

From Pine Ridge Road to Hwy 129		
Project Length	4,860	LF
Item	Unit Cost / LF	Total Cost
5' Sidewalk	\$45	\$218,700
10' Shared Used Path	\$175	\$850,500

TOTAL COSTS	\$3,863,200
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Pine Ridge Road Improvements

5' Sidewalk

From Holly Springs Road to Greenville Hwy		
Project Length	3,305	LF
Item	Unit Cost / LF	Total Cost
5' Sidewalk	\$45	\$148,725
10' Shared Used Path	\$175	\$578,375

TOTAL COST	\$148,725	Sidewalk ONLY
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Intersections	PEDESTRIAN IMPROVEMENTS ONLY
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Holly Springs and Pine Ridge Road	Unit	Quantity	Unit Cost	Total Cost
Thermoplastic Stop Bar	LF	72	\$22	\$1,584
Crosswalk striping (thermoplastic)	LF	108	\$5	\$540
Surface Applied Detectable Warning	EA	6	\$1,000	\$6,000
Pedestrian Ramp Construction	EA	6	\$2,500	\$15,000
Traffic Arrows (thermoplastic)	EA	3	\$300	\$900

TOTAL COSTS	\$24,024
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Pine Ridge Road and Greenville Hwy	Unit	Quantity	Unit Cost	Total Cost
Thermoplastic Stop Bar	LF	132	\$22	\$2,904
Crosswalk striping (thermoplastic)	LF	168	\$5	\$840
Surface Applied Detectable Warning	EA	6	\$1,000	\$6,000
Pedestrian Ramp Construction	EA	6	\$2,500	\$15,000
Traffic Arrows (thermoplastic)	EA	11	\$300	\$3,300

TOTAL COSTS	\$28,044
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Holly Springs and Hwy 129	Unit	Quantity	Unit Cost	Total Cost
Thermoplastic Stop Bar	LF	18	\$22	\$396
Crosswalk striping (thermoplastic)	LF	24	\$5	\$120
Surface Applied Detectable Warning	EA	4	\$1,000	\$4,000
Pedestrian Ramp Construction	EA	4	\$2,500	\$10,000
Traffic Arrows (thermoplastic)	EA	1	\$300	\$300
Raised Median	LS	1	\$15,000	\$15,000

TOTAL COSTS	\$29,816
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Greenville Hwy and Hwy 129	Unit	Quantity	Unit Cost	Total Cost
Thermoplastic Stop Bar	LF	148	\$22	\$3,256
Crosswalk striping (thermoplastic)	LF	290	\$5	\$1,450
Surface Applied Detectable Warning	EA	16	\$1,000	\$16,000
Pedestrian Ramp Construction	EA	16	\$2,500	\$40,000
Traffic Arrows (thermoplastic)	EA	11	\$300	\$3,300
Median modifications	LS	1	\$36,000	\$36,000

TOTAL COSTS	\$100,006
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