CHAPIN, SWANSEA, AND BATESBURG-LEESVILLE

BIKE AND PEDESTRIAN MASTER PLAN

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INTRODUCTION

What is a bicycle and Pedestrian master plan?

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WHAT IS A BICYCLE AND PEDESTRIAN MASTER PLAN?

The *Bicycle and Pedestrian Master Plan for Chapin, Swansea, and Batesburg-Leesville* (the Plan) establishes a vision for more active communities and a process for making it a reality. The Plan consists of a review of each community's existing conditions, a systematic analysis their potential that informs new infrastructure recommendations, and a roadmap to create more vibrant, active communities.

WHY MAKE A PLAN?

The following are key reasons for developing a bicycle and pedestrian master plan:

- **Intention**: Creating a plan sets an intention for each community. Chapin, Swansea, and Batesburg-Leesville all benefit from unified visions of what residents want their communities to look like.
- **Vision and Encouragement**: The process of creating a bicycle and pedestrian master plan allows residents to be creative and excited about bicycling and walking. When people are encouraged to think about their communities' futures, momentum builds for meaningful and positive change.
- **Benchmark**: The Plan sets milestones to help each community measure its progress towards becoming a more bikable and walkable community.

WHAT WILL THE PLAN DO FOR CHAPIN, SWANSEA, AND BATESBURG-LEESVILLE?

- **Funding Options**: It can be challenging to fund and maintain bicycle and pedestrian infrastructure. The Plan provides information about funding resources and finance mechanisms that can make implementing capital projects more feasible.
- **Guided Investment**: The Plan will help town leaders identify which investments will make the most impact, as well as prioritize projects for implementation.
- **Programming Guidance**: The Plan outlines ideas for creating bicycling/walking-oriented events that will encourage community members to consider bicycling and walking more for trips.
- **Vibrant Community**: Active transportation is a more social mode of transportation; bicycle and walking for trips provide opportunities for people to meet, interact, shop, and enjoy their communities.

WHY ACTIVE TRANSPORTATION?

Choosing to bicycle or walk for trips pays dividends. Those who chose to use these modes increase their ability to:

- **Improve and maintain health**: The World Health Organization identifies inactivity as one of the leading health risk factors around the world [1]. People who use active transportation generally add to their daily activity, and in some cases, those who bicycle spend more time exercising in other capacities, such as recreation or fitness reasons, than those who do not [2].
- **Save on transportation costs**: Bicycling and walking for trips can save community members hundreds of dollars each year. The estimated cost of driving ranges between 47 and 62 cents per mile [3]; the average annual cost of operating an automobile for a year is over $8,400 per year [3]. Conversely, the cost of operating a bicycle for a year is estimated at only $308 [4].
- **Enjoy their own communities more**: Research suggests that bicycling improves mood and overall happiness [5]. Allowing people to explore their communities on foot and by bicycle allows roadway users to experience their home in an entirely new way.

At the broader community level, places that encourage bicycling and walking do the following:

- **Encourage economic vitality**: Walkable neighborhoods typically have lively, populated streets that promote commercial exchanges [6].
- **Ensure continued community growth**: Active transportation infrastructure, especially for bicycles, is a powerful draw for younger people [7]. Investing in this type of infrastructure now can encourage community growth and diverse industry development for years to come.
- **Create safer places for people**: Safety for active transportation users can be viewed in two ways: in terms of the number of fatalities/crashes, or in terms of user comfort. Increased numbers of active transportation users and well-design infrastructure both contribute to a reduction of fatalities and crashes and to increased pedestrian and cyclist comfort [8],[9].
- **Provide options and promote equity in neighborhoods**: While some people may choose bicycling or walking from a menu of options, others cannot afford or do not have access to any other modes of transportation. Walking and bicycling provides cheaper transportation options for people who do not have personal vehicles—if safe, connected infrastructure provides safe routes to destinations.

WHAT IS ACTIVE TRANSPORTATION?

ACTIVE TRANSPORTATION IS WALKING, WHEELING, BICYCLING, OR ANY OTHER HUMAN-POWERED TRAVEL BETWEEN DESTINATIONS

(1) World Health Organization (2018). “Physical Inactivity.”
(2)Panik, Morris, Voulgaris (2019). “Does walking and bicycling more mean exercising less? Evidence from the US and the Netherlands”
(3) Stepp, E. (2017). AAA Reveals the True Cost of Operating a Vehicle. Orlando, FL: AAA.
(4) League of American Bicyclists. (2013). The New Majority: Pedaling Towards Equity (pp. 2–13).
(5) Morris, E. A., & Guerra, E. (2015). Mood and mode: does how we travel affect how we feel? Transportation, 42(1), 25–43.
(6) Litman, Todd (2018). “Economic Value of Walkability.” Victoria Transport Policy.
(7) Love, L. L., & Crompton, J. L. (1999). “The Role of Quality of Life in Business (Re)Location Decisions.” Journal of Business Research, 44(3), 211–222.
(8) Jacobsen, P. L. (2003). “Safety in numbers: more walkers and bicyclists, safer walking and bicycling.” Injury Prevention, 9(3), 205–209.
(9) Sanders, R (2015). “Perceived traffic risk for cyclists: the impact of near miss and collision experiences.” Accident Analysis & Prevention, 75, 26-34.

PLAN INTENT

The *Bicycle and Pedestrian Master Plan for Chapin, Swansea, and Batesburg-Leesville* serves as a guiding document to prioritize and catalyze active transportation in each community. As each small town strives to create a sense of place, a safe and connected bicycle and pedstrian system will benefit residents and visitors. While each community is unique, the small town character and proximity to active railroad tracks are shared traits that offer both challenges and opportunities. Goals for this plan were developed to align with the desires of all three of the communities in the study area. The Plan's goals are as follows:

Encourageactivetransportationasamode choice.

The planning process that culminated in The Bicycle and Pedestrian Master Plan for Chapin, Swansea, and Batesburg-Leesville helped people think about active transportation in their community. The plan outlines ways to continue to excite people about bicycling and walking.

Createalistofactivetransportationprojects thatwillbestconnectpeopletoimportant places.

The Plan uses data-driven analysis to identify impactful investments in active transportation infrastructure, and results from the analyses are used to create a roadmap for implementing a safe, connected, and enjoyable network of bicycling/ walking routes.

Illustrate a vision for what could be.

Catalyst projects illustrate in detail what the community could look like as a more bikeable, walkable place.

Identifywhatsuccesslookslikeandoutlinea roadmap to get there.

How do we know that we are moving in the right direction? Strategically developed benchmarking tools provide a roadmap for moving from today into the envisioned future.


02

PLAN DEVELOPMENT

Existing conditions review

public process overview

Network development approach

EXISTING CONDITIONS REVIEW

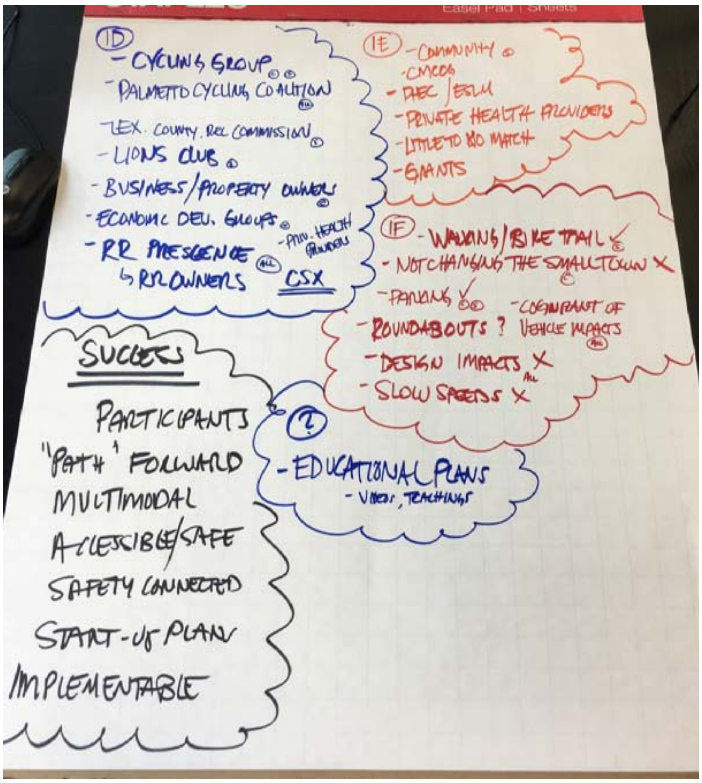
The Bicycle and Pedestrian Master Plan for Chapin, Swansea, and Batesburg-Leesville is built on a detailed review of existing conditions in each community. The following maps and infographics detail some of the existing conditions review's key findings.

TAKEAWAYS

- While the communities have few sidewalks, there is demonstrated capacity and need for sidewalks to create safe and comfortable walking routes.
- At present, the communities have no bicycle infrastructure. However, these locations are ripe for creating safe bicycling routes between destinations.
- Each town has its own small-town character. As these communities provide safer active transportation options, preserving their downtowns and their town-fabric is of paramount importance.
- Schools within each community are currently accessible almost exclusively by car. Strategically sited facilities could offer safe and accessible routes for students to walk or bike to school.
- Residential communities in each town currently cannot access the downtown areas by bicycle or foot but are close enough in each community to benefit greatly from an expanded sidewalk network.

PUBLIC PROCESS OVERVIEW

Public input on active transportation formed the first iteration of Plan recommendations. The public engagement effort goals were twofold: 1) ensuring that the Plan comprehensively addresses residents' needs; and 2) informing the public about the Plan and the benefits of biking and walking. Staff from each city and a consultant team engaged people in a variety of ways, encouraging a broad cross-section of the public and key stakeholders to participate. This section summarizes key methods of engaging residents in each community and the themes that came out of those interactions.

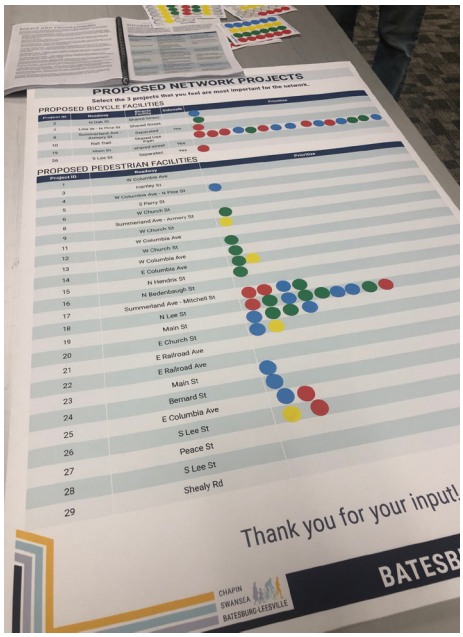


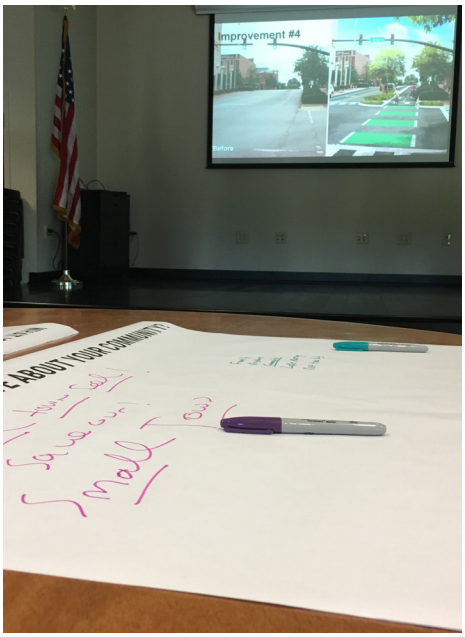
KICKOFF MEETING

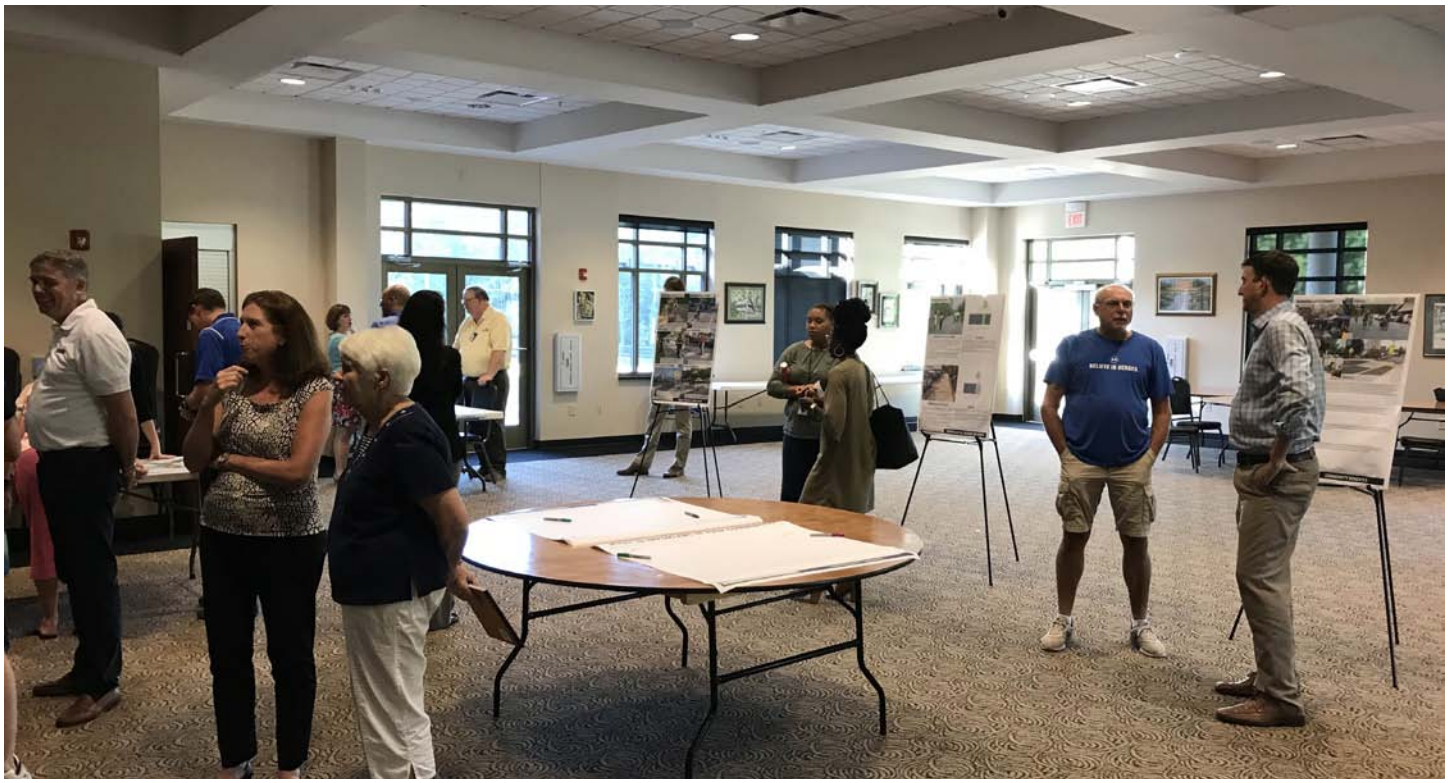
Staff from the Central Midlands Council of Governments, community stakeholders, and a consultant team met in late summer 2018 to create a shared vision for the Plan and the planning process.

OPEN HOUSES

In March 2019, members of the public spoke about active transportation in their communities at open house events held in each town. The open houses were highly interactive; attendees were invited to share their experiences with bicycling and walking, note areas of concern, and point out locations that evoked pride and shaped community identity.







WIKIMAP

An online interactive map (WikiMap) provided members of the public with opportunities to identify desired bicycle and walking connections within each community. The WikiMap allowed users to note preferred routes, destinations, and barriers at a local and regional scale. Results from the WikiMap were used for preliminary route and barrier identification, as well as assessing connectivity needs. The WikiMap website also administered a short survey assessing participants' interest in active transportation. Figure XX below illustrates two iterations of the online map that collected feedback from participants.

STEERING COMMITTEE

In January of 2019, a steering committee consisting of community leaders and stakeholders from Chapin, Swansea, and Batesburg-Leesville, along with members of the Central Midlands COG, met to perform three tasks: review the Plan's progress, ensure that the Plan would meet the unique needs of each community, and lay out next steps. Steering committee members discussed results from the sidewalk gap analysis and network recommendations for each town and viewed renderings of the visions for each town's catalyst project. This meeting illustrated the relationship between the analysis and the facility recommendations outlined in the Plan.

STEERING COMMITTEE ORGANIZATIONS

- Central Midlands Council of Government Staff
- Town of Chapin Staff
- Town of Batesburg-Leesville Staff
- Town of Swansea Mayor
- Eat Smart move more South Carolina Representatives

SURVEYS

As part of the open house meetings, a brief survey was created as an additional way for community members to offer feedback on the proposed network and catalyst projects. More than 50 people accross all three communties submitted paper or online surveys, and over 80% of respondents felt that if implemented, the bicycle and pedestrian network would better connect people to places in their community.

"WE ARE CERTAINLY IN NEED OF MORE AND SAFER PEDESTRIAN TRAVEL OPTIONS THROUGHOUT TOWN"
SURVEY RESPONDENT

"GREAT WORK - LET'S GET IT GOING!"
SURVEY RESPONDENT

"IT WOULD BE A HIGHLIGHT PROJECT AND A BEAUTIFUL ADDITION TO OUR TOWN"
SURVEY RESPONDENT

TAKEAWAYS

- People care about safety: Nearly 40% of responders said that they would consider walking and biking more for trips if they believed conditions were safer.
- Connected routes can make a difference: 25% of WikiMap respondents said that they would walk or bike more often if there were convenient routes connected to important destinations.
- People are interested and walking and bicycling to community destinations like schools, parks, natural resources, and downtowns.
- There are significant barriers to bicycling and walking in each community. The Plan can address some of these barriers with recommendations for safer and more connected bicycling and walking routes.

NETWORK DEVELOPMENT APPROACH

Each town's recommended network of active transportation facilities has been strategically crafted to be feasible, appropriate, and impactful. Recommendations in the Plan were developed by a set of guiding principles:

- More users and safety are related: People bicycling and walking are more likely to use facilities where they feel safe and comfortable, and people on bicycles are safer when more people ride. The network in this Plan is designed to attract new users.
- Networks of facilities are powerful: Bicycling and walking routes that connect to one another significantly expand people's mobility—much more so than single segments of infrastructure. The networks recommended here are designed to maximize connectivity in each community.
- Data should drive recommendations: Recommendations in the Plan are the result of multiple layers of analysis, including public opinion, existing conditions, and much more (see list below). This data-driven approach ensures that recommended infrastructure most effectively serves all communities and people, especially those who will benefit from it the most.
- The network of infrastructure should meet each community's needs: In order to optimize analyses and the resulting recommendations, recommendations also underwent a detailed vetting process that included key stakeholders in the community.
- The network is for everyone: Both the route locations and recommended facility types for each project were selected to make the entire network accessible for all ages and abilities.
- Appropriateness and feasibility are key: The projects identified in the Plan were carefully selected, strategically vetted, and purposefully streamlined for efficiency in implementation.
- Infrastructure matters; so do supportive policies and programming: While infrastructure and bicycling/walking routes are a crucial element of increasing active travel in communities, they are not the only element. Infrastructure was paired with policies and programs that help fund and maintain infrastructure and encourage ridership.

COMMUNITY ANALYSES

The *Bicycle and Pedestrian Master Plan for Chapin, Swansea, and Batesburg-Leesville* recommends a network of safe, connected facilities to connect each community to important recommendations. Recommendations in the Plan result from multiple layers of analysis, including public opinion, existing conditions, and much more (see sections below). This data-driven approach ensures that the recommendations are most effectively serving all communities and people, but especially those who will benefit from it the most.

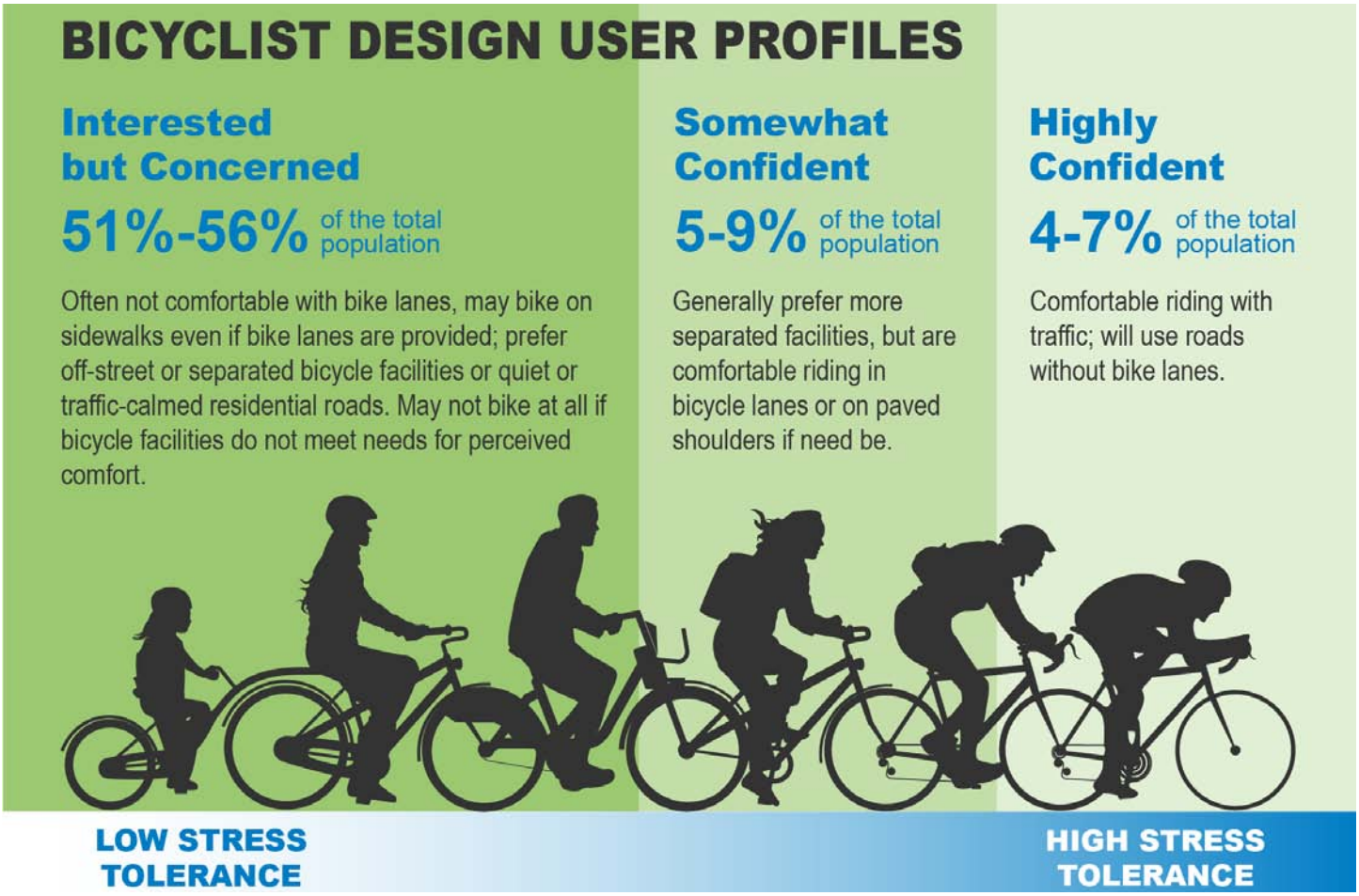
LEVEL OF COMFORT

Low-stress connected bicycle networks are one of the most important parts of encouraging bicycling for people of all ages and abilities. For people to choose to ride a bicycle, they must feel comfortable at each step of their trip. One intimidating road segment or intersection can rule out an entire journey for less confident bicyclists. To illustrate existing comfort levels in each community, the Plan uses a bicycle level of comfort (LOC) analysis. This type of analysis, also referred to as a Level of Traffic Stress (LTS) analysis, was developed by the Mineta Transportation Institute (SOURCE).

The purpose of the LOC analysis is to illustrate the experience of a bicyclist using the existing network in each community by categorizing streets and roads as "low-stress" or "high-stress." For example, trails are typically classified as low-stress, and high-speed arterials with several travel lanes in each direction are classified as high-stress.

Existing research shows that people have varying levels of comfort when interacting with motor vehicle traffic while riding a bicycle (Figure 02-1). The LOC analysis, when compared with the demand analysis, can highlight roadway segments in areas where demand for bicycling trips is high but traffic stress is also high.

Figure 02-1: Bicycle User Profiles



Background

Research [1] shows that most people have little tolerance for interacting with traffic while riding a bike; said another way, people who are interested in bicycling for trips may choose not to bike because the existing road conditions make them afraid or uncomfortable. This group of people, often called the "interested but concerned" group, make up approximately 51% of the U.S. population. They prefer slow-speed streets, trails, and other low-stress places to bicycle, where there is limited motor vehicle traffic or vehicles are separated from traffic. A combination of visual and physical separation between bicyclists and motorized traffic helps bicyclists to feel safer and more confident [2].

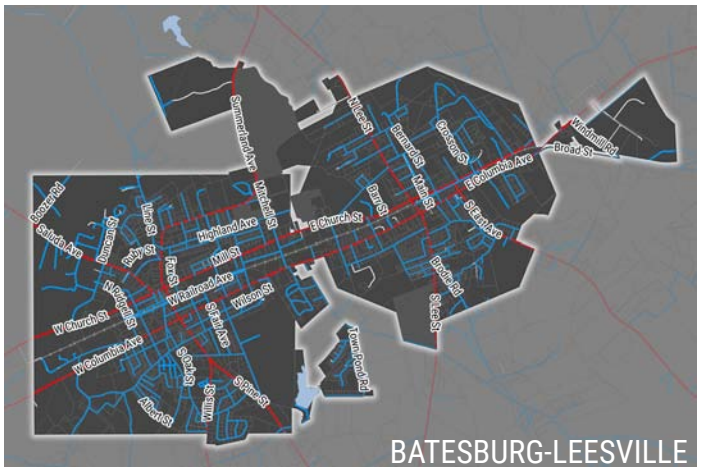
Methods

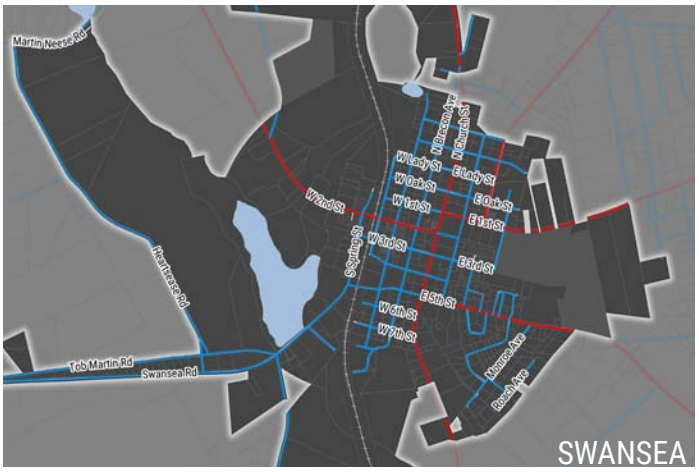
The LOC analysis assigns a score to each segment of the roadway in the communities. The score is a proxy for bicyclists' experience a segment of road based on the road's conditions. This plan sorts segments into two categories: high stress and low stress (Figure 02-2).

The LOC analysis uses data from OpenStreetMap, a freely available, crowd-sourced database of road conditions. Factors that determine the LOC score include (but are not limited to):

- Number of lanes
- Speed limit
- Lane widths
- Traffic volumes (where available)

Figure 02-2: Level of Comfort Maps





Low Stress
High Stress

(1) Mekuria, M.C., Furth, P. G., Nixon, H. (2012)"Low-Stress Bicycling and Network Connectivity." Mineta Transportation Institute, 11-19.

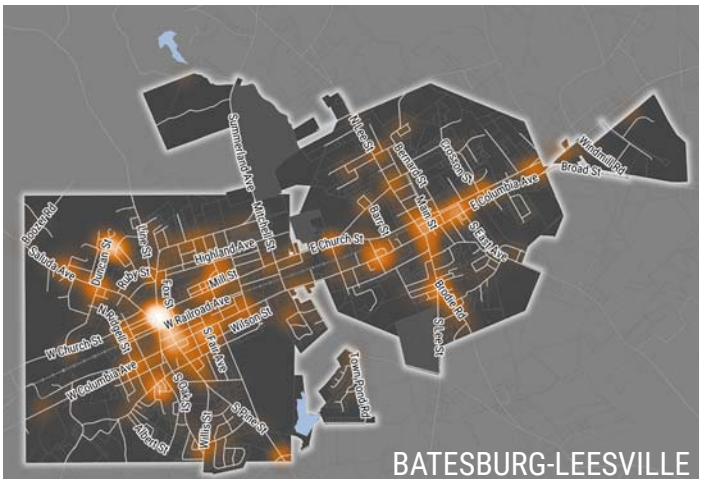
(2) Dill, J. & McNeil, (2013). "Four Types of Cyclists? Examination of Typology for Better Understanding of Bicycling Behavior and Potential," Transportation Research Record: Journal of the Transportation Research Board, 2387: 129-138.

INTERSECTION DENSITY

People are more likely to bicycle and walk in places that best support comfortable travel. A dense network of streets and intersections arranged in an intuitive manner is easier to navigate for people bicycling and walking for several reasons. First, areas with high intersection density (a measurement of the number of intersections per given area) provide more crossing opportunities and more direct routes for active transportation users. Specific to walking, shorter distances between destinations and more opportunities to cross roadways can encourage more people to consider walking for trips; this is especially true for those with physical disabilities. Second, areas with a denser road network also support pedestrian-scale commercial and residential development.

The Plan uses intersection density heat mapping to identify locations for bicycle and pedestrian infrastructure improvements (along with results from other analyses described in this section). Results from the density heat mapping are shown in Figure 02-3.

Figure 02-3: Intersection Density Maps



SIDEWALK GAPS

Sidewalks that connect to one another and to important community destinations provide basic mobility for people walking and wheeling. A sidewalk network is incomplete if there is not a safe, comfortable way for pedestrians to move between destinations on sidewalks; this could be due to missing sidewalks; non-ADA compliant curb ramps; poorly maintained, narrow, or broken sidewalks; or obstructions, like overgrown vegetation or power poles in the sidewalk right-of-way. These breaks in the network—also referred to as "gaps"— can prohibit people for walking for trips. This is especially true for people with physical disabilities, the elderly, and children who may wish to walk but cannot due to substandard infrastructure.

The Plan contains results from a sidewalk gap analysis for each community. The gaps (highlighted in red) show where there are breaks in pedestrian connectivity in each community.

PUBLIC INPUT

Results from the WikiMap served as an initial set of recommendations of bicycle and pedestrian routes. As these routes were vetted and prioritized, the destinations identified in the WikiMap were used to review connectivity; while not all routes and destinations identified in the WikiMap appear in the Plan's recommendations, the final networks connect to the major destinations that were identified during the WikiMapping process.

COMMUNITY RECOMMENDATIONS

The following chapters outline more specific details and recommendations for Chapin, Swansea, and Batesburg-Leesville. Each community chapter contains:

- A proposed network of facilities that connects key destinations within each community
- Catalyst project illustrations characterizing what could be
- A list of programming activities and policies for each community
- Benchmarking metrics to help each community set appropriate timelines for implementation

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03

TOWN OF CHAPIN

EXISTING CONDITIONS

PUBLIC ENGAGEMENT

NETWORK RECOMMENDATIONS

CATALYST PROJECT

POLICY AND PROGRAMMING

SUCCESS MEASURES


The Nifty Gift
The Tipsy Toad
803.932.4470

EXISTING CONDITIONS

KEY STATS

- Median Household Income: $53,000 (Median Household Income in South Carolina: $46,900)
- 7% living below poverty line
- Educational facilities: Midlands Technical College
- Average of two cars per household
- 1.4% of households do not have access to a car
- 1250 students at Chapin High School

The town of Chapin and its 1,600 residents share the benefit of being within a few miles of Lake Murray. The town's small-town fabric is reflected most clearly in downtown Chapin. Today, the town's bicycling and walking network is somewhat limited, there are currently no constructed bicycle facilities within the town. The existing sidewalk network is concentrated in downtown Chapin. While there are no community parks within the town limits, Crooked Creek Park is located just south of the town along Lexington Avenue.

Figure 03-1: Chapin Basemap

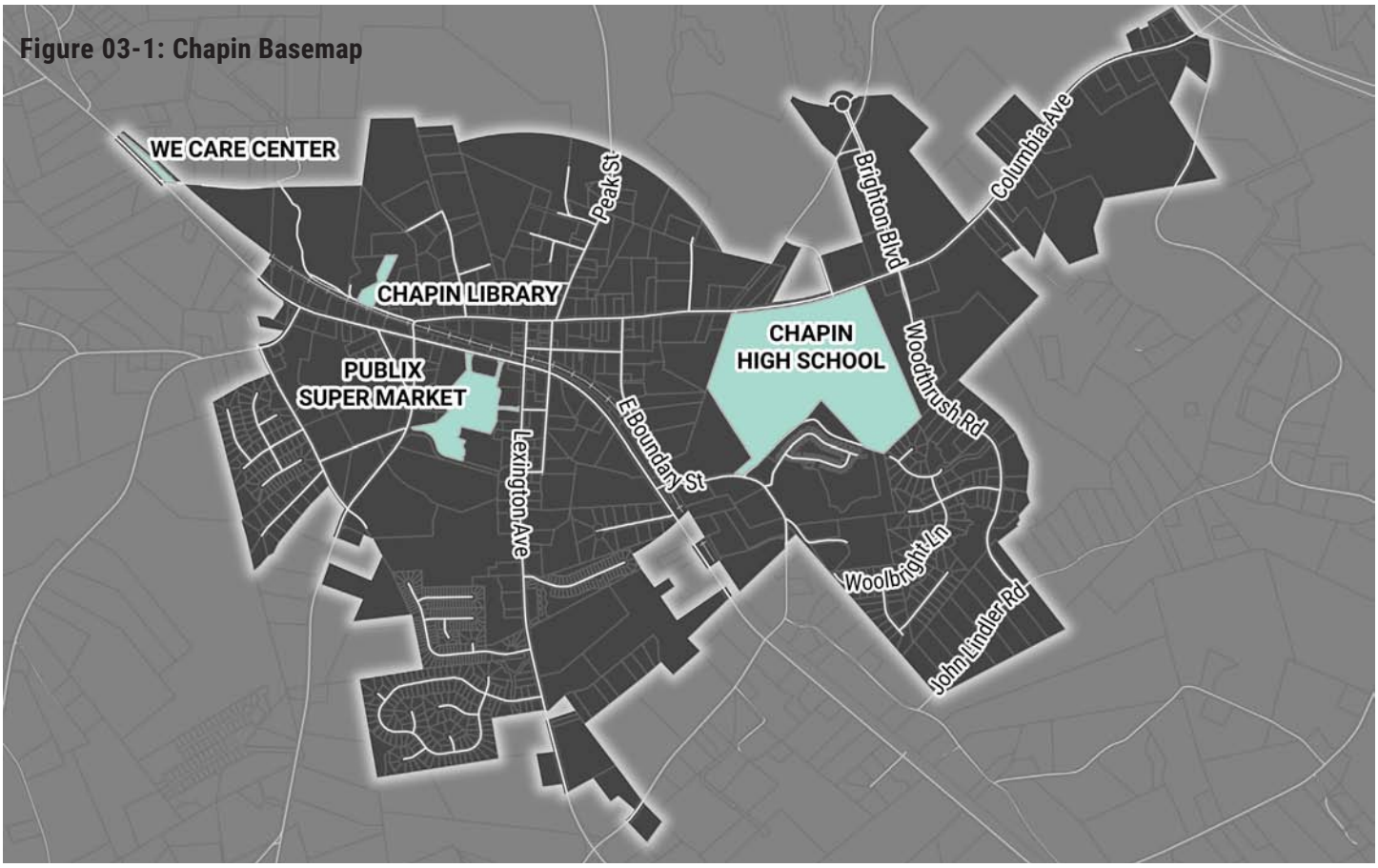


Figure 03-2: Chapin Existing Sidewalks Map

PUBLIC ENGAGEMENT

More than 45 people engaged with the planning process in Chapin. The process allowed people from across the community to learn about the Plan and share their experience in many ways, including workshop events, field work, open houses, online mapping, stakeholder interviews, and more. Capturing community members' experience and local knowledge allowed the Plan to be tailored to best fit the community's needs.

WORKSHOP EVENTS

In October 2018, town staff and a consultant team hosted a day-long workshop in Chapin. The goal of the workshop was to orient the Plan development process around existing conditions, to start conversations with community members and stakeholders about bicycling and walking, and to spread the word about the planning process.

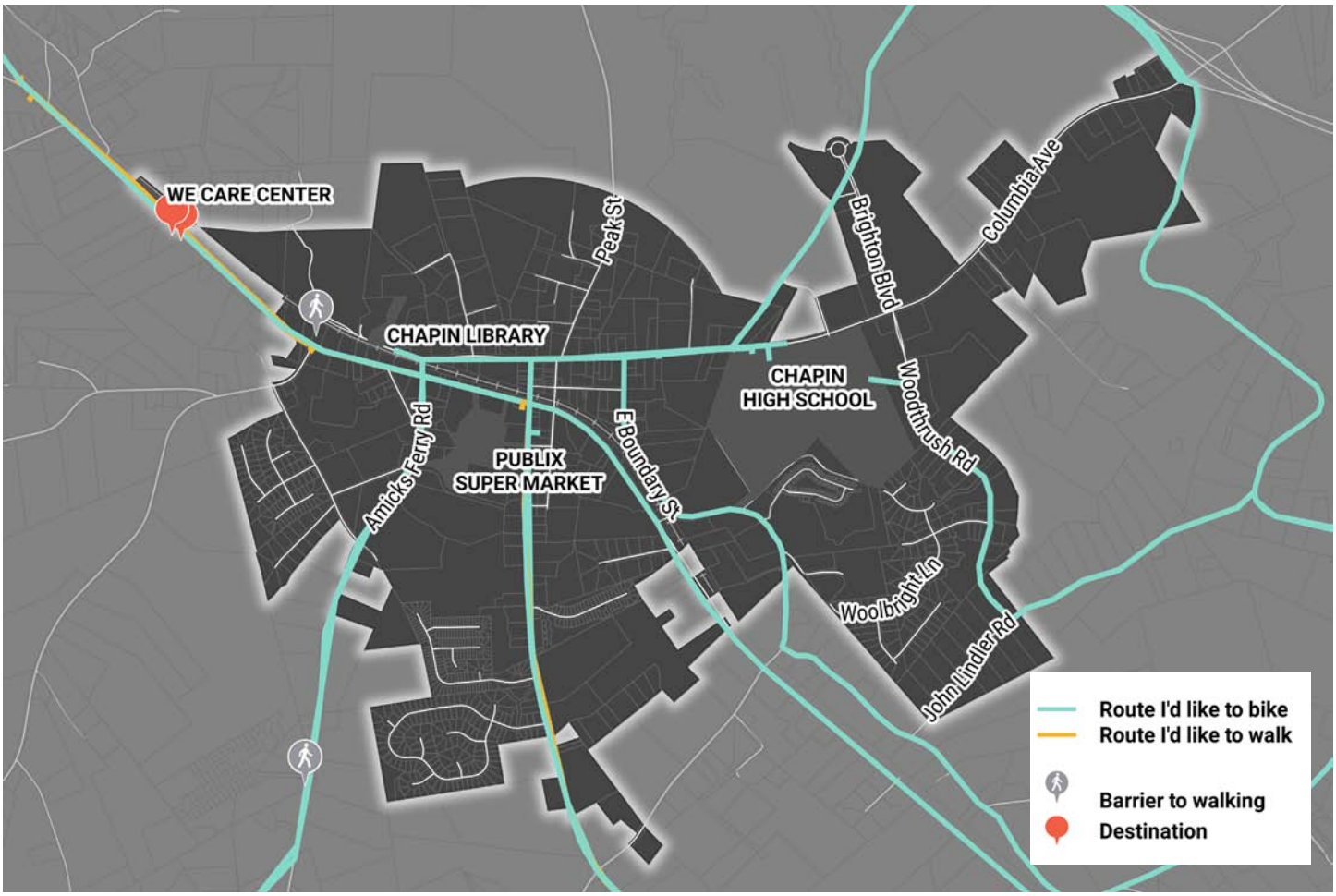
- Fieldwork: A consultant team and staff spent time ground-truthing preliminary research and experiencing what active transportation first-hand.
- Stakeholder Interviews: Consultants and staff held one-on-one meetings with various community members who care about active transportation in Chapin. The interviews helped identify key routes and destinations and formulate programming recommendations. Stakeholders contributing to this process included:
    - Local business owners
    - Representatives from the Chamber of Commerce
    - Representatives from Irmo Chapin Recreation Commission
    - And more
- Open House: Staff and consultants hosted an open house meeting on October 4th. Attendees were invited to talk about active transportation in a casual, informal setting. Respondents were invited to learn about active transportation, to identify important routes for bicycling and walking, and to share what they loved most about Chapin

WIKIMAPPING

The WikiMap for the Bicycle and Pedestrian Master Plan for Chapin, Swansea, and Batesburg-Leesville allowed participants to interact with an online map in an easy-to-use format specifically geared toward soliciting public feedback on active transportation. The maps allowed for crowdsourcing of participants' experiences biking and walking in Chapin.

Over 27 comments from 25 users served to identify barriers to biking and walking, routes biked and walked most frequently, routes that are presently difficult to bike and walk, and important destinations; these comments served as an additional layer of insight into local concerns and desires. The map was live from October 1st to November 9th.

Figure 03-3: Chapin Wikimap Results



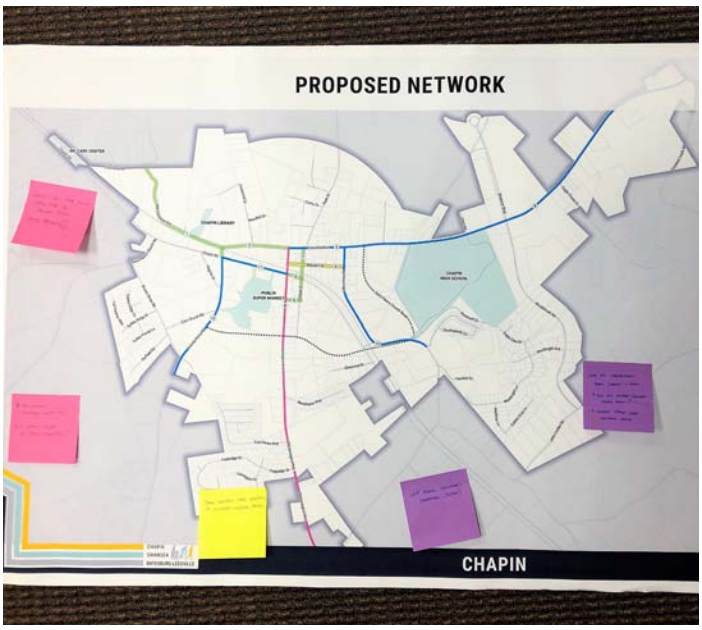
STEERING COMMITTEE

After the initial round of network development, the consultant team and local staff met to vet recommended projects and discuss next steps in the planning process. Feedback from this meeting helped to refine the proposed network and informed programming recommendations for Chapin.

RECOMMENDATIONS OPEN HOUSE MEETINGS

In March 2019, Chapin residents were invited to attend an open-house style meeting to respond to the network recommendations and the proposed catalyst projects. Attendees were encouraged to prioritize projects in the network that they felt were most important to accomplish multimodal connectivity.

Participants in Chapin identified the proposed route to Crooked Creek Park as the highest priority project and also gave valuable feedback on how residents could best access destinations like the We Care Center and Lake Murray.



KEY FINDINGS:

01 People

People are excited about making Chapin more bikeable and walkable.

People like the idea of having trails that connect different parts of the community.

02 Community

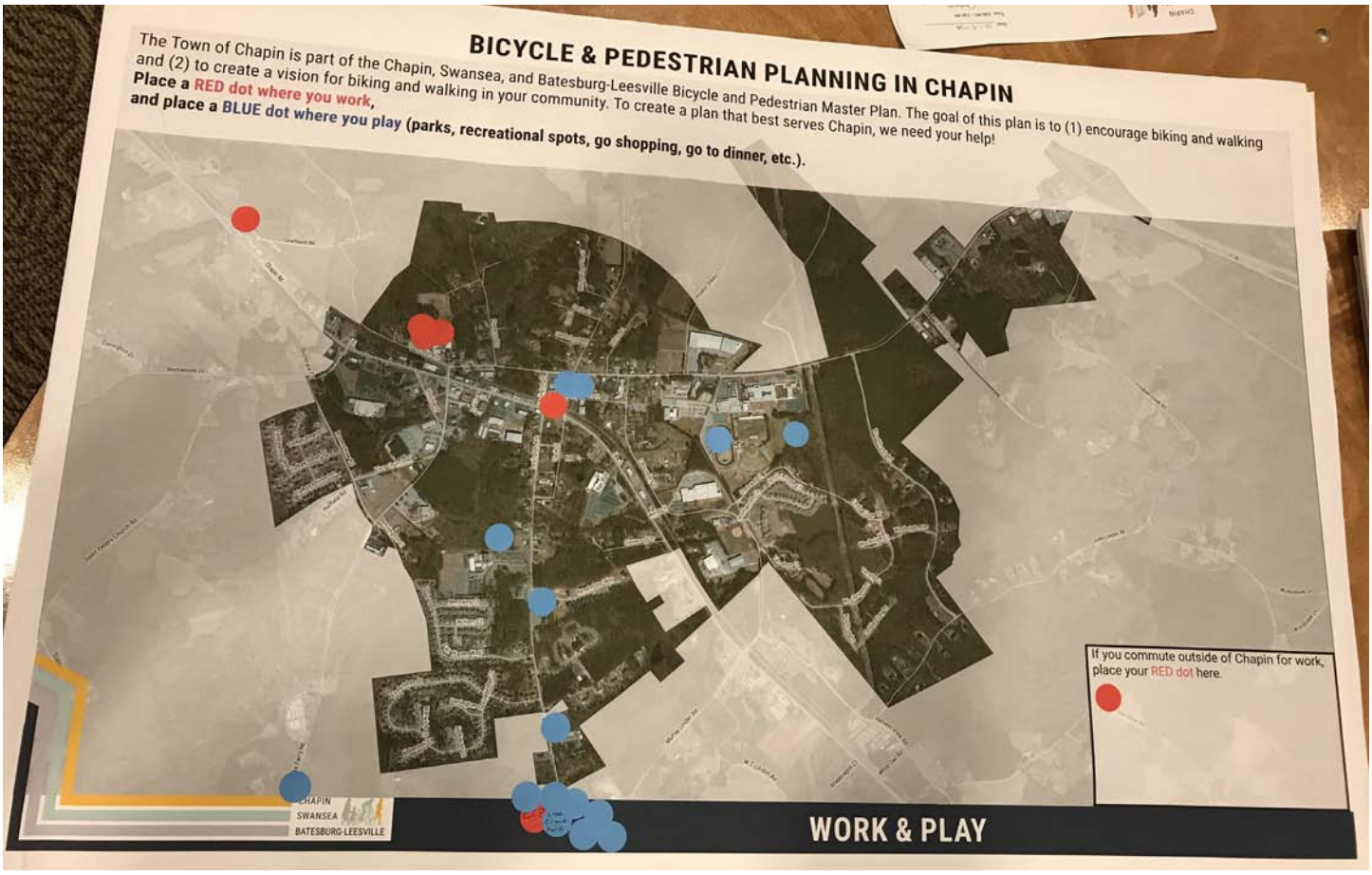
The small-town feel is important for Chapin residents; people are proud of where they live. They love being close to Lake Murray.

Crooked Creek Park is beloved by many in the community, and people are interested in bicycling or walking there with their families.

03 Resources

Local schools may be good partners for teaching people about safe bicycle and walking practices and encouraging active transportation.

There is a need to identify and leverage funding resources for implementing infrastructure



NETWORK RECOMMENDATIONS

Figure 03-4 below shows the proposed network of active transportation facilities in Chapin. In addition, Table 03-1 provides a list of bicycle facility projects proposed within the town. Some bicycle projects also propose a sidewalk along the route to increase mobility for people on bicycles or on foot. Table 03-2 lists the sidewalk projects proposed by the plan that do not include a bicycle facility along the same street.

Figure 03-4: Chapin Recommendations Map

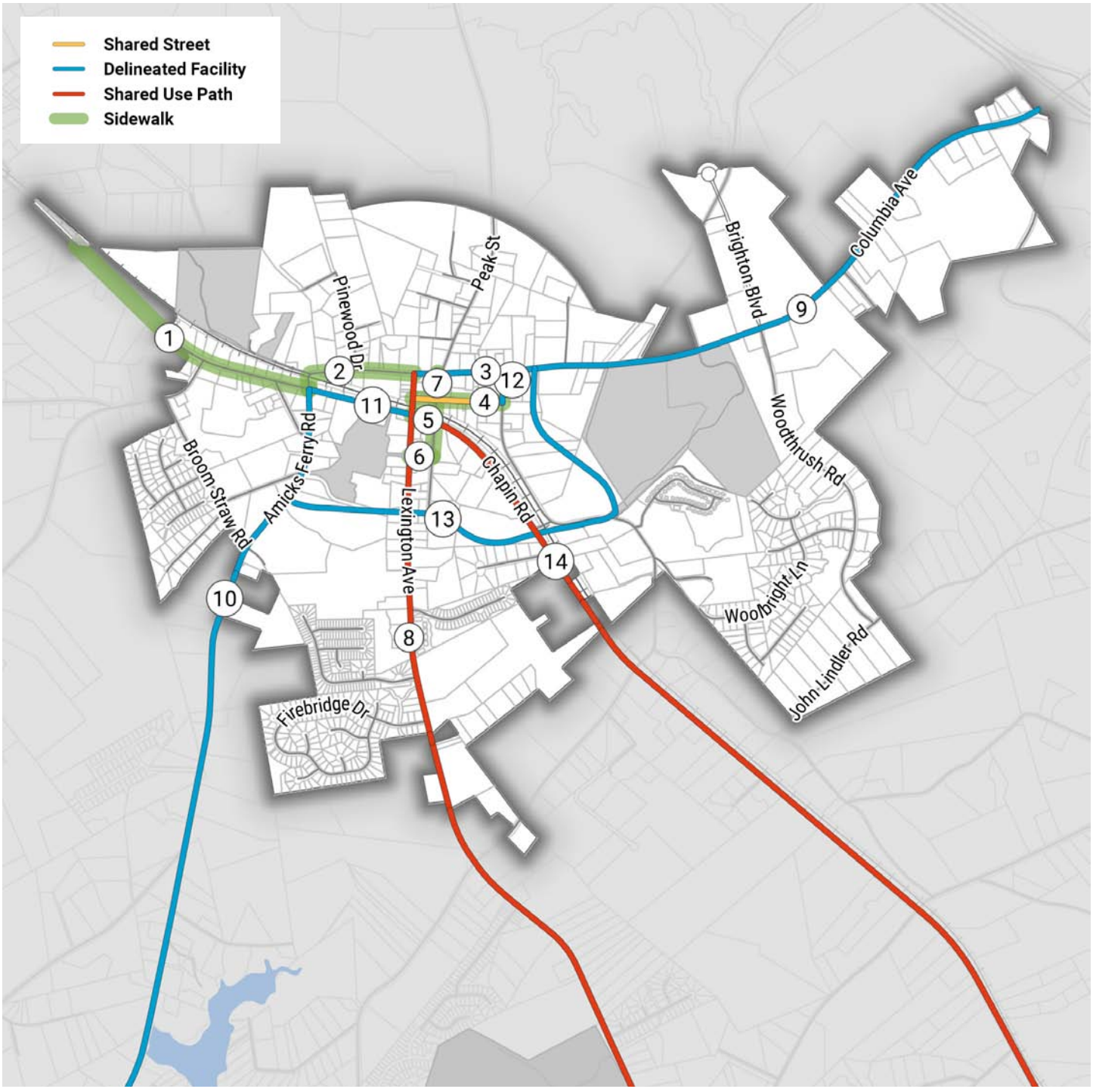


Table 03-1: Chapin Bicycle Project List

Chapin Project ID	Roadway	From	To	Length (ft)	Bicycle Facility	Sidewalk
3	Columbia Ave	Lexington Ave	E Boundary St	1,133	Delineated	
4	Beaufort St	Lexington Ave	E Boundary St	1,137	Shared Street	Yes
8	Lexington Ave - Old Lexington Hwy	Columbia Ave	Crooked Creek Park	6,294 +	Shared Use Path	
9	Columbia Ave	E Boundary St	Hwy 26 Ramp	7,990	Delineated	
10	Amicks Ferry Rd	Chapin Rd	Lake Murray	2,612 +	Delineated	
11	Chapin Rd	Amicks Ferry Rd	Lexington Ave	1,340	Delineated	
12	E Boundary St	Columbia Ave	Southwoode Cir	3,192	Delineated	
13	S 48	Columbia Ave	Amicks Ferry Rd	6,611	Delineated	
14	Amicks Ferry Rd	Clark St	Irmo Regional Connection	2,802 +	Shared Use Path	

Table 03-2: Chapin Sidewalk Project List

Chapin Project ID	Roadway	From	To	Length (ft)
1	Chapin Rd	We Care Center	Amicks Ferry Rd	3,564
2	Columbia Ave	Chapin Rd	Lexington Ave	1,526
5	Chapin Rd	Lexington Ave	Clark St	311
6	Water St	Lexington Ave	Clark St	289
7	Clark St	Water St	Columbia Ave	1,055

CATALYST PROJECT

Shared use path along Lexington Avenue: A shared use path or trail connecting Chapin's downtown with southern amenities would create better bicycling and walking connectivity in Chapin. This trail would be comparable to a very wide sidewalk, asphalt path, or natural surface trail, and would connect the downtown to the edge of municipality. The vision would be to partner with the County to extend the path to Crooked Creek Park.

The Town of Chapin is a growing community that is in need of developing bicycle and pedestrian facilities to serve its residents and visitors. Commercial development in the core of Chapin has been consistent in recent years and residential development has continued to thrive.

A shared use path along Lexington Avenue would benefit people both bicycling and walking. The recommended path would fill an existing sidewalk gap and provide the types of recreational and active transportation opportunities that many residents are traveling outside of Chapin to use. The concept plan below illustrates how the shared use path along Lexington Avenue could connect across Chapin Road; it also shows additional green space along the railroad that could be used as a park-like amenity with landscaping and a walking trail.

A concept of the shared use path along Lexington Avenue was developed and is illustrated below.

Like many small railroad towns, crossing the railroad can be a barrier to circulation for all modes of transportation. Lexington Avenue is a key corridor in the Town of Chapin that not only crosses the railroad but also connects the core downtown area to Crooked Creek Park just outside of the town limits. As Chapin continues to grow in population, with several new residential developments along Lexington Avenue, the proposed shared use path along this corridor provides car-free access to both downtown and the regional park, two major destinations for residents and visitors. This concept and the before and after photos that follow illustrate how a shared use path could fit into the existing context along Lexington Avenue along the east side of the street.

Figure 03-5: Chapin Shared Use Path Concept


BEFORE


AFTER

CHAPIN CATALYST PROJECT STATS

- 1.2 miles
- Connecting Downtown Chapin to Crooked Creek Park
- 12-foot wide path for bicycles and pedestrians
- Landscaped buffer between travel lane and shared use path
- Other destinations include: Chapin Crossing, Old Lexington Town Center, Chapin Presbyterian Church, St. Francis of Assisi Episcopal Church, Chapin Baptist Child Development Center, and Chapin Baptist Church

POLICY AND PROGRAMMING

Investments in infrastructure must be supported by policy and programming that both encourage and help shift perspectives about bicycling and walking for recreation and active transportation. The Plan makes the following recommendations for Chapin:

- Safe Bicycling and Walking Education in Schools – Coordinate with the school system to develop annual curriculum that teaches students how to safely bicycle or walk to school or other key destinations. Safety education paired with safe, connected infrastructure between destinations can discourage unsafe behavior from roadway users.
- Bike/Walk to Work Days – Establish and promote annual Bike to Work and/or Walk to Work days. These events can excite residents and encourage them to commute without a car, contributing to a culture of bicycling and walking in Chapin.
- Bicycling/Walking Tours – A tour of community destinations, such as parks, schools, restaurants, etc., that may be traveled between via short trips can highlight some of the amenities within the Town. Tours can be enjoyed by both visitors and community members alike.
- Community-Wide Activities – Schedule activities for people to walk and/or bicycle to/from within the community. Activities may include a movie at a park, a festival at Town Hall or local school, or a farmer's market. Each event should provide bicycle parking and promote bicycling or walking as a preferred form or transportation.
- Sidewalk Gap Program – Establish a policy to identify, prioritize, and allocate funds to address sidewalk gaps throughout the Town. This may require additional coordination with SCDOT or annual funding to complete the sidewalk network.
- Sidewalk Maintenance Program – As the sidewalk network continues to grow in Chapin, so will maintenance and repair needs. Consider creating a sidewalk maintenance program that would strategically identify and select sidewalks for repair as needed.
- Development Ordinance Update – Review existing development ordinances to ensure that bicycle and pedestrian facilities are planned and designed for new development. A fee-in-lieu approach may be appropriate for communities with less dense and/or piecemeal development.
- Eat Smart Move More – Use this statewide organization's resources to promote healthy eating and active living. This may include applying for mini-grants or contacting the local chapter for trainings.
- Collaborations with Local Businesses – Explore opportunities to collaborate with local businesses for sponsorships of programming/events or for public-private partnerships. Local business owners may be eager to give back to their communities or to encourage healthy behavior in their employees.
- Consider Alternative Taxes – Special assessment taxes or hospitality taxes can be powerful fundraising mechanisms for implementing infrastructure. Consider whether these types of taxes are feasible within Chapin.
- Investigate Partnerships with Lexington County – For some types of projects, such as the catalyst, Chapin should explore joint investments with Lexington. This partnership could expand funding and maintenance options for each entity.

SUCCESS MEASURES

To assess progress towards achieving the vision outlined in the Plan, this document also provides success measures as a guidepost. While these success measures are not necessarily reflective of all ways that Chapin could support active transportation, these measures should be treated like milestones; as each success measure is completed, Chapin will be one step closer towards achieving the vision laid out in the Plan of being a more bikeable, walkable community. Short-term progress is considered 0-5 years, and long-term progress is considered 6-15 years.

Table 03-3: Chapin Measures of Success

Success Measures	Short-Term Progress	Long-Term Progress
Implement sidewalk improvement/maintenance program(s)		
Implement catalyst project	• Begin engaging with a design firm or in-house engineers about feasibility studies. • Begin setting aside funds or identifying other funding mechanisms for financing the catalyst project.	• Begin design of catalyst project. • Complete construction of catalyst project.
Host bicycling-/walking-oriented events	• Create active transportation-oriented event/theme at existing community events. • Within 5 years, host stand-alone bicycling- and/or walking-oriented event.	• Host annual event, such as Bike or Walk to Work Day, within the Chapin community.
Provide education to children about safe bicycling and walking practices	• Begin conversations with local school systems to integrate safe walking and bicycling training at schools. • Create education program for local children that is audience-/age group-specific • Conduct a pilot education program for a specific age group within the school system.	• Expand existing educational program to reach more age groups per year. • Host annual education seminar for safe bicycling and walking practices in local schools.
Collect data about bicycling and walking in Chapin	• Keep up-to-date inventory of existing bicycle and pedestrian facilities, their condition, and slated year of completion.	• Begin tracking crash data in partnership with local police force/ medical facilities.
Create line item on yearly capital improvement plans for active transportation infrastructure	• Create line items for sidewalk improvements to be included in annual budget.	• Create line items for bicycle/shared use path improvements to be included in annual budget.


04

TOWN OF SWANSEA

EXISTING CONDITIONS

PUBLIC ENGAGEMENT

NETWORK RECOMMENDATIONS

CATALYST PROJECTS

POLICY AND PROGRAMMING

SUCCESS MEASURES

EXISTING CONDITIONS

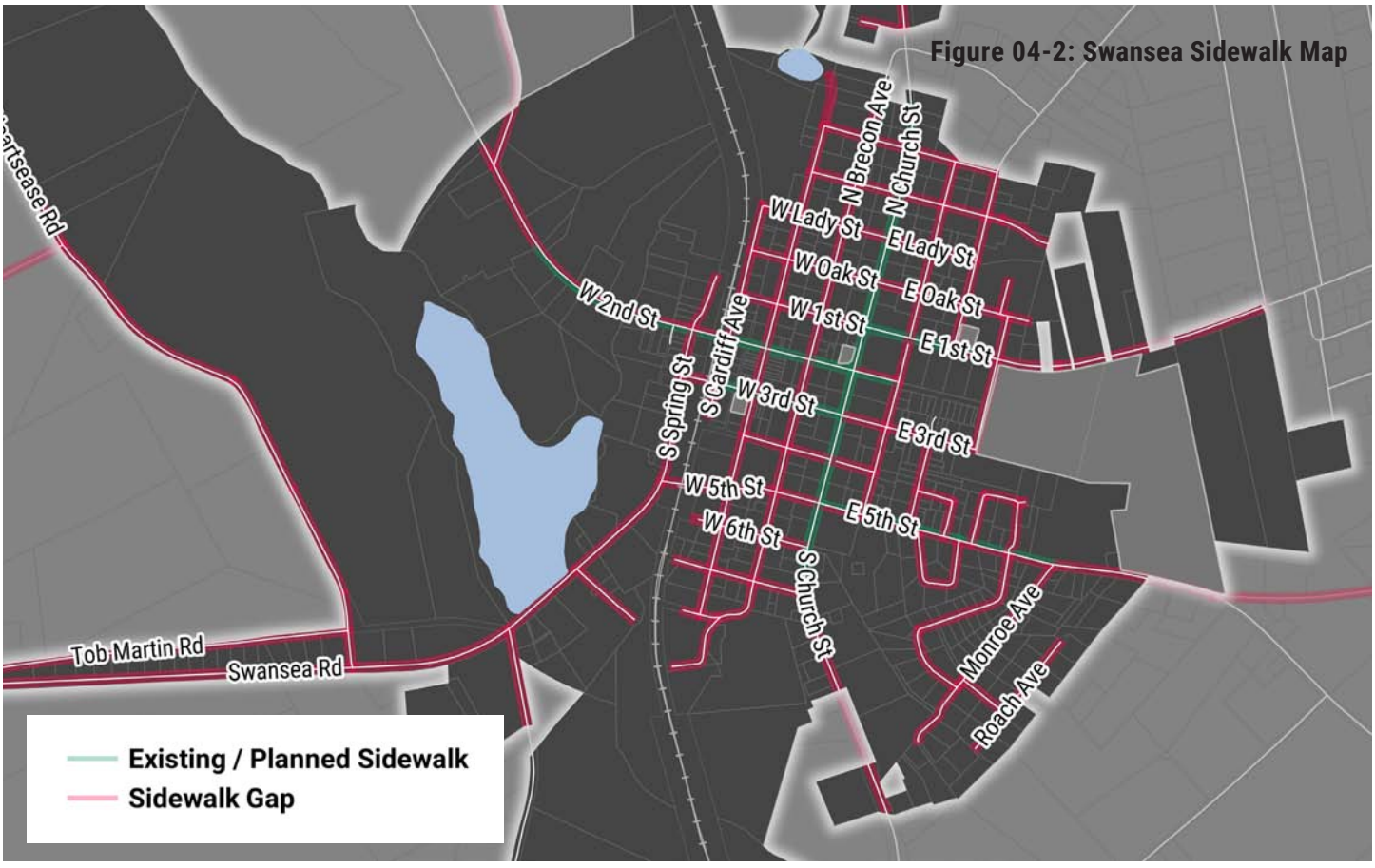
KEY STATS

- Median Household Income: $32,000 (Median Household Income in South Carolina: $46,900)
- 19% living below poverty line
- 24% employment growth in 2016
- Average of one car per household
- 1% of households do not have access to a car
- 644 students at Swansea High School

Swansea is characterized by its historic and tight-knit downtown, centered around the iconic Swansea Fountain. The town is also flanked to the west by a rail road line, Brookers Mill Pond, and Forth Creek. Sidewalks currently run north – south on Church Street and east – west on 1st and 2nd Streets. There were no bicycle facilities within Swansea at the time of the Plan's publication. Despite the lack of bicycle and pedestrian infrastructure, the town's naturally gridded street network offers abundant opportunities for active transportation routes throughout the area; routes could connect from downtown restaurants and businesses to Swansea High School and Freshman Academy, and to nearby residential communities.

Figure 04-1: Swansea Basemap

Figure 04-2: Swansea Sidewalk Map



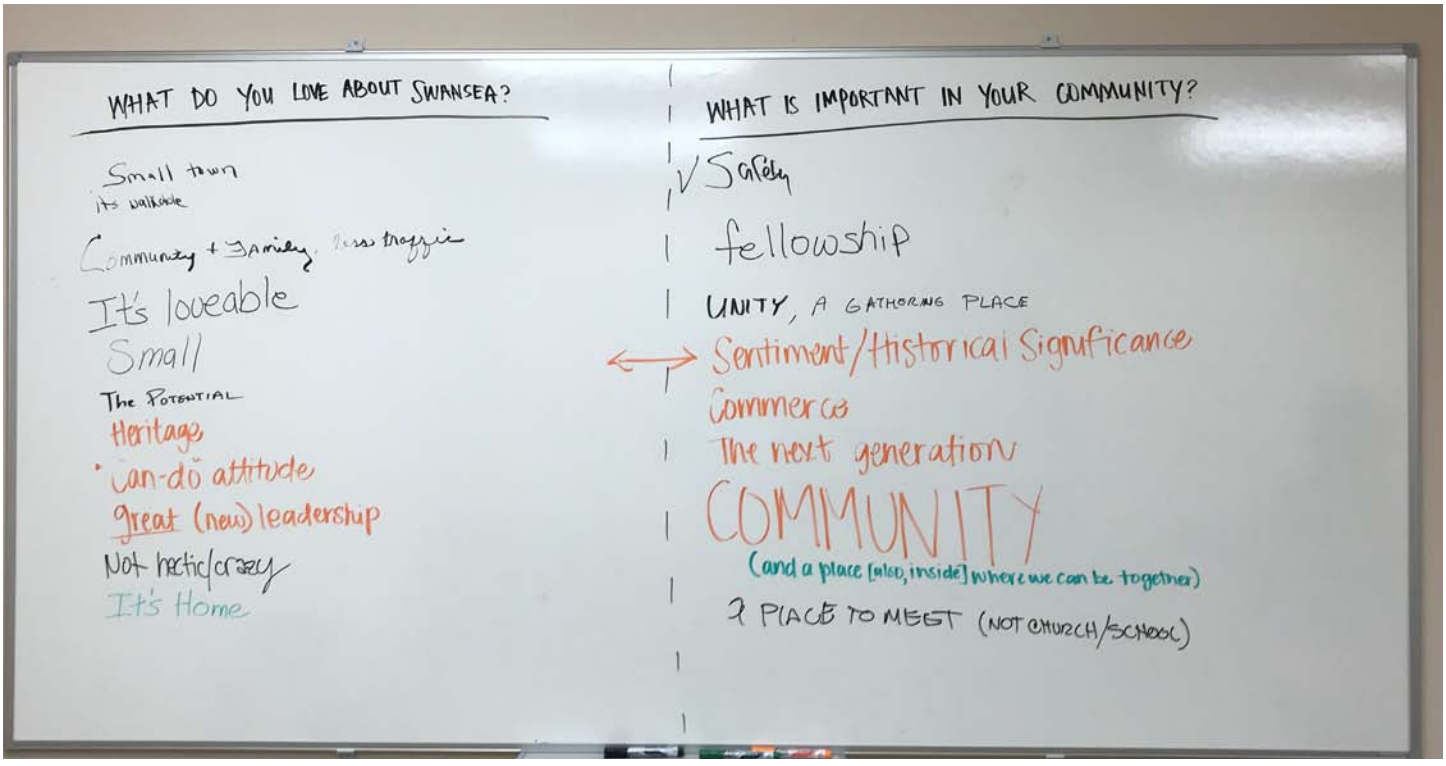
PUBLIC ENGAGEMENT

More than 20 people engaged with the planning process in Swansea. The process allowed people from across the community to learn about the Plan and share their experience in many ways, including workshop events, field work, open houses, online mapping, stakeholder interviews, and more. Capturing community members' experience and local knowledge allowed the Plan to be tailored to best fit the community's needs.

WORKSHOP EVENTS

In October 2018, town staff and a consultant team hosted a day-long workshop in Swansea. The goal of the workshop was to orient the Plan development process around existing conditions, to start conversations with community members and stakeholders about bicycling and walking, and to spread the word about the planning process.

- Fieldwork: A consultant team and staff spent time ground-truthing preliminary research and experiencing what active transportation first-hand.
- Stakeholder Interviews: Consultants and staff held one-on-one meetings with various community members who care about active transportation in Swansea. The interviews helped identify key routes and destinations and formulate programming recommendations. Stakeholders contributing to this process included:
    - Representatives from advocacy groups
    - Representatives from the Swansea Senior Center
    - Local community members
    - And more
- Open House: Staff and consultants hosted an open house meeting on October 2nd. Attendees were invited to talk about active transportation in a casual, informal setting. Respondents were invited to learn about active transportation, to identify important routes for bicycling and walking, and to share what they loved most about Swansea.



WIKIMAPPING

The WikiMap for the Bicycle and Pedestrian Master Plan for Chapin, Swansea, and Batesburg-Leesville allowed participants to interact with an online map in an easy-to-use format specifically geared toward soliciting public feedback on active transportation. The maps allowed for crowdsourcing of participants' experiences biking and walking in Swansea.

Results from the WikiMap served to identify barriers to biking and walking, routes biked and walked most frequently, routes that are presently difficult to bike and walk, and important destinations; these comments served as an additional layer of insight into local concerns and desires. The map was live from October 1st to November 9th.

Figure 04-3: Swansea Wikimap Results

STEERING COMMITTEE

After the initial round of network development, the consultant team and local staff met to vet recommended projects and discuss next steps in the planning process. Feedback from this meeting helped to refine the proposed network and informed programming recommendations for Swansea.

RECOMMENDATIONS OPEN HOUSE MEETINGS

In March 2019, Swansea residents were invited to attend an open-house style meeting to respond to network recommendations and the proposed catalyst projects. The open house meeting provided educational material on types of active transportation infrastructure. Attendees were encouraged to prioritize projects in the network that they felt were most important to accomplish multimodal connectivity.

Swansea participants identified the sidewalk projects on S Cardiff Ave and S Brecon Ave as the highest priority and also gave valuable feedback on a vision of the proposed veterans park.

KEY FINDINGS:

01 Access

People are excited about making Swansea more bikeable and walkable.

It is important that facilities in Swansea be accessible for people of all ages and abilities; this is especially true at community facilities and grocery stores.

02 Community

The small-town feel is important for Swansea residents; people are proud of where they live.

It is important that kids have safe routes to school, as some children walk to Swansea High School and the Freshman Academy.

03 Connectivity

People like the idea of having trails that connect different parts of the community.

The Swansea Fountain is a centerpiece of downtown, and connectivity to the fountain from other locations is important.

04 Mobility

Providing safe walking routes is important for all of the community, but it is especially important for seniors. Well-lit streets and safe infrastructure are keys to encouraging people to walk for trips.

NETWORK RECOMMENDATIONS

Figure 04-4 below shows the proposed network of active transportation facilities in Swansea. In addition, Table 04-1 provides a list of bicycle facility projects proposed within the town. Some bicycle projects also propose a sidewalk along the route to increase mobility for people on bicycles or on foot. Table 04-2 lists the sidewalk projects proposed by the plan that do not include a bicycle facility along the same street.

Figure 04-4: Swansea Network Recommendations

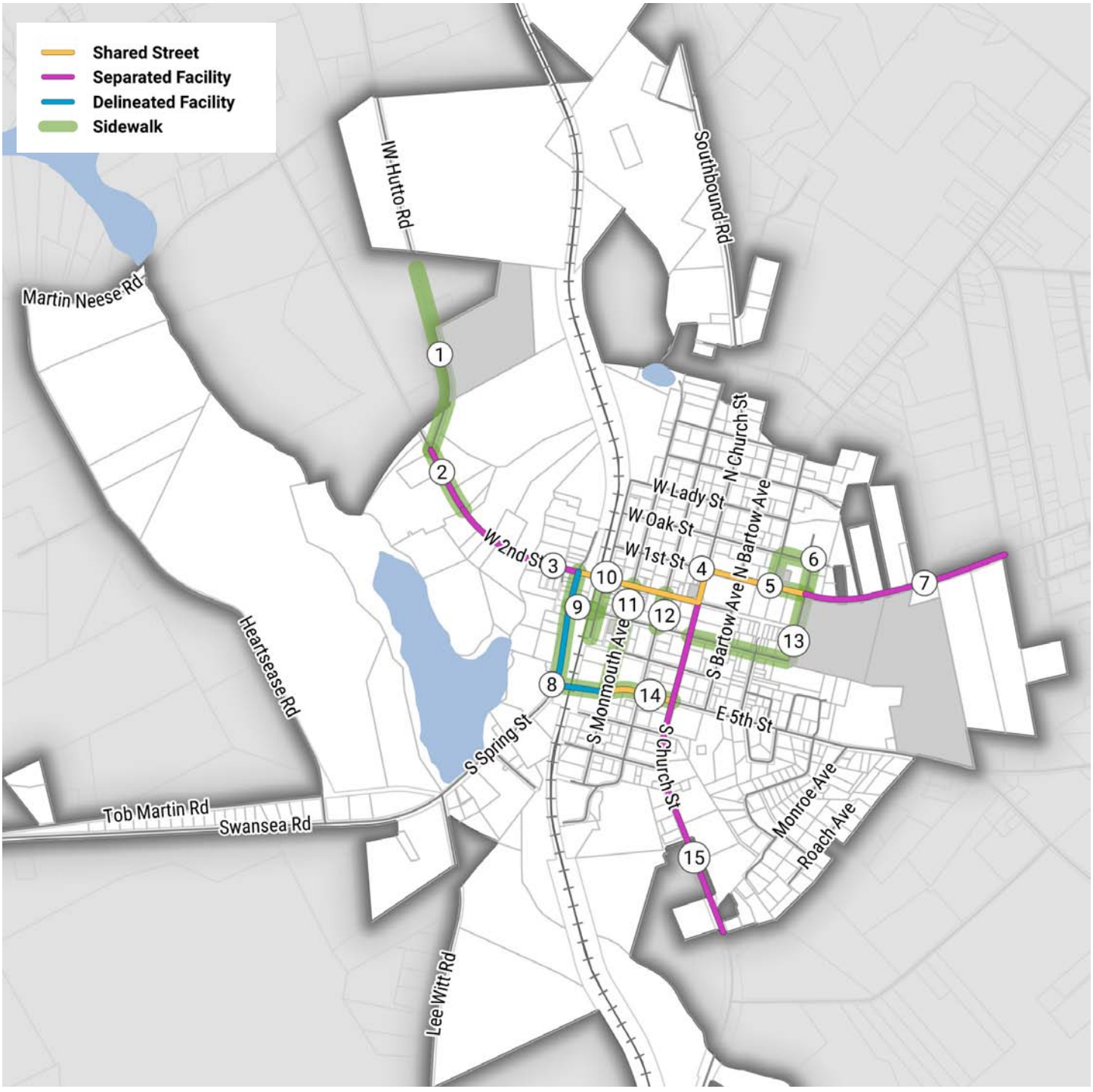


Table 04-1: Swansea Bicycle Project List

Swansea Project ID	Roadway	From	To	Length (ft)	Bicycle Facility	Sidewalk
2	W 2nd St	IW Hutto Rd	W 2nd Sidewalk	723	Separated	Yes
3	W 2nd St	W 2nd Sidewalk	S Spring St	1,529	Separated	
4	W 2nd St - S Church St - E 1st St	S Spring St	N Lawrence Ave	2,386	Shared Street	
5	E 1st St	N Lawrence Ave	N College Ave	361	Shared Street	Yes
7	E 1st St - St Matthews Rd	N College Ave	Myrtle Wise Rd	2,198	Separated	
8	S Spring St - W 5th St	W 2nd St	S Monmouth Ave	1,761	Delineated	Yes
14	W 5th St	S Monmouth Ave	S Church St	724	Shared Street	Yes
15	S Church St	E 2nd St	South Town Boundary	3,652	Separated	

Table 04-2: Swansea Sidewalk Project List

Swansea Project ID	Roadway	From	To	Length (ft)
1	IW Hutto Rd	Martin-Neese Rd	W 2nd St	1,984
2	W 2nd St	IW Hutto Rd	W 2nd Sidewalk	723
5	E 1st St	N Lawrence Ave	N College Ave	361
6	N Lawrence Ave - E Oak St - N College Ave	W 2nd St	W 2nd St	1,054
8	S Spring St - W 5th St	W 2nd St	S Monmouth Ave	1,761
9	W 3rd St	S Spring St	S Cardiff Ave	292
10	S Cardiff Ave	W 2nd St	End of S Cardiff Ave	636
11	S Monmouth Ave	W 3rd St	W 5th St	1,155
12	S Brecon Ave	W 2nd St	W 3rd St	359
13	E 3rd St - S College Ave	S Church St	E 1st St	1,815
14	W 5th St	S Monmouth Ave	S Church St	724

CATALYST PROJECTS

For Swansea, a vision for two different catalyst projects connected to one another were developed:

A "main street" block and streetscaping along W. 3rd Street: Monmouth Avenue is clearly Swansea's "main street." The block between W. 2nd Street and W. 3rd Street already has several commercial uses that attract residents. This proposed catalyst project includes a reimagining of the street block, along with streetscape enhancements along W. 3rd Street crossing the railroad tracks.

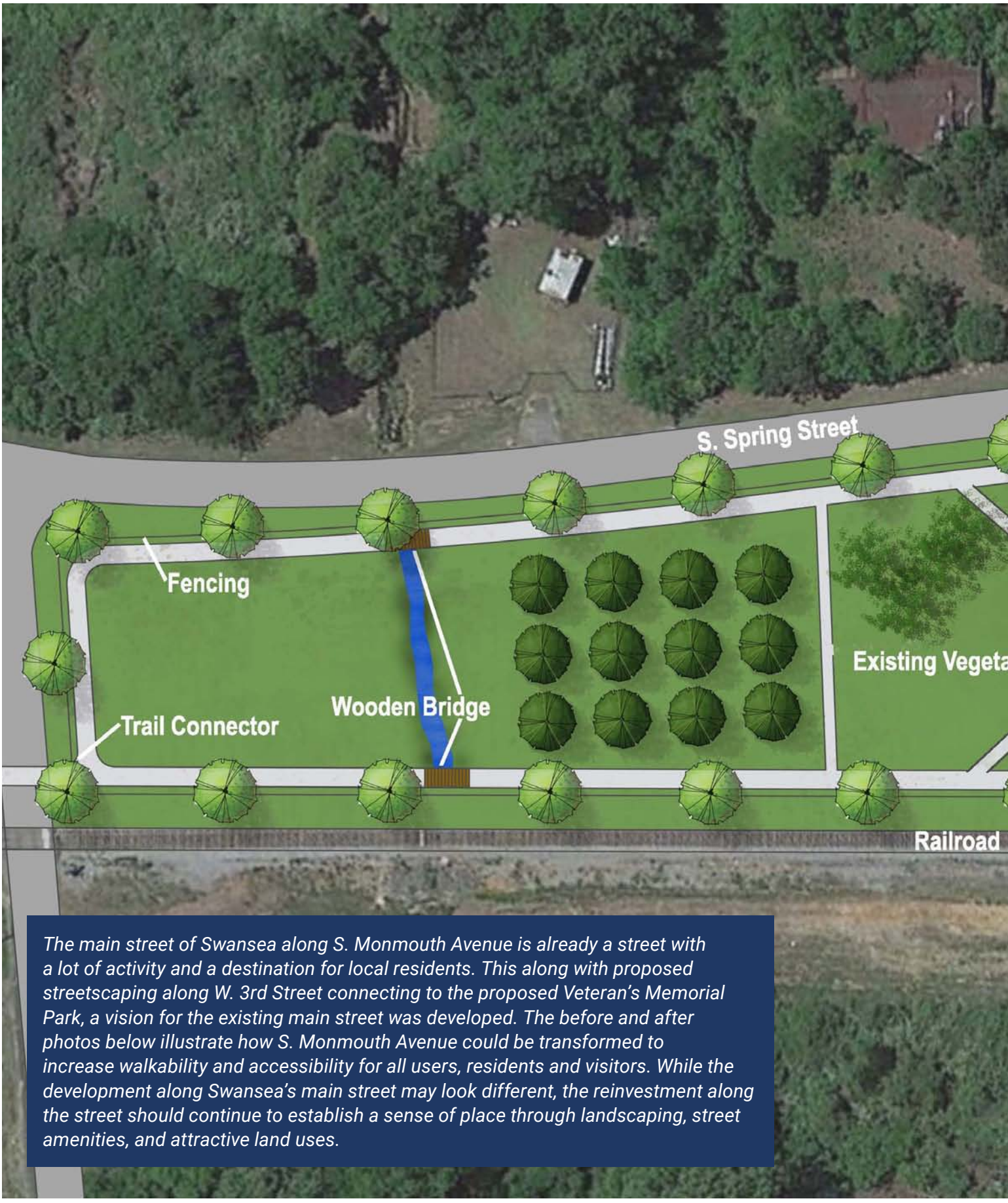
A concept plan for a veterans memorial park: Just west of the railroad (bounded by S. Spring Street, W. 3rd Street, and W. 5th Street), the Plan proposes a community park that would serve as a gathering place for the community and a memorial for those that have served in the U.S. military. This park will contain short walking trails and other community amenities. It will be connected to downtown and to the rest of the proposed network of bicycling and walking routes.

Providing connectivity from S. Monmouth Avenue to the proposed veterans memorial park along W. 3rd Street could encourage a variety of trips between downtown Swansea and the park on foot or bicycle. New sidewalks are proposed to connect these two destinations, as are intersection changes to slow traffic along W. 3rd Street. These proposed changes would narrow travel lanes and slow vehicular speeds to create a safer and more comfortable environment for pedestrians and people on bicycles without restricting access to any mode of transportation. Additionally, formalizing parking along S. Cardiff Street would provide another option for residents or visitors to park once and enjoy Swansea's amenities without a vehicle.

Concepts of the reimagined 3rd Street and the veterans park were developed and are illustrated below.

A result of conversations during the public engagement process was the idea of a memorial park to honor the Town's veterans and offer another amenity to residents and visitors. The concept of the Veteran's Memorial Park aligns with the goals of the town and offers new facilities for pedestrians and people on bicycles. Figure 04-6 illustrates a vision for the park adjacent to the railroad and near downtown. A critical piece of the park concept is the connection across the railroad into the downtown of Swansea. The park concept shows how a variety of features may be incorporated, including a walking trail, attractive landscaping, an amphitheater, and a memorial for veterans.

Figure 04-5: Swansea Street Concept



The main street of Swansea along S. Monmouth Avenue is already a street with a lot of activity and a destination for local residents. This along with proposed streetscaping along W. 3rd Street connecting to the proposed Veteran's Memorial Park, a vision for the existing main street was developed. The before and after photos below illustrate how S. Monmouth Avenue could be transformed to increase walkability and accessibility for all users, residents and visitors. While the development along Swansea's main street may look different, the reinvestment along the street should continue to establish a sense of place through landscaping, street amenities, and attractive land uses.

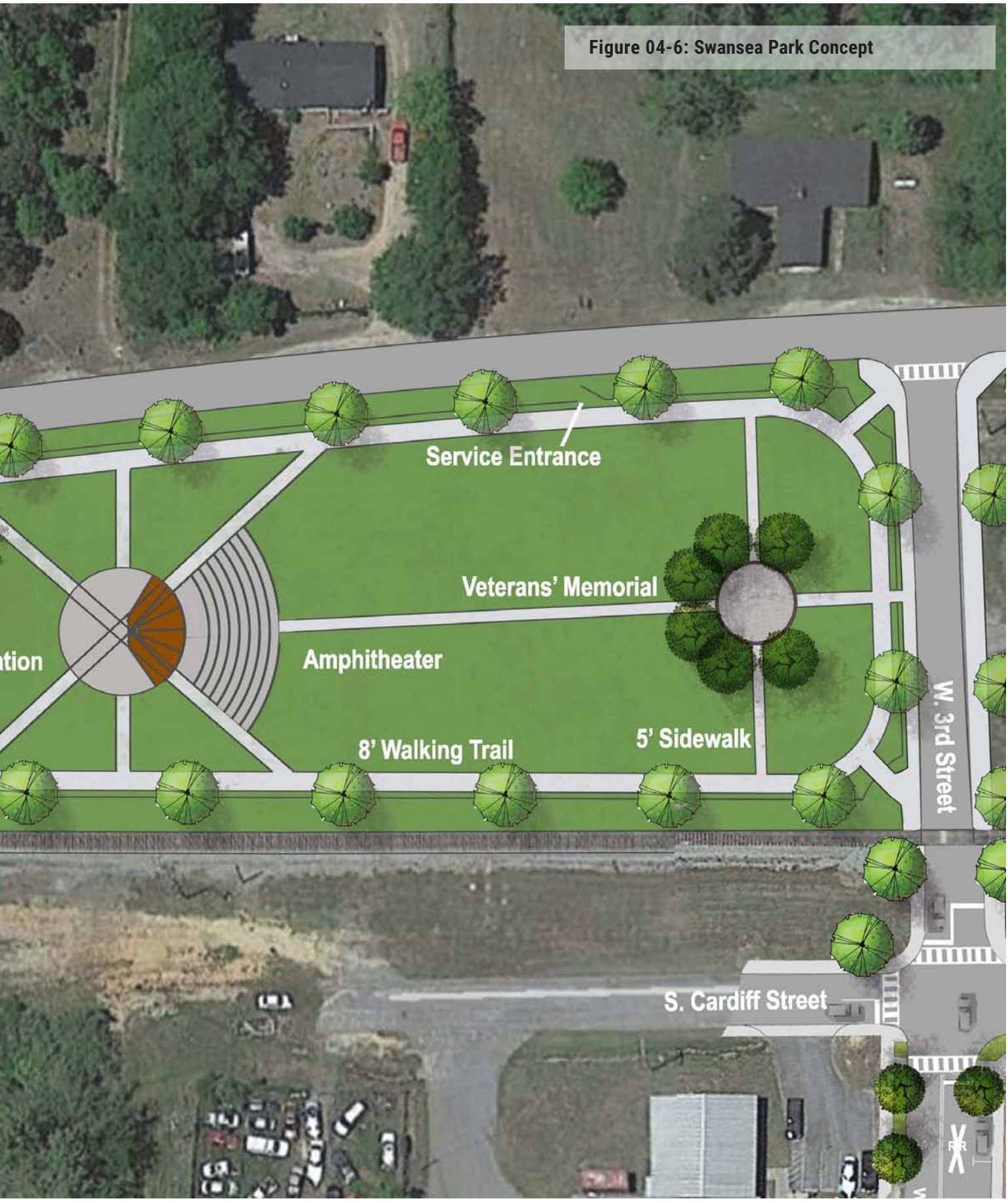


Figure 04-6: Swansea Park Concept


BEFORE
S-32 290
S-32 95


AFTER

SWANSEA CATALYST PROJECTS STATS

- Creates a vision for S. Monmouth Avenue
- Connects the commercial core with proposed green space
- The proposed Veteran's Memorial Park creates Town event space
- Formalizes on-street parking on S. Cardiff Street
- Fills sidewalk gaps and connects pedestrians across the railroad tracks
- Curb extensions increase visibility for pedestrians
- New streetscaping adds vibrancy to downtown core

POLICY AND PROGRAMMING

Investments in infrastructure must be supported by policy and programming that both encourage and help shift perspectives about bicycling and walking for recreation and active transportation. The Plan makes the following recommendations for Swansea:

- Safe Bicycling and Walking Education in Schools – Coordinate with the school system to develop annual curriculum that teaches students how to safely bicycle or walk to school or other key destinations. Safety education paired with safe, connected infrastructure between destinations can discourage unsafe behavior from all roadway users.
- Bike/Walk to Work Days – Establish and promote annual Bike to Work and/or Walk to Work days. These events can excite residents and encourage them to commute without a car, contributing to a culture of bicycling and walking in Swansea.
- Community-Wide Activities – Schedule activities for people to walk and/or bicycle to/from within the community. Activities may include a movie at a park, a festival at Town Hall or local school, or a farmer's market. Each event should provide bicycle parking and promote bicycling or walking as a preferred form or transportation.
- Sidewalk Gap Program – Establish a policy to identify, prioritize, and allocate funds to address sidewalk gaps throughout the Town. This may require additional coordination with SCDOT or annual funding to complete the sidewalk network.
- Sidewalk Maintenance Program – As the sidewalk network continues to grow in Swansea, so will maintenance and repair needs. Consider creating a sidewalk maintenance program that would strategically identify and select sidewalks for repair as needed.
- Eat Smart Move More – Use this statewide organization's resources to promote healthy eating and active living. This may include applying for mini-grants or contacting the local chapter for trainings.
- Collaborations with Local Businesses – Explore opportunities to collaborate with local businesses for sponsorships of programming/events or for public-private partnerships. Local business owners may be eager to give back to their communities or to encourage healthy behavior in their employees.

SUCCESS MEASURES

To assess progress towards achieving the vision outlined in the Plan, this document also provides success measures as a guidepost. While these success measures are not necessarily reflective of all ways that Swansea could support active transportation, these measures should be treated like milestones; as each success measure is completed, Swansea will be one step closer towards achieving the vision laid out in the Plan of being a more bikeable, walkable community. Short-term progress is considered 0-5 years, and long-term progress is considered 6-15 years.

Table 04-3: Swansea Measures of Success

Success Measures	Short-Term Progress	Long-Term Progress
Implement sidewalk improvement/maintenance program(s)		
Implement catalyst project	• Begin engaging with a design firm or in-house engineers about feasibility studies. • Begin setting aside funds or identifying other funding mechanisms for financing the catalyst project.	• Begin design of catalyst projects. • Complete construction of catalyst project.
Host bicycling-/walking-oriented events	• • Within 5 years, host stand-alone bicycling- and/or walking-oriented event.	• Host annual event, such as Bike or Walk to Work Day, within the Swansea community.
Provide education to children about safe bicycling and walking practices	• Begin conversations with local school systems to integrate safe walking and bicycling training at schools. • Create education program for local children that is audience-/age group-specific • Conduct a pilot education program for a specific age group within the school system.	• Expand existing educational program to reach more age groups per year. • Host annual education seminar for safe bicycling and walking practices in local schools.
Collect data about bicycling and walking in Swansea	• Keep up-to-date inventory of existing bicycle and pedestrian facilities, their condition, and slated year of completion. • Engage active senior citizens to discuss gaps in sidewalk network.	• Begin tracking crash data in partnership with local police force/ medical facilities.
Create line item on yearly capital improvement plans for active transportation infrastructure	• Create line items for sidewalk improvements to be included in annual budget.	• Create line items for bicycle/shared use path improvements to be included in annual budget.


05

TOWN OF BATESBURG-LEESVILLE

EXISTING CONDITIONS

PUBLIC ENGAGEMENT

NETWORK RECOMMENDATIONS

CATALYST PROJECT

POLICY AND PROGRAMMING

SUCCESS MEASURES


JCT
321

EXISTING CONDITIONS

KEY STATS

- Median Household Income: $34,700 (Median Household Income in South Carolina: $46,900)
- 25% living below poverty line
- 21% employment growth in 2016
- Average of two cars per household
- 3% of households do not have access to a car

Batesburg-Leesville has a population of nearly 5,300 people. Because Batesburg and Leesville were previously two separate communities, there are two distinct “downtown” areas that are connected by east – west connections via West Columbia Avenue (US 1), West Church Street, and an active railroad. There were no bicycle facilities in Batesburg-Leesville at the time the Plan’s publication. The existing sidewalk network Is concentrated in downtown Batesburg. There are no sidewalk connections to most of the community facilities and schools (see Figure XX), meaning that there is latent potential for walking to for trips.

Figure 05-1: Batesburg-Leesville Basemap

Figure 05-2: Batesburg-Leesville Sidewalk Map

PUBLIC ENGAGEMENT

More than 65 people engaged with the planning process in Batesburg-Leesville. The process allowed people from across the community to learn about the Plan and share their experience in many ways, including workshop events, field work, open houses, online mapping, stakeholder interviews, and more. Capturing community members' experience and local knowledge allowed the Plan to be tailored to best fit the community's needs.

WORKSHOP EVENTS

In October 2018, town staff and a consultant team hosted a day-long workshop in Batesburg-Leesville. The goal of the workshop was to orient the Plan development process around existing conditions, to start conversations with community members and stakeholders about bicycling and walking, and to spread the word about the planning process.

- Fieldwork: A consultant team and staff spent time ground-truthing preliminary research and experiencing what active transportation first-hand.
- Stakeholder Interviews: Consultants and staff held one-on-one meetings with various community members who care about active transportation in Batesburg-Leesville. The interviews helped identify key routes and destinations and formulate programming recommendations. Stakeholders contributing to this process included:
    - Local runners, walkers, and bicyclists
    - Fitness centers and gyms
    - Members of local business associations
    - And more
- Open House: Staff and consultants hosted an open house meeting on October 3rd. Attendees were invited to talk about active transportation in a casual, informal setting. Respondents were invited to learn about active transportation, to identify important routes for bicycling and walking, and to share what they loved most about Batesburg-Leesville.

WIKIMAPPING

The WikiMap for the Bicycle and Pedestrian Master Plan for Chapin, Swansea, and Batesburg-Leesville allowed participants to interact with an online map in an easy-to-use format specifically geared toward soliciting public feedback on active transportation. The maps allowed for crowdsourcing of participants' experiences biking and walking in Batesburg-Leesville.

Instructional videos for using the WikiMap were added to the Batesburg-Leesville Facebook page to encourage more participation from those who could not attend in-person events. Over 48 comments from nearly 20 users served to identify barriers to biking and walking, routes biked and walked most frequently, routes that are presently difficult to bike and walk, and important destinations; these comments served as an additional layer of insight into local concerns and desires. The map was live from October 1st to November 9th.

Figure 05-3: Batesburg-Leesville Wikimap Results

STEERING COMMITTEE

After the initial round of network development, the consultant team and local staff met to vet recommended projects and discuss next steps in the planning process. Feedback from this meeting helped to refine the proposed network and informed programming recommendations for Batesburg-Leesville.

RECOMMENDATIONS OPEN HOUSE MEETINGS

In March 2019, Batesburg-Leesville residents were invited to attend an open-house style meeting to respond to network recommendations and the proposed catalyst projects. The open house meeting provided educational material on types of active transportation infrastructure. Attendees were encouraged to prioritize projects in the network that they felt were most important to accomplish multimodal connectivity.

Participants overwhelmingly identified the next-to-rail-trail as the highest priority project because of its ability to connect the town's two historic centers and provide safe access to downtown destinations away from the busiest streets.

KEY FINDINGS:

01 People

People are excited about making Batesburg-Leesville more bikeable and walkable.

People cherish the small-town fabric in Batesburg-Leesville; residents are proud of where they live.

02 Connectivity

It is important that facilities in Batesburg-Leesville be accessible for people of all ages and abilities; this is especially true at community facilities and grocery stores.

Feeling safe while walking, wheeling, and bicycling is a driving factor in mode choice.

03 Partnerships

There is interest in partnering with local community organizations for community-wide event planning and programming.

04 Momentum

There is a need to identify and leverage funding sources or financing mechanisms to implement new infrastructure.

NETWORK RECOMMENDATIONS

Figure 05-4 below shows the proposed network of active transportation facilities in Batesburg-Leesville. In addition, Table 05-1 provides a list of bicycle facility projects proposed within the town. Some bicycle projects also propose a sidewalk along the route to increase mobility for people on bicycles or on foot. Table 05-2 lists the sidewalk projects proposed by the plan that do not include a bicycle facility along the same street.

Figure 05-4: Batesburg-Leesville Network Recommendations

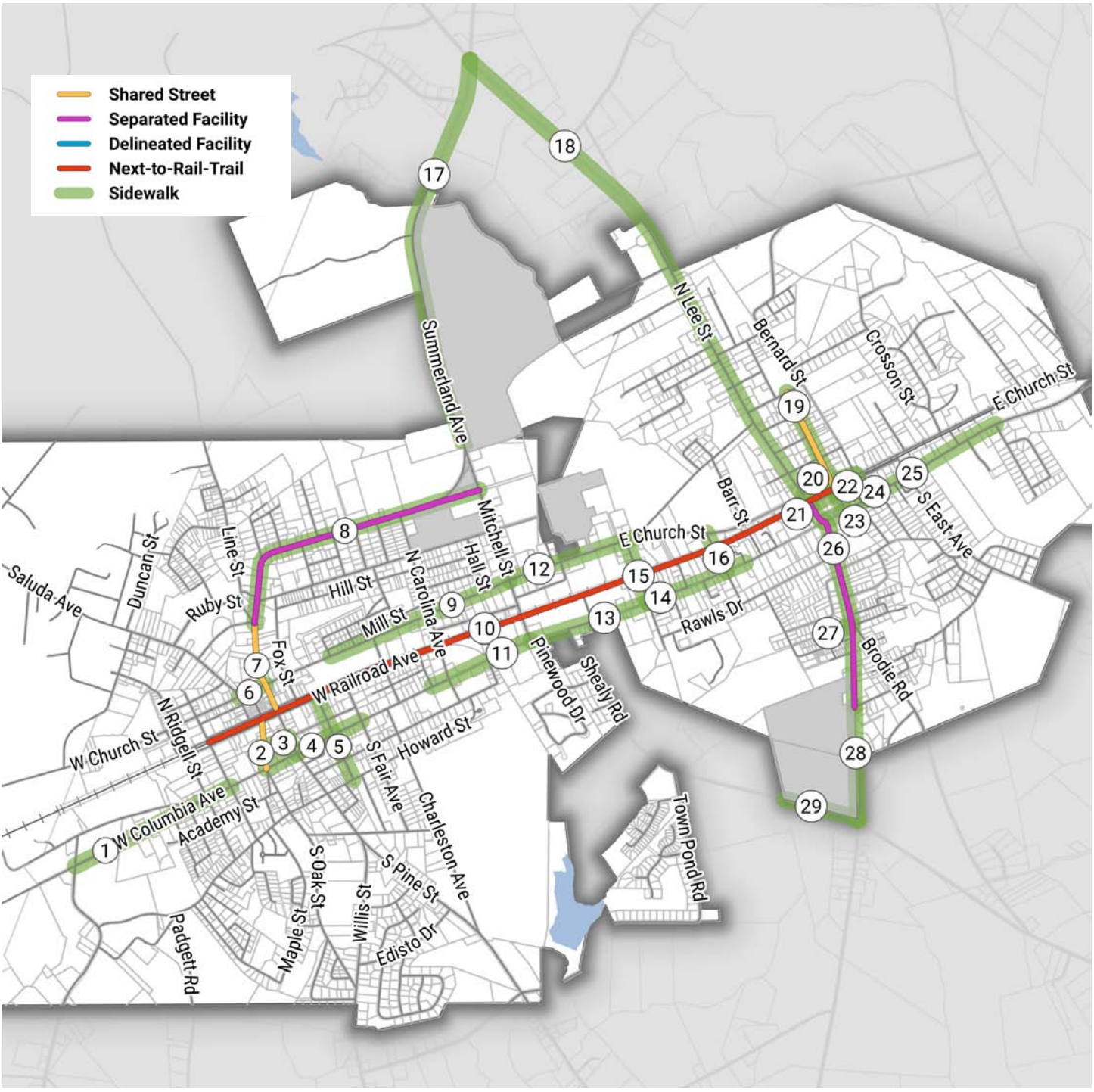


Table 05-1: Batesburg-Leesville Bicycle Project List

Batesburg-Leesville Project ID	Roadway	From	To	Length (ft)	Bicycle Facility	Sidewalk
2	N Oak St	W Railroad Ave	W Columbia Ave	865	Shared Street	
7	Line St - N Pine St	Summerland Ave	W Railroad Ave	1,656	Shared Street	
8	Summerland Ave - Armory St	Line St	Mitchell St	5,477	Separated	Yes
10	Rail Trail	N Peachtree St	Bernard St	13,112	Shared Use Path	
19	Main St	College St	E Railroad Ave	2,071	shared street	Yes
26	S Lee St	E Railroad Ave	Ceder St	3,939	Separated	Yes

Table 05-2: Bateburg-Leesville Sidewalk Project List

Batesburg-Leesville Project ID	Roadway	From	To	Length (ft)
1	W Columbia Ave	S Bethlehem Rd	N Peachtree St	3,264
3	Hartley St	N Oak St	N Pine St	509
4	W Columbia Ave - N Pine St	N Oak St	N Fair Ave	2,109
5	S Perry St	W Railroad Ave	Howard St	1,665
6	W Church St	Saluda Ave / Fulner St	N Pine St	542
8	Summerland Ave - Armory St	Line St	Mitchell St	5,477
9	W Church St	Rabum St	Mitchell St	3,639
11	W Columbia Ave	N Carolina Ave	Mitchell St	2,033
12	W Church St	Mitchell St	N Hendrix St	2,527
13	W Columbia Ave	Mitchell St	N Hendrix St	2,311
14	E Columbia Ave	N Hendrix St	N Bedenbaugh St	1,962
15	N Hendrix St	E Church St	E Columbia Ave	1,229
16	N Bedenbaugh St	E Church St	E Columbia Ave	793
17	Summerland Ave - Mitchell St	N Lee St	Armory St	7,521
18	N Lee St	Summerland Ave	E Railroad Ave	10,597
19	Main St	College St	E Railroad Ave	2,071
20	E Church St	N Lee St	Bernard St	1,054
21	E Railroad Ave	N Lee St	Main St	538
22	E Railroad Ave	Main St	Bernard St	468
23	Main St	E Railroad Ave	E Columbia Ave	395
24	Bernard St	E Church St	E Columbia Ave	503
25	E Columbia Ave	N Lee St	Daniel Dr	3,671
26	S Lee St	E Railroad Ave	Ceder St	3,939
27	Peace St	Mid-Block Peace St	S Lee St	542
28	S Lee St	Cedar St	Shealy Rd	2,113
29	Shealy Rd	B-L Middle School	S Lee St	1,439


RAILROAD
CROSSING
YIELD
245

CATALYST PROJECT

Rail-with-trail: Right-of-way on the south side of the railroad could be used to create a trail that connects the hearts of Batesburg and Leesville to one another. The trail would be multiuse—both bicyclists and pedestrians would be encouraged to use it. The trail would also be supported by a series of recommended bicycle routes and sidewalk improvements that intersect with it. This would create additional connectivity to local schools, parks, and other destinations.

The shared use path paralleling the railroad would not only address connectivity issues, but also meet the desire for a separated activity trail that the community expressed during the public engagement process. While completing the sidewalk network along W. Columbia Avenue (US 1) and W. Church Street is critical for pedestrian connectivity, the proposed shared use path next to the railroad would offer a comfortable and attractive option for recreation and active transportation.


E. Church Street
5’ Sidewalk
Railroad
Trail
Mixing Zone

Figure 05-5: Batesburg-Leesville Trail Concept (East)

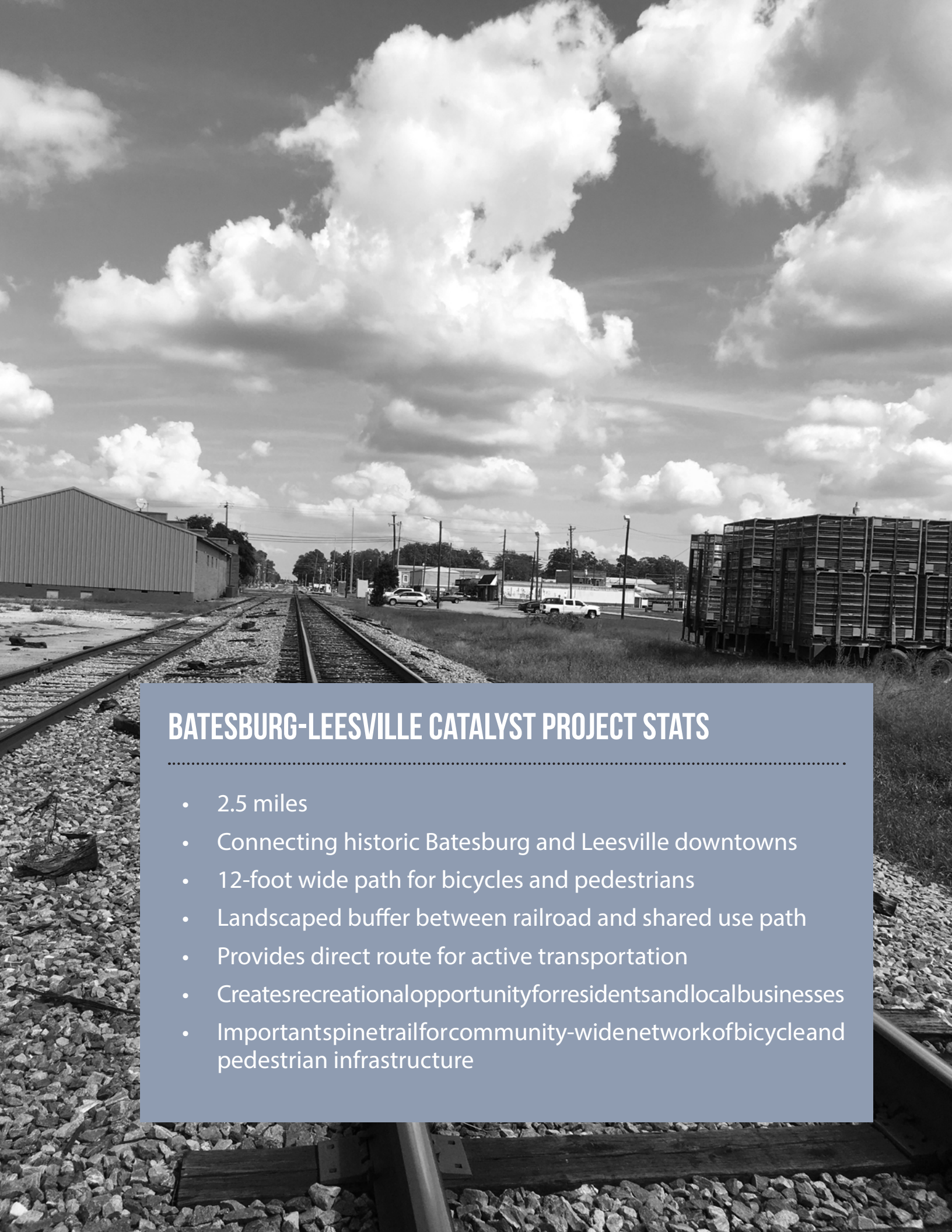

W. Railroad Avenue
N. Oak Street
8' Sidewalk
12' Trail
Mixing Zone
Railroad
W. Railroad

Figure 05-6: Batesburg-Leesville Trail Concept (West)

Although it is difficult to imagine a trail that parallels the railroad, implementing such a trail could be transformative for the Batesburg-Leesville community. These concept drawings and the before and after images that follow provide a conceptual look at how a shared use path could be installed along the railroad. A next-to-rail trail would include a variety of amenities including but not limited to benches, lighting, landscaping for shade, etc.


BEFORE


AFTER



BATESBURG-LEESVILLE CATALYST PROJECT STATS

- 2.5 miles
- Connecting historic Batesburg and Leesville downtowns
- 12-foot wide path for bicycles and pedestrians
- Landscaped buffer between railroad and shared use path
- Provides direct route for active transportation
- Creates recreational opportunity for residents and local businesses
- Important spine trail for community-wide network of bicycle and pedestrian infrastructure

POLICY AND PROGRAMMING

Investments in infrastructure must be supported by policy and programming that both encourage and help shift perspectives about bicycling and walking for recreation and active transportation. The Plan makes the following recommendations for Batesburg-Leesville:

- Safe Bicycling and Walking Education in Schools – Coordinate with the school system to develop annual curriculum that teaches students how to safely bicycle or walk to school or other key destinations. Safety education paired with safe, connected infrastructure between destinations can discourage unsafe behavior from all roadway users.
- Bike/Walk to Work Days – Establish and promote annual Bike to Work and/or Walk to Work days. These events can excite residents and encourage them to commute without a car, contributing to a culture of bicycling and walking in Batesburg-Leesville.
- Bicycling/Walking Tours – A tour of community destinations, such as parks, schools, restaurants, etc., that may be traveled between via short trips can highlight some of the amenities within the Town. Tours can be enjoyed by both visitors and community members alike.
- Community-Wide Activities – Schedule activities for people to walk and/or bicycle to/from within the community. Activities may include a movie at a park, a festival at Town Hall or local school, or a farmer's market. Each event should provide bicycle parking and promote bicycling or walking as a preferred form or transportation.
- Sidewalk Gap Program – Establish a policy to identify, prioritize, and allocate funds to address sidewalk gaps throughout the Town. This may require additional coordination with SCDOT or annual funding to complete the sidewalk network.
- Sidewalk Maintenance Program – As the sidewalk network continues to grow in Swansea, so will maintenance and repair needs. Consider creating a sidewalk maintenance program that would strategically identify and select sidewalks for repair as needed.
- Development Ordinance Update – Review existing development ordinances to ensure that bicycle and pedestrian facilities are planned and designed for new development. A fee-in-lieu approach may be appropriate for communities with less dense and/or piecemeal development.
- Eat Smart Move More – Use this statewide organization's resources to promote healthy eating and active living. This may include applying for mini-grants or contacting the local chapter for trainings.
- Collaborations with Local Businesses – Explore opportunities to collaborate with local businesses for sponsorships of programming/events or for public-private partnerships. Local business owners may be eager to give back to their communities or to encourage healthy behavior in their employees.
- Consider Alternative Taxes – Special assessment taxes or hospitality taxes can be powerful fundraising mechanisms for implementing infrastructure. Consider whether these types of taxes are feasible within Batesburg-Leesville.
- Investigate Partnerships with CSX Railroad – For some types of projects, such as the catalyst project, Batesburg-Leesville should explore partnerships with the Railroad company as soon as possible. This partnership could expand right of way, funding, and maintenance options for each entity.

SUCCESS MEASURES

To assess progress towards achieving the vision outlined in the Plan, this document also provides success measures as a guidepost. While these success measures are not necessarily reflective of all ways that Batesburg-Leesville could support active transportation, these measures should be treated like milestones; as each success measure is completed, Batesburg-Leesville will be one step closer towards achieving the vision laid out in the Plan of being a more bikeable, walkable community. Short-term progress is considered 0-5 years, and long-term progress is considered 6-15 years.

Table 05-3: Batesburg-Leesville Measures of Success

Success Measures	Short-Term Progress	Long-Term Progress
Implement sidewalk improvement/maintenance program(s)	• Update sidewalk inventory with broken or damaged sidewalks. • Develop procedure for prioritizing sidewalk repair and installation	• Allocate annual funding for ongoing repairs and implementing new sidewalks.
Implement catalyst project	• Begin engaging with a design firm or in-house engineers about feasibility studies. • Begin setting aside funds or identifying other funding mechanisms for financing the catalyst project.	• Begin design of catalyst projects. • Complete construction of catalyst project.
Host bicycling-/walking-oriented events	• Within 5 years, host stand-alone bicycling- and/or walking-oriented event. • Engage local gyms to create wayfinding for walking/running routes	• Host annual event, such as Bike or Walk to Work Day, within the Batesburg-Leesville community.
Provide education to children about safe bicycling and walking practices	• Begin conversations with local school systems to integrate safe walking and bicycling training at schools. • Create education program for local children that is audience-/age group-specific • Conduct a pilot education program for a specific age group within the school system.	• Expand existing educational program to reach more age groups per year. • Host annual education seminar for safe bicycling and walking practices in local schools.
Collect data about bicycling and walking in Batesburg-Leesville	• Keep up-to-date inventory of existing bicycle and pedestrian facilities, their condition, and slated year of completion. • Engage active senior citizens to discuss gaps in sidewalk network.	• Begin tracking crash data in partnership with local police force/ medical facilities.
Create line item on yearly capital improvement plans for active transportation infrastructure	• Create line items for sidewalk improvements to be included in annual budget.	• Create line items for bicycle/shared use path improvements to be included in annual budget.

APPENDIX A

Funding and Implementation

FUNDING AND IMPLEMENTATION

The following sections outline different options for funding the active transportation networks in Chapin, Swansea, and Batesburg-Leesville. Options for funding include those at the local, state, and national levels. It is important to note that, while funding from state- and national-level funding sources are options for implementing active transportation networks, many grants require some percentage grants given to be matched by local funds. Also, state- and national-level sources can often be one-time funding options, which may not be ideal for building sustainable sources for long-term network development and maintenance. It is, therefore, important to closely analyze local funding options to determine which are most fitting for the local community.

FEDERAL

The primary federal transportation funding program for bicycle and pedestrian projects comes from a set-aside of the Surface Transportation Block Grant (STBG) Program funding for transportation alternatives (TA). These set-aside funds are eligible for a variety of smaller-scale, local transportation projects such as pedestrian and bicycle facilities, recreational trails, and Safe Routes to School projects. For most projects under the TA set-aside, the share is generally 80 percent federal and 20 percent state or local match. The TA set-aside and other federal funding sources that may help with implementing projects in the Plan are summarized below.

TRANSPORTATION ALTERNATIVES

As a set-aside fund for the Surface Transportation Block Grant (STBG) Program, the Transportation Alternatives funding is distributed to states and Metropolitan Planning Organizations (MPOs) for urbanized areas with populations of more than 200,000. The program encompasses a variety of small-scale transportation projects such as pedestrian and bicycle facilities, recreational trails, and Safe Routes to School projects.

CONGESTION MANAGEMENT AND AIR QUALITY IMPROVEMENT PROGRAM (CMAQ)

Funds may be used for a transportation project or program that:

- is likely to contribute to the attainment or maintenance of a national ambient air quality standard,
- has a high level of effectiveness in reducing air pollution, and
- that is included in the metropolitan planning organization's (MPO's) current transportation plan and transportation improvement program (TIP) or the current state transportation improvement program (STIP) in areas without an MPO.

These funds are suitable for bicycle- and/or pedestrian-related projects. CMAQ funds may be used for shared use paths but may not be used for trails that are primarily for recreational use. More information about CMAQ funding can be found at: https://www.fhwa.dot.gov/fastact/factsheets/cmaqfs.cfm

BETTER UTILIZING INVESTMENTS TO LEVERAGE DEVELOPMENT (BUILD) TRANSPORTATION GRANTS

BUILD (previously known as TIGER) grants are nationally competitive grants for capital investments on surface transportation projects that achieve a significant impact for a local or metropolitan area. At least $1.5 billion has been allocated to BUILD Grants, with the U.S. Department of Transportation aiming to use the funding to support a greater number of projects located in rural areas. States are eligible to receive up to $150 million in BUILD grants.

STATE

COUNTY TRANSPORTATION COMMITTEE

Funds collected from a per-gallon state gasoline tax, commonly called "C-Funds" are distributed to each of South Carolina's 46 counties based on their population, land area, and rural road mileage. C-Fund dollars are often used for sidewalk construction, but they may be used for bike lanes if a County Transportation Committee so desires. SC's C-Fund language states that funds "…may be used within the public right of way for paving, resurfacing, bridge construction or replacement, street and traffic signs, traffic signals, street lighting, and other road and bridge infrastructure projects.1"

SCDOT LPA PROCESS

The SC Department of Transportation designates Local Public Agencies (LPA) under the authority of the state. The LPA can then implement any transportation project funded through the South Carolina Department of Transportation (SCDOT) using federal, state, or local funding. The LPA must have full-time staff devoted to implementing an LPA project.

LPA projects can include many types of transportation projects, including transportation enhancement and scenic byways. Projects are identified through a development process; more information about that process can be found at: https://www.scdot.org/business/pdf/LPA/LPA_Procedures.pdf.

EAT SMART MOVE MORE

Mini-grants for up to $5,000 are available through a program from the local advocacy group Eat Smart Move More called the Let's Go 3.0 grant program. The Eat Smart Move More program describes the purpose of the grant: "The mini-grants will be used to fund healthy eating and active living projects that support policy, systems, and environmental (PSE) changes. This mini-grant opportunity is made possible through a grant provided to ESMMSC by the BlueCross BlueShield of South Carolina Foundation, an independent licensee of the Blue Cross and Blue Shield Association." These small grants can be used in a variety of ways, including but not limited to bike racks, crosswalks, and open streets events.

LOCAL

There are a variety of opportunities to implement bicycle and pedestrian facilities with local funding strategies. However, not all communities will be receptive to the options provided, and not all options are Each funding opportunity and strategy is listed as a resource for near-term or future use.

PUBLIC-PRIVATE PARTNERSHIPS

Cooperative partnerships with private and non-profit entities to design and build infrastructure, often called public-private partnerships (or PPPs) are another mechanism that can be used to implement facilities in an active transportation network. South Carolina's legislation2 allows for governments to enter contractual agreements with a public entity to fund infrastructure projects. Potential partners in PPPs include community development organizations, developers, faith-based organizations, and utility providers.

A major incentive of using PPPs is that there is greater control in management and decision-making; the role of the private/non-profit entity can be limited or broad, depending on the needs of the local government and the project. Partners can leverage one another's assets, public image, influence, constituent support to more efficiently fund and build an active transportation network while reducing the burden on taxpayers by limiting public debt.

LOCAL AGENCY AND COUNTY PARTNERSHIPS

In addition to private partnerships, local governments can engage in partnerships with other agencies and local governments to implement active

transportation infrastructure. Engaging in these types of collaborative partnerships can allow each community to expand its possibilities. Partnerships with local governments, including Lexington County and the Central Midlands Council of Governments, allows for potential connections to surrounding amenities (parks, water bodies, etc.). Also, partnership with local agencies, like CSX, would allow for additional opportunities for trail/greenway development.

DEVELOPMENT ORDINANCES

Development ordinances encourage consistent and high-quality development in communities. The following ordinance types are helpful for implementing active transportation infrastructure:

- Complete Streets Ordinances – adopting a complete streets ordinance demonstrates a community's dedication to streets for all users. Ordinances can encourage active transportation by requiring consideration for active transportation facilities upon resurfacing.
- Sidewalk Ordinances - By placing sidewalk requirements on developers, communities can create high-quality and connected sidewalk networks as the communities develop over time.

SC HOSPITALITY TAX

Revenue from hospitality taxes can be used for tourism related projects, including cultural, recreational, or historic facilities; highways, roads, streets, and bridges that provide access to tourist destinations (including bicycle and pedestrian facilities); advertisements and promotions related to tourism development; water and sewer infrastructure to serve tourism-related demand; and operation and maintenance of those items, including police, fire protection, emergency medical services, and emergency-preparedness operations directly attendant to those facilities. The law states that local ordinances can levy this tax not to exceed 2% of the charges for food and beverages.

CAPITAL IMPROVEMENT PROGRAM (CIP)

The CIP allocates funds for all major capital improvement projects, regardless of the funding source. This program is an important tool for improving bicycle and pedestrian facilities and uses funds from a variety of sources, including bonds, fees, and state and federal grant sources. The CIP shows a five-year prioritization of infrastructure projects and is revised annually. Incorporating bikeways into projects' street design as part of the CIP project development process will aid in the ability to fund the Plan's implementation.

GENERAL FUND

A municipality's General Fund supports core public services. Allocations from the general fund to the various Public Works, Parks and Recreation, and Public Safety departments could support program and project operating expenses housed within them, such as staff time, outreach and education materials, facility maintenance, and other small capital expenses.

STRATEGIES FOR IMPLEMENTATION

This section outlines strategies and best practices most appropriate for implementing the Plan's recommendations. This guide is not exhaustive, however. Conditions may evolve, opportunities arise, and new approaches may be developed that fall outside of these strategies. New strategies should be considered over time to implement the bicycle and pedestrian network.

COORDINATE UPCOMING ROADWAY PROJECTS TO ACCOUNT FOR BIKEWAY, PATH, AND SIDEWALK IMPLEMENTATION

The most cost-effective and coordinated way to provide bicycle and pedestrian infrastructure (bike lanes, trails, sidewalks, curb extensions, etc.) is to do so as part of a larger roadway reconstruction, rehabilitation, or repaving project. When constructed in this manner, the bikeway project is considered "incidental" because it is incorporated into the overall phasing of a larger road project. Incidental projects are often driven by opportunity, such as when a roadway is resurfaced or reconstructed. When such opportunities arise, bikeways are typically

funded using the same source of funding as the roadway project and can often be incorporated at a relatively modest cost. For example, providing bicycle accommodations as part of a larger roadway project often means simply adding a few additional feet of pavement. Depending on right-of-way constraints and the selected bikeway type, the impact on the project cost can be cost-effective. Each community can implement this strategy by adopting Complete Streets policies that apply to new construction, reconstruction, and 3R (resurfacing, restoration, or rehabilitation) projects on all streets and roads. For projects that extend outside of town boundaries the towns should seek opportunities to collaborate with the South Carolina Department of Transportation to achieve the desired outcomes for bicycle and pedestrian accommodations.

ACQUIRE RIGHT-OF-WAY EARLY ON

In some cases, a bikeway might not be included as part of a roadway project due to lack of near-term feasibility, funding, or demand. In these situations, the road project should not preclude future bikeway additions. This applies to new construction, reconstruction, right-of-way acquisition, bridge replacement, and other significant undertakings along future bikeway corridors. Examples are listed below:

- If a new roadway is being constructed, the Town should acquire adequate right-of-way to provide a sidepath alongside the roadway in the future.
- When a bridge is replaced, it should be adequately designed to accommodate a bikeway now or in the future.
- When above- and below-ground utilities are installed or replaced along a roadway, place them so that they do not obstruct the future bikeway and sidewalks.
- Where a grade-separated crossing may be needed in the future, acquire adequate right-of-way for ramps, approaches, structures, and related appurtenances.

ENHANCE SHARED-BICYCLE ROUTES WITH WAYFINDING, REGULATORY SIGNS AND PAVEMENT MARKINGS

Many streets within Chapin Swansea and Batesburg-Leesville are suitable for bicycling without dedicated accommodations (such as bike lanes, paved shoulders, or trails). However, additional treatments could greatly enhance them as convenient routes for bicycling. Such treatments include shared-lane markings (sharrows), bike route and wayfinding signs, intersection treatments and identification of them in a publicly available map of preferred bike routes. These simple, low-cost treatments help bicyclists simply by confirming that they are on a designated bikeway without the necessity of major capital costs.

EMPLOY INTERIM SOLUTIONS PRIOR TO FULL-BUILD IMPLEMENTATION

Along many segments of the future bikeway network, it may be advantageous to identify and develop interim solutions until the full bikeway can be developed as envisioned. Interim solutions offer a near-term mobility option that did not previously exist and are not seen an alternative to a more comprehensive solution. One example of how an interim solution can be implemented is to provide an on-street bikeway accommodation (e.g., a bike lane) that may adequately serve more confident bicyclists until a lower-stress bikeway can be funded and constructed (e.g., a sidepath). Another example is to provide a low-stress on-street bikeway along a parallel route that might not be as direct or might not be as highly-accessible until a bikeway can be established along the preferred alignment.

APPENDIX B

DESIGN GUIDANCE

Context Sensitive Design Guidance

While the Plan offers facility recommendations for each project, specific details and requirements will always be unique to each project and jurisdiction. This section outlines a system for future design decisions through both facility design menus that are based on land use and context as well as generalized design guidance for each facility type. Notable benefits to this approach include:

- Flexibility
- Consistent design
- Ease in implementation
- Safe, appropriate design

WHAT IS CONTEXT?

When selecting bicycle and pedestrian facility types for the multimodal transportation network in Chapin, Swansea, and Batesburg-Leesville, the project's land use "context" is one of the most important factors. A community's land use context is defined by the type of development patterns that are common in an area. Development patterns that particularly affect bicycling and walking include the distance between intersections, building set-backs, the general scale of development (lot sizes, building footprints), and factors that influence roadway width. The Context Sensitive Design Guidelines provides descriptions about three contexts present in the Central Midlands area (suburban, rural and rural town) and present a menu of facility types/cross sections that are appropriate in each context.

- **Suburban:** Areas with suburban contexts largely contain of single-family residential homes and some multi-family apartments, and auto-oriented commercial development, all with off-street parking.
- **Rural**: The rural context features large lots, single-family homes, agricultural uses, large recreational spaces and undeveloped land.
- **Rural Town**: This context typically includes more dense development centered around a small street network and railroad. Uses include commercial, civic, and institutional and are usually surrounded by rural and suburban areas.

For more information on context and its influence on bicycle facility selection and design, see AASHTO Guide for the Development of Bicycle Facilities (2019).

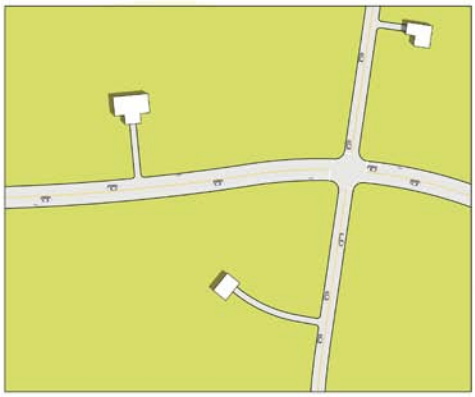
Roadway functional classification (major arterials, minor arterials, etc.) and context are closely related. Both facility design and facility selection should be based on context and on existing roadway classification. Figure B-2 illustrates how facility types typically interface with both context and functional classification.

ADDITIONAL CONSIDERATIONS

In addition to context, facility selection and design for a given street depends on many circumstantial factors such as:

- Existing right of way,
- Lane widths,
- Number of lanes,
- [Annual] average daily traffic,
- Budgetary constraints, And
- Drainage.

SUBURBAN CONTEXT



RURAL CONTEXT

RURAL TOWN CONTEXT

Figure B-1: Context Graphics

		Major Arterial	Minor Arterial	Collector	Local
Suburban		wide sidewalk with buffer	wide sidewalk, buffer optional	sidewalk	sidewalk, traffic calming, paved shoulder
		separated bike lane, shared use path	separated bike lane, shared use path	buffered bike lane, shared use path	bike lane, sharrows
Rural		shared use path	shared use path	medium sidewalk	traffic calming, paved shoulder
				shared use path, buffered bike lane, paved shoulder	shared lane marking
Rural Town		shared use path	shared use path, separated bike lane	medium sidewalk	traffic calming, paved shoulder
				separated bike lane, shared use path, buffered bike lane	shared lane marking

Figure B-2: Facility Selection by Context and Street Typology

FACILITY SELECTION MENU

The following menu provides facility recommendations based on the three land use context categories: suburban, rural, and rural town. For each facility, this guide provides a typical cross section and details necessary considerations. The cross sections should serve as general recommendations for facility/street widths; note that actual widths may vary in implementation due to design constraints. It should also be noted that some facility types are applicable to more than one context, but not all types are applicable to all contexts.

SHARED USE PATH (Or Separated Facilities)

A shared use path is a grade-separated, two-way facility used by bicyclists and pedestrians. Shared use paths are often located in an independent alignment, such as a greenbelt or along a railroad. However, they are also regularly constructed along roadways, in which case they are referred to as "sidepaths." Sidepaths and shared used paths accommodate both bicyclists and pedestrians using the same facility, often minimizing costs and right of way consumption.

Appropriate contexts: suburban, rural, rural town

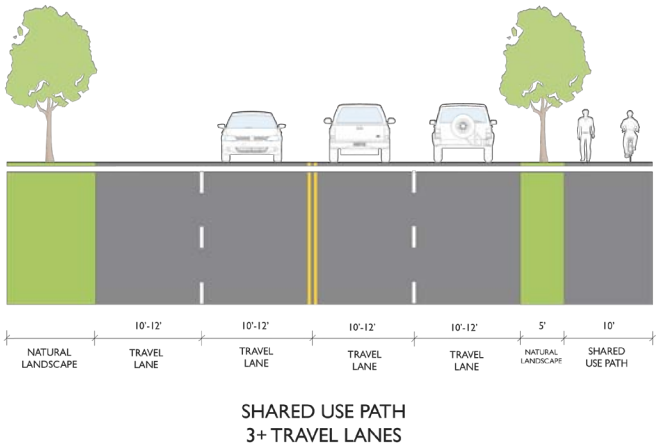


Figure B-3: Shared Use Path Cross Section

CONSIDERATIONS

- Shared use paths are desirable along high-volume or high-speed roadways where accommodating the targeted type of bicyclist within the roadway way is impractical.
- Shared use paths may present increased conflicts between path users and motor vehicles at intersections and driveway crossings. Conflicts can be reduced by minimizing the number of driveway and street crossings along a path and by providing high-visibility crossing treatments.
- Paths should not be considered a substitute to accommodating more confident bicyclists within the roadway. Paths have a lower cyclist design speed than on-street facilities and may not be best for bicyclists who desire to travel at greater speeds. Contextual judgment is required here.

SEPARATED BIKE LANES

(Or Separated Facilities)

Separated bicycle lanes (SBLs) are an exclusive bikeway facility type that are physically separated from motor vehicle traffic and distinct from the sidewalk. SBLs are more attractive to a wider range of bicyclists than striped bike lanes on higher-volume and higher-speed roads. They eliminate the risk of a bicyclist being hit by an opening car door and prevent motor vehicles from driving, stopping or waiting in the bikeway. They also provide increased comfort to pedestrians by separating them from bicyclists operating at higher speeds. Depending on design requirements, SBLs can be one- or two-way facilities.

Appropriate contexts: suburban, rural town

CONSIDERATIONS

- Separated bike lanes with flexible delineator posts ("flex posts") alone offer the least separation from traffic and are appropriate as interim solution.
- Separated bike lanes that are protected from traffic by a row of on-street parking offer a high degree of separation
- Separated bike lanes that are raised with a wider buffer from traffic provide the greatest level of separation from traffic but will often require road reconstruction.

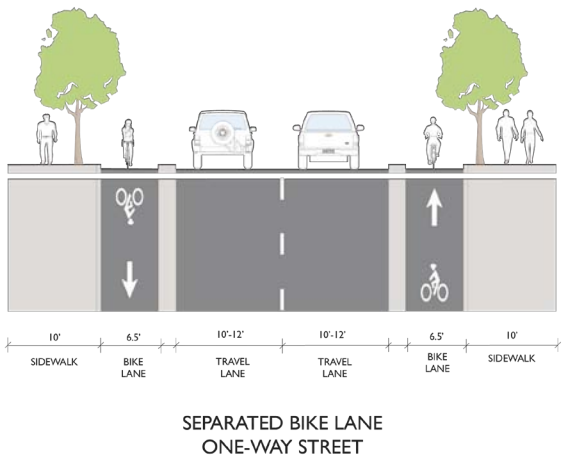
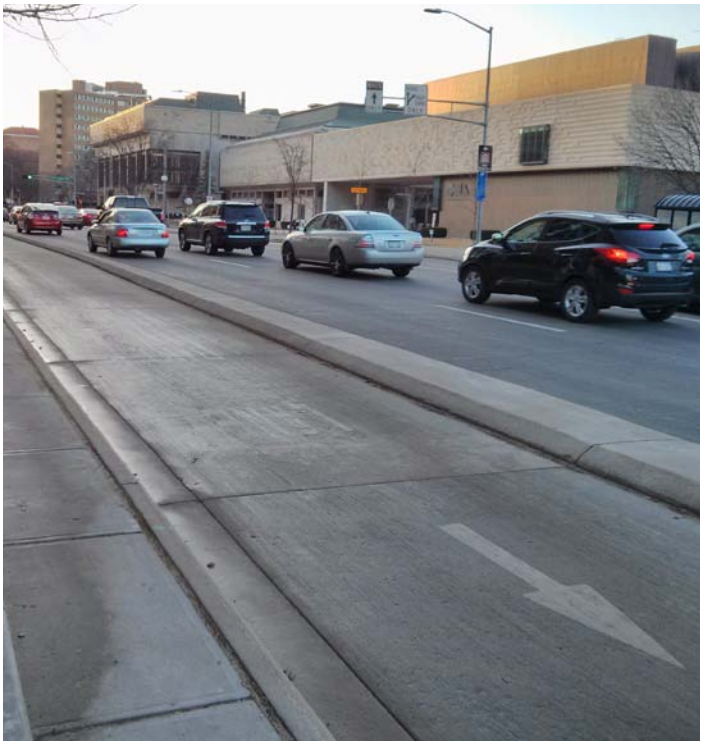


Figure B-4: Separated Bike Lane Cross Section



Buffered Bike Lane

(or Delineated Facilities)

Buffered bicycle lanes are created by painting a flush buffer zone between a bicycle lane and the adjacent travel lane. Buffers are typically used between bicycle lanes and motor vehicle travel lanes to increase bicyclists' comfort. They can also be provided between bicycle lanes and parking lanes in locations with high parking turnover to discourage bicyclists from riding too close to parked vehicles. Additional separated between roadway users creates additional user comfort. This separation does not, however, create any physical barriers between people on bikes and people driving.

Appropriate contexts: suburban

CONSIDERATIONS

- Buffered bike lanes are typically installed by reallocating existing street space.
- They can be used on one-way or two-way streets.
- Buffered bike lanes are preferable at locations with high parking turnover.
- The minimum with of a buffered bike lane adjacent to parking is 4 feet, and a desirable width if 6 feet.
- Minimum buffer width is 18 inches.

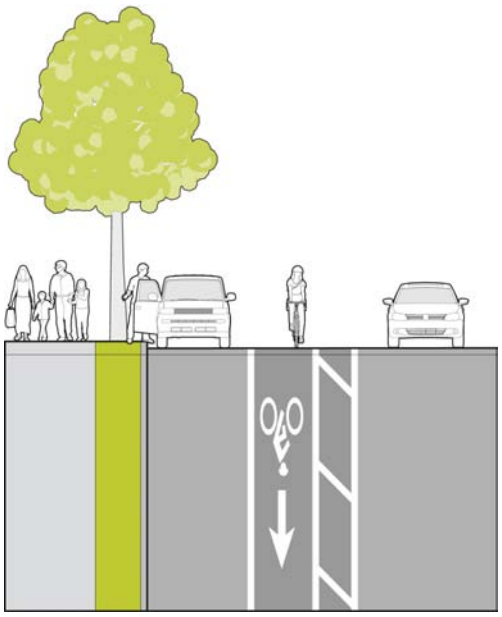


Figure B-5: Buffered Bike Lane Cross Section

BIKE LANES

(or Delineated Facilities)

Bike lanes provide delineated space for bicyclists in the roadway using lines and symbols on the roadway surface. Bike lanes are typically for one-way travel and are normally provided in both directions on two-way streets and/or on one side of a one-way street; however, two-way bike lanes can be considered in some circumstances. Bicyclists are not required to remain in a bicycle lane when traveling on a street; they may leave the bicycle lane as necessary to make turns, pass other bicyclists, or to otherwise position themselves. Bike lanes may also be part of temporary solutions that, as funds and space become available, will eventually become a more highly protected facility.

Appropriate contexts: suburban, rural town

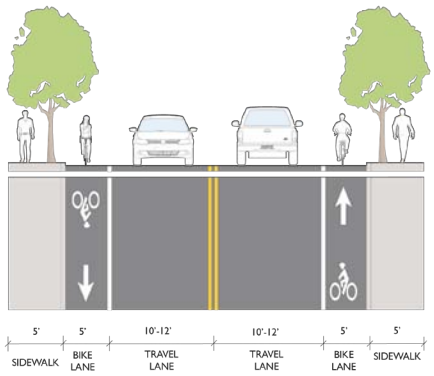


Figure B-6: Bike Lane Cross Section

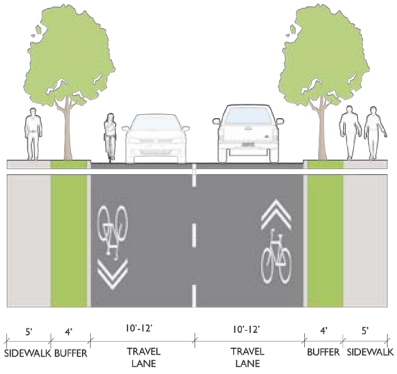
CONSIDERATIONS

- Bike lanes are typically installed by reallocating existing street space.
- They can be used on one-way or two-way streets.
- Wider bike lanes are preferable at locations with high parking turnover.

SHARED STREET

Shared streets have no distinction or separation between bicycle and vehicle travel but use traffic calming treatments to encourage bicycle through-travel and maintain low motor vehicle speeds. Traffic calming elements can include traffic diverters, speed attenuators such as speed humps or chicanes, pavement markings, and signs. Shared streets are also known as neighborhood bikeways or bicycle boulevards when used in suburban contexts.

Appropriate contexts: suburban, rural town

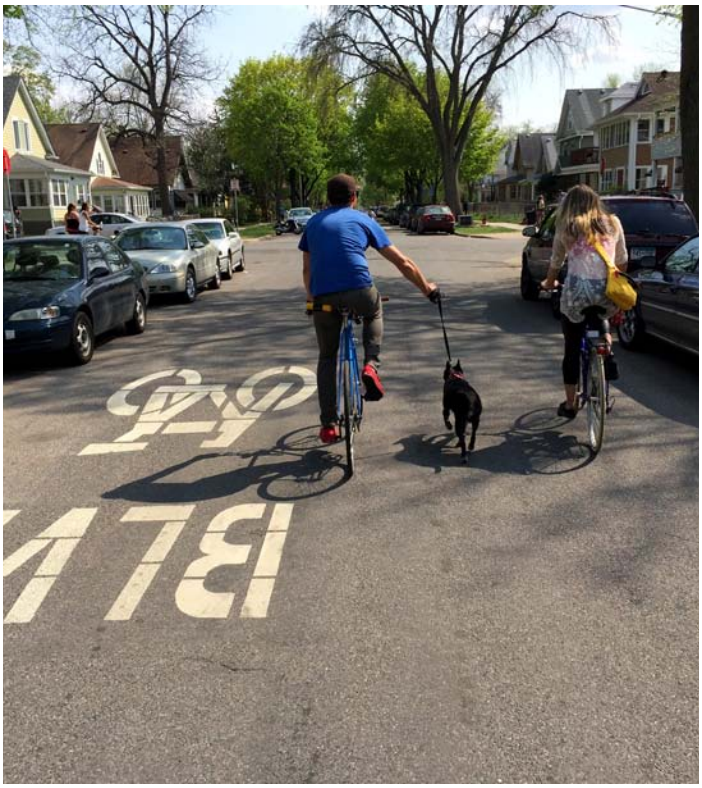


BIKE BOULEVARD
NEIGHBORHOOD STREET

Figure B-7: Neighborhood Bikeway Cross Section

CONSIDERATIONS

- Target speeds for motor vehicle traffic are typically around 20 mph, or no more than 15 mph greater then bicyclists.
- Stop signs or traffic signals should be placed along the shared street in a way that prioritizes the bicycle movement, minimizing stops for bicyclists whenever possible.
- Communities could begin by implementing shared street treatments on one pilot corridor to measure the impacts and gain community support.



SIDEWALK

Sidewalks contribute to the character, function, enjoyment, and accessibility of streets. Sidewalks are the place typically reserved for pedestrians within the public right-of-way, adjacent to property lines or the building face. In addition to providing vertical and/or horizontal separation between vehicles and pedestrians, the spaces between sidewalks and roadways also accommodate street plantings and furniture, stormwater infrastructure, and street lights.

Appropriate contexts: suburban, rural town, rural

CONSIDERATIONS

- Streets should have adequate space for building frontage features (café seating, awnings, signage, etc.), pedestrian travel, and amenities (street furniture, plantings, etc.).
- Sidewalks should be wider in places where there are higher pedestrian volumes.

Street Type	Frontage Zone desirable width	Pedestrian Zone [1,3] desirable width	Landscape/Furniture Zone [4] desirable width	Total desirable width
Downtown	6' (2' min.)	10' (8' min.)	6' (5' min.)	22' (15' min.)
Downtown Neighborhood	6' (2' min.)	8' (6' min.)	6' (5' min.)	20' (13' min.)
Urban Village Main	6' (2' min.)	8' (6' min.)	6' (5' min.)	20' (13' min.)
Urban Village Neighborhood	6' (2' min.)	8' (6' min.)	6' (5' min.)	20' (13' min.)
Neighborhood	-	6' (5' min.)	6' (5' min.)	12' (10' min.)
Neighborhood Corridor	-	6' (6' min.)	6' (6' min.)	12' (11' min.)
Urban Center Connector [2]	6' (3' min.)	10' (8' min.)	8' (5' min.)	24' (16' min.)
Urban Curbless	-	8' (7' min.)	12' (' min.)	20' (15' min.)
Neighborhood Curbless	-	6' (5' min.)	14' (12' min.)	20' (17' min.) [5]
Industrial Access	-	6' (5' min.)	6' (5' min.)	12' (10' min)
Commercial Alley	-	-	-	-

6" Curb

Figure B-8: Pedestrian Zones Graphic

APPENDIX C

Probable Cost

PROBABLE COST

The following tables detail probable costs for the types of bicycle and pedestrian facilities recommended in the Bicycle and Pedestrian Master Plan for Chapin, Swansea, and Batesburg-Leesville. Several of the facility types include both a rural and rural town context cost. Categorizing facility costs in this manner should provide more accurate project estimates to budget for design and construction.

The costs presented in the tables are planning-level estimates for a facility; more detailed costs should be calculated based on individual project criteria and constraints. **Costs shown here do not account for right-of-way acquisition, design fees, or survey costs.** Where applicable, costs reflect construction on one side of the roadway. It is also important to note that these costs are based on present day construction costs (2019); construction costs should be adjusted for inflation at the time of implementation.

SIDEWALK

SIDEWALKS (LOW ESTIMATE)				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Excavation	CY	$20.00	0.11	$2.22
Concrete Sidewalks (4”)	SY	$45.00	0.56	$25.00
Furnishing and Placing Topsoil	SY	$0.50	0.67	$0.33
Sodding	SY	$2.50	0.67	$1.67
Mailbox Install	EA	$300.00	-	$0.17
Sign Relocation	EA	$350.00	-	$0.13
TOTAL				**$29.53**
UNKNOWNS				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Traffic Control	LS	0.5%	-e	$0.15
Utilities	LS	0.5%	-	$0.15
Erosion Control	LS	2.0%	-	$0.59
Mobilization	LS	10.0%	-	$2.95
UNKNOWNS TOTAL				**$3.84**
CONTINGENCY (30%)				$8.86
TOTAL ESTIMATE COST PER LF				**$42.22**

SIDEWALKS (HIGH ESTIMATE)				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Excavation	CY	$20.00	0.11	$2.22
Concrete Sidewalks (4”)	SY	$45.00	0.56	$25.00
Concrete Curb and Gutter (1’ -6” Type I)	LF	$25.00	1.00	$25.00
Furnishing and Placing Topsoil	SY	$0.50	0.67	$0.33
Sodding	SY	$2.50	0.67	$1.67
Mailbox Install	EA	$300.00	-	$0.17
Sign Relocation	EA	$350.00	-	$0.13
TOTAL				**$54.53**
UNKNOWNS				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Traffic Control	LS	4.0%	-	$2.18
Utilities	LS	2.0%	-	$1.09
Erosion Control	LS	2.0%	-	$1.09
Mobilization	LS	10.0%	-	$5.45
UNKNOWNS TOTAL				**$9.81**
CONTINGENCY (30%)				$16.36
TOTAL ESTIMATE COST PER LF				**$80.70**

RURAL STRIPED SHOULDER

RURAL STRIPED SHOULDERS*				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Reflective 4” White Stripe	LF	$0.50	1.00	$0.50
TOTAL				**$0.50**
UNKNOWNS				
Item	**Unit**	**SCDOTCost**	**Quantity**	**Cost Per Linear Foot**
Traffic Control	LS	2.0%	-	$0.01
Utilities	LS	0.0%	-	$0.00
Erosion Control	LS	1.0%	-	$0.01
Mobilization	LS	5.0%	-	$0.03
UNKNOWNS TOTAL				**$0.04**
CONTINGENCY (30%)				$0.15
TOTAL ESTIMATE COST PER LF				**$0.69**

*Assumes existing shoulder width is sufficient.

BIKE LANES

BIKE LANES (LOW ESTIMATE)*				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Reflective 4” White Stripe	LF	$0.50	1.00	$0.50
Reflective Bike Symbol	EA	$250.00	-	$0.09
Reflective Arrow	EA	$85.00	1.00	$0.03
Signing	EA	$350.00	-	$0.13
TOTAL				**$0.76**
UNKNOWNS				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Traffic Control	LS	2.0%	-	$0.02
Utilities	LS	0.0%	-	$0.00
Erosion Control	LS	1.0%	-	$0.01
Mobilization	LS	5.0%	-	$0.04
UNKNOWNS TOTAL				**$0.06**
CONTINGENCY (30%)				$0.23
TOTAL ESTIMATE COST PER LF				**$1.05**

*Assumes (1) existing shoulder width is sufficient, (2) 2 “Bike Lane” signs per mile, and (3) 2 bike lane symbols per mile.

BIKE LANES (HIGH ESTIMATE)**				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Reflective 4” White Stripe	LF	$0.50	1.00	$0.50
Reflective Bike Symbol	EA	$250.00		$0.09
Reflective Arrow	EA	$85.00	1.00	$0.03
Signing	EA	$350.00	-	$0.13
TOTAL				**$0.76**
UNKNOWNS				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Lane Reassignment (Misc.)	LS	50.0%		$0.38
Traffic Control	LS	5.0%	-	$0.04
Utilities	LS	0.0%	-	$0.00
Erosion Control	LS	1.0%	-	$0.01
Mobilization	LS	15.0%	-	$0.11
UNKNOWNS TOTAL				**$0.54**
CONTINGENCY (30%)				$0.23
TOTAL ESTIMATE COST PER LF				**$1.53**

**Assumes (1) existing shoulder width is sufficient, (2) 2 “Bike Lane” signs per mile, (3) 2 bike lane symbols per mile, and (4) miscellaneous lane restriping for the length of the bike lane.

BUFFERED BIKE LANES

BUFFERED BIKE LANES (LOW ESTIMATE)*				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Reflective 4” White Stripe	LF	$0.50	2.00	$1.00
Reflective Chevron	LF	$30.00	-	$3.00
Signing	EA	$350.00	-	$0.13
TOTAL				**$4.13**
UNKNOWNS				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Lane Reassignment (Misc.)	LS	50.0%	-	$2.07
Traffic Control	LS	2.0%	-	$0.08
Utilities	LS	0.0%	-	$0.00
Erosion Control	LS	1.0%	-	$0.04
Mobilization	LS	5.0%	-	$0.21
UNKNOWNS TOTAL				**$2.40**
CONTINGENCY (30%)				$1.24
TOTAL ESTIMATE COST PER LF				**$7.77**

BUFFERED BIKE LANES (HIGH ESTIMATE)*				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Reflective 4” White Stripe	LF	$0.50	2.00	$1.00
Reflective Chevron	LF	$30.00	-	$3.00
Reflective Bike Symbol	EA	$250.00		$0.09
Reflective Arrow	EA	$85.00	1.00	$0.03
Signing	EA	$350.00	-	$0.13
TOTAL				**$4.26**
UNKNOWNS				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Lane Reassignment (Misc.)	LS	50.0%	-	$2.13
Traffic Control	LS	5.0%	-	$0.21
Utilities	LS	0.0%	-	$0.00
Erosion Control	LS	1.0%	-	$0.04
Mobilization	LS	10.0%	-	$0.43
UNKNOWNS TOTAL				**$2.81**
CONTINGENCY (30%)				$1.28
TOTAL ESTIMATE COST PER LF				**$8.35**

*Assumes (1) chevron per 10 ft, (2) 2 “Bike Lane” signs per mile, (3) pavement is not substandard.

SHARED USE PATH

12' WIDE SHARED USE PATH (LOW ESTIMATE) *				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Graded Aggregate Base (6" Uniform)	SY	$15.00	0.67	$10.00
6' Asphalt	TN	$250.00	0.03	$8.10
Furnishing and Placing Topsoil	SY	$0.50	1.67	$0.83
Earthwork	CY	$25.00	0.56	$13.89
Mailbox Install	EA	$300.00	-	$0.17
Signing	EA	$350.00	-	$0.13
TOTAL				**$33.13**
UNKNOWNS				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Lane Reassignment (Misc.)	LS	5.0%	-	$1.66
Traffic Control	LS	10.0%	-	$3.31
Utilities	LS	20.0%	-	$6.63
Erosion Control	LS	5.0%	-	$1.66
Mobilization	LS	20.0%	-	$6.63
UNKNOWNS TOTAL				**$19.88**
CONTINGENCY (30%)				$9.94
TOTAL ESTIMATE COST PER LF				**$62.94**

*Assumes a 15 ft landscaped buffer.

12' WIDE SHARED USE PATH (HIGH ESTIMATE)*				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Concrete Curb and Gutter (1' -6" Type I)	LF	$25.00	1.00	$25.00
Graded Aggregate Base (6" Uniform)	SY	$15.00	0.67	$10.00
12' Asphalt	TN	$250.00	0.03	$8.10
Furnishing and Placing Topsoil	SY	$0.50	0.67	$0.33
Earthwork	CY	$25.00	0.22	$5.56
Reflective Bike Symbol	EA	$250.00	-	$0.09
Mailbox Install	EA	$300.00	-	$0.17
Signing	EA	$350.00	-	$0.13
TOTAL				**$49.39**
UNKNOWNS				
Item	**Unit**	**SCDOT Cost**	**Quantity**	**Cost Per Linear Foot**
Lane Reassignment (Misc.)	LS	5.0%		$2.47
Traffic Control	LS	20.0%	-	$9.88
Planting/Landscape	LS	5.0%		$2.47
Utilities	LS	10.0%	-	$4.94
Erosion Control	LS	5.0%	-	$2.47
Mobilization	LS	20.0%	-	$9.88
UNKNOWNS TOTAL				**$32.10**
CONTINGENCY (30%)				$14.82
TOTAL ESTIMATE COST PER LF				**$96.31**

*Assumes a 6 ft landscaped buffer.

TRAFFIC CALMING

TRAFFIC CALMING MEASURES			
ITEM	UNIT	COST	ASSUMPTIONS
MID-BLOCK CROSSINGS	EA	$14,500.00	40’ x 8’, Assumes curb and gutter, DWS included
CURB EXTENSIONS	EA	$13,000.00	40’ x 8’ on oneside of roadway
PEDESTRIAN SIGNALS (SINGLE APPROACH)	EA	$2,200.00	Includes push button pole, Push button, countdown head
RECTANGULAR RAPID FLASHING BEACON	EA	$15,000.00	Two units, solar powered, and signage for both approaches
HIGH INTENSITY ACTIVATED CROSSWALK	EA	$85,000.00	Assuming connection to electricity exists and is easilty retrofitted
RAISED CROSSING	EA	$15,000.00	40’ x 10’, approaches assumed to be 6’
CHICANE	EA	$25,000.00	40’ x 8’ on both sides of the road
ADA CURB RAMP	EA	$3,200.00	Includes misc. curb and gutter repair, DWS
RAISED MEDIAN	LF	$59.00	Type I C&G on both sides, Landscaped, Sawcut and removal required
NEIGHBORHOOD TRAFFIC CIRCLE	EA	$5,437.00	Assume 10’ diameter. Concrete center, not landscaped, 6” tall, Includes 5,000 Clear and Grubbing Cost
MEDIAN PEDESTRIAN REFUGE	EA	$6,000.00	40’ long, C&G, sawcut and removal required, with DWS
CROSSWALK - STANDARD	EA	$600.00	8’ wide, 40’ long
CROSSWALK - HIGH VISIBILITY	EA	$1,200.00	12’ wide, 40’ long

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