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Hike and Bike Master Plan

the city of MARION South Carolina

JULY 2017

ACKNOWLEDGEMENTS

PUBLIC PARTICIPANTS

Thank you to the residents of the City of Marion for their participation in the charrette planning process and their passion for improving the place they call home.

CITY OF MARION, SC
MAYOR AND CITY COUNCIL

Mayor Ashley Brady

Mayor Pro-tempore Ronald Atkinson

Council Member Ralph Atkinson

Council Member Emerson Hunt

Council Member Joseph Frazier

Council Member Michael Baker

Council Member Tassie Lewis

MARION HIKE AND BIKE MASTER PLAN PROJECT STAKEHOLDERS

Thank you to the engaged leaders of the Marion community for their continued participation throughout the planning process and for their commitment to furthering the efforts of this Plan.

Thank you to the South Carolina Department of Health and Environmental Control (DHEC) for support and involvement in the planning process, as well as to the other local, regional, and state stakeholders.

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PROJECT VISION

The City of Marion is a **healthy and active community** with **safe and inviting places to walk** for both residents and visitors. Scenic streetscapes and paths **connect** people to neighborhoods, downtown, historic sites, antique stores, and other visitor and **community destinations.** Residents of all ages, abilities, and backgrounds **enjoy active transportation**, opportunities for physical activity, **access to healthy foods**, and a **high quality of life.**

PROJECT GOALS

- **Improve** the Hike-Bike experience
- **Create active living opportunities** between Downtown Marion, Henry Street, and Wal-Mart
- **Improve connections,** intersection crossings, and wayfinding signage at and along the entire corridor
- Implement better **sidewalk connectivity,** bicycle facilities, landscaping and crossing opportunities at various locations, particularly in areas with concentrations of pedestrians and commercial activity,
- Provide better **pedestrian access** to **healthy food outlets**
- Identify locations that would connect to the **broader network** and consider ways to improve the intersections
- Target public and **economic developmen**t opportunities at and along the corridor
- Identify **near-term, feasible capital improvement projects** that will **positively impact the walking environment**
- **Leverage other capital improvement projects** already underway or planned

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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 master 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 a 3 year project to develop pedestrian master plans for 16 communities in 15 specific 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

The City of Marion is one of the 16 communities to participate in SC PHASE Hike and Bike Master Planning.

Pedestrian master plans and policies play a critical role in fostering more walk-friendly communities by creating the conditions that 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 City of Marion is ripe with existing character which, through improved design, has the potential to attract and encourage safe and comfortable pedestrian activity.

COMMUNITY CONTEXT

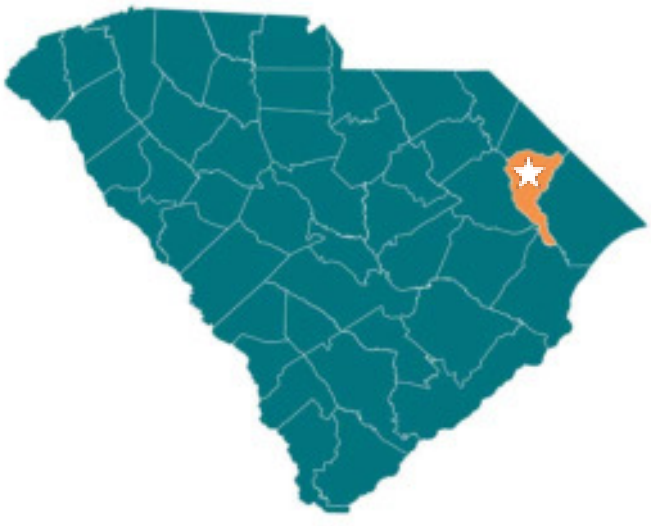
The City of Marion is the county seat of Marion County, in the center of South Carolina's Pee Dee Region. The city is located between Florence and Conway, South Carolina. Marion is a community of around 7,000 people who pride themselves as "distinctively Southern, sincerely friendly and charmingly historic." The City is home to the FoxTrot Horse Show and the annual FoxTrot Festival along Main Street.

The City of Marion is governed by a Mayor-Council form of government. Within this form of governance, the elected Mayor is the chief administrative officer for the city with a council-appointed administrator to assist the day-to-day administration.

The City Council is the legislative board of city government and includes the Mayor (elected every four years) and six council members, each representing an electoral district and each serving a four-year term.

The city continues to prosper though due to a resurgence in downtown investment and redevelopment. The Marion County Economic Development Commission works to recruit new business and industry while helping our existing industries grow and expand to enhance the local tax base and improve the county's quality of life.

Main Street Commons was recently constructed on Main Street in Marion for the farmers market and for public events.



Reference map of the City of Marion within Marion County and the state

The existing Marion Hike-Bike Trail is well used for recreation by Marion County residents.

[1] U.S. Census Bureau, 2010 Census.

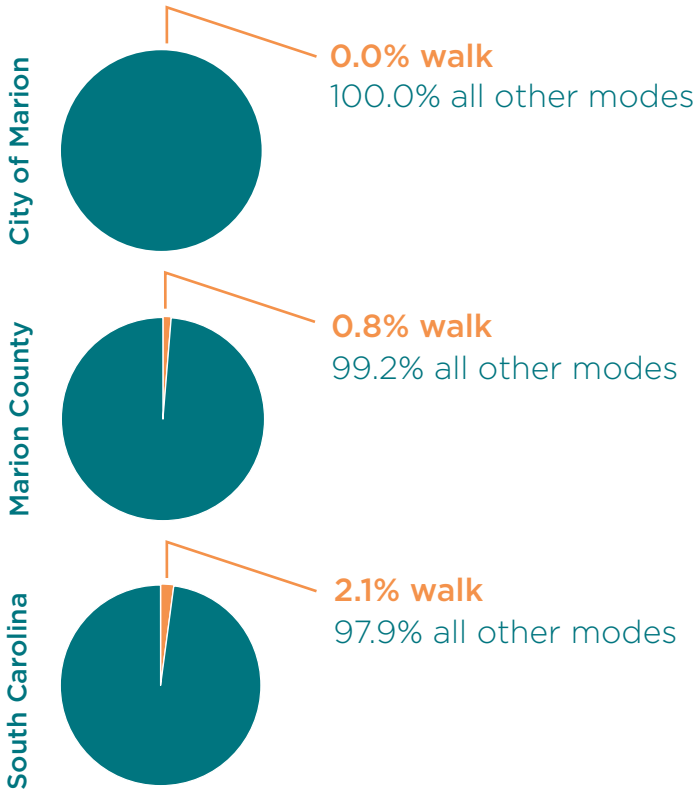
COMMUNITY PROFILE

The racial make-up of the City of Marion is comprised of white and Black (or African American) residents at 27.8% and 69.2%, respectively. For comparison, South Carolina is about 67% white and 28% Black or African American.[2]

The median income for households in the City of Marion is $30,157, a figure that is consistent with the county ($30,629), but below the state ($44,779). Given this disparity in income level, it is not surprising then that the city's poverty rate of 38.8% is greater than the county and state poverty rates, 24.4% and 18.3%, respectively

In terms of mode share across the city, the vast majority of residents commute to work in private vehicles. **Zero% of the working population walk to work, whereas 0.8 % of Marion County residents are estimated to be pedestrian commuters, roughly 50% of the state average.**

Walking as a percentage of commuting mode share per geography:

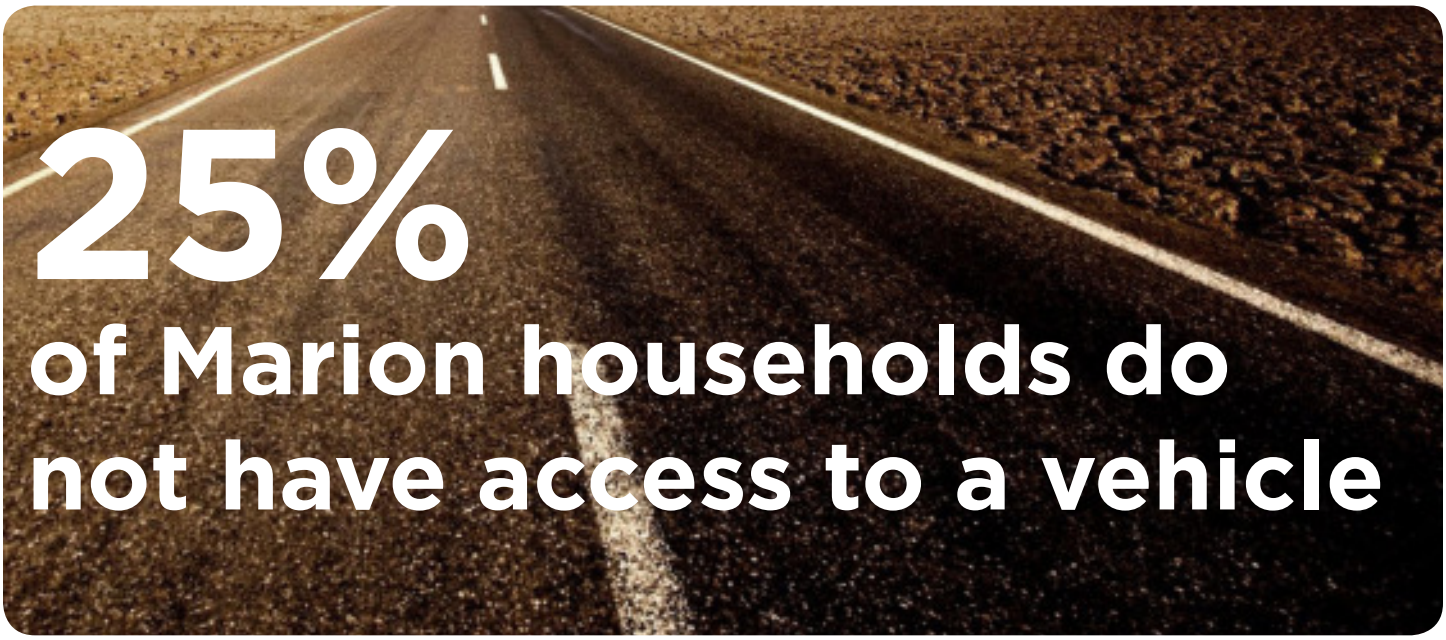


[2] U.S. Census Bureau 2010-2014 American Community Survey 5-Year Estimates

It is important to note that mode share does not paint a full picture of pedestrian 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. Moreover, those **households in the City of Marion who do not have access to vehicles (over 25%)** and those households with access to only one vehicle (almost 36%) may walk out of necessity, and residents who currently drive might opt to walk to work and other destinations if a safe and comfortable walking environment with adequate facilities existed.

Safety is key in encouraging and sustaining pedestrian activity. State traffic collision data show that **Marion County has a pedestrian fatality rate of 2.38 deaths per 100,000 people, consistent with a rate of 2.3 fatalities per 100,000 people for the state.**[3] (South Carolina's rate is the second worst of all states.) Finding ways to lower this rate in the City of Marion will be an important goal for this project.

[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

The City of Marion has a basis of existing facilities and features that will support and contribute to the City's goal of becoming more pedestrian-friendly. This Plan presents opportunities to build off of those existing resources.

WHY PLAN FOR PEDESTRIANS?

Imagine Marion 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.**

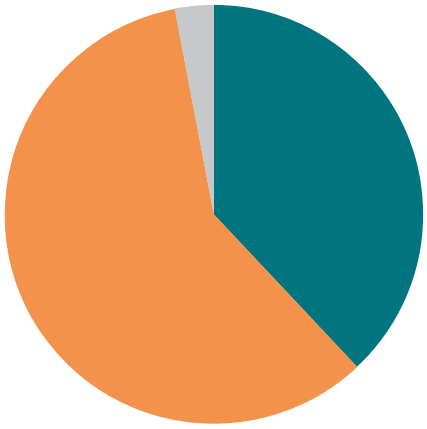
Development is well-designed and accessible so that residents have many of their everyday needs within walking distance. **Pedestrian-friendly streets are prevalent throughout the community**, and parents feel perfectly safe letting their **children walk or bike to school, parks, or other destinations 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 result 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. **Downtown attracts 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 making 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' Preference to Reduce Traffic Congestion



59% WE NEED TO IMPROVE PUBLIC TRANSPORTATION, INCLUDING TRAINS AND BUSES, TO MAKE IT EASIER TO WALK AND BIKE AND TO REDUCE TRAFFIC CONGESTION

38% WE NEED TO BUILD MORE ROADS AND EXPAND EXISTING ROADS TO HELP REDUCE TRAFFIC CONGESTION

SUMMARY TABLE OF WALKABILITY BENEFITS

ECONOMIC BENEFITS	
Public infrastructure savings	Compact, walkable communities save costs on road building, maintenance 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.

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.

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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 urban place.***

– Jeff Speck

OVERVIEW

This chapter presents the proposed pedestrian network improvements that were 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** in the City of Marion. 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 six projects detailed in individual cutsheets are crucial catalysts for economic development, walkability, and quality of life in Marion. These projects include:
    - Hike-Bike Trail Extension and Branding
    - Hike-Bike Trailhead Improvements Wayfinding Signage
    - Metal Street Road Reconfiguration
    - Railroad Avenue Park
    - US 76 Shared Use Path + Palmetto Point Connector

It is important to note that while this plan offers an action plan for creating a more walkable Marion, **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.

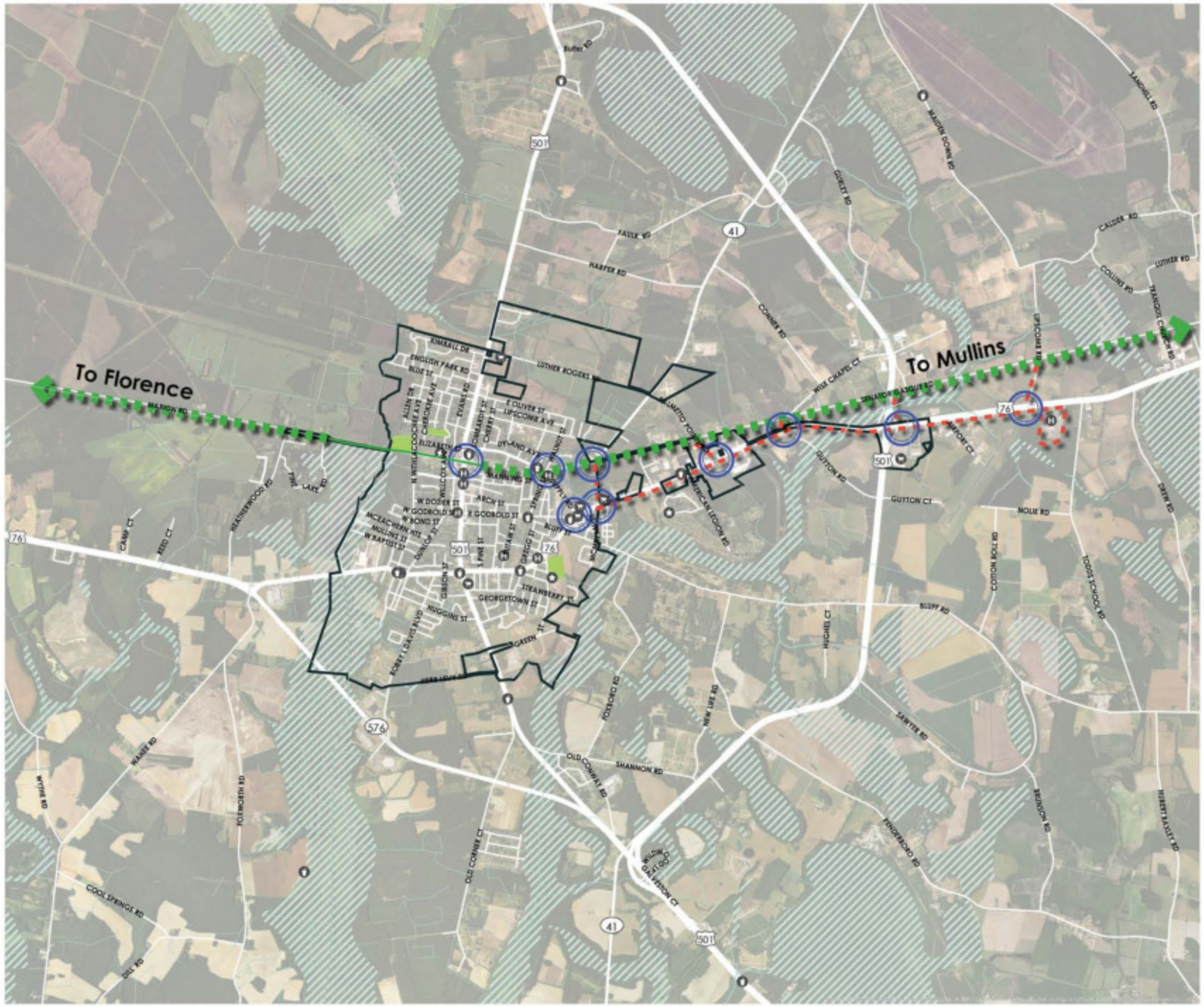
OVERVIEW MAP OF RECOMMENDATIONS

CITY OF MARION
HIKE + BIKE TRAIL MASTER PLAN

BASE MAP
02.14.2017 DRAFT

Legend

- School
- Key Destinations
- Grocery Store
- Informal Food Outlet
- Health Facility
- Hike + Bike Trail
- Public Park
- Wetlands
- City of Marion Boundary
- Hike Bike Trail
- Shared Use Path Connectors
- Intersection Improvements



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Hike-Bike Trail Extension and Branding

There is a disconnect in the continuity between downtown Marion, the existing Hike-Bike trail, and residential and commercial nodes. By extending the Hike-Bike Trail to the east, Marion can attract pedestrian activity and stimulate vitality.

Streetscape improvements, including a seamless sidewalk network, reinforce a sense of place and can draw pedestrian activity into those previously untouched, inactive areas of Marion. The added benefits of an invigorated street life are that it makes walking a norm which in turn boosts mental and physical health, increases personal mobility, fosters a sense of community, and deters unlawful behavior with more eyes on the trail looking out for neighbors.

Recommendations are to extend and enhance the existing Hike-Bike Trail to the eastern City limit, with future plans to extend to downtown Mullins. A connection to Florence should also be studied in the future. As the trail begins to serve regional users, it is recommended that the City explore a new brand for the trail that capitalizes on local history and attracts visitors to the area. “Swamp Fox” or “Fox Trot” could be potential names. The photosimulation to the left shows potential economic development associated with an expanded trail and street system and brand.

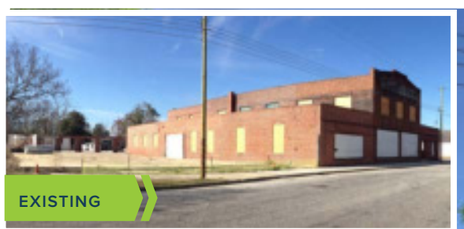
RECOMMENDED IMPROVEMENTS

+ Trail Connection to City Limits, then to Mullins
+ Crossing Improvements
+ Wayfinding
+ Pedestrian-Scale Lighting
+ Public Art

View of College Drive. This corridor has a continuous, ADA accessible sidewalk network and medians with pleasant landscaping that exude community pride and a strong sense of place.

Potential Partners

- City of Marion
- City of Mullins
- Marion County
- City of Florence
- SCDOT


EXISTING

PROPOSED CORRIDOR IMPROVEMENTS

EXISTING

PROPOSED CORRIDOR IMPROVEMENTS

Proposed trail and potential economic development and public art.

Hike-Bike Trailhead Improvements

Opportunity exists to modernize and enhance the existing Hike-Bike Trail experience. The current trail needs a maintenance strategy to address deteriorating asphalt, inadequate bridges, and missing crosswalks.

The existing Hike-Bike trail currently serves many residents of Marion, who use the amenity for recreation. It's current design encourages an "out and back" trip experience, with little deviation from the trail corridor. Enhancing the existing trailheads, as well as gateways to downtown, may encourage trail users to use the trail corridor for shopping, dining, and/or other recreational activities such as fishing.

KEY RECOMMENDED IMPROVEMENTS

+ Crossing Improvements
+ Recreation Amenities
+ Safe Pedestrian Bridges
+ Pedestrian-Scale Lighting
+ **Signage and Branding**
+ Wayfinding Signage

Existing trail crossing at N Main Street

Proposed trailhead improvements, including new compliant bridge, fishing dock, landscaping, and wayfinding.

Wayfinding Signage

The ability to navigate through a city is informed by landmarks, natural features, and other visual cues. Wayfinding signs should indicate the direction of travel, location of destinations, and the location of access points. Downtown Marion businesses can benefit from a better informed signage system, which attracts visitors and encourages residents to explore new places.

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 city. Wayfinding signage can serve many purposes including; helping to familiarize users with the city's sidewalk network and the areas it reaches, helping users identify the best routes to destination, and 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.

KEY RECOMMENDED IMPROVEMENTS

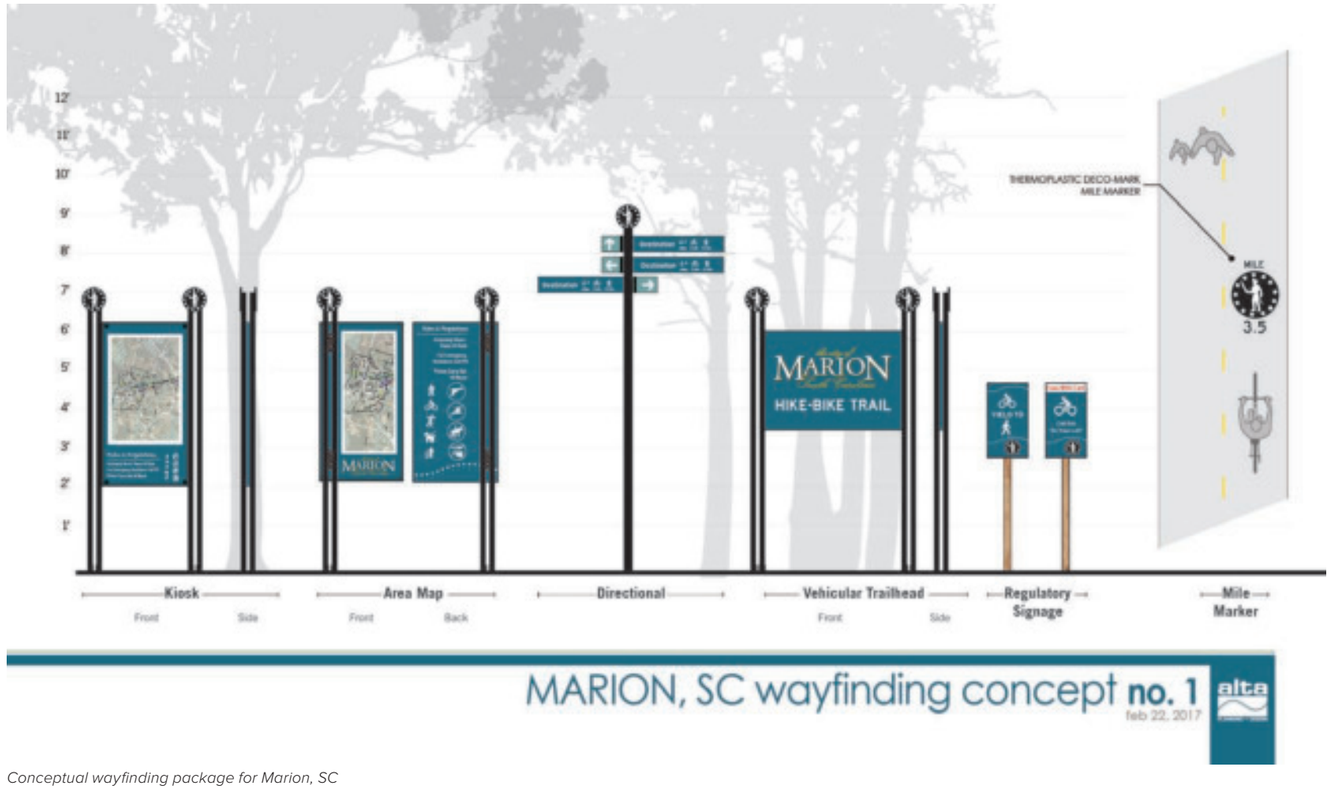
- + Destination Based Wayfinding Signs
- + Gateway Signage and Public Art
- + Trail Mile markers for E911 system and branding
- + City Maps and Kiosks

Potential pavement markings and mile markers.

Potential Partners

- » City of Marion
- » Marion County Economic Development
- » SCDOT
- » Chamber of Commerce
- » Safe Routes to School
- » Parks + Recreation

Potential gateway sign, directional sign, and public art.



Conceptual wayfinding package for Marion, SC

Metal Street Road Reconfiguration

Marion has two primary east-west corridors, Senator Gasque Road and US 76. There are limited opportunities to connect and cross these two corridors.

Metal Street is a potential short term project that could provide better north-south connection for pedestrians and bicyclists. By reallocating excess travel lanes for a two-way protected bike lane, you provide cyclists with a dedicated facility and buffer pedestrians from vehicular traffic. This improvement could potentially spur economic development opportunities along Metal Street.

Metal Street is also a direct connection to two grocery stores, which provide fresh, healthy food. Any improvement of Metal St should include intersection improvements at Senator Gasque Road and US 76 so that pedestrians and bicyclists can better access the protected facility.

KEY RECOMMENDED IMPROVEMENTS

+ Crossing Improvements
+ Protected Bike Lane
+ Traffic Calming
+ Seamless Sidewalk Network
+ Pedestrian-Scale Lighting
+ Wayfinding Signage

Potential Partners

» City of Marion
» Marion County
» SCDOT
» Marion County Economic Development
» Local businesses
» Neighborhood Residents

Metal Street Road Reconfiguration

Railroad Avenue Park

The City of Marion is actively developing a playground off of North Spring Street to serve local residents. This proposal would expand the park in order to provide regional attraction, better serve the Hike-Bike trail expansion, and remove or reuse some dilapidated industrial buildings.

The redesign of the area as a park will reinforce a sense of place and draw pedestrian activity into those previously untouched, inactive areas of Marion. A cornerstone for phase one would be the extension of the trail, as well as the development of the playground.

The park can be phased in over a number of years, which could ultimately result in some economic development that serves market demand at the time of development. Additional elements could include a splash pad, educational stormwater park, formalized parking, large open lawn, drive-in movie theater, and/or picnic shelter.

RECOMMENDED IMPROVEMENTS

+ Remove Vacant and Dilapidated Buildings
+ Provide Playground and Park Amenities
+ Wayfinding
+ Potential Economic Development Sites

Potential Partners

» City of Marion
» Local Businesses
» Student Organizations
» Marion County Economic Development

Potential railroad park

Potential Long-term economic development

US 76 Shared Use Path + Palmetto Point Connector

Highway 76 is a key corridor for access to healthy foods, and is currently a major barrier for pedestrian crossing. By adding a shared use path to the south side of the highway, and improving multiple intersections, the corridor can better serve all forms of travel.

At a minimum, pathways and pedestrian crossings should be improved at Metal St, Palmetto Pointe Rd, State Road S-34-331, and adjacent to the US 501 ROW. These north-south linkages will connect the Hike-Bike trail expansion, as well as the commercial destinations along Highway 76. If pedestrian demand increases as a result of the trail development, a pedestrian bridge over Highway 76 may be warranted in proximity to the Walmart Shopping center. This bridge could be an iconic element to draw visitors from US 501 and abroad.

KEY RECOMMENDED IMPROVEMENTS

+ Crossing Improvements
+ Pedestrian Refuge Islands
+ Safe Pedestrian Bridges
+ Pedestrian-Scale Lighting
+ **Signage and Branding**
+ Wayfinding Signage

Proposed connection to Walmart Shopping Center and Hwy 76 Path.

Proposed long-term pedestrian bridge to Walmart Shopping Center and Hwy 76 Path.

Intersection improvement recommendations at Palmetto Pointe and Hwy 76.

Proposed shared use path and driveway consolidation at Palmetto Pointe Rd.

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STEPS FOR MOVING FORWARD

Few actions can do more to make urban areas safer, healthier, prettier, and more environmentally balanced than setting aside corridors or trails for walking, biking, wildlife watching, and just plain breaking up the monotony of cars and concrete.

– James Snyder
Publisher, Environment Today

Now that we have a plan, what are our next steps?

Implementing the City of Marion Hike & Bike Trail Master Plan recommendations will require multiple sources of funding and local and regional partnerships. It will also require the dedication of City staff and a commitment to the vision established by the steering committee and this plan.

No single source of funding will meet the recommendations identified in this plan. Stakeholders will need to work cooperatively across a range of private sector, municipality, state, and federal partners to generate funds sufficient to implement the trail extension. Partner with the Pee-Dee Regional Council of Governments and SC DOT, which program transportation-related funding. Use the Hike and Bike Master Plan document to support funding requests of major federal and foundation grant programs and sponsors.

The stakeholder committee process established through the plan's development provides an important basis for future volunteer contributions and community partnerships. It includes citizens and community leaders that can partner to make the Hike & Bike Trail recommendations a reality. Capitalize on this momentum and formalize the committee as a Friends of the Hike & Bike Trail Commission that meets quarterly, at a minimum. The group can work together, with City staff, to ensure the plan recommendations move forward, assist in identifying funding sources, and track progress as the Hike & Bike Trail vision is realized.

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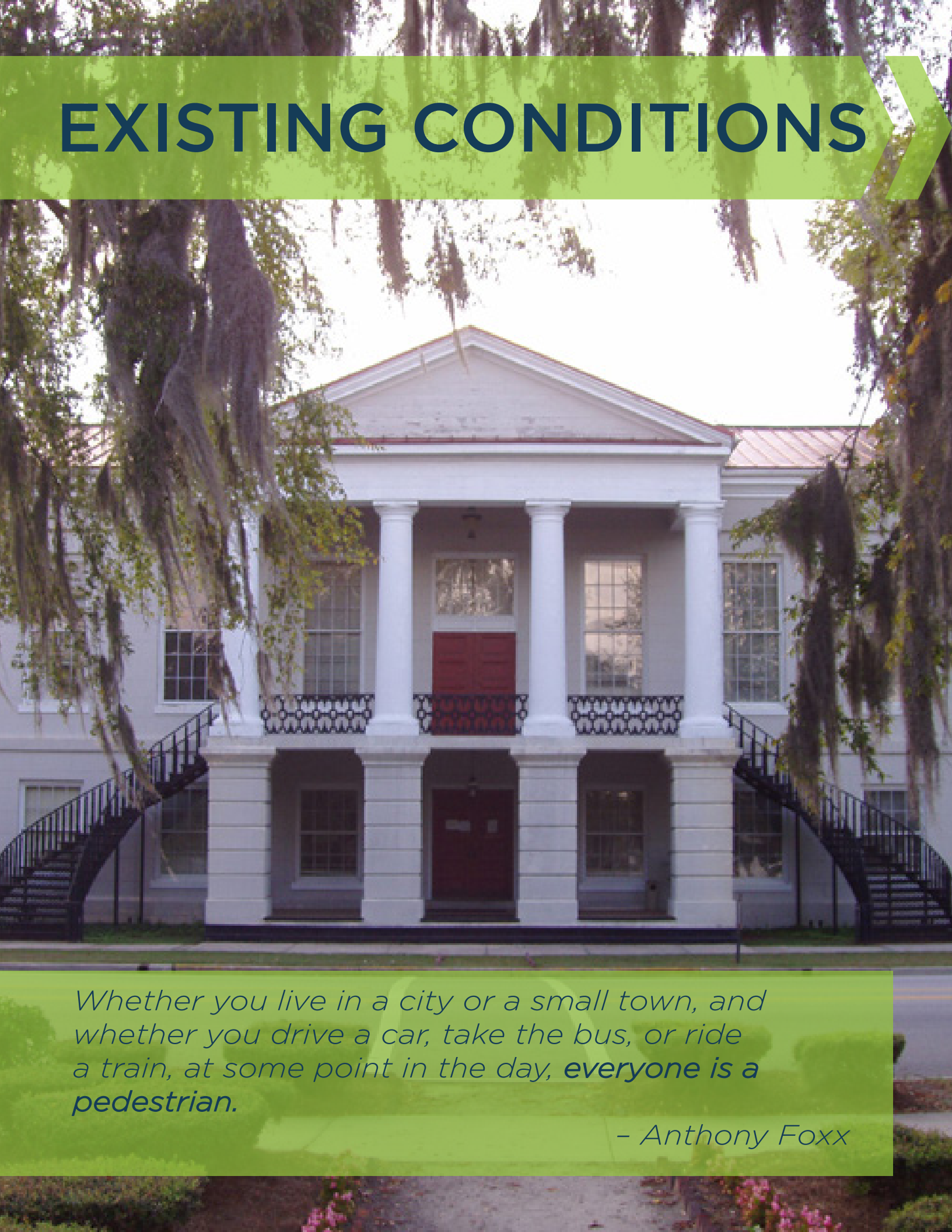
EXISTING CONDITIONS



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 the City of Marion's existing environment for walking. **This includes 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 gained and critical outcomes of this assessment and discovery process, including:

- Analysis of Opportunities and Constraints
- Equity Analysis
- Healthy Food Access

COMMUNITY BASE MAP DEVELOPMENT

A first step in evaluating the existing conditions of the City of Marion is the development of a comprehensive base map. Based on GIS data provided by the City and its partners, the project team created a map illustrating existing facilities. This map reflects other supporting information such as the city sidewalk network, existing and proposed trail networks, proposed bike lanes, schools, parks, grocery stores, other food retailers, and traffic counts, to paint a high-level picture of conditions in Marion.

COMMUNITY BASE MAP

CITY OF MARION
HIKE + BIKE TRAIL MASTER PLAN
BASE MAP
02.14.2017 DRAFT

Legend

- School
- Key Destinations
- Grocery Store
- Informal Food Outlet
- Health Facility
- Hike + Bike Trail
- Public Park
- Wetlands
- City of Marion Boundary

N

0 0.5 1 Miles

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N

0 0.1 0.2 Miles

MARION
the city of
South Carolina

PEDESTRIAN SAFETY ANALYSIS

Pedestrian fatalities are on the rise in the US. 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 US traffic fatalities.

Pedestrian safety is a growing concern in South Carolina. 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, Marion County has a pedestrian fatality rate of 2.38 deaths per 100,000 people, slightly higher 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 throughput over other purposes. Similarly, **78.8% of South Carolina's pedestrian fatalities occurred on roads with a speed limit of 40 mph or higher.**[6]

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%

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, many 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*

EQUITY ANALYSIS OVERVIEW

An equity analysis provides insight about the areas of the City of Marion that have higher concentrations of vulnerable populations. When coupled with an overlay of healthy food outlet locations the results of the analysis bring attention to neighborhoods or corridors which may be most in need of improvements. For physical activity, the analysis sheds light on residents' access to resources that are essential to a healthy lifestyle.

METHODOLOGY

The equity analysis incorporated the following seven socioeconomic criteria:

- seniors
- children
- non-white populations
- low-income households
- vehicle access
- linguistic isolation
- SNAP recipients

The measure and rationale for each criteria are further described below.

Seniors

Metric: senior citizens are defined as those who are 65 years old and older. This follows the *2010 Census Brief - The Older Population*.

Rationale: Walkable neighborhoods help seniors remain active, healthy, social and free to move around. Older adults socialize more when living in walkable neighborhoods, because regular social interaction is possible, convenient and more frequent. In a walkable neighborhood the senior citizens are more likely to know their neighbors, participate in politics, engage socially and even trust people.

According to Center for Disease Control and Prevention survey, 32.5 percent of Americans over the age of 65 don't have regular physical activity. There are many health benefits of walking, especially for people older than 50. Elderly adults who walk are less likely to suffer mental deterioration or dementia and physical activity may actually add years to their life. Therefore, living in a walkable neighborhood gives options for walking right out your front door.

A survey by AARP Public Policy Institute found that people over age 50 listed safety and lack of pedestrian-friendly infrastructure as barriers to walking.

> *"Older adults perceive poor sidewalks, the absence of resting places and dangerous intersections as barriers to walking."*

Thus, walkable environments benefit seniors, keeping minds and bodies healthy through their surroundings and neighborhoods.

Children

Metric: children are defined as individuals 14 years old and younger. This threshold was determined based on the legal age for driving in South Carolina. At age 15, young adults are eligible for a learner's permit, and after 180 days young adults are eligible for a provisional driver's license. While conditional, even a permit and provisional driver's license broaden a young person's mode of choice, and significantly increase their mobility.

Rationale: As parents, physicians and policy makers look for ways to curb childhood obesity, they may need to look no further than a child's own backyard. Studies show that children are less likely to be obese if they live in a neighborhood that is safe and within walking distance of parks and retail services.

The U.S. has been experiencing a growing trend in overweight and obesity among youth and children and recent evidence shows that approximately 32 percent of youth are overweight or obese. Physical inactivity impacts weight and in an effort to curb the growing obesity epidemic there is an increasing research that has examined associations between local area environmental factors and physical activity among youth. Greater availability of outdoor play/sports areas and parks, and access to commercial physical activity-related facilities have been associated with higher levels of youth and children physical activity.

Neighborhood design can also influence physical activity levels in youth and children. However, perceived environmental barriers, such as lack of access to these types of settings such as low connectivity street networks, have been associated with lower income neighborhoods. Whereas, high walkability (grid street network) neighborhoods have shown to have more physical activity and hence, less obesity among youth and children.

Non-White Populations

Metric: non-white is measured as the percentage of all races, excluding those that identified as white. This includes Black or African American, American Indian and Alaska Native, Asian, Native Hawaiian and Other Pacific Islander, or some other race.

Rationale: The urban communities with more racial and ethnic minority and lower-income residents generally lack specific features that support walking, such as clean and well-maintained sidewalks, trees and nice scenery and safety. Such deficits may undermine the generally favorable effects of walkable neighborhood design. The presence of parks, open space and other recreational facilities is consistently linked with higher physical activity levels among children and adolescents. However, many studies show that lower-income groups and racial and ethnic minorities have limited access to well-maintained or safe parks and recreational facilities, and more crime and traffic.

The low leisure-time physical activity rates and high risk of obesity among racial or ethnic minority children, and those living in lower-income areas, can be partially explained by their generally poor access to parks and private recreation facilities. In light of this growing evidence, policy makers should pursue strategies that improve walkability, access to parks, green space and recreational facilities, and neighborhood safety.

Low-Income Households

Metric: low-income is measured as the percent of the population living below two times the federal poverty level. 2015 Federal Poverty Guidelines identified $48,500 as the threshold for a four-person household. American Community Survey (ACS) data groups income by increments of $4,999 so this analysis captures all household incomes at or below $49,999.

Rationale: The U.S. Department of Housing and Urban Development (HUD) defines low income households as households earning less than 80% of the Area Median Income (AMI). Very low income households earn less than 50% of AMI.

These groups of people are the least likely to have access to a car and may depend on walking to reach work, school, public transportation, or other destinations. People with lower incomes are more likely to live in areas with high crime rates, perceive their neighborhoods as less safe, and report physical and social disorder in their neighborhoods, such as broken windows, litter,

graffiti, loitering and public drinking. These environmental variables may be why, in some cases, a higher proportion of lower-income children tend to be less active than their peers, overweight or obese. Walkable and safe access to healthy food outlets would support both nutrition and physical activity needs of low-income populations.

Vehicle Access

Metric: Vehicle access is measured from a question on the American Community Survey about whether a household has access to a car, truck, or van of 1-ton capacity or less.

Rationale: Access to private vehicles can be an indicator of mobility and access, particularly access to healthy food options and active spaces.

Linguistic Isolation

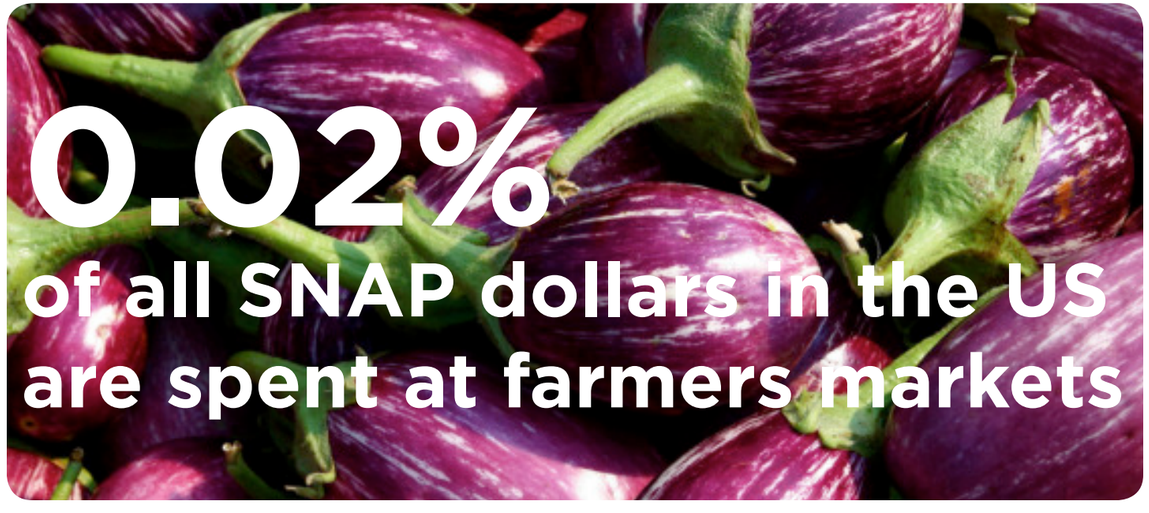
Metric: Linguistic isolation is measured as percentage of households in which those over the age of 5 speak English “not well” or “not at all”.

Rationale: Households that are linguistically isolated may have greater difficulty accessing services that are available to fluent English speakers, such as transportation services and social services.

SNAP Recipients

Metric: SNAP recipients measures the percentage of households who have received SNAP assistance in the past 12 months..

Rationale: Current regulations require food retailers who accept SNAP to stock three varieties of foods in each of the following four food groups: fruits and vegetables, dairy, breads and cereals, and meat, poultry and fish. While a new rule requiring seven varieties in each food group was proposed in February of 2016, SNAP recipients still travel farther to access their food and are more likely to be affected by diet-related diseases, Additionally, only 0.02% of SNAP funds are redeemed at farmers markets indicating limited outreach and education efforts aimed at attracting households that receive SNAP assistance.



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COMPOSITE EQUITY ANALYSIS MAP

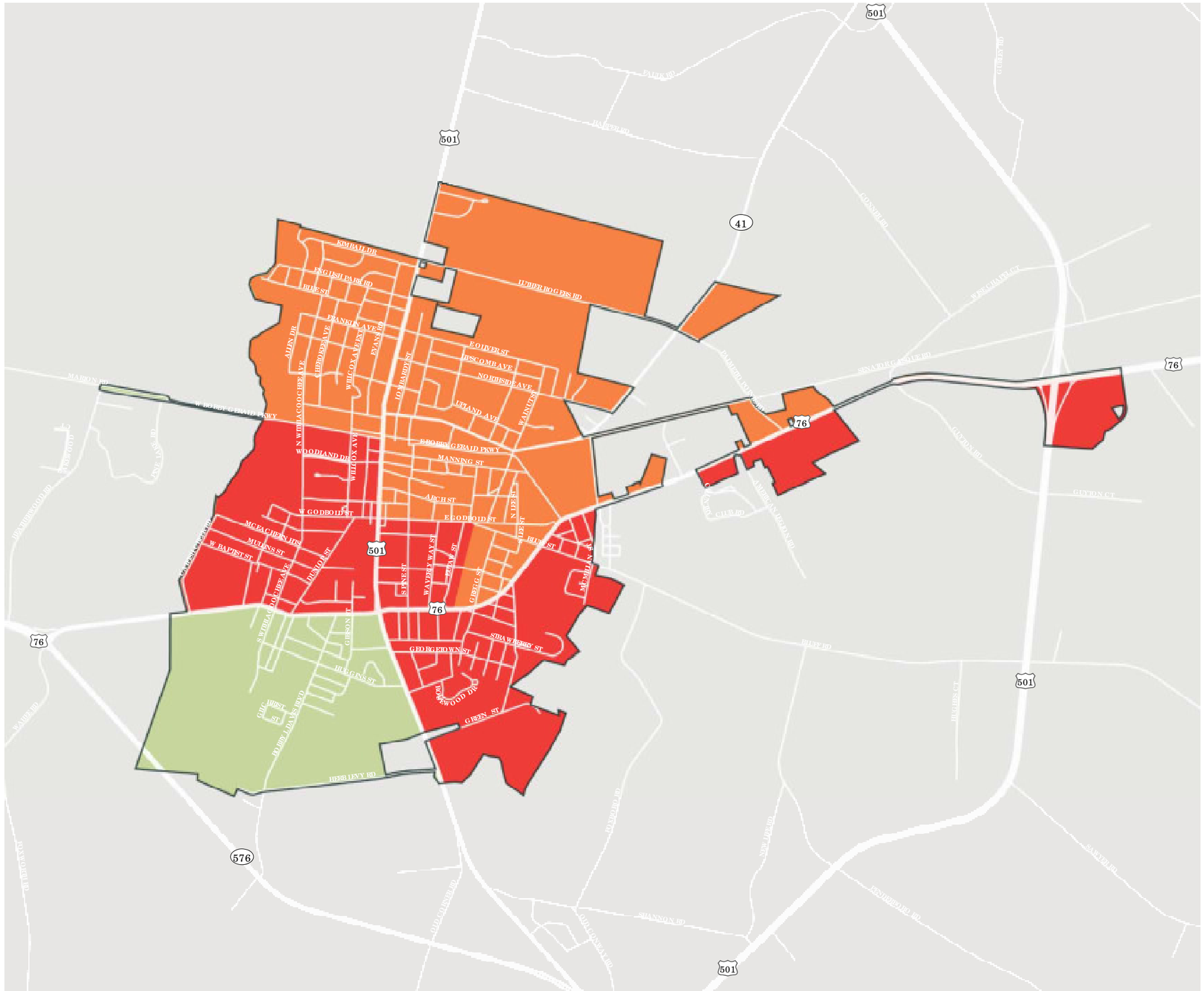
CITY OF MARION
PEDESTRIAN MASTER PLAN
EQUITY ANALYSIS MAP
02.14.2017 DRAFT

Legend

Concentration of Vulnerable Populations

- High
-
- Low
- City of Marion Boundary
- Marion County

Vulnerable populations were defined to include the following socioeconomic criteria:
>> seniors
>> children
>> non-white populations
>> low-income households
>> vehicle access
>> linguistic isolation



HEALTHY FOOD ACCESS ANALYSIS

METHODOLOGY

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 leads to myriad health and nutritional and long-term sustainability implications.

Therefore, creation of active transportation routes such as sidewalks, pedestrian malls, bikeways, and trails 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.

HEALTH RISKS

Marion County is considered part of the CDC-designated "Diabetes Belt", and 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 city level does not exist, however, county-level data shows that:

- **Over 38.2% of adults are obese. (Obesity is measures as a Body Mass Index [BMI] greater than 30)**
- **Over 17% of adults have type 2 diabetes**
- **40.6% of children are overweight or obese**
- **Almost 49% of adults consume less than one serving of fruit daily**
- **Over 33% of adults consume less than one serving of vegetables daily**
- **The food insecurity rate for the county is 24.1%. This is significantly higher than the state average of 16.4%.**

ACTIVE SPACE ACCESS

Walking can be a critical form of transportation, particularly for older adults who no longer drive, young people who cannot yet drive, and for people who do not have access to a vehicle. Apart from walking as a means for transportation, however, 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 Marion provide ample access to exercise opportunities, however, accessing these destinations on foot is challenging.

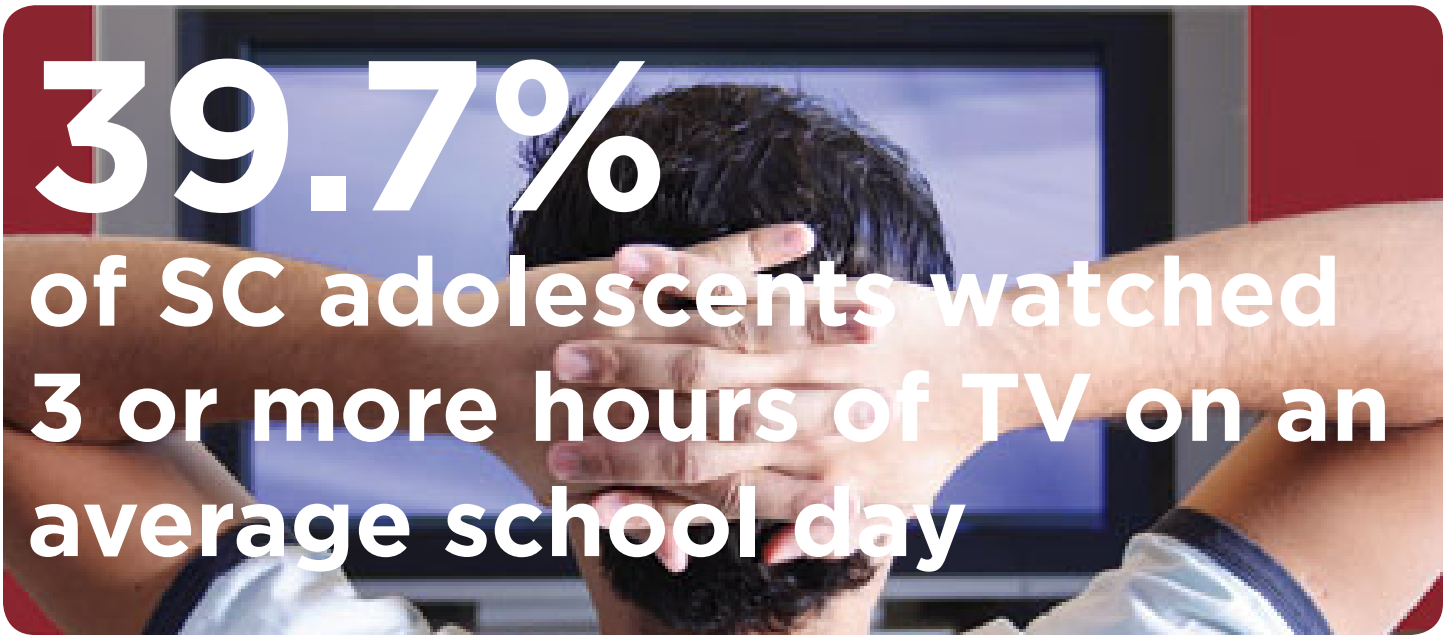
State-level physical activity data show that:

- **26.2%** of South Carolina's adults reported that during the past month, they **had not participated in any physical activity.**
- **43.9% of all adults meet physical activity recommendations.** This is 8.8% lower than the national rate.
- **21.3%** 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 city's physical activity level, but also increases mobility, accessibility, and quality of life for all residents.



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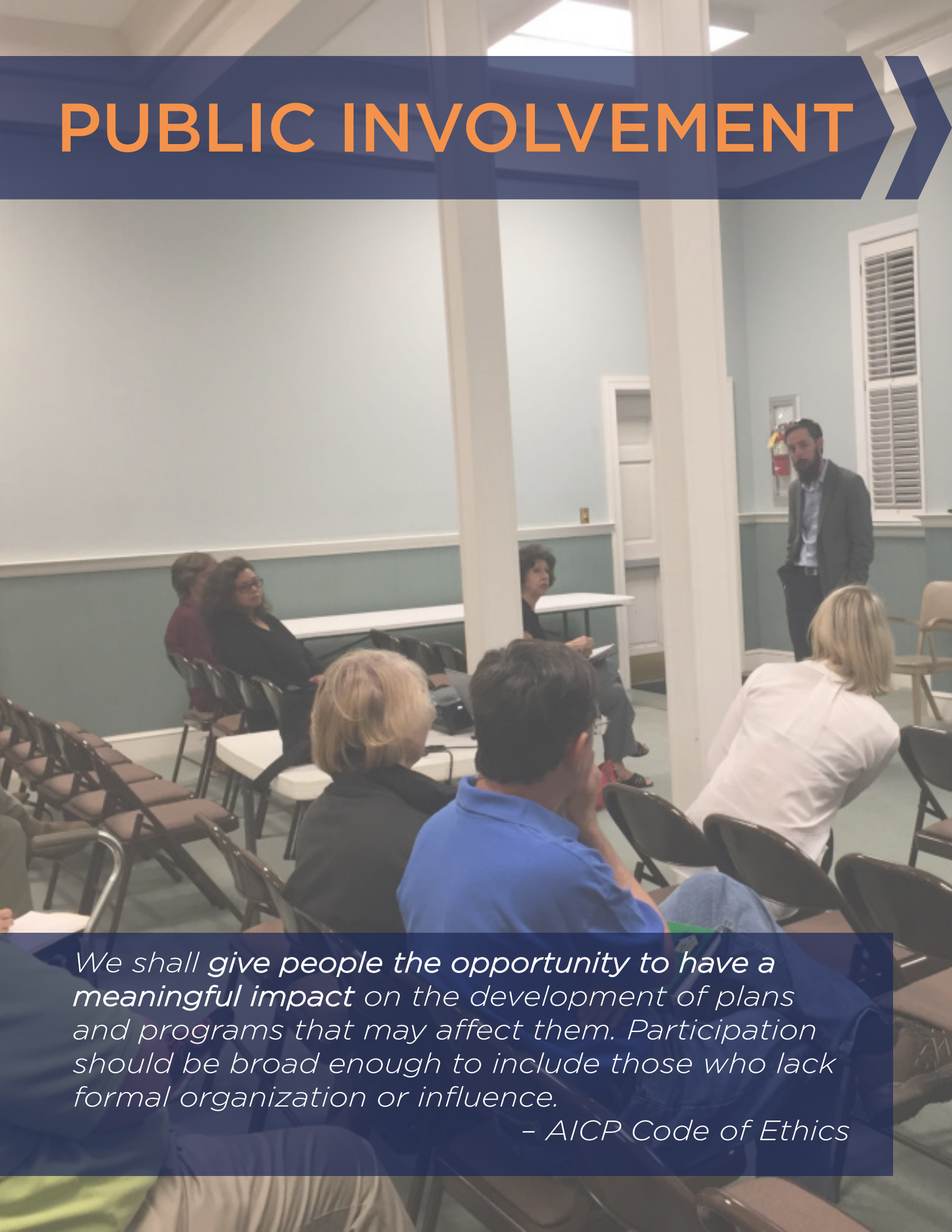
PUBLIC INVOLVEMENT



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

PROJECT VISION

The City of Marion is a **healthy and active community** with **safe and inviting places to walk** for both residents and visitors. Scenic streetscapes and paths **connect** people to neighborhoods, downtown, historic sites, antique stores, and other visitor and **community destinations.** Residents of all ages, abilities, and backgrounds **enjoy active transportation**, opportunities for physical activity, **access to healthy foods**, and a **high quality of life.**

PROJECT GOALS

- **Improve** the Hike-Bike experience
- **Create active living opportunities** between Downtown Marion, Henry Street, and Wal-Mart
- **Improve connections,** intersection crossings, and wayfinding signage at and along the entire corridor
- Implement better **sidewalk connectivity,** bicycle facilities, landscaping and crossing opportunities at various locations, particularly in areas with concentrations of pedestrians and commercial activity,
- Provide better **pedestrian access** to **healthy food outlets**
- Identify locations that would connect to the **broader network** and consider ways to improve the intersections
- Target public and **economic developmen**t opportunities at and along the corridor
- Identify **near-term, feasible capital improvement projects** that will **positively impact the walking environment**
- **Leverage other capital improvement projects** already underway or planned

OUTREACH SUMMARY

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

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 FEBRUARY 21ST

12PM	Design Team Driving Tour
3PM	Kick-Off Meeting with City of Marion Staff and Stakeholders

WEDNESDAY FEBRUARY 22nd

10AM	Focus Group #1, Stakeholder Meeting
1PM	Focus Group #2
1-5PM	Open Studio Session
3PM	Focus Group #3
5PM	Project Update & Public Design Pin-Up Session

THURSDAY FEBRUARY 23RD

10AM	Local Elected Officials
1-4PM	Studio Session
6PM	Public Presentation of Preliminary Recommendations

CHARRETTE RESULTS

LOCAL ELECTED OFFICIALS & CITY STAFF KICK-OFF MEETING (TUESDAY)

Kicking-off the charrette, local elected officials and City staff met to identify project guidelines, actions, methods, processes, and goals. The group reviewed the charrette agenda, established input sessions, and reviewed and approved the existing conditions maps. The elected officials and city 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 & PROJECT STAKEHOLDERS (WEDNESDAY)

The project team led three focus groups were conducted on Wednesday, February 22.

All three sessions were held at Marion City Hall. Fourteen community members participated in the three groups. Participants included runners, retired teachers, diversity committee chairs, neighborhood watch members, DOT current and past staff, a former parks & rec. director, a garden club member, residents, and a parent liaison for public schools.

Priority Strategies

Focus group participants identified the following priority strategies for improving and extending the current Hike-Bike trail:

1. Safety

Safety was mentioned again and again throughout the focus groups. Residents were concerned about the trail going through the more blighted and less populated neighborhoods as it heads east. They expressed an interested in additional and improved lighting, call boxes, and police patrol as a way to make the trail feel safer.

2. Historical Connections

Focus group participants spoke at length about the desire to connect the trail to places of historical importance in Marion. They specifically mentioned the historic homes on Wilcox Street, the Marion Museum, and the Chamber of Commerce building. They expressed a desire for brochures available along the trail, outlining historic locations in Marion.

3. Trail Amenities

To get more people using the trail, residents suggested adding benches, shelters, picnic tables, water fountains, trashcans, landscaping, a community garden, and public-use bulletin boards along the trail. They also suggested adding railings to small sections of the trail for less able-bodied residents to get out and get active.

4. Signage

Adding and improving signage on the trail and in town was a big priority brought up during the focus group sessions. Wayfinding signs should be used to highlight areas on and off the trail such as parks, neighborhoods, businesses, and restaurants. The participants would also like to see the trail cited in Marion's general PR strategy as a way to draw visitors to the city.

5. Access to Active Living & Healthy Eating

The trail extension should seek to pass by and direct users to healthy eating and active living resources near the trail. Some of the examples given by focus group participants include: The Piggly Wiggly, Save A Lot, Wal-Mart, Tilghman Park, Grices Recreation Center, the Walking Track, Withlacoochee Park, and Harmon Park. Participants also suggested creating trail spurs to give specific neighborhoods safe access to the trail. Neighborhoods and streets mentioned include: Public housing on Jones Avenue, housing at Walling Circle, Bluff Road residents, Wilcox Street, Bobby Gerald Parkway, and North Hampton Street.

PRESENTATION OF FINDINGS & RECOMMENDATIONS (THURSDAY)

The background research, field work, and analysis prior to and during the charrette provided project team members with information about current walking conditions in the city to develop **targeted recommendations for addressing existing opportunities and constraints** related to walking.

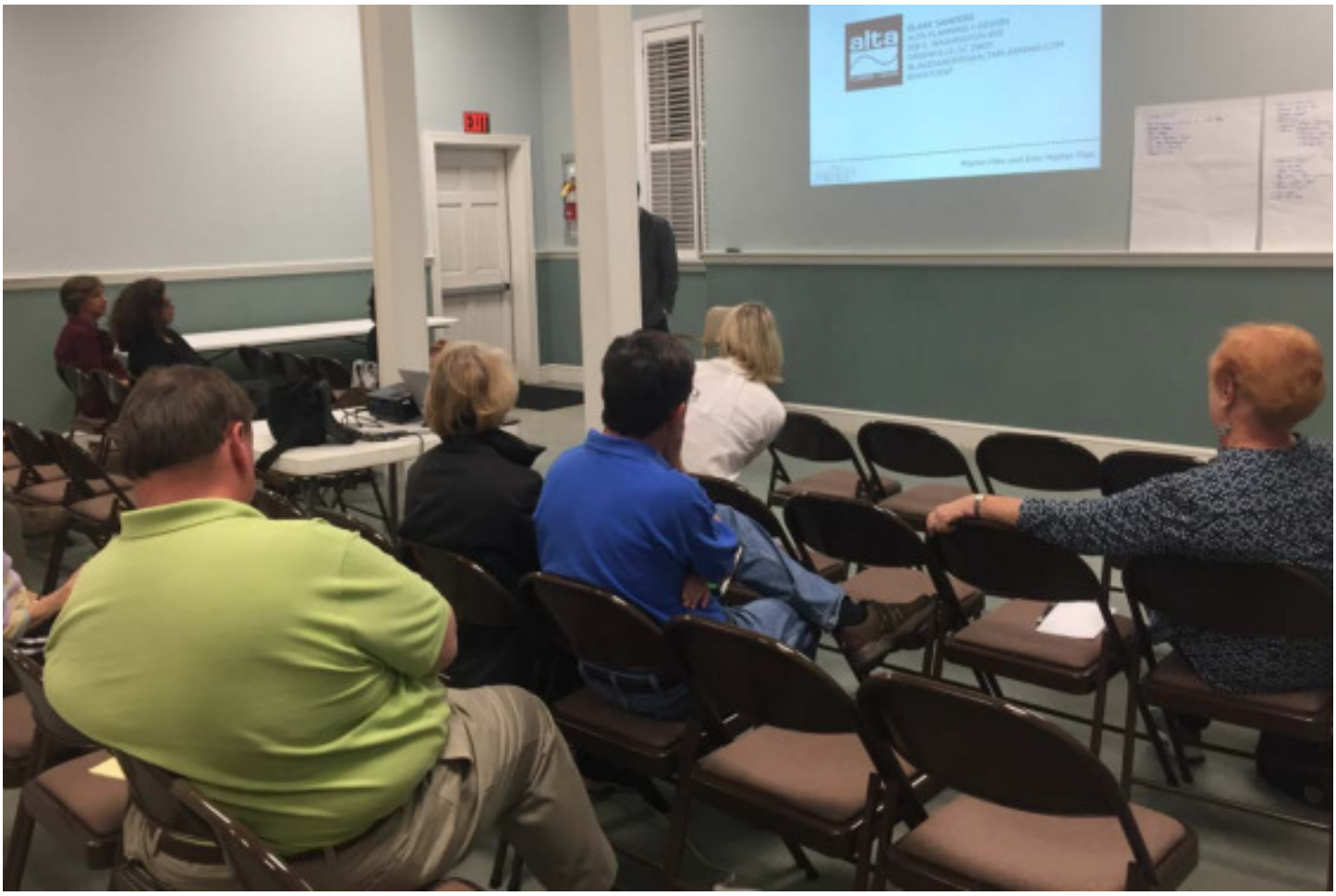
The following were identified as opportunities:

- **Connect Downtown Marion** to the Walmart commercial area east of town to connect residences to jobs and healthy food.
- Leverage and **celebrate the city's historic resources** which **attract people** to the area – give them another reason to stay and enjoy Marion's walkable downtown.
- 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.
- **Leverage the existing sidewalk network** to create a more complete network by filling in critical gaps.

The following were identified as barriers:

- **Unsafe crossings** with limited pedestrian facilities including high-visibility crosswalks, push buttons, and curb ramps. ADA compliance is a systemic issue at crossings. US 76 is seen as the most difficult barrier for crossing.
- **Streetscapes that prioritize automobile throughput** at the expense of the pedestrian's sense of safety and comfort. Sidewalks are immediately adjacent to wide travel lanes with fast-moving cars.
- **Lack of directional signage** to tell residents and visitors what is head or where they may want to go.

Alta formally presented this range of opportunities and constraints, as well as the conceptual recommendation plans as part of a public presentation on the evening of Thursday, February 23rd.



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APPENDIX

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 City of Marion 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.

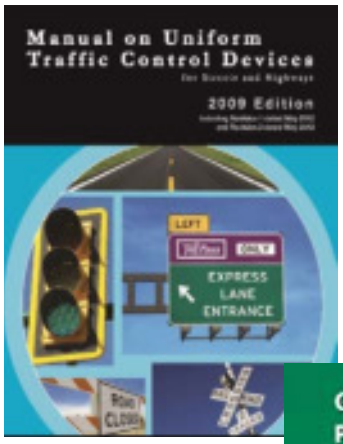
National Guidelines

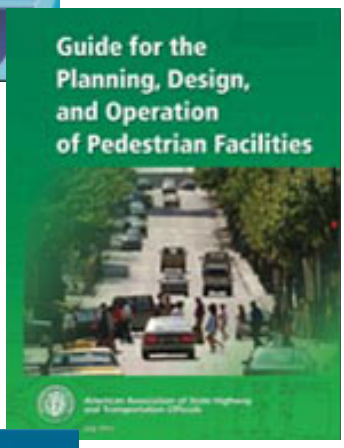
- Federal Highway Administration's (FHWA) *Manual on Uniform Traffic Control Devices* (MUTCD) defines the standards used by road engineers nationwide to install and maintain traffic control devices on all public streets, highways, trails, and private roads open to public traffic. The MUTCD is the primary 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.

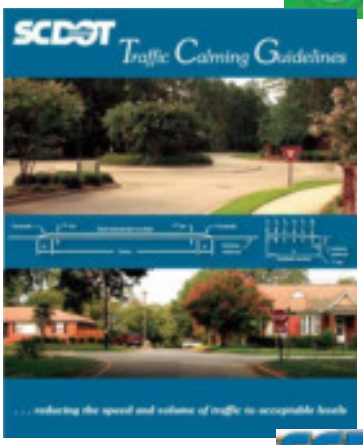
State Guidelines

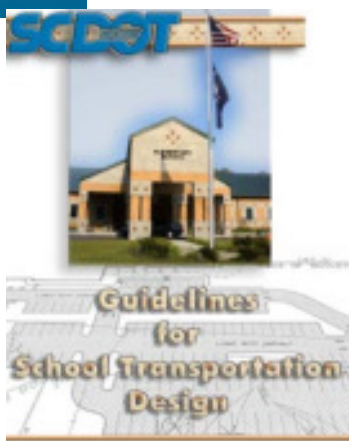
SCDOT has published a number of technical documents for traffic engineering which are available online. Specific publications and manuals include:

- *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

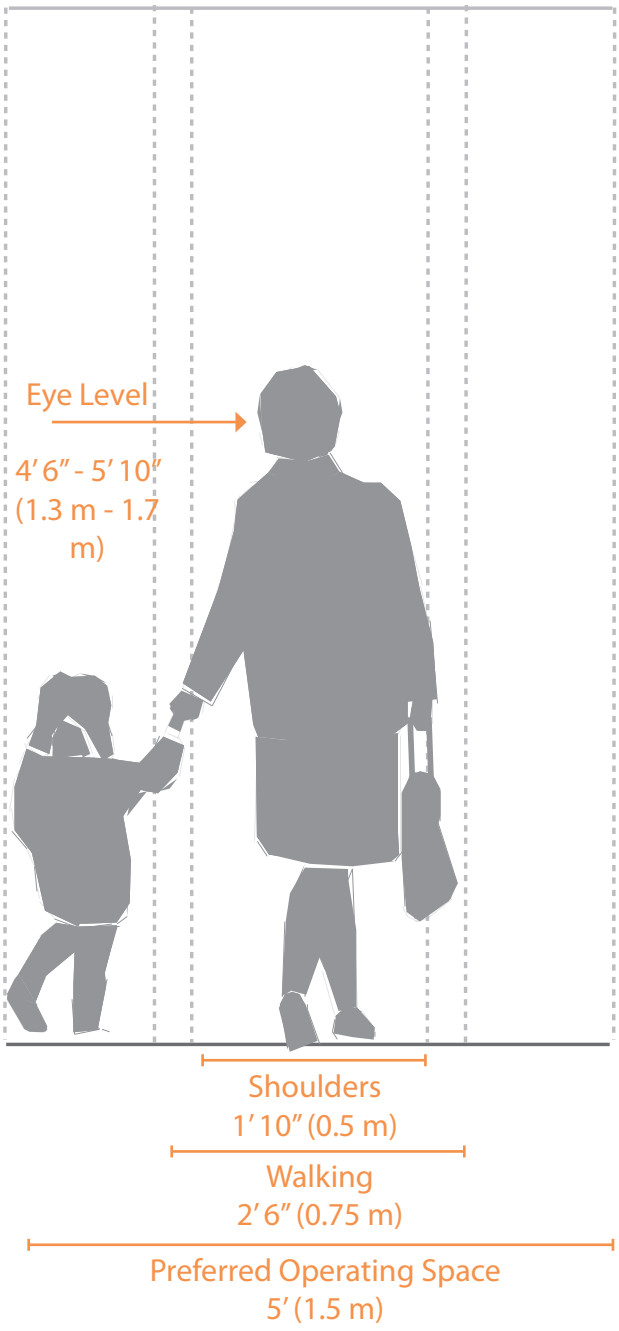
No one pedestrian is the same. Each pedestrian has a variety of characteristics and the network of pedestrian facilities in Marion should accommodate a variety of needs, abilities, and possible impairments. Age is one major factor that affects pedestrians' physical characteristics, walking speed, and 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.


Eye Level
4′ 6″ - 5′ 10″
(1.3 m - 1.7 m)
Shoulders
1′ 10″ (0.5 m)
Walking
2′ 6″ (0.75 m)
Preferred Operating Space
5′ (1.5 m)

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).

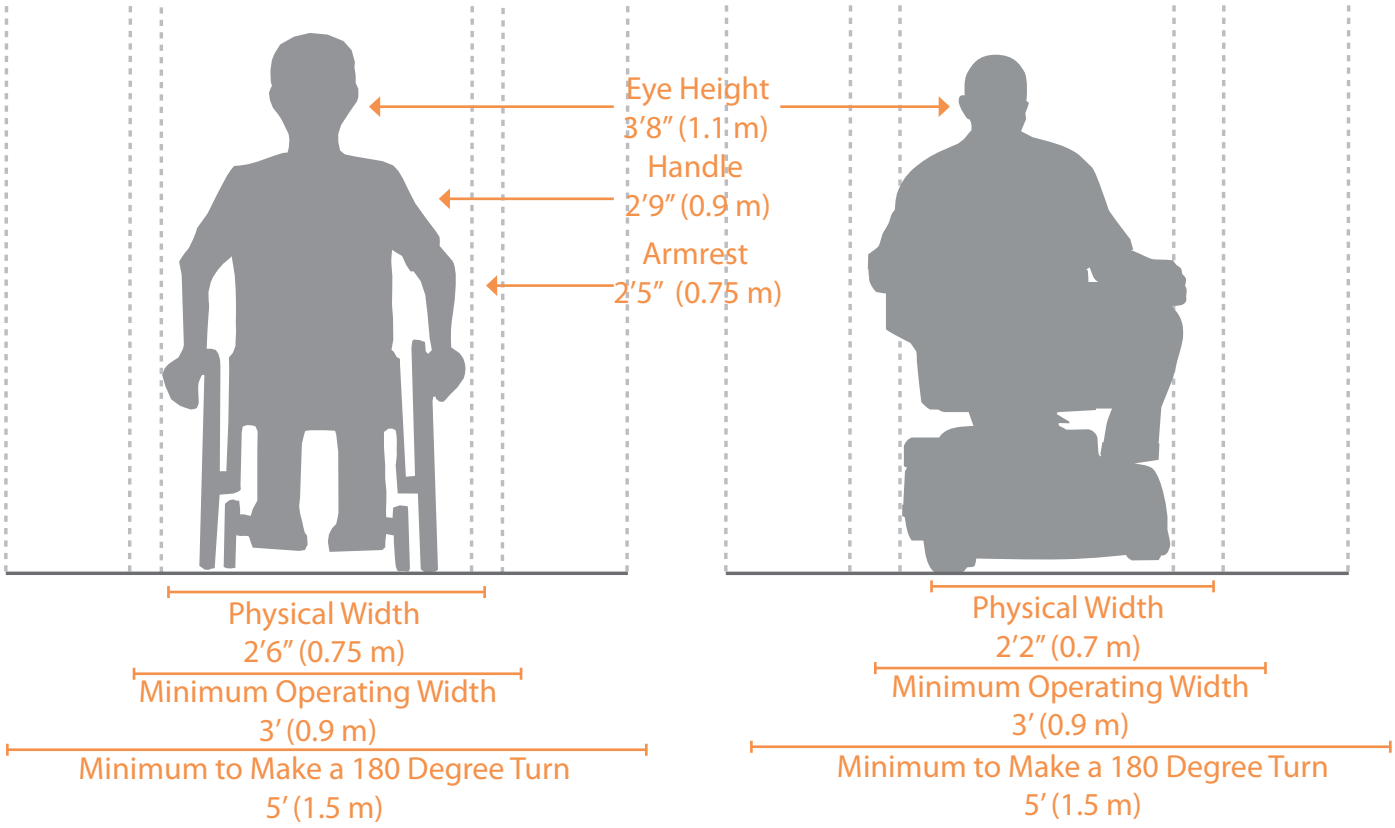
Maneuvering around a turn requires additional space for wheelchair devices. Providing adequate space for 180 degree turns at appropriate locations is an important element for accessible design.

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).

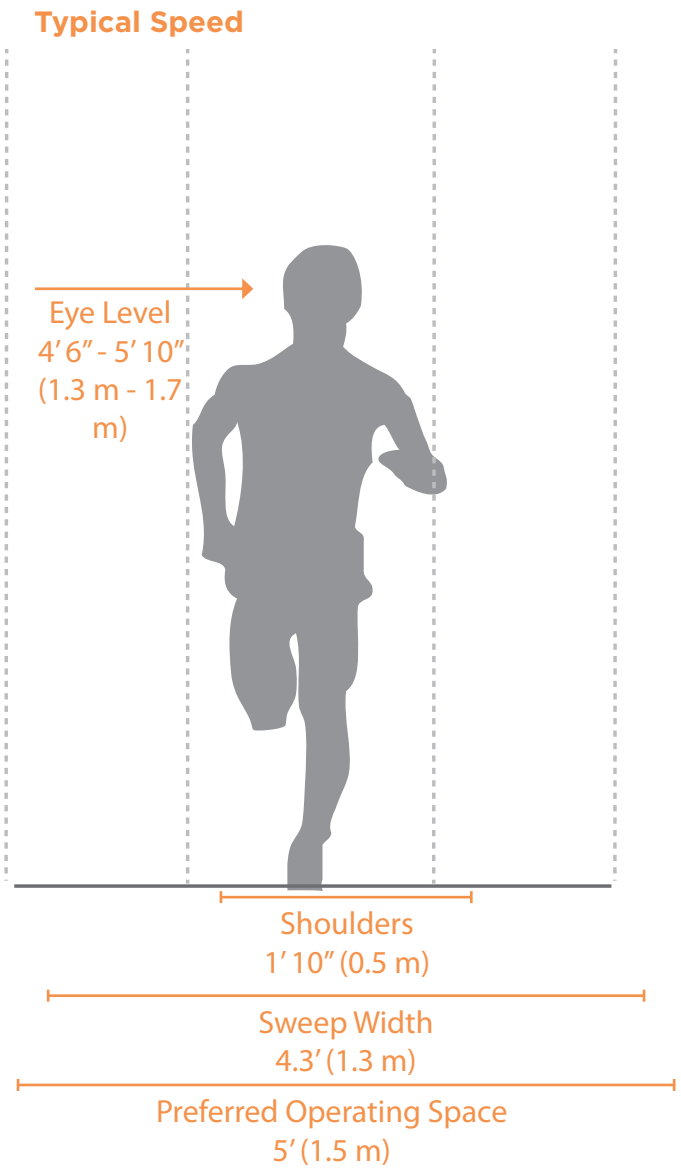
DESIGN NEEDS OF DOG WALKERS

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.

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.



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

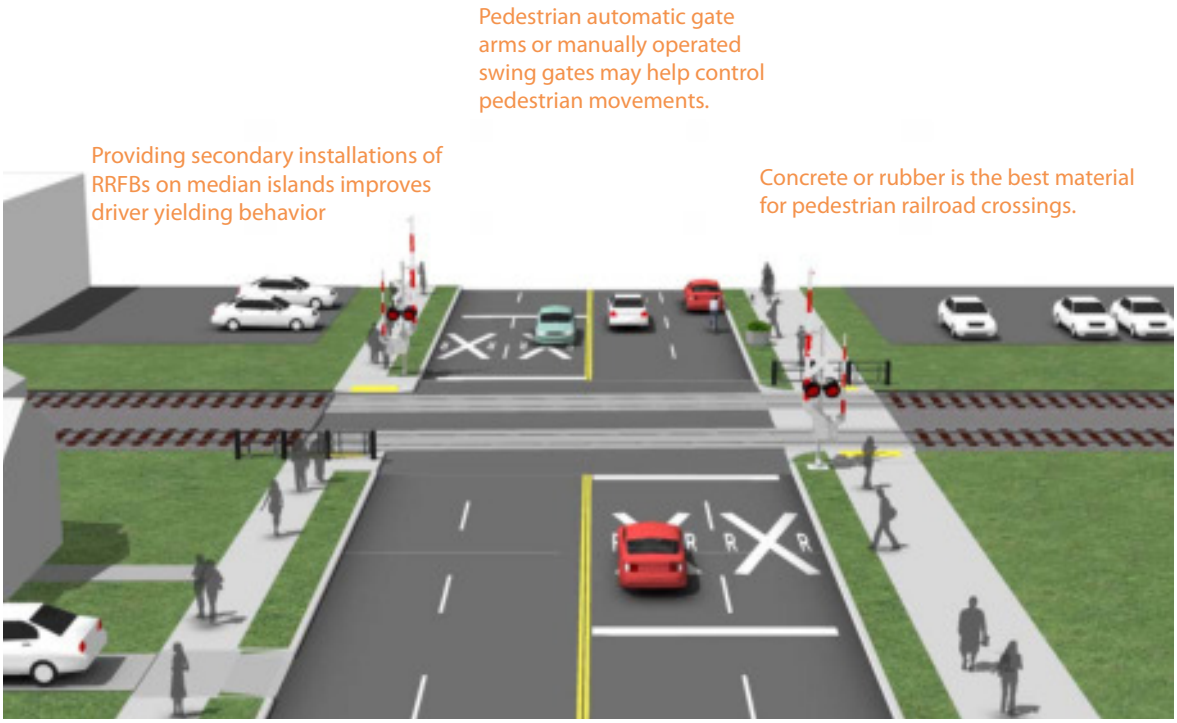
PEDESTRIAN AT-GRADE RAILROAD CROSSINGS

Locations where sidewalks must cross railroad tracks are problematic for pedestrians, particularly for those with mobility or vision impairments. Wheelchair and scooter casters can easily get caught in the flangeway gap, and slippery surfaces, degraded rough materials, or elevated track height can cause tripping hazards for all pedestrians. Angled track crossings also limit sight triangles, impacting the ability to see oncoming trains.

Guidance

- Bells or other audible warning devices may be included in the flashing-light signal assembly to provide additional warning for pedestrians and bicyclists.
- Pedestrians need clear communication and warning to know that they may encounter a train and when a train is coming. Provide clear definition of where the safest place to cross is.
- The crossing should be as close as practical to perpendicular with tracks. Ensure clear lines of sign and good visibility so that pedestrians can see approaching trains
- The crossing must be level and flush with the top of the rail at the outer edge and between the rails.
- Flangeway gaps should not exceed 2.5 in (3.0 in for tracks that carry freight.)

Crossing design and implementation is a collaboration between the railroad company and highway agency. The railroad company is responsible for the crossbucks, flashing lights and gate mechanisms, and the highway agency is responsible for advance warning markings and signs. Warning devices should be recommended for each specific situation by a qualified engineer based on various factors including train frequency and speed, path and trail usage and sight distances.



WAYFINDING

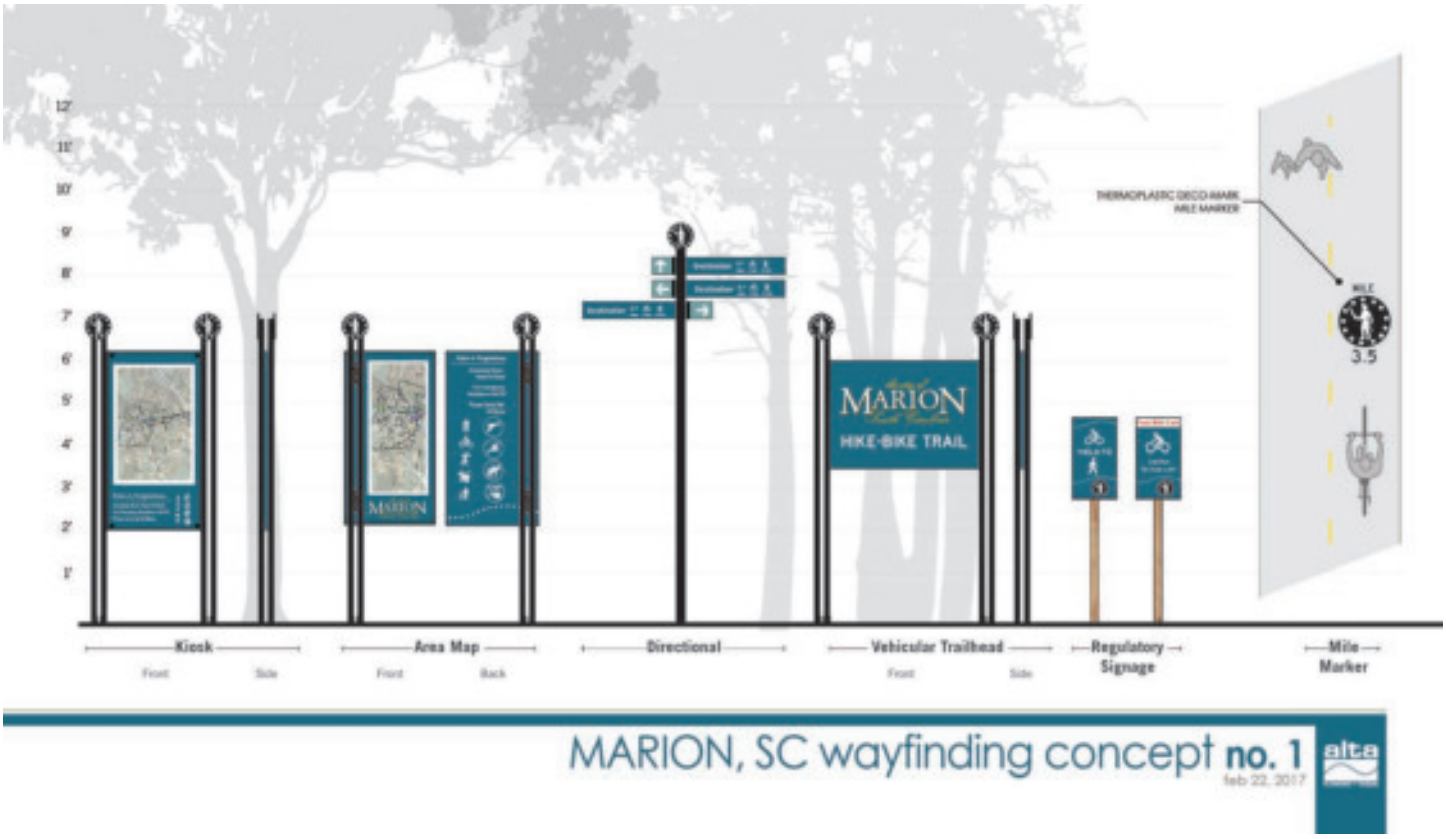
The ability to navigate through a city is informed by landmarks, natural features, and other visual cues. Wayfinding signs should indicate:

- 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 city. Wayfinding signage can serve many purposes including:

- Helping to familiarize users with the city'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.



GATEWAY MONUMENTS

Municipalities often desire identification and a favorable image of their community. A Gateway Monuments are typically any freestanding structure or sign that will communicate the name of a local entity. Gateway signs provide the first welcome to visitors while reinforcing community identity, pride, and sense of place. They should be integrated into the greater wayfinding plan in order to create a unified, welcoming, and legible system.

Gateway monuments should:

- Be a maximum of one Gateway Monument, visible from the travel way, should be placed at the appropriate approach, to avoid distraction and visual clutter.
- Include the officially adopted City of Marion logo/seal, however this is not required.
- Be located well beyond the clear recovery zone or otherwise placed to minimize the likelihood of being struck by an errant vehicle (if along a roadway).
- Be kept clean, free of graffiti, and in good repair. Their care should be incorporated into City maintenance schedules prior to installation.
- Be developed and placed to require low or no maintenance to minimize exposure of workers and others to potential risks. Protective graffiti resistant coatings should be applied.
- Be composed of materials that are durable for the projected life span of the project.
- Be appropriate to the proposed setting and community context.
- Be in proper size and scale with its surroundings.

Gateway monuments should not:

- When placed along roadways, they should not create a distraction to the motoring public. For example, the proposed Gateway Monument shall be large enough to interpret at roadway speed, but not be so large that it demands attention from the motorist.
- Include reflective or glaring surface finishes
- Include illumination that impairs or distracts the vision of transportation system users.
- Contain religious, political, special interest, private, or commercial messages of any sort, including, but not limited to, symbols, logos, business names, trade names, jingles, or slogans.
- Display telephone numbers, street addresses, or Internet addresses.
- Make use of or simulate colors or combinations of colors usually reserved for official traffic control devices described in the FHWA Manual on Uniform Traffic Control Devices.
- Protrude or span over travel lanes or roadway.

AMENITIES

When designing functional, attractive, and inviting streetscapes, the small details matter. Elements such as a lighting fixtures, public art, benches, and other amenities help create a unique identity for each city. 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 city'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 city and strengthen the emotional connection between the Marion 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 the City of Marion. 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 route
- 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.

RECOMMENDATIONS MAPS

HIKE + BIKE TRAIL MASTER PLAN

BIKE | PED FACILITIES
- HIKE + BIKE TRAIL
- SHARED USE PATH
- CYCLE TRACK + S.WALK

OVERLAYS
- STREAMS
- CITY OF MARION
- PUBLIC PARK
- 20 MINUTE WALK RADIUS

POINTS OF INTEREST
- SCHOOL
- HEALTH FACILITY
- GROCERY STORE
- INFORMAL FOOD OUTLET
- KEY DESTINATIONS

FEET
@200

MILES
0 0.1

NORTH

2 RECOMMENDATION ENLARGEMENTS

HIKE + BIKE TRAIL MASTER PLAN

the city of MARION South Carolina

BIKE | PED FACILITIES

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FEET
0 200

MILES
0 0.1

NORTH

alta PLANNING + DESIGN

3 RECOMMENDATION ENLARGEMENTS

HIKE + BIKE TRAIL MASTER PLAN

the city of MARION South Carolina

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0 200 FEET

0 0.1 MILES

NORTH

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4 RECOMMENDATION ENLARGEMENTS

HIKE + BIKE TRAIL MASTER PLAN

the city of MARION South Carolina

LUTHER ROGERS RD
41
PALMETTO POINTE RD
COTTINGHAM CT
SENATOR GASQUE RD
76
RUSSELL STOVER RD
COUNTRY CLUB RD
AMERICAN LEGION RD
RICE RD

BIKE | PED FACILITIES

- HIKE + BIKE TRAIL
- SHARED USE PATH
- CYCLE TRACK + S.WALK

OVERLAYS

- STREAMS
- CITY OF MARION
- PUBLIC PARK
- 20 MINUTE WALK RADIUS

POINTS OF INTEREST

- SCHOOL
- HEALTH FACILITY
- GROCERY STORE
- INFORMAL FOOD OUTLET
- KEY DESTINATIONS

FEET
0 200

MILES
0 0.1

NORTH

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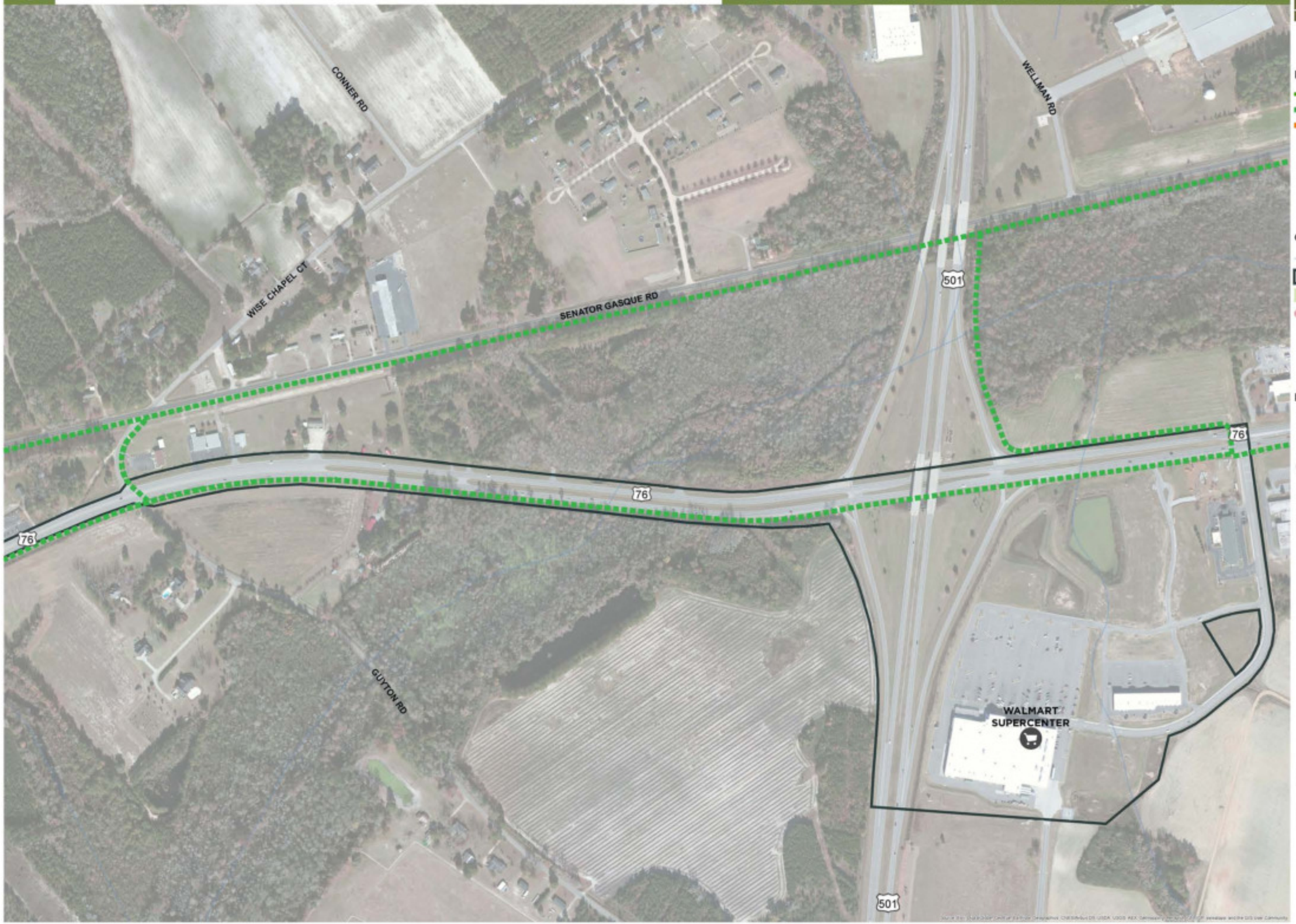
5 RECOMMENDATION ENLARGEMENTS

HIKE + BIKE TRAIL MASTER PLAN



the city of MARION South Carolina

BIKE | PED FACILITIES
- HIKE + BIKE TRAIL
- SHARED USE PATH
- CYCLE TRACK + S.WALK

OVERLAYS
- STREAMS
- CITY OF MARION
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POINTS OF INTEREST
- SCHOOL
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FEET
0 200

MILES
0 0.1

NORTH

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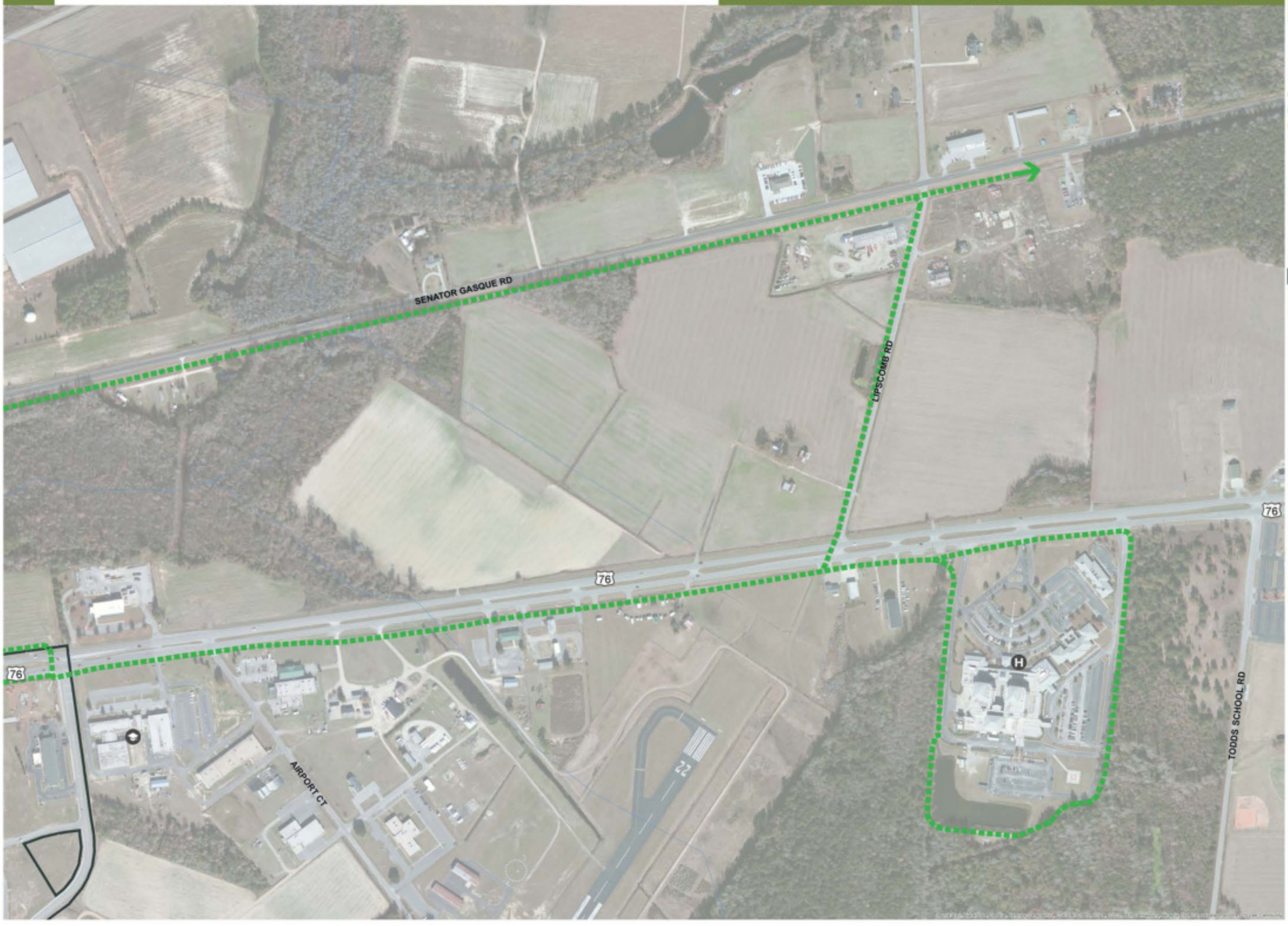
6 RECOMMENDATION ENLARGEMENTS

HIKE + BIKE TRAIL MASTER PLAN

the city of MARION South Carolina



BIKE | PED FACILITIES

- HIKE + BIKE TRAIL
- SHARED USE PATH
- CYCLE TRACK + S.WALK

OVERLAYS

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- KEY DESTINATIONS

0 200 FEET

0 0.1 MILES

NORTH

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COST ESTIMATES

Opinion of Probable Cost - April 2017				
City of Marion, SC				
SCDHEC Pedestrian Project				
Plans & Specifications by: Alta Planning + Design				
Cost by Priority Project				
Item Description	**Quantity**	**Unit**	**Unit Cost**	**Total**
Wayfinding Signage				
Signage (Gateway, Wayfinding)	1	LS	$100,000	$100,000
Subtotal				**$100,000**
Mobilization	1.0%			$1,000
Clearing & Grubbing	1.0%			$1,000
Landscaping	5.0%			$5,000
Stormwater Improvements	5.0%			$5,000
Design + Engineering	10.0%			$10,000
Contingency	20.0%			$20,000
Section TOTAL				**$142,000**
Metal Street Road Reconfiguration				
Two-Way Cycle Track	1,615	LF	$10	$16,150
Sidewalk	1,615	LF	$25	$40,375
Subtotal				**$56,525**
Mobilization	1.0%			$565
Clearing & Grubbing	1.0%			$565
Landscaping	5.0%			$2,826
Stormwater Improvements	5.0%			$2,826
Design + Engineering	10.0%			$5,653
Contingency	20.0%			$11,305
Section TOTAL				**$80,266**
Hike-Bike Trail Extension + Branding				
Shared Use Path	22,060	LF	$144	$3,176,640
Branding Development + Campaigning	1	LS	$15,000	$15,000
Subtotal				**$3,191,640**
Mobilization	1.0%			$31,916
Clearing & Grubbing	1.0%			$31,916
Additional Landscaping	5.0%			$159,582
Stormwater Improvements	5.0%			$159,582
Design + Engineering	10.0%			$319,164
Contingency	20.0%			$638,328
Section TOTAL				**$4,532,129**
Hike-Bike Trailhead Improvements				
Trailhead Improvements	1	LS	$200,000	$200,000
Subtotal				**$200,000**
Mobilization	1.0%			$2,000
Clearing & Grubbing	1.0%			$2,000
Landscaping	5.0%			$10,000
Stormwater Improvements	5.0%			$10,000
Design + Engineering	10.0%			$20,000
Contingency	20.0%			$40,000
Section TOTAL				**$284,000**
Railroad Avenue Park				
Park Development - (Gateway, Splash Pad, Open Space)	1	LS	$1,000,000	$800,000
Subtotal				**$800,000**
Mobilization	1.0%			$8,000
Clearing & Grubbing	1.0%			$8,000
Landscaping	5.0%			$40,000
Stormwater Improvements	5.0%			$40,000
Design + Engineering	10.0%			$80,000
Contingency	20.0%			$160,000
Section TOTAL				**$1,136,000**
GRAND TOTAL All Projects				**$6,174,394**

the city of
MARION
South Carolina