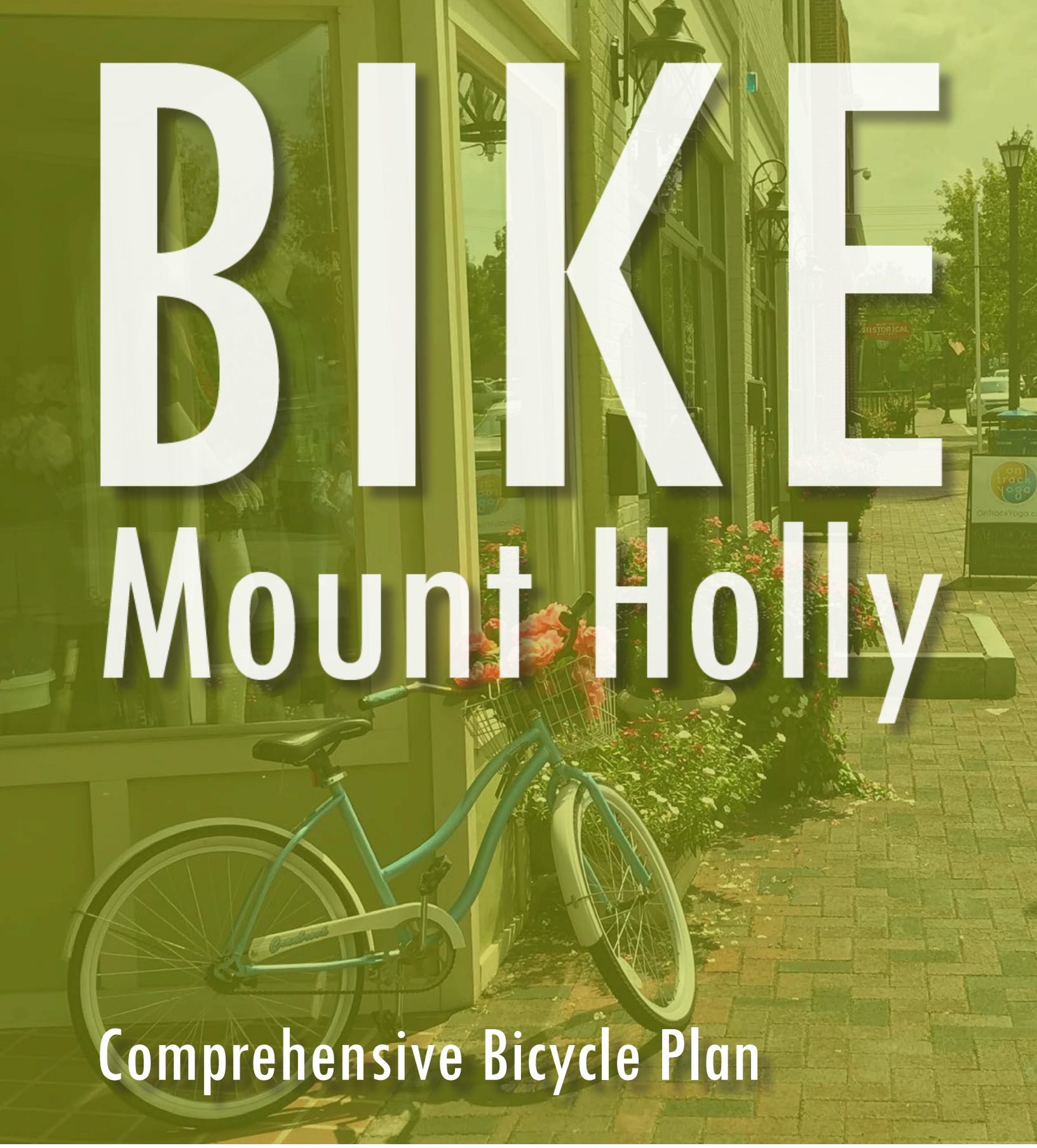

BIKE Mount Holly

Comprehensive Bicycle Plan

Prepared for: Mount Holly — Connecting Community & Nature

Prepared by: Kimley»Horn

October 2019

ACKNOWLEDGMENTS

We extend our sincere appreciation and gratitude to the residents, business owners, elected officials, City staff, and stakeholders who participated in the planning process and guided the development of the Bike Mount Holly Comprehensive Bicycle Plan. Everyone's time, input, and energy are greatly appreciated.

Bike Mount Holly Steering Committee

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Bruce Euler, *Tarheel Trailblazers*

Charles McCorkle, *City Council*

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Table of Contents

Introduction

Overview

How people move through their environment is a key factor for the success of any community. Biking gives citizens an alternative to the traditional vehicular travel modes and helps create a more efficient, healthier, and safer community. **Bike Mount Holly** is the comprehensive bicycle plan for the City of Mount Holly and represents the first steps toward creating a more bikeable community.

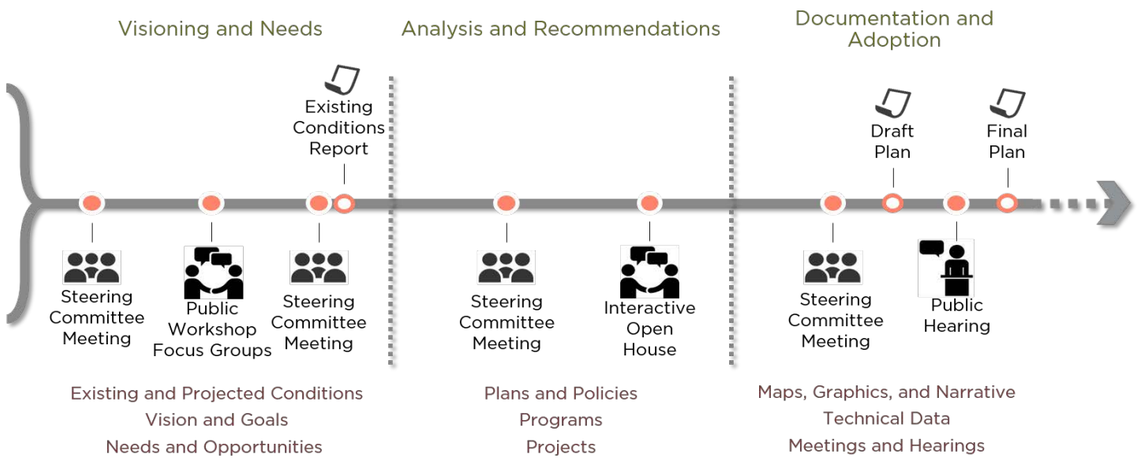
Purpose

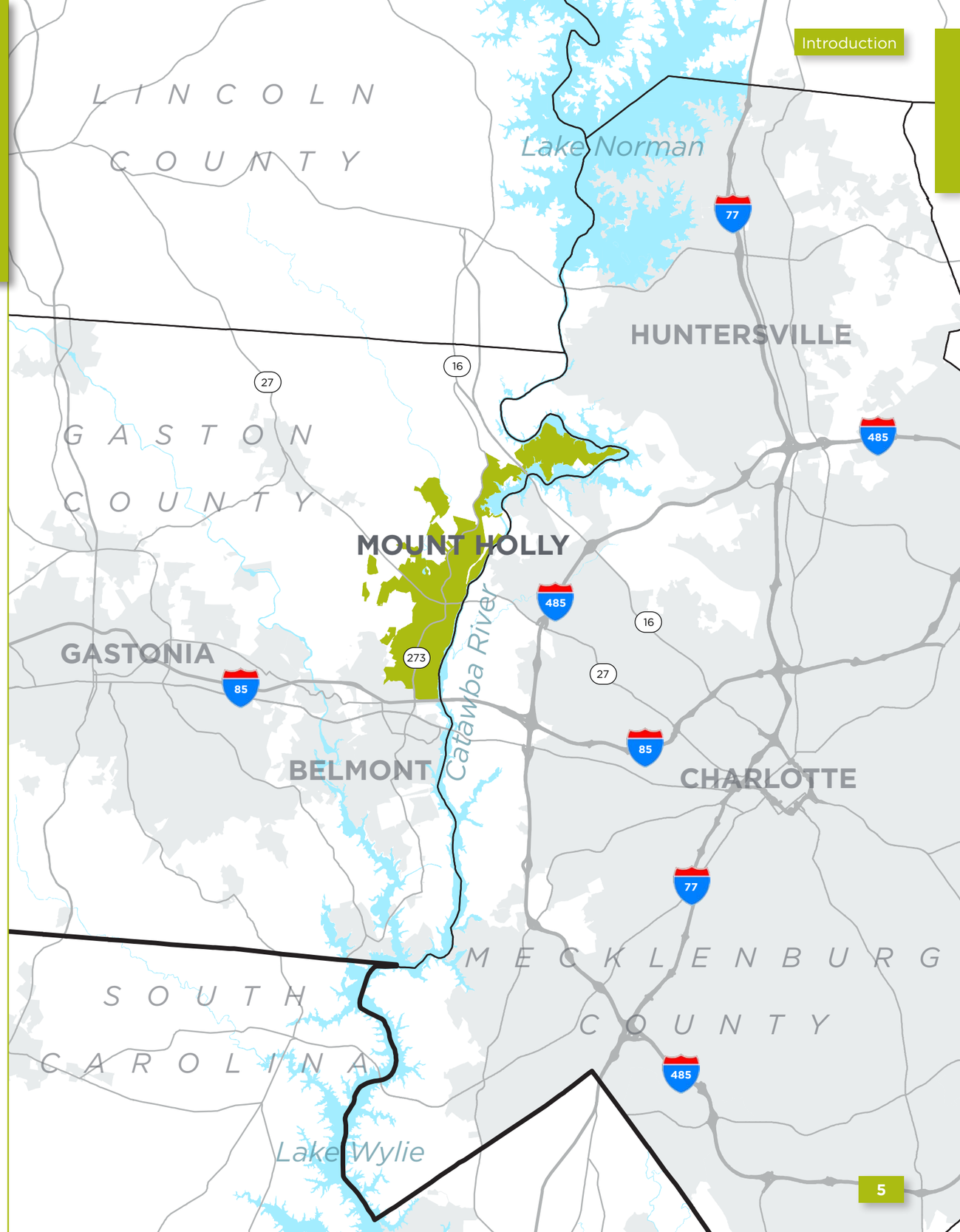
Bike Mount Holly serves as a guide for future decision making and planning efforts related to biking in Mount Holly. The City should reference the recommendations and prioritization in this document to create a more bikeable community that provides more transportation options for all users.

Bike Mount Holly was funded by a grant awarded by the North Carolina Department of Transportation (NCDOT). The NCDOT Division of Bicycle and Pedestrian Transportation (DBPT) and the Transportation Planning Branch created an annual matching grant program—the Bicycle and Pedestrian Planning Grant Initiative—to encourage municipalities to develop comprehensive bicycle plans and pedestrian plans. This program was initiated in January 2004. The Planning Grant Initiative has been successful in its sixteen years. Since 2004, 205 planning grants have been awarded and to date approximately $6 million has been allocated to 200 municipalities and five counties through the program.

Planning Process

Bike Mount Holly was developed in three distinct phases (seen in the graphic below). The first phase focused on identifying key issues in the community and developing the goals and vision for the plan. The second phase used that information to develop and vet the recommendations for biking in the community. The third and final phase documented that information and included review by the key guiding entities (Steering Committee, City of Mount Holly, and NCDOT).





Vision and Goals

To make **Bike Mount Holly** successful for the community, it was imperative to develop a vision and set of goals that are consistent with the needs of the people in Mount Holly. This involved a collaboration between the City, the Bike Mount Holly Steering Committee, and the public input gathered from the first workshop to develop the vision and goals. These permeate throughout the document to ensure that all analysis and recommendations relate back to these critical elements.

Bike Mount Holly Vision Statement

*“Mount Holly’s bicycle network will provide **safe**, **convenient**, and **comfortable** travel options for riders of all ages, abilities, and backgrounds, whether traveling for transportation or recreation.”*

Through Bike Mount Holly, the City commits to improving bicycling with a focus on:

Connecting community and nature

Connecting people to each other

Connecting people to opportunity

Connecting people to local places

Connecting Mount Holly to the region

Existing Conditions

Demographics

The demographic makeup of the community is extremely important when considering biking in Mount Holly. This section utilizes the 2017 American Community Survey 5-year estimates from the US Census Bureau to gather relevant data for the community. This data helps to better understand the needs of the people in Mount Holly, helping to more appropriately tailor the recommendations of the final plan to those needs.

At a Glance

35.7

Median age of residents in Mount Holly

Median age in Region: 37.5

12,914 (2010) → 16,135 (2018)

More than 20% increase in population from 2010 to 2018.

Top Industries

Manufacturing	*57.1%*
Health Care and Social Assistance	*6.0%*
Accommodation and Food Services	*5.6%*

4,868 Commute IN → 353 STAY and work → 6,216 Commute OUT

*2015 data

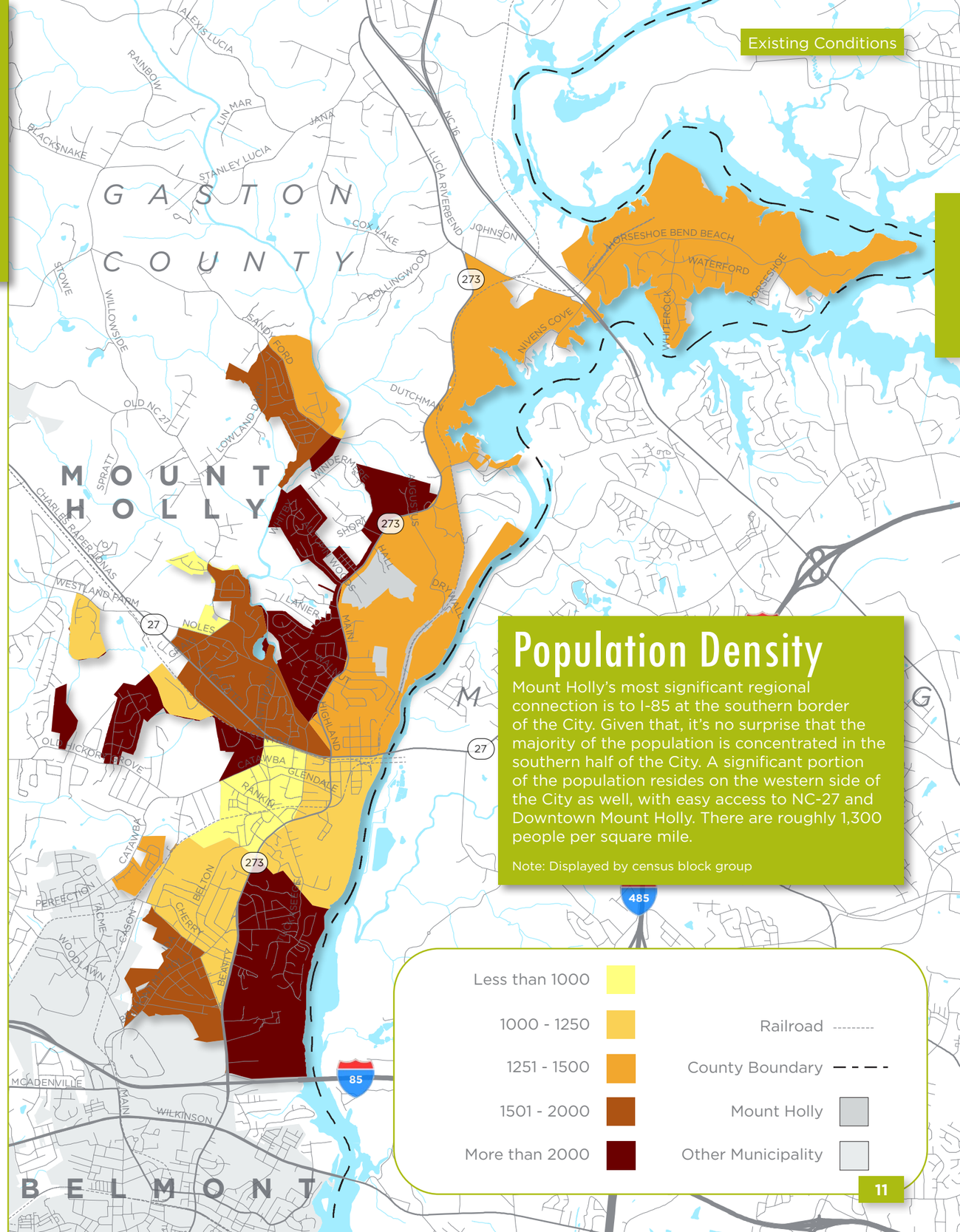
23.7%

Percent minority population

Minority population in Region: 31.6%

$51,250 (2010) → $53,798 (2017)

5% increase in median household income from 2010 to 2017. Regional median income is $55,191.



Minority Population Percent

The highest concentration of minority population is north of Downtown, on the eastern side of the City, along the Catawba River. Overall, Mount Holly is below the average for diversity index compared to other municipalities in the region.

Note: Displayed by census block group

Less than 10%
11% - 20%
21% - 30%
31% - 40%
Railroad
County Boundary
Mount Holly
Other Municipality

Existing Conditions

Drive to Work Percent

Given Mount Holly's proximity on the edge of two different metro regions (Charlotte and Gastonia-Lincoln County), it's no surprise that most residents leave Mount Holly to work in more urban areas. Additionally, workers are almost exclusively driving their vehicles on a daily basis to get to work. 43.1% of Mount Holly residents work in Charlotte, followed by Gastonia (9.3%) and Mount Holly (5.4%).

Note: Displayed by census block group

80% - 85%
86% - 90%
91% - 95%
More than 95%
Railroad
County Boundary
Mount Holly
Other Municipality

Median Income

On average, the median income in Mount Holly is slightly lower than the region. Incomes are fairly well dispersed through the City, with the highest income areas being on the northern edge of the City along Mountain Island Lake.

Note: Displayed by census block group

- Less than $30,000
- $30,001 - $40,000
- $40,001 - $50,000
- $50,001 - $70,000
- More than $70,000
- Railroad
- County Boundary
- Mount Holly
- Other Municipality

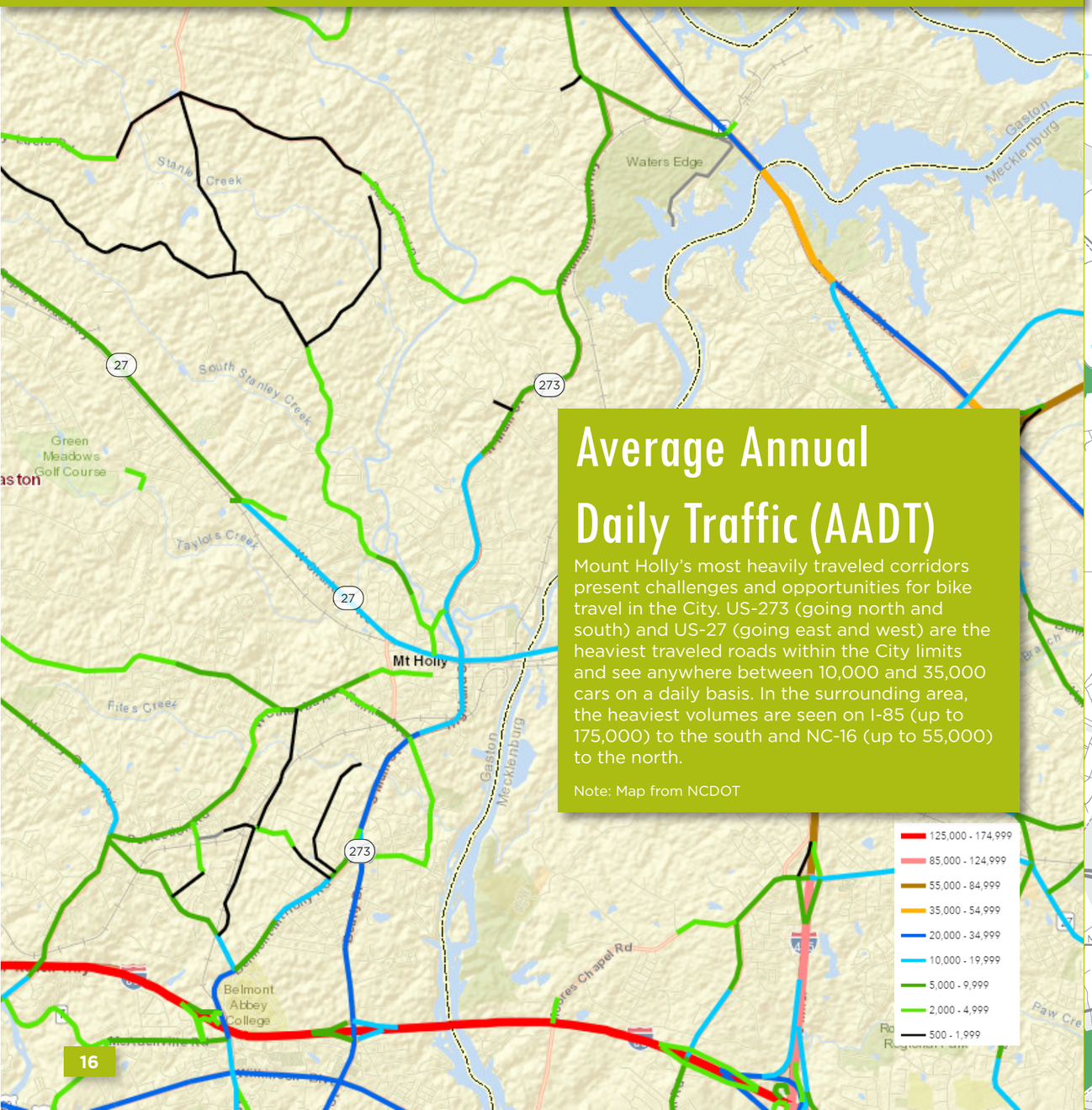
Biking Considerations

This section takes a closer look at the existing conditions related to biking within and around the City of Mount Holly. Identifying strengths and opportunities for change in the current transportation system is critical to establishing recommendations for future growth of the bike network.

Average Annual Daily Traffic (AADT)

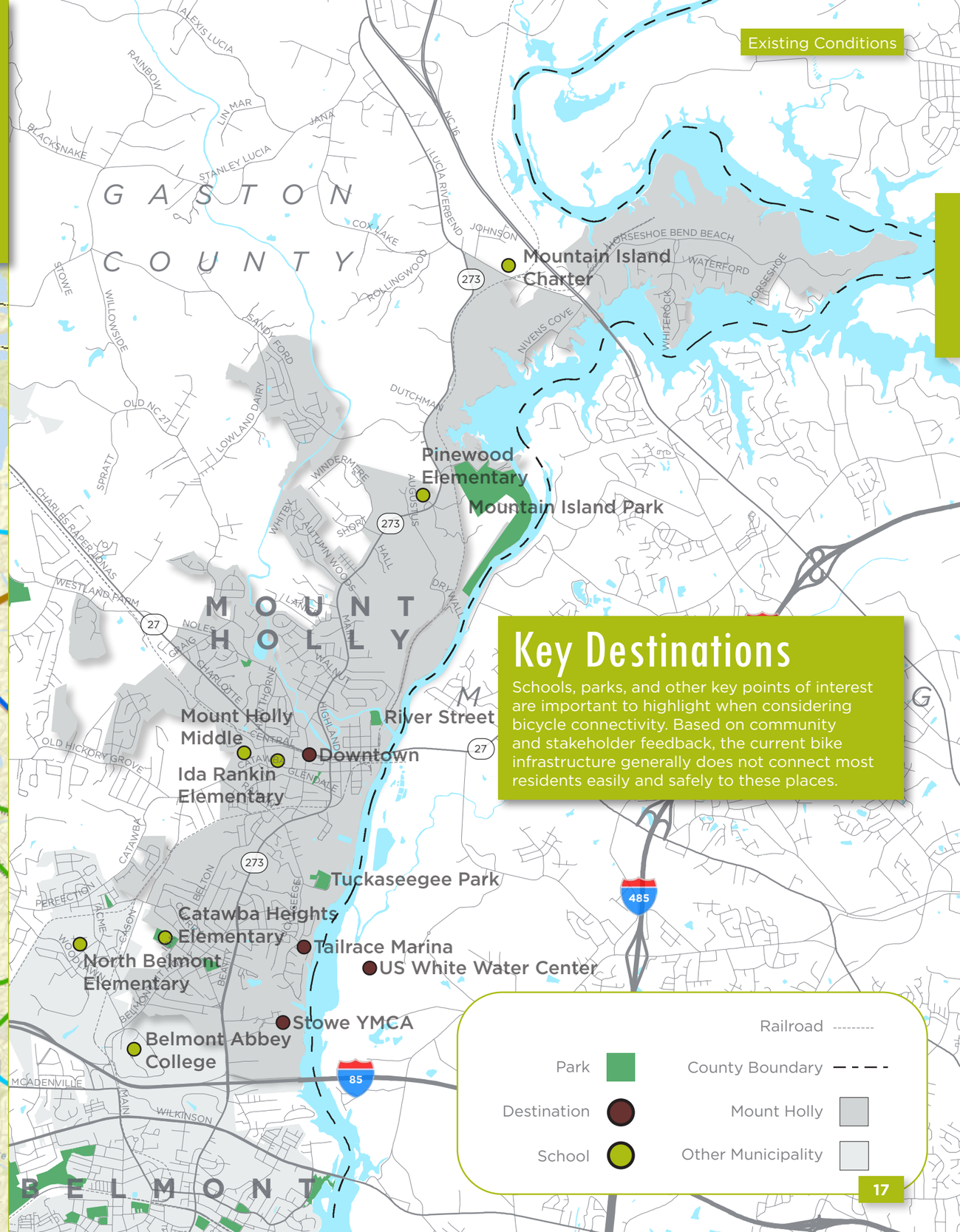
Mount Holly's most heavily traveled corridors present challenges and opportunities for bike travel in the City. US-273 (going north and south) and US-27 (going east and west) are the heaviest traveled roads within the City limits and see anywhere between 10,000 and 35,000 cars on a daily basis. In the surrounding area, the heaviest volumes are seen on I-85 (up to 175,000) to the south and NC-16 (up to 55,000) to the north.

Note: Map from NCDOT



Key Destinations

Schools, parks, and other key points of interest are important to highlight when considering bicycle connectivity. Based on community and stakeholder feedback, the current bike infrastructure generally does not connect most residents easily and safely to these places.



Existing Conditions

Environmental Considerations

The FEMA 100-Year Floodplains are most significant along Dutchman's Creek and its various tributaries on the northwest edge of the City. Floodplains present a challenge as well as an opportunity to find creative and unique solutions for additional bike infrastructure.

Park
Water
FEMA 100-Year Floodplain
Railroad
County Boundary
Mount Holly
Other Municipality

Existing Conditions

Bicycle and Pedestrian Facilities

Existing dedicated bicycle facilities in the area are limited strictly to greenway sections of the Carolina Thread Trail. Future plans call for improving the regional connectivity of these facilities. The existing sidewalk network is limited to areas of Downtown and small neighborhood networks. Planned greenway additions were identified in the Carolina Thread Trail Master Plans.

Park
Sidewalk
Planned Greenway (CTT)
Existing Greenway
Railroad
County Boundary
Mount Holly
Other Municipality

Engagement

Public input is vital to any planning process. Bike Mount Holly will be designed to provide the citizens of Mount Holly with the biking infrastructure that fits their needs. The approach to gathering community input was two pronged and focused on two public workshop events at City Hall and an online survey that was widely distributed across the City. The Bike Mount Holly Steering Committee was also a critical part of the engagement process. Additionally, maps and materials for gathering feedback were left at Blood, Sweat, and Gears, a bike shop in the area.

Public Workshop #1

The first public workshop for Bike Mount Holly occurred on September 25, 2018. The drop-in workshop allowed attendees to participate in a series of interactive stations. Nearly 40 people attended the workshop.

Date: September 25, 2018

Location: Mount Holly Municipal Complex

Time: 5:30pm to 7:30pm

Agenda

The event featured a wide variety of information and activity stations designed to educate attendees on the bicycle planning process, engage them via interactive activities, and gather meaningful feedback that will guide the plan's recommendation.

Information Stations

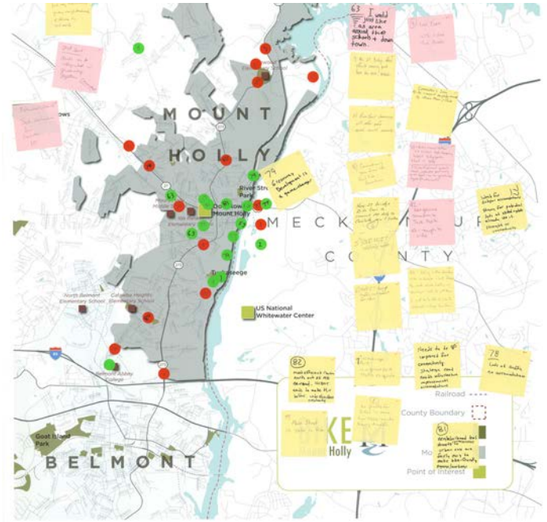
- Sign-In
- Project Background

Activity Stations

- Where do you Live?
- One Word
- Thought Wall
- Mapping Exercise
- Street Builder
- Visual Preference Survey

Results

Where do you Live?



One Word

Biking in Mount Holly Today...

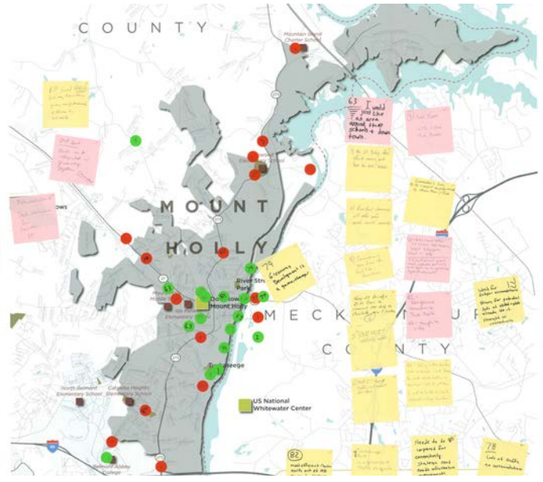
Ideal vision for biking in Mount Holly...

Thought Wall

Key Takeaways

In general, the comments were very supportive of and eager for a more active biking culture and safe, connected network of biking trails and greenways in Mount Holly. Several comments mentioned the importance of education for cyclists and drivers, as well as the desire for a bike/pedestrian crossing over the Catawba River.

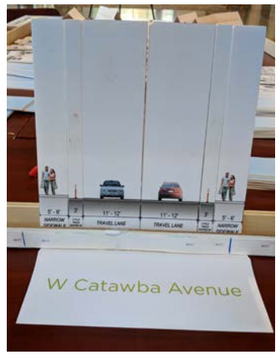
Mapping Exercise

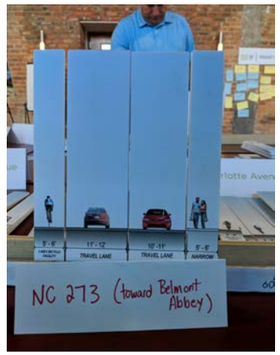


Key Takeaways

Strong places and key destinations for biking identified in the exercise were Downtown Mount Holly, Tuckaseege Park, Riverfront Park, Belmont Abbey College, and greenways.

Street Builder Note: only a portion of the results are shown

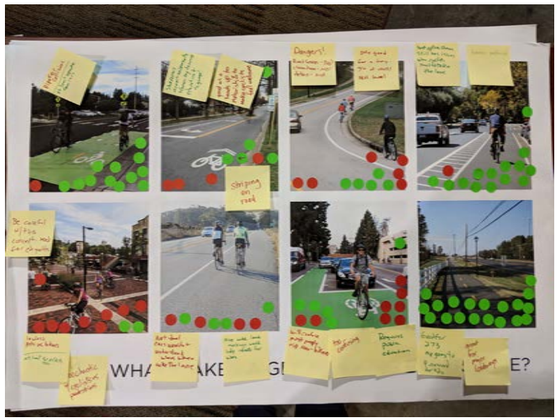




Key Takeaways

This exercise showed the design features for Mount Holly's critical transportation corridors. It also revealed priority multimodal features that could be applied to other locations in the City with similar design and operational characteristics. The exercise ultimately will inform the strategic corridors and recommendations that will be developed. Of the four options, participants most frequently chose to rebuild Main Street and NC-273/Beatty Drive.

Visual Preference Survey



Most Liked Images

Most Disliked Images

Key Takeaways

The activity provided insight into the participants' preferences relating to bike infrastructure. The most popular picture was of a striped shared-use path running parallel but separated from the road. Photos that looked too urban were perceived as unsafe and not congruent with the character of Mount Holly.

Online Survey

An online survey was distributed widely by the City of Mount Holly and various members of the project Steering Committee. The survey consisted of two parts, a brief questionnaire, and an online mapping exercise. Both parts were designed to obtain clear and meaningful feedback related to biking in Mount Holly today as well as its potential in the future.

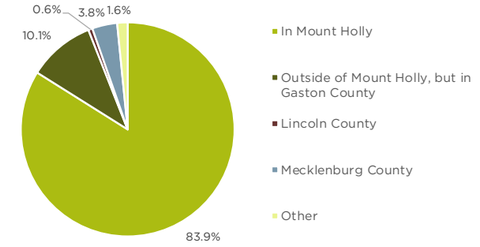
Survey Start: September 18th, 2018

Survey End: November 7th, 2018

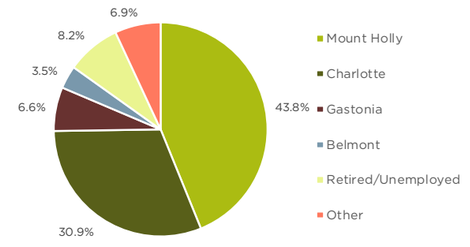
Who took the survey?

Total number of responses to the Bike Mount Holly survey: ***319***

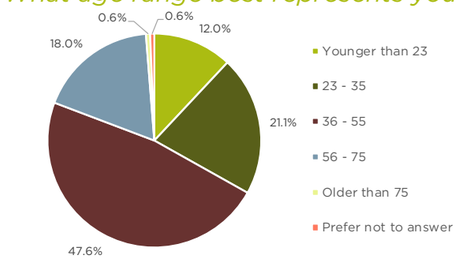
Where do you live?



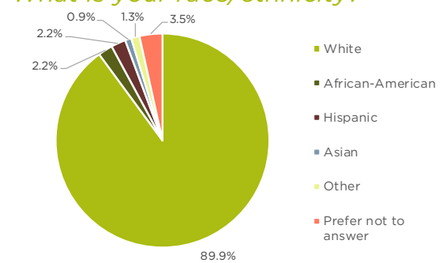
Where do you work or attend school?



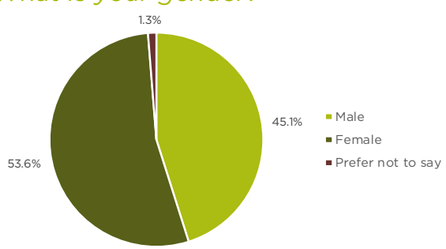
What age range best represents you?



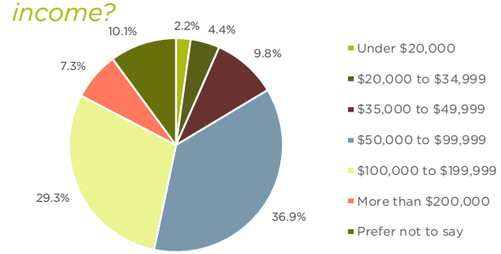
What is your race/ethnicity?



What is your gender?

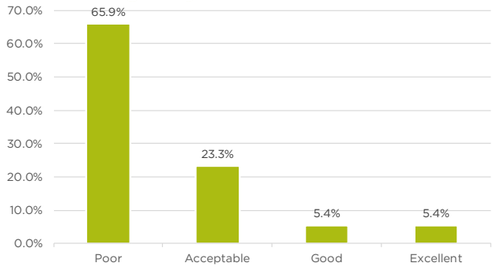


What best describes your total household income?

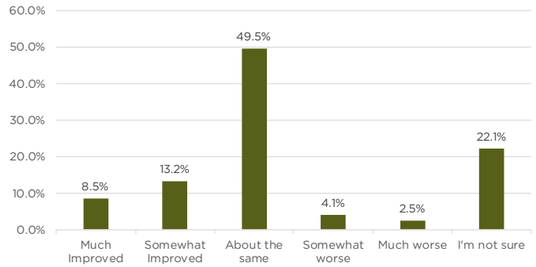


What did the community say?

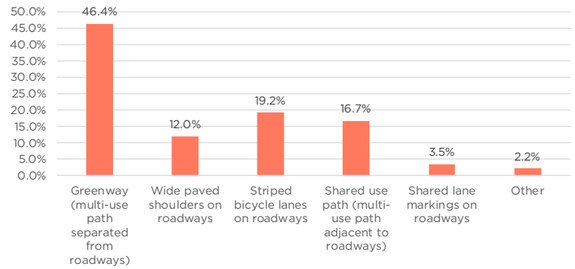
How would you rate the overall quality of the existing bicycle network in Mount Holly?



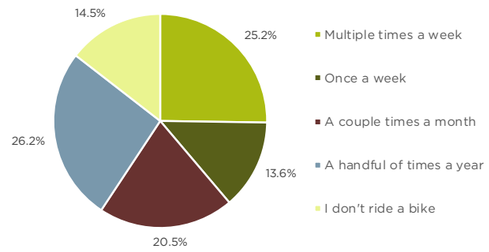
Over the past 5 years, do you think the biking system in the area is...



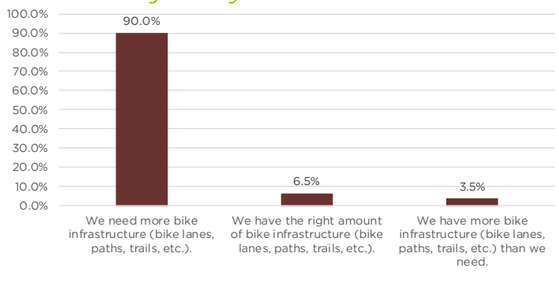
What is your preferred bicycle facility?



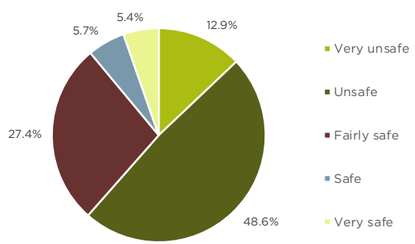
How often do you ride your bike?



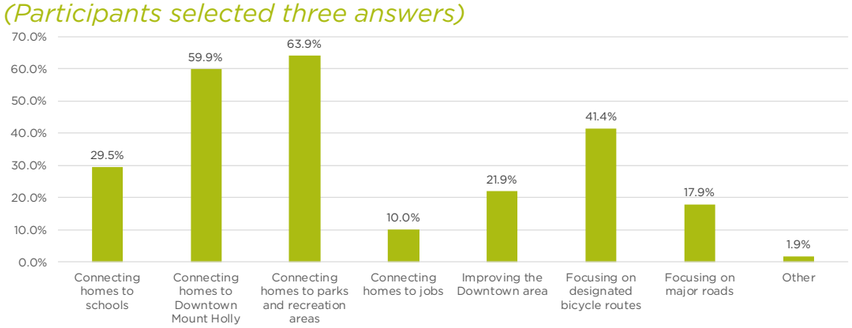
When considering biking in Mount Holly, what would you say?



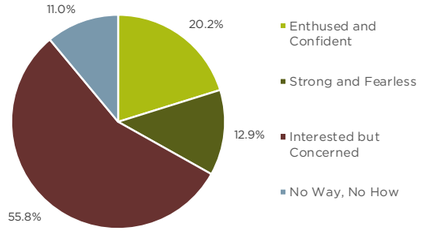
In general, biking in Mount Holly is:



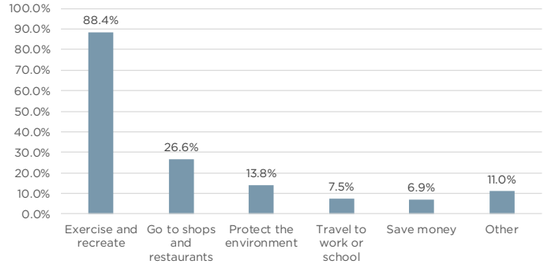
What should be the highest priority for new bicycle facilities? (Participants selected three answers)



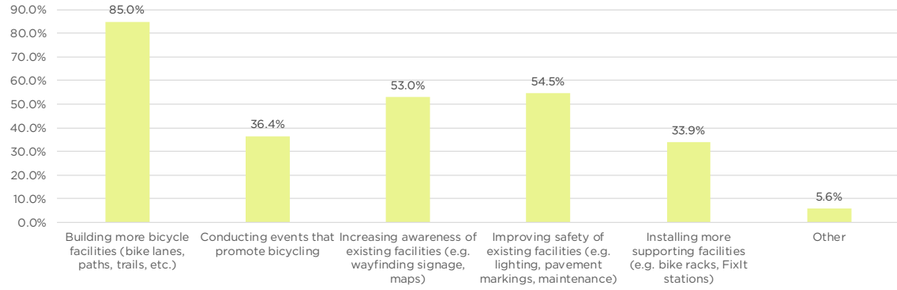
Which of the following best describes you as a bicyclist?



When I ride a bike, it's to... (Participants selected all that applied)



Which of the following is most likely to encourage people to bike in Mount Holly? (Participants selected three answers)



Existing Conditions

Bike Routes and Destinations

Survey participants were also given the opportunity to place lines and points on an online map to highlight popular bike routes and bike destinations within the community. As seen in the map, Downtown Mount Holly, Tuckaseegee Park, and the US Whitewater Center were popular destinations. Additionally, NC-273 and NC-27 were popular bike routes for respondents.

Railroad

County Boundary

Biking Destination

Biking Route

Mount Holly

Other Municipality

Existing Conditions

Opportunities for Change

Participants were also given the option to highlight opportunities for change. These are routes or destinations that have the opportunity to become better for biking in Mount Holly. Downtown Mount Holly was a key area highlighted, as most opportunity points and routes were in the Downtown area or passed through.

Railroad

County Boundary

Opportunity for Change - Point

Opportunity for Change - Route

Mount Holly

Other Municipality

Public Workshop #2

The second public workshop for Bike Mount Holly occurred on April 18th, 2019. This was a drop-in format that allowed members of the public to arrive anytime during the event to view the material. About 25 people attended the event.

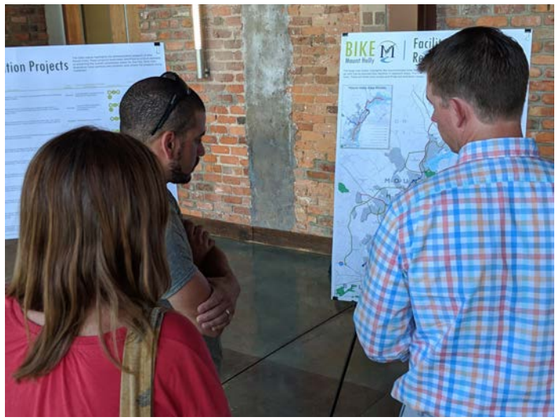
Date: April 18, 2019

Location: Mount Holly Municipal Complex

Time: 5:00pm to 7:00pm

Agenda

This event was an opportunity to walk the community through the various stages of the plan, which were organized into informational stations. Attendees visited the stations to learn more about the process, engagement results, recommendations, and priorities. Materials displayed at the meetings were also available on the project website. Feedback gathered during the meetings helped inform how the project team will communicate the recommendations in the final plan.



Policy Review

It is vital to understand bicycle recommendations that already exist and to leverage work that has already been conducted by planning professionals. This section outlines various planning efforts that contain recommendations relevant to the development of Bike Mount Holly. All recommendations listed are summarized from their respective documents.

Carolina Thread Trail Master Plan - Gaston County (2009)

Overview

The Carolina Thread Trail Master Plan report outlines a means for long-term coordination of greenway and trail development within the county, cities and towns in Gaston County to help promote the preservation and improvement of residents' quality of life. It presents a first-ever plan to integrate all existing and proposed municipal and county trails with additional greenway/trail segments that will together create a comprehensive multi-use network for connecting people, places and destinations to each other and surrounding counties.

CAROLINA THREAD TRAIL
MASTER PLAN
FOR GASTON COUNTY
COMMUNITIES

CAROLINA THREAD TRAIL
Weaving Communities Together

Relevant Recommendations

- Retain control of the desired trail corridor
- Building off the existing steering committee developed to create this master plan, establish a Trail Advisory Committee to promote greenway development and advise the governing group on related issues.
- Identify and maximize local trail opportunities through the development plan review process, open space acquisition, and floodplain regulations.
- Review current and future utility corridors/ easements for local greenway opportunities.
- Establish criteria for trail priorities (i.e. cost, length of trail, location, conservation benefit, etc.).
- Coordinate with local law enforcement and emergency services on the trail design and safety

Key Takeaways

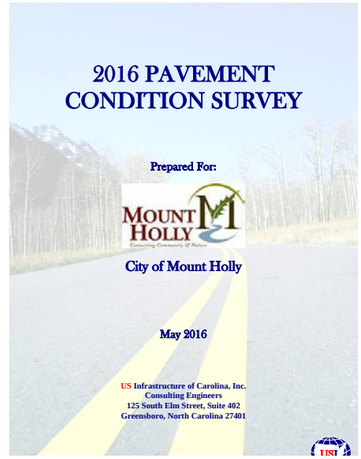
The University of North Carolina Charlotte Urban Institute recently found that Gaston County is losing open space at a rate of forty-one acres per day. There's not only a risk but also a reality of losing public open space and recreational opportunities. The time is now to create trails that will provide recreational, educational and economic development opportunities, and promote healthy lifestyles while engaging citizens in Gaston County communities through public access and increasing the community's connection to the region's vital natural resources.

http://www.carolinathreadtrail.org/resources/master-plans/

Mount Holly 2016 Pavement Condition Study

Overview

US Infrastructure of Carolina, Inc. (USI) was retained by the City of Mount Holly to perform a pavement condition assessment of the City street system. USI identified approximately 66.54 miles of City maintained asphalt roadway. A visual pavement condition survey of these streets was conducted by USI. These street segments were rated by driving each segment on a block to block basis and observing eight common pavement surface distresses and their corresponding severity levels.



Relevant Findings

- Approximately 59.9% of the rated streets in Mount Holly are in need of some type of maintenance. The overall estimated cost for repairing these streets is $3,255,767 or $48,292 per mile system wide.
- The most predominant distress was found to be block cracking. Approximately 82.4% of the surveyed street system exhibits some level of block cracking.
- The most structurally damaging and costliest distress to repair is alligator cracking. Approximately 22.4% of the rated street system exhibits some level of alligator cracking.

Key Takeaways

Pavement conditions are crucial to the bicycle network, especially in more rural areas where biking on the road is more prevalent. With almost 60% of streets in the City due for maintenance, this provides an opportunity for simultaneous improvements to the bicycle network.

https://www.mtholly.us/planning-department.php?Planning-Development-Planning-Transportation-Planning-12

Mount Holly Strategic Vision Plan Update (2018)

Overview

This Strategic Vision Plan Update is the culmination of a one-year process that explored Mount Holly's core community values and its vision for the City's future. The values and vision are based on the strategic visioning process conducted by the City in 2003 and 2008 coupled with a thorough inventory of community assets, opportunities and challenges. These Core Values weave their way through the entire plan and are designed to reflect the input of the community through the input process. Many of the values are rooted in survey results of community citizens that yielded over 500 responses over a 16-week period.

Relevant Recommendations

- Prioritize Multimodal Transportation Initiatives to Plan for Future Growth.
- Promote Multimodal Transportation Through Development Standards.
- Advocate for Multimodal Improvements to be Included in NCDOT Projects.
- Pilot a Small-Scale Bike Share Program.
- Adopt a City of Mount Holly Complete Streets Policy.
- Promote and Develop Safe Routes to School.

Key Takeaways

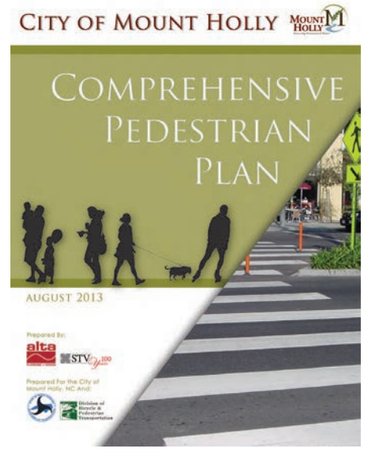
The 2003 and 2008 Strategic Vision plans and subsequent planning efforts had a strong focus on enhancing greenways in the community. Mount Holly is realizing these objectives with the construction of the Catawba River Greenway connections with the Carolina Thread Trail, and the Linear Park Trail. Mount Holly is also exploring options for bicycle and pedestrian crossings of the Catawba River. Additional issues as the community continues to thrive will be access to public transit to Charlotte and within Mount Holly itself, continuing to create links to the greenway system, and enhancing multi-modal use of major roadways. Broader connections such as embracing the Catawba River throughout the City, along and across Dutchman's Creek, and ensuring that the Downtown Core extends along East Charlotte and East Central Avenues toward the river will allow the city to continue to thrive as a community.

https://www.mtholly.us/planning-department.php?Planning-Development-Strategic-Vision-Plan-2

Mount Holly Comprehensive Pedestrian Plan (2013)

Overview

This Plan combines past planning efforts with new research and analysis and includes public input. The result is a complete, up-to-date framework for moving forward with tangible pedestrian improvements. The City is very committed to becoming pedestrian-friendly; however, current pedestrian conditions within Mount Holly do not adequately serve the needs of its residents. This Plan will provide guidance for enhancing conditions for pedestrians throughout the City. Beyond physical improvements, this Plan also outlines policies and programs to help encourage people to walk more often, drive more safely, and to grow as a city with the needs of pedestrians taken into full consideration, particularly in areas identified by the Project Steering Committee, the public, and City staff.



Relevant Recommendations

- Provide walking paths that connect schools, shopping areas, and key destinations with surrounding neighborhoods.
- Fill gaps in the existing sidewalk network by targeting sidewalk and intersection improvements to the following priority corridors including: Highway 273, Noles Drive, Beaty Road and Beatty Drive, Highway 273 and A&E Drive, Craig Street, Catawba Avenue .
- Improve safety of Highway 27 and its crossings between North River Street and Highland Street through the implementation of a road diet, sidewalk, cycle track, and an improved crossing at Highland Street.
- Enhance pedestrian safety at key intersections and crossings, such as those at Stowe YMCA and Food Lion.
- Increase sidewalks in neighborhoods.

Key Takeaways

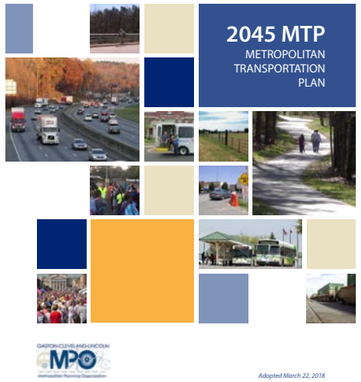
Mount Holly will: Promote walking as a healthy alternative, create an interconnected system of parks, open space, and trails, be a vibrant, friendly, and walkable city, provide safe and attractive pedestrian connections, plan for future growth, be a walkable and safe community, educate city residents on the benefits of being a walkable community, and create gateways into the community.

https://www.mtholly.us/planning-department.php?Planning-Development-Planning-Transportation-Planning-12

GCLMPO 2045 Metropolitan Transportation Plan (2018)

Overview

The GCLMPO has set goals, objectives, and policies relating to various responsibilities charged to the organization. Relating to bicycle and pedestrian transportation, one goal of the GCLMPO is to provide a transportation system that affords the public with mobility choices including walking, bicycling, aviation, freight, and transit options.



Relevant Recommendations

- Develop a transportation system that integrates pedestrian and bicycle modes of transportation with motor vehicle transportation and encourages the use of walking and bicycling as alternative modes.
- Increase the design sensitivity of specific transportation projects to the needs of pedestrians and bicyclists.
- Assist the development of pedestrian and bikeway systems for both recreation and transportation purposes.
- Improve the transportation system to accommodate pedestrian and bicycle access along roadways through design and facility standards.
- Increase pedestrian and bicycle safety through public awareness programs.
- Advocate for linkages for pedestrians and/or bicyclists between neighborhoods, employment centers, services, cultural facilities, schools, parks, businesses, and other important destinations.
- Improve bicycle and pedestrian access to transit.

Key Takeaways

In addition to the GCLMPO's growing list of greenways and trails, a number of communities are starting to implement more on-street bicycle facilities, including conventional bicycle lanes, protected bike lanes, buffered bike lanes, side paths, and shared lane markings. On-street bicycle facilities can be built with new roadway construction or retrofitting existing roadways by adding bicycle facilities without changing the curb-to-curb width.

http://gclmpo.org/plans-programs-and-studies/long-range-planning/

Facility Recommendations

Recommendations

Like the policy and program recommendations, which will be outlined in a later chapter, the bicycle facility recommendations in this chapter were developed through an extensive analytic process that heavily utilized the foundational information and engagement highlighted in previous chapters. The facility recommendations are meant to create a safe and connected bicycle system throughout Mount Holly and reflect the vision and goals highlighted at the beginning of this plan.

Recommendations Map

The map on the adjacent page shows the system wide bicycle facility recommendations for Mount Holly. Careful consideration was made to highlight other planned bicycle facilities throughout the region to ensure that the plan's recommendations were consistent with those connections.

Facility Types

The bike system is made up of a variety of different facility types that layer together to create an integrated system. These five facility types are highlighted below and detailed on subsequent pages of this section.

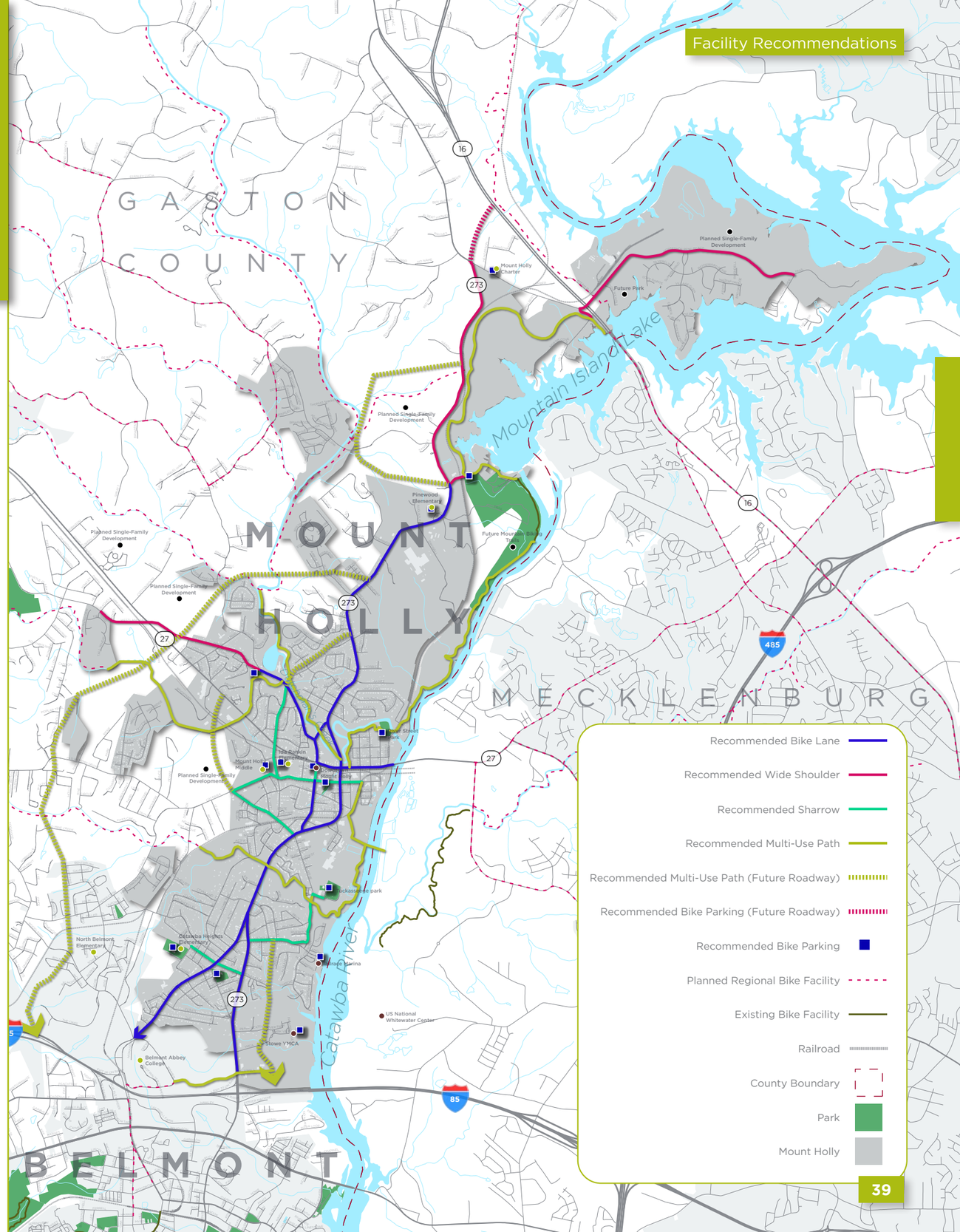
Bicycle Lanes

Multi-Use Paths

Shared Lane Markings

Wide Paved Shoulders

Bicycle Parking

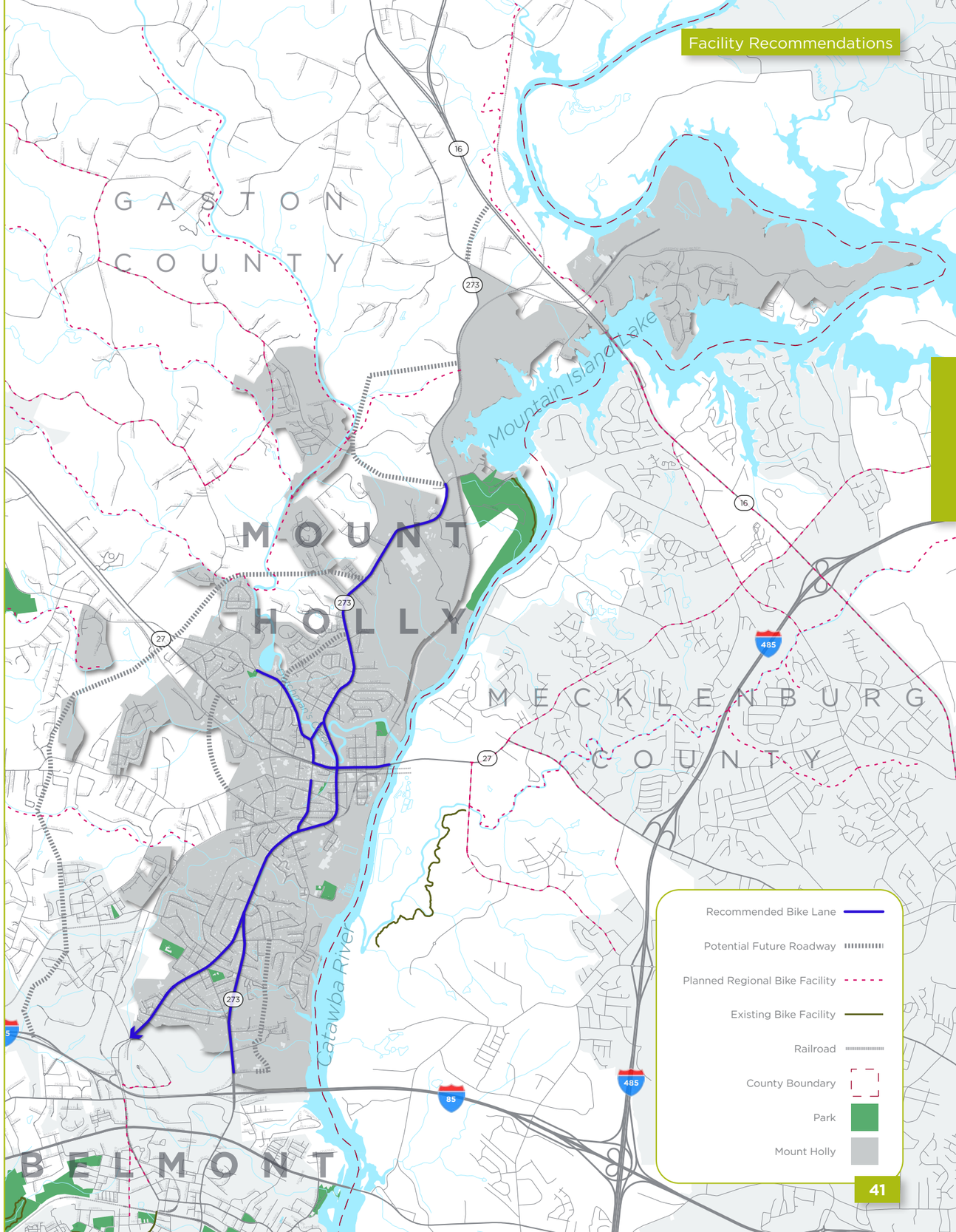


Bicycle Lanes

Bike lanes dedicate exclusive space for bicyclists in the roadway and there are a variety of different types. In contrast to buffered or separated bike lanes, conventional bike lanes do not provide any vertical separation or additional horizontal separation from travel lanes. Buffered bike lanes provide a painted buffer between bike lanes and travel lanes or parking lanes, increasing comfort for both motorists and bicyclists. Separated bike lanes, also known as protected bike lanes or cycle tracks, separate bike lanes from travel lanes using vertical elements, such as plastic posts, planters, and medians, reducing the likelihood of motor vehicle encroachment. When individual project segments begin to be funded and designed, a closer level of analysis should occur to determine the specific type of bike lane appropriate for that project.

The table below and the map on the adjacent page highlight the recommended bike lane projects.

Facility Name	Extents	Length (Miles)	Facility Type
Beatty Drive	Tuckaseege Road to Caldwell Drive	1.14	Bike Lane
Belmont Mt Holly Road	South Main Street to Woodlawn Street	1.48	Bike Lane
East Charlotte Avenue	North Main Street to Catawba River	0.65	Bike Lane
Highland Street	South Main Street to North Main Street	1.15	Bike Lane
North Main Street	Mountain Island Road to Woodlawn Avenue	2.72	Bike Lane
South Main Street	Catawba Avenue to Highland Street	0.45	Bike Lane
South Main Street	Highland Street to Tuckaseege Road	1.09	Bike Lane
Woodlawn Avenue/North Main Street	Noles Drive to West Charlotte Avenue	0.98	Bike Lane

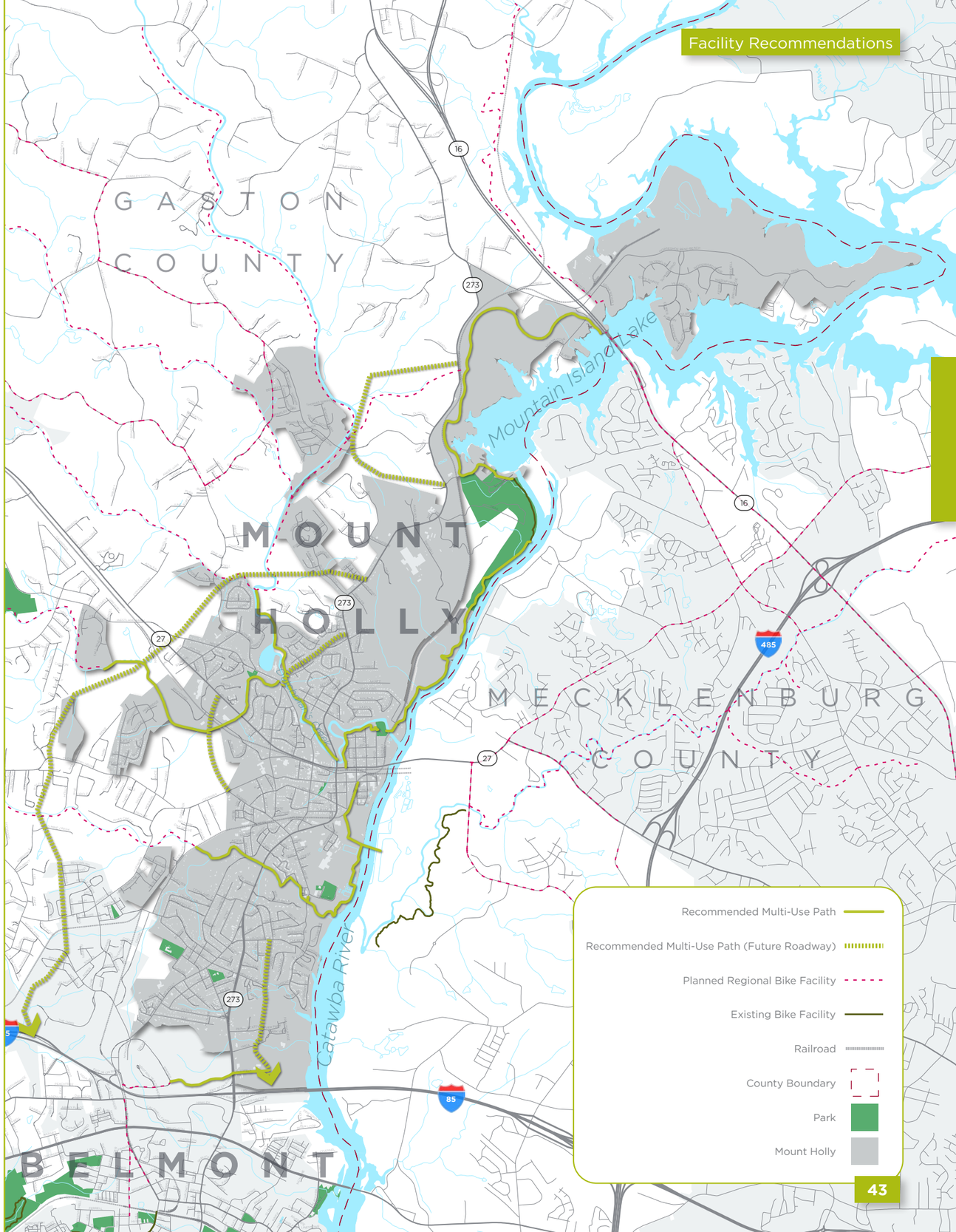


Multi-Use Paths

Multi-use paths, also know as shared-use paths or greenways, are paved trails located in or outside of street right-of-way and are intended only for non-motorized forms of transportation, including bicycling and walking. These paths are typically around ten feet wide, eight at the slimmest, to allow for bikers to easily pass walkers. These types of facilities typically provide strong regional connections. In some cases, sidepaths might be used. Side-paths are a sub category of multi-use paths and are pathways marked for bicycle use that are outside of the roadway.

The table below and the map on the adjacent page highlight the recommended multi-use path projects.

Facility Name	Extents	Length (Miles)	Facility Type
Belmont Mt Holly Loop	North Main Street to I-85	6.00	Multi-Use Path
Caldwell Drive	South Gateway to Wimmer Circle (Belmont Abbey)	0.87	Multi-Use Path
Bike/Pedestrian Catawba River Crossing	Catawba River	0.17	Multi-Use Path Bridge
Dutchman's Creek Greenway (East)	River Street Park to East Charlotte Avenue	0.65	Multi-Use Path
Fites Creek Greenway	Riverfront Greenway to NCDOT Railroad	1.59	Multi-Use Path
Hawthorne Extension	Woodlawn Avenue to North Main Street	0.73	Multi-Use Path
Mountain Island Lake Park Greenway	Greenway Connector to Nivens Cove	2.88	Multi-Use Path
Mountain Island Park Greenway Connector	Mountain Island Park Greenway to North Riverfront Greenway	0.51	Multi-Use Path
North Mount Holly Loop	Mountain Island Road to Mountain Island Road	2.28	Multi-Use Path
North Riverfront Greenway	Mountain Island Park to River Street Park	2.31	Multi-Use Path
Rankin Avenue Extension	West Catawba Avenue to West Charlotte Avenue	0.87	Multi-Use Path
South Gateway	Tuckaseege to I-85	1.18	Multi-Use Path
South Riverfront Greenway	East Catawba Avenue to Fites Creek Greenway	1.51	Multi-Use Path
Taylors Creek Greenway	Woodlawn Avenue to Westland Farms	2.18	Multi-Use Path
Dutchman's Creek Greenway (West)	Dutchman's Creek Greenway (East) to City Boundary	1.76	Multi-Use Path

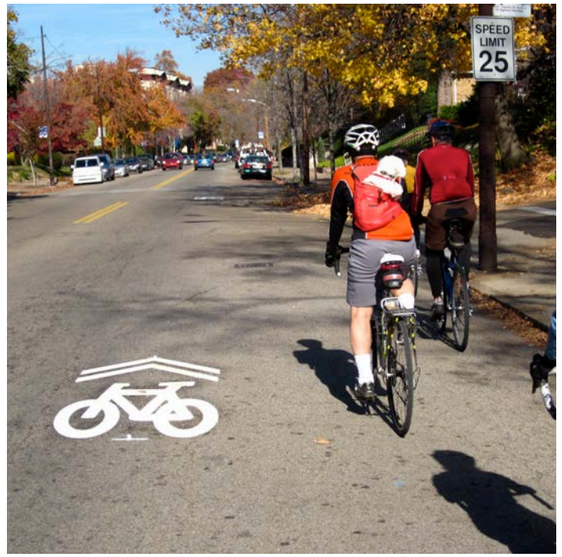


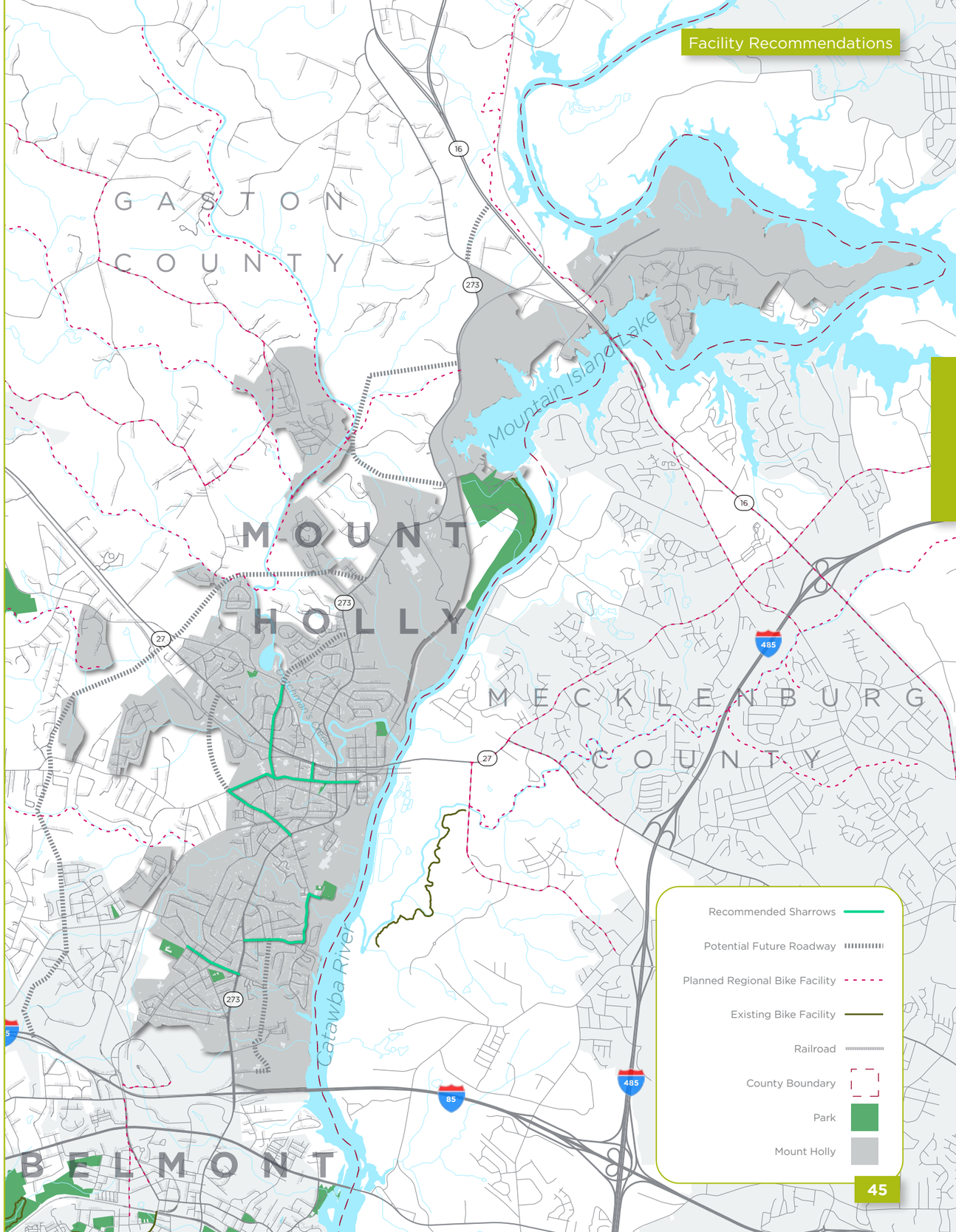
Sharrows

Also known as shared lane markings, sharrows indicate where bicyclists should travel in the roadway to increase bicycle visibility, mitigate bicyclist collisions with opening parked vehicle doors, and reinforce the presence of bicyclists. Sharrows are most useful on slower moving roadways, where there are right-of-way constraints for adding other types of bicycle facilities. In particular, a tighter, denser urban fabric, such as a typical downtown area, works well for sharrow implementation. Different types of sharrows or on-street markings can be used to delineate different bike routes, direct bikers towards key destinations in the community, and more.

The table below and the map on the adjacent page highlight the recommended sharrow projects.

Facility Name	Extents	Length (Miles)	Facility Type
East Catawba Avenue	South Main Street to South Alexander Street	0.40	Sharrow
Henry Street	Beatty Drive to Ida Street	0.50	Sharrow
Rankin Avenue	South Main Street to West Catawba Avenue	0.65	Sharrow
South Hawthorne Street	West Catawba Avenue to Woodlawn Avenue	0.78	Sharrow
South Main Street	East Central Avenue to East Catawba Avenue	0.15	Sharrow
Tuckaseege Road	Broome Street to Beatty Drive	1.01	Sharrow
West Catawba Avenue	South Main Street to South Hawthorne Street	0.32	Sharrow
West Catawba Avenue	South Hawthorne Street to Rankin Avenue	0.42	Sharrow





Wide Paved Shoulders

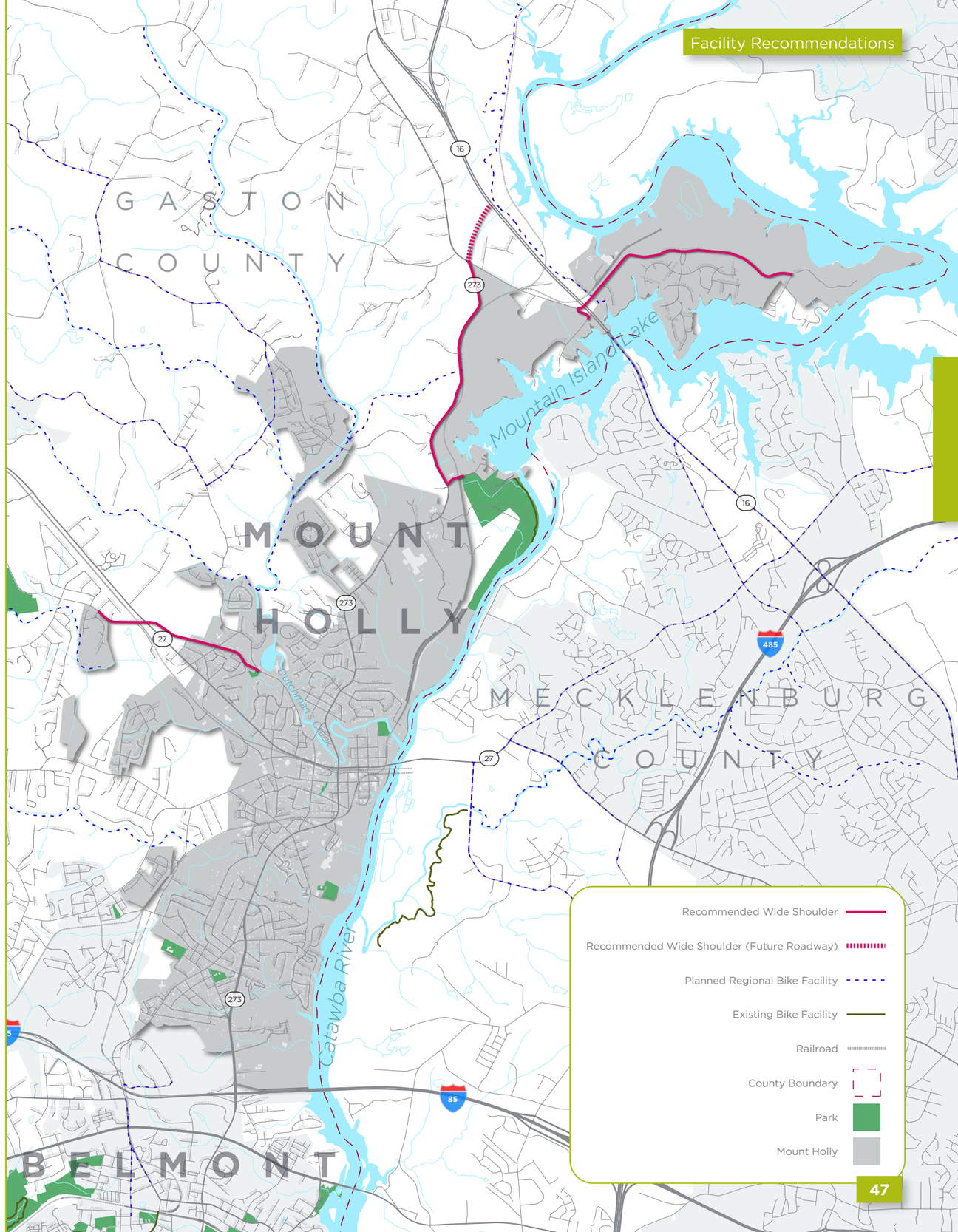
Cyclists can also take advantage of roads with wider shoulders that are paved to allow bikers to use the edge of the pavement while cars pass by. These shoulders service cyclists as an auxillary function, in addition to other primary functions like emergency support and roadway maintenance prevention. This kind of facility is typically appropriate for more rural roads where typical ridership might be lower than areas closer to key destinations. Bicycle riders who focus on longer rides for exercise or recreation would be most likely to use these types of facilities.

The table below and the map on the adjacent page highlight the recommended wide shoulder projects.

Facility Name	Extents	Length (Miles)	Facility Type
Horseshoe Bend Beach Road	Mountain Island Lake Park Greenway to Horseshoe Drive	2.23	Wide Shoulder
Mountain Island Road	NC-273 to Mountain Island Lake Park	0.15	Wide Shoulder
Mountain Island Road Extension	Lucia Riverbend Road to NC-16	0.53	Wide Shoulder
NC-273	Mountain Island Road to Lucia Riverbend Highway	2.04	Wide Shoulder
Noles Drive/Westland Farm Road	Woodlawn Avenue to Rachel Street/ Community Club Drive	1.50	Wide Shoulder

Beyond the recommendations identified in this plan, there are other two lane roads from Mount Holly into Gaston County that should be considered for wide shoulders for biking as growth occurs in areas currently outside of the City. These roads are listed below:

- Old NC-27
- Willowside Drive
- Lucia Riverbend Highway
- Sandy Ford Road
- Old Hickory Grove Road



Bicycle Parking

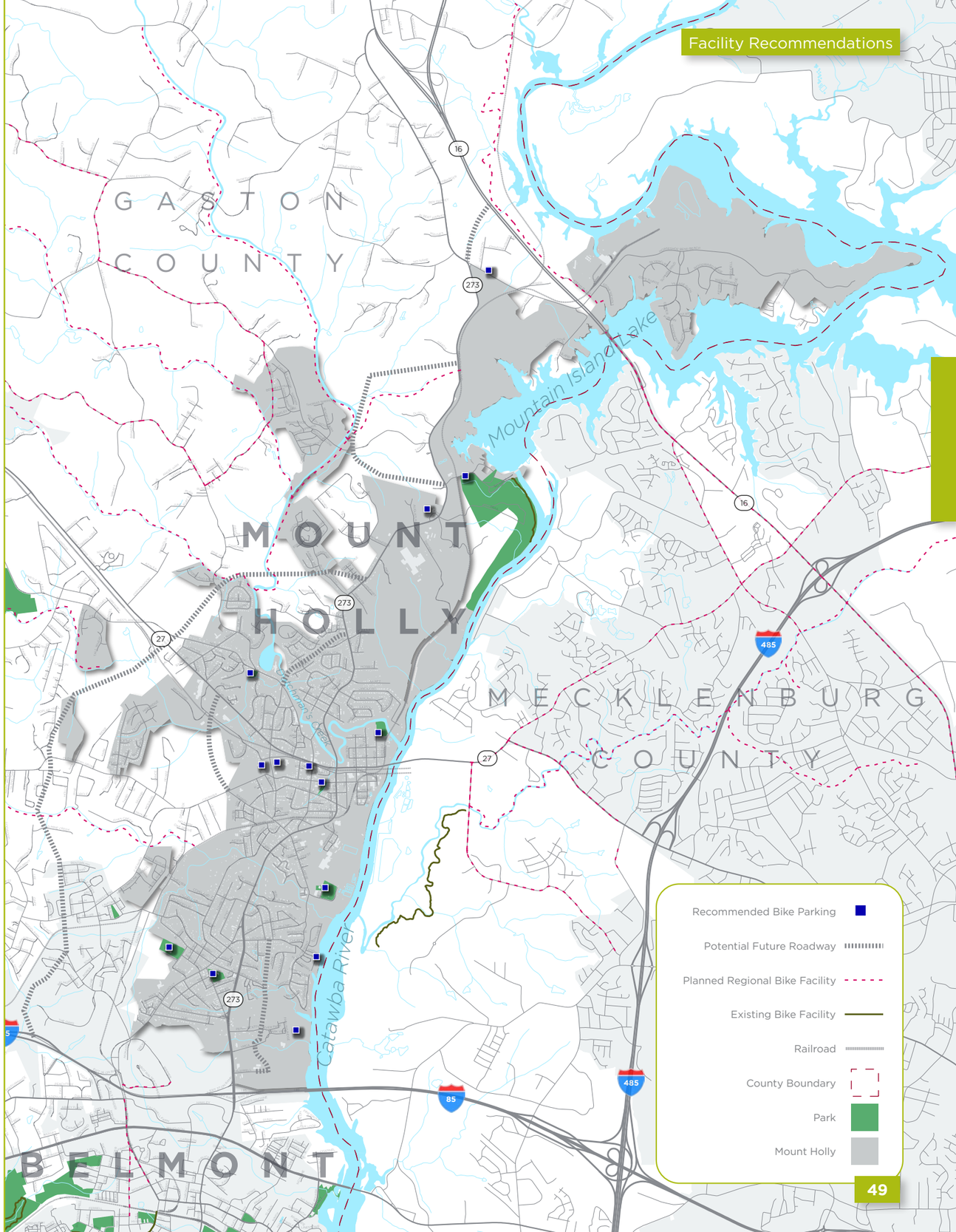
Bicycle parking can consist of anything that a bike user can lock his/her bike to once they've arrived at their destination to prevent theft. Additionally, this formerly programmed space keeps bikes from being left in places that are undesireable to the community, such as in the middle of the sidewalk or in the street. Bike parking can come in a myriad of different designs and is a great opportunity to showcase local artists and craftsmen to make them for the community. Critical bike parking areas are schools, parks, Downtown areas, and other key community destinations.

There are currently two locations in the City that have programmed bike parking. Those are listed below:

- Mount Holly Middle School
- Mount Holly Branch Library

The list below and the map on the adjacent page highlights the recommended locations for bike parking.

- Mountain Island Charter School
- Mountain Island Park
- Pinewood Elementary School
- Woodlawn Park
- River Street Park
- Ida Rankin Elementary School
- Downtown Mount Holly
- Veteran's Park
- Tuckaseege Park
- Tailrace Marina
- Catawba Heights Park
- Catawba Heights Elementary School
- The Stowe Family YMCA



Bike Routes

Designated bike routes are great for riders looking to go longer distances or those looking to tour the community via bicycle. These routes should be signed appropriately to indicate the route and distance to key destinations. These designated routes can be designed as loops through the community or an “out and back” along a roadway or multi-use path facility.

Bike Mount Holly Routes

The recommended bike routes for Mount Holly all use Downtown Mount Holly as a point of origin for the community. This reinforces the importance of the urban core of the City and provides a centralized starting point for all of the routes (although the routes can be started anywhere along the designated path). The six recommended routes are highlighted below with a brief description of the route and the areas along it. The subsequent pages in this section offer a more detailed view of each route, as well as a list of the recommended projects that make up the route.

North Loop

The North Loop takes riders along Dutchman’s Creek Greenway and the Catawba riverfront north of Downtown to Mountain Island Park. From there, riders circle back south along NC-273 back towards Downtown.

North Out and Back

This out and back also utilizes Dutchman’s Creek Greenway and the Catawba riverfront, but continues north past Mountain Island Park along Mountain Island Lake, crosses over NC-16 and continues northeast into the developing areas along that peninsula.

West Loop

The West Loop heads west into newer, developing areas on the western edge of the City. Using a future roadway, the loop cuts back east to NC-273 and back towards Downtown.

West Out and Back

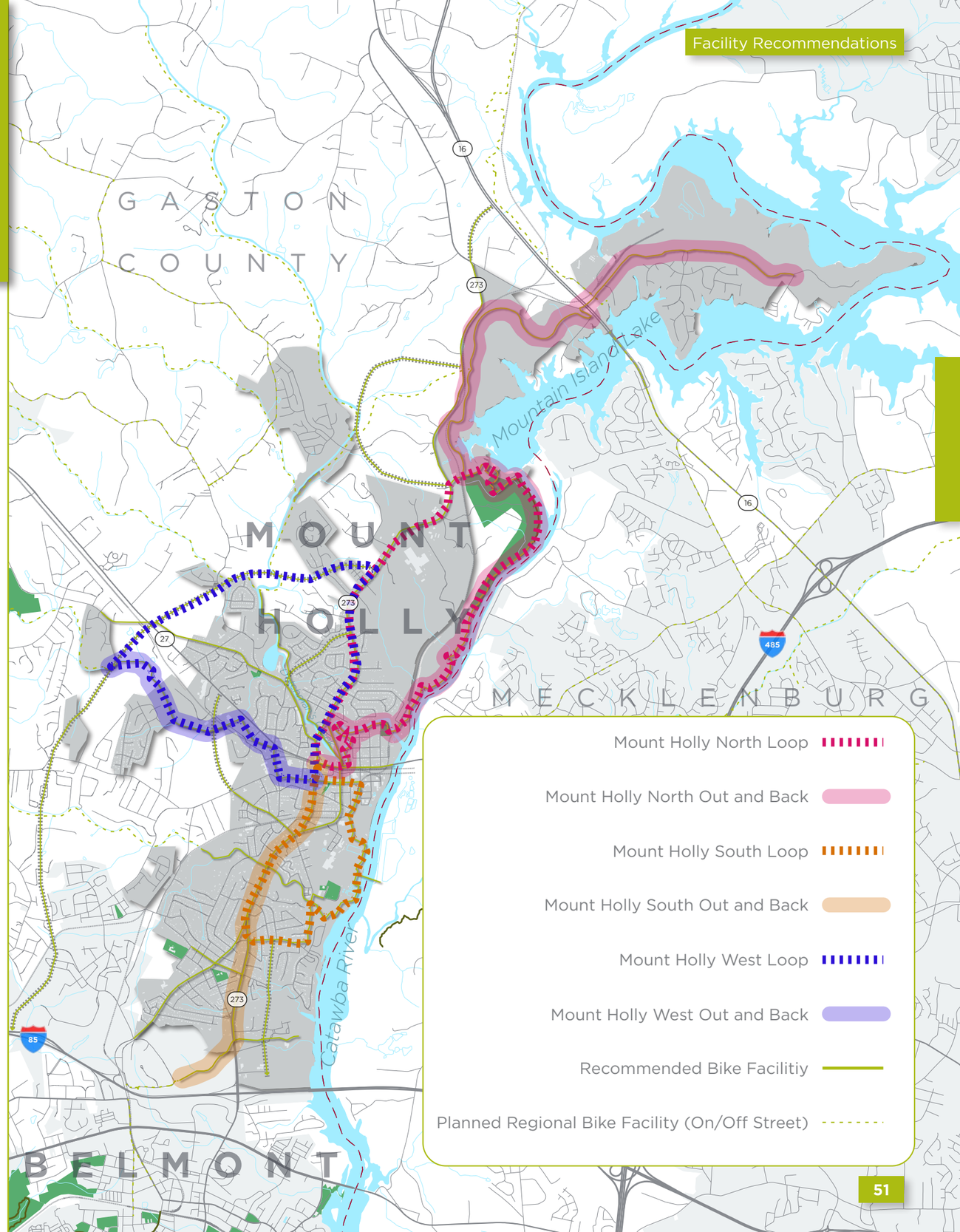
This out and back takes riders from Downtown directly west towards the western edge of the City, utilizing on and off-road facilities.

South Loop

The South Loop utilizes the future greenway along the Catawba riverfront south of Downtown. The loop goes past Tuckasseege Park and connects back to NC-273 north toward Downtown.

South Out and Back

The South Out and Back uses NC-273 and Caldwell Drive to take riders from Downtown to the eastern edge of Belmont Abbey College.



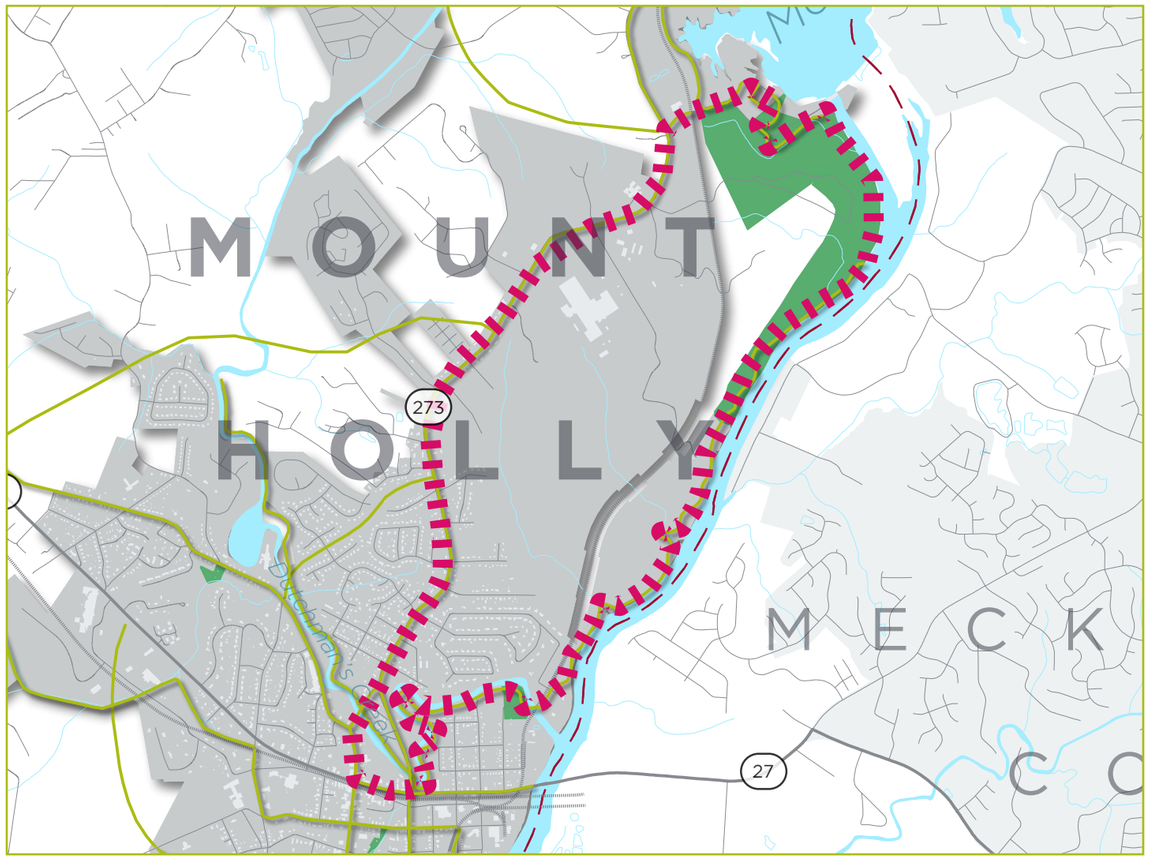
North Loop

Length

7.2 Miles

Key Connections

Downtown, River Street Park, Mountain Island Park, Pinewood Elementary



Facility Name	Extents	Facility Types
East Charlotte Avenue	North Main Street to Catawba River	Bike Lane
Dutchman's Creek Greenway (East)	River Street Park to East Charlotte Avenue	Multi-Use Path
Mountain Island Park Greenway Connector	Mountain Island Park Gway to North Riverfront Gway	Multi-Use Path
Mountain Island Road	NC-273 to Mountain Island Lake Park	Wide Shoulder
North Main Street	Mountain Island Road to Woodlawn Avenue	Bike Lane
North Riverfront Greenway	Mountain Island Park to River Street Park	Multi-Use Path
Woodlawn Avenue/North Main Street	Noles Drive to East Charlotte Avenue	Bike Lane

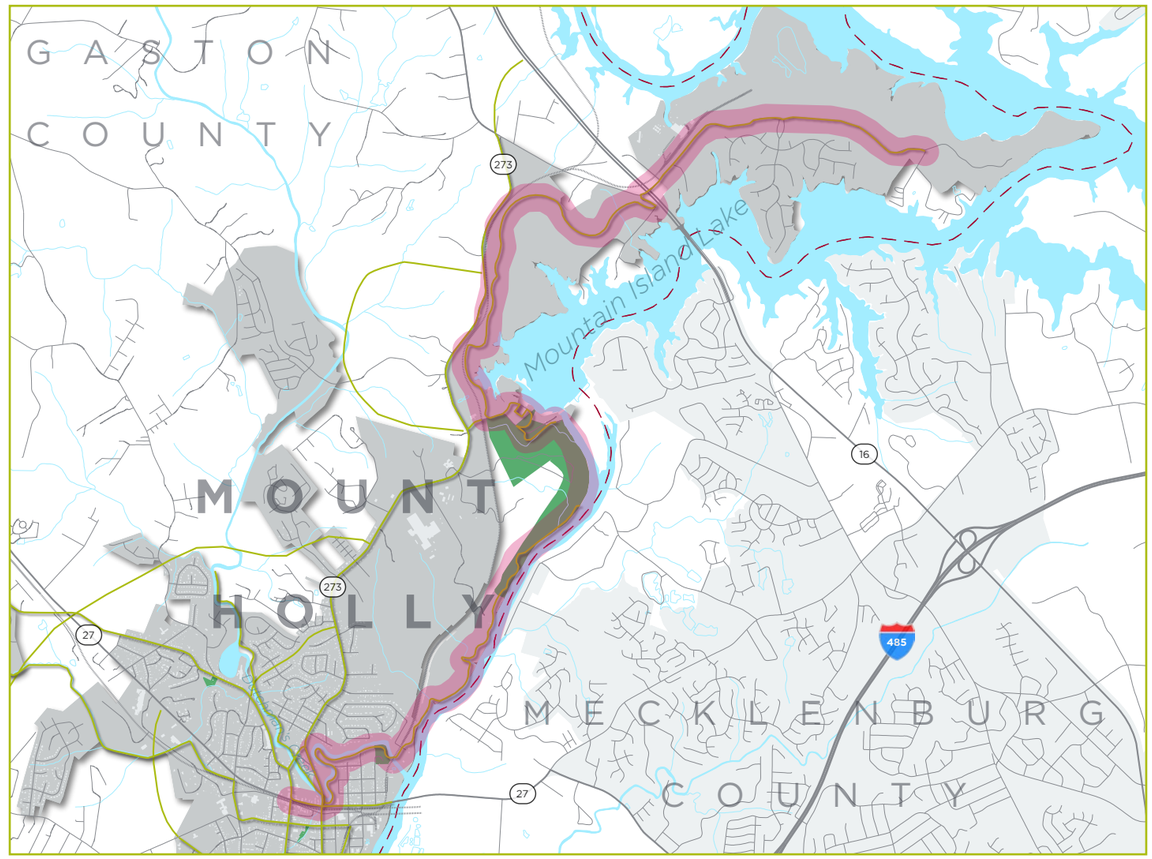
North Out and Back

Length

9.4 Miles

Key Connections

Downtown, River Street Park, Mountain Island Park, Mountain Island Lake, New Developments



Facility Name	Extents	Facility Types
East Charlotte Avenue	North Main Street to Catawba River	Bike Lane
Dutchman's Creek Greenway (East)	River Street Park to East Charlotte Avenue	Multi-Use Path
Horseshoe Bend Beach Road	Mountain Island Lake Park Gway to Horseshoe Drive	Wide Shoulder
Mountain Island Lake Park Greenway	Greenway Connector to Nivens Cove	Multi-Use Path
Mountain Island Park Greenway Connector	Mountain Island Park Gway to North Riverfront Gway	Multi-Use Path
North Riverfront Greenway	Mountain Island Park to River Street Park	Multi-Use Path

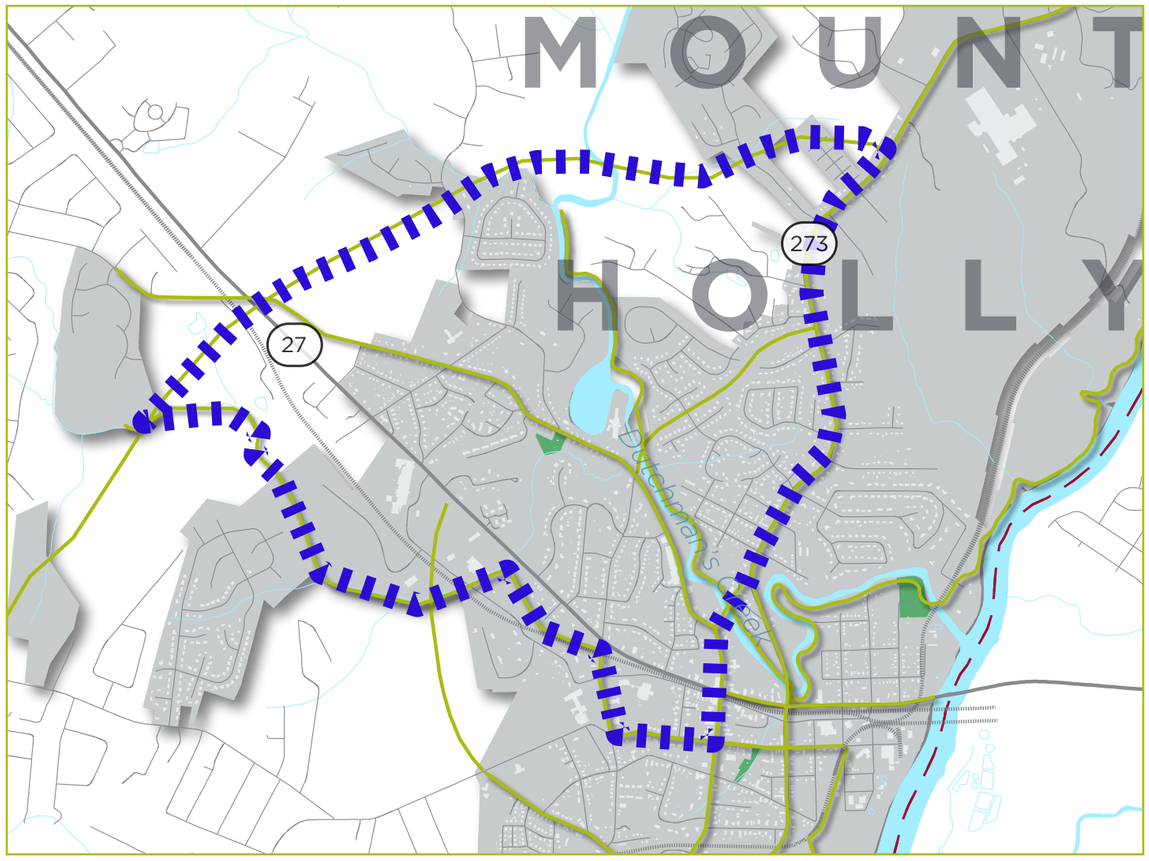
West Loop

Length

6.8 Miles

Key Connections

Downtown, Library, Ida Rankin Elementary, Mount Holly Middle, New Developments



Facility Name	Extents	Facility Types
Belmont Mt Holly Loop	North Main Street to I-85	Multi-Use Path
North Main Street	Mountain Island Road to Woodlawn Avenue	Bike Lane
Rankin Avenue Extension	West Catawba Avenue to West Charlotte Avenue	Multi-Use Path
South Main Street	East Central Avenue to East Catawba Avenue	Sharrow
Taylors Creek Greenway	Woodlawn Avenue to Westland Farms	Multi-Use Path
West Catawba Avenue	South Main Street to South Hawthorne Street	Sharrow
West Catawba Avenue	South Hawthorne Street to Rankin Avenue	Sharrow
Woodlawn Avenue/North Main Street	Noles Drive to East Charlotte Avenue	Bike Lane

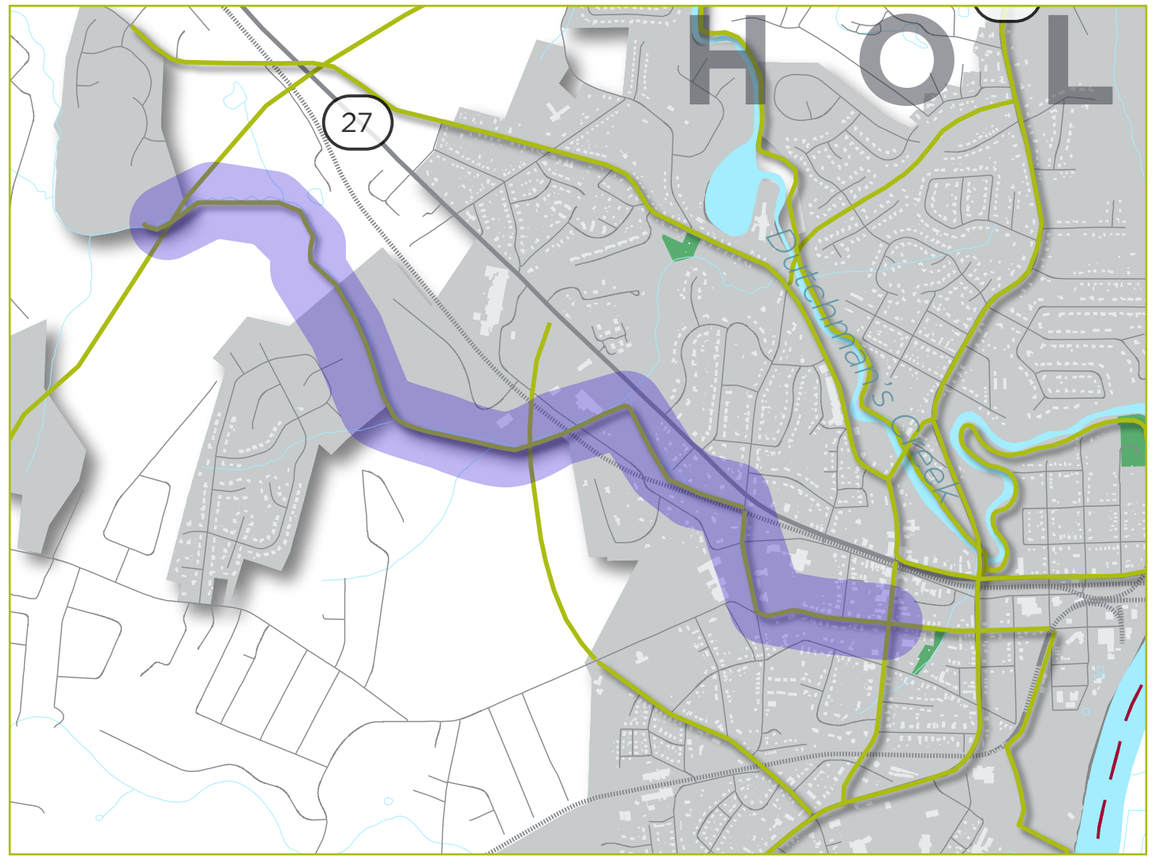
West Out and Back

Length

2.5 Miles

Key Connections

Downtown, Library, Ida Rankin Elementary, Mount Holly Middle, New Developments



Facility Name	Extents	Facility Types
Rankin Avenue Extension	West Catawba Avenue to West Charlotte Avenue	Multi-Use Path
Taylors Creek Greenway	Woodlawn Avenue to Westland Farms	Multi-Use Path
West Catawba Avenue	South Main Street to South Hawthorne Street	Sharrow
West Catawba Avenue	South Hawthorne Street to Rankin Avenue	Sharrow

South Loop

Length
4.3 Miles

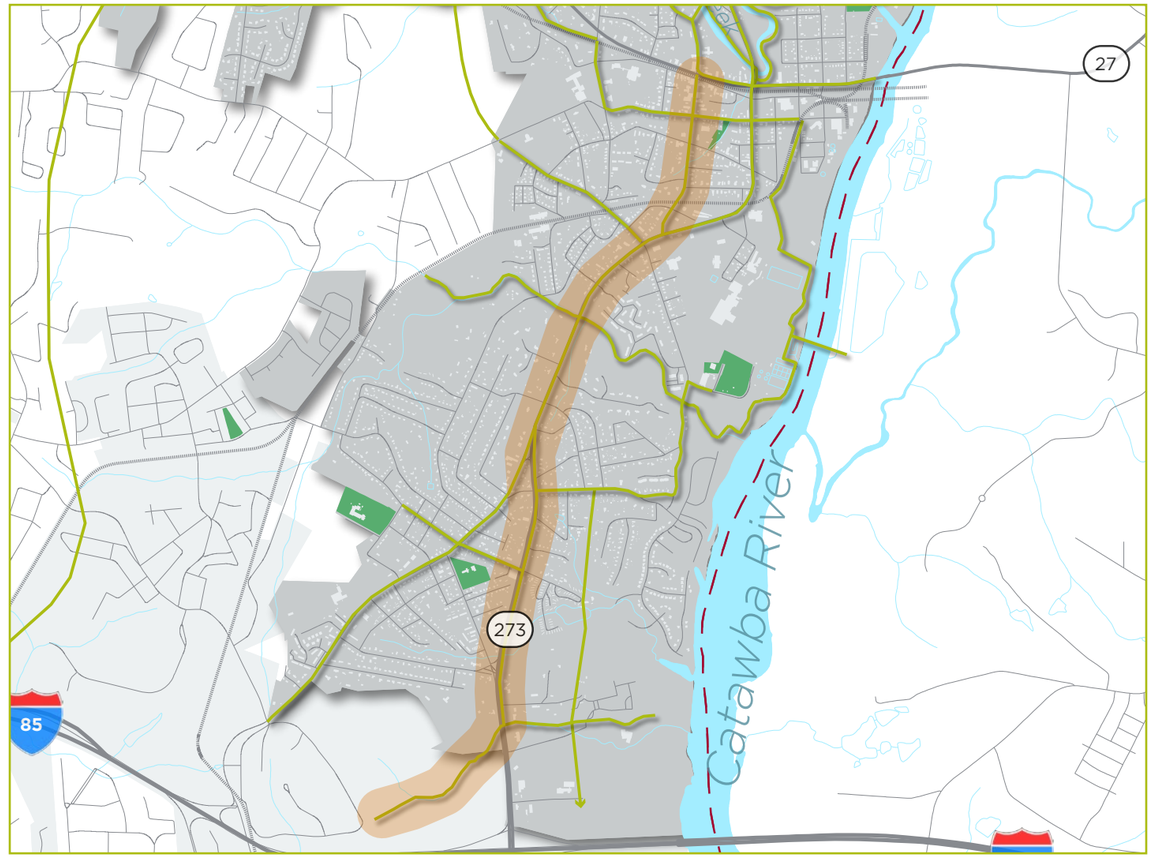
Key Connections
Downtown, Veteran's Park, Tailrace Marina, Tuckaseege Park

Facility Name	Extents	Facility Types
Beatty Drive	Tuckaseege Road to Caldwell Drive	Bike Lane
East Catawba Avenue	South Main Street to South Alexander Street	Sharrow
Fites Creek Greenway	Riverfront Greenway to NCDOT Railroad	Multi-Use Path
South Main Street	Catawba Avenue to Highland Street	Bike Lane
South Main Street	Highland Street to Tuckaseege Road	Bike Lane
South Riverfront Greenway	East Catawba Avenue to Fites Creek Greenway	Multi-Use Path
Tuckaseege Road	Broome Street to Beatty Drive	Sharrow

South Out and Back

Length
3.2 Miles

Key Connections
Downtown, Belmont Abbey, Catawba Heights Park



Facility Name	Extents	Facility Types
Beatty Drive	Tuckaseege Road to Caldwell Drive	Bike Lane
South Main Street	East Central Avenue to East Catawba Avenue	Sharrow
South Main Street	Catawba Avenue to Highland Street	Bike Lane
South Main Street	Highland Street to Tuckaseege Road	Bike Lane
Tuckaseege Road	Broome Street to Beatty Drive	Sharrow

Demonstration Projects

To guide the development of the prioritization process described in the next chapter, the project team solicited feedback from the Bike Mount Holly Steering Committee and the public to identify eleven demonstration projects. Of the entire list of recommended bikeway projects, these eleven are the most likely to garner public support and are critical to the future vision for Mount Holly.

Project Characteristics

The demonstration projects and their planning-level cost estimates are shown on the following pages. Each demonstration project offers a more detailed look at the project characteristics, and also highlights the plan goals (presented at the beginning of this document) that are addressed with the project. A description of the characteristics assessed for each project are highlighted below.

1 *Description*

A brief description of the project and its extents are provided for context.

2 *Length*

The length of the project segment.

3 *Loop*

The recommended bike loop, if any, that the project is a part of.

4 *Facility Cost Estimate*

High level cost estimates were developed utilizing the NCDOT Bicycle-Pedestrian Cost Estimation Tool. This tool assesses a wide variety of factors and characteristics of a project to generate a cost estimate that includes design, right-of-way acquisition, utilities work, and construction.

All costs are based on 2019 prices and cost components are rounded to the nearest $5,000, with a minimum of $5,000 per component. This tool assumes that 10% of the utilities located within the project area would need to be relocated, and does not estimate costs associated with the purchase or taking of buildings as it is assumed that projects would require land acquisition only.

5 *Facility Type*

The type of facility that is recommended.

6 *Out and Back*

The recommended bike out and back, if any, that the project is a part of.

7 *Constraints and Other Costs*

Other constraints and factors that may affect the cost and/or implementation of the project.

8 *Bike Mount Holly Goals*

Goals that are addressed by the project are shown in full color, while those that don't are dimmed.

9 *Illustrative Street Cross-Section*

An illustrative representation of the potential street cross section. Note that cross sections are shown only for projects that would be located within street right-of-way.

10 *Photo Simulation*

A graphic rendering of how the street would potentially look after project implementation. Note that only four of the demonstration projects have photo simulations.

Caldwell Drive

South Gateway to Wimmer Circle (Belmont Abbey)

Description

A multi-use path along Caldwell Drive connects the future South Gateway roadway project west to Belmont and Belmont Abbey College. This project should include improvements to the intersection at Beatty Drive for safe bicycle crossing. The project also provides a connection to the Stowe YMCA.

Length (Miles)

0.87

Facility Type

Multi-Use Path

Loop

None

Out and Back

None

Facility Cost Estimate

$5,325,000

Constraints and Other Costs

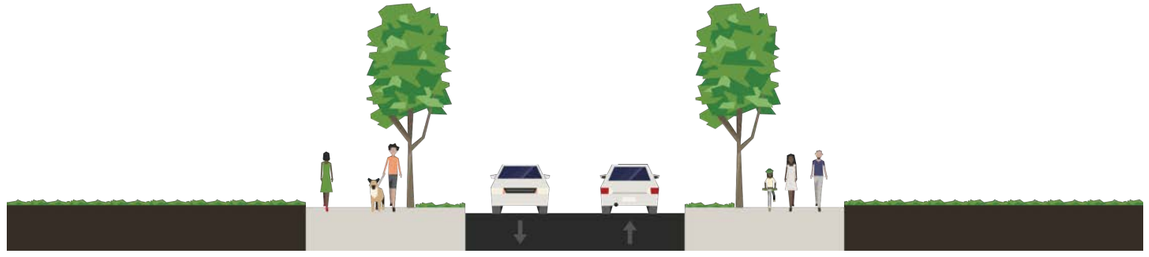
Potential right-of-way acquisition, coordination between municipalities

Bike Mount Holly Goals

(Goals that are met with this project are shown in full color)

Nature *People* *Opportunity* *Local Places* *Region*

Illustrative Street Cross-Section



South Gateway

Tuckaseege to I-85

Description

A multi-use path along the future South Gateway Roadway that will eventually help to connect Mount Holly and Belmont. This facility also connects to the Stowe YMCA and other recommended bike facilities.

Length (Miles)

1.18

Facility Type

Multi-Use path

Loop

None

Out and Back

None

Facility Cost Estimate

$3,340,000

Constraints and Other Costs

Additional study needed for how this roadway and multi-use path cross I-85

Bike Mount Holly Goals

(Goals that are met with this project are shown in full color)

Nature *People* *Opportunity* *Local Places* *Region*

Illustrative Street Cross-Section

Tuckaseege Road

Broome Street to Beatty Drive

Description

A sharrow along Tuckaseege Road that provides an important connection from Beatty Drive to Tuckaseege Park and other future bike facilities. This facility would be neighborhood friendly and safe for all riders.

Length (Miles)

1.01

Facility Type

Sharrow

Loop

South

Out and Back

South

Facility Cost Estimate

$20,000

Constraints and Other Costs

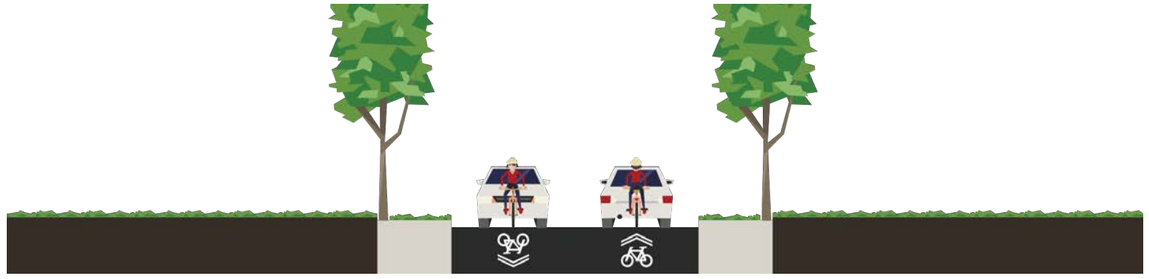
Signage would be necessary as well to help guide bikers to the park

Bike Mount Holly Goals

(Goals that are met with this project are shown in full color)

Nature *People* *Opportunity* *Local Places* *Region*

Illustrative Street Cross-Section



Belmont-Mt Holly Road

From South Main Street to Woodlawn Street

Description

A bike lane along Belmont Mount Holly Road that provides a vital connection south towards I-85 and into Belmont. Directly, it connects people with Belmont Abbey College.

Length (Miles)

1.48

Facility Type

Bike Lane

Loop

None

Out and Back

None

Facility Cost Estimate

$1,265,000

Constraints and Other Costs

Potential right-of-way acquisition along Belmont Mount Holly Road

Bike Mount Holly Goals

(Goals that are met with this project are shown in full color)

Nature *People* *Opportunity* *Local Places* *Region*

Illustrative Street Cross-Section

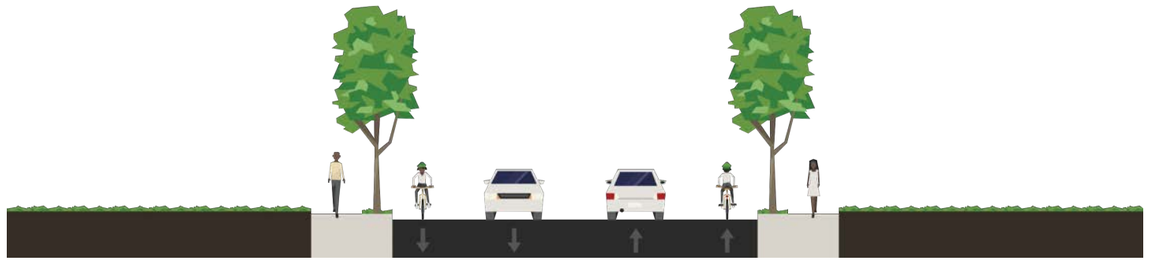


Photo Simulation

North Main Street

Mountain Island Road to Woodlawn Avenue

Description

This bike lane would add a key bicycle connection to Downtown from the north side of the City. This would connect downtown and local neighborhoods and is a critical spine for north-south bike travel in Mount Holly.

Length (Miles)

2.72

Facility Type

Bike Lane

Loop

North, West

Out and Back

None

Facility Cost Estimate

$6,050,000

Constraints and Other Costs

Potential ROW acquisition

Bike Mount Holly Goals

(Goals that are met with this project are shown in full color)

Nature *People* *Opportunity* *Local Places* *Region*

Illustrative Street Cross-Section

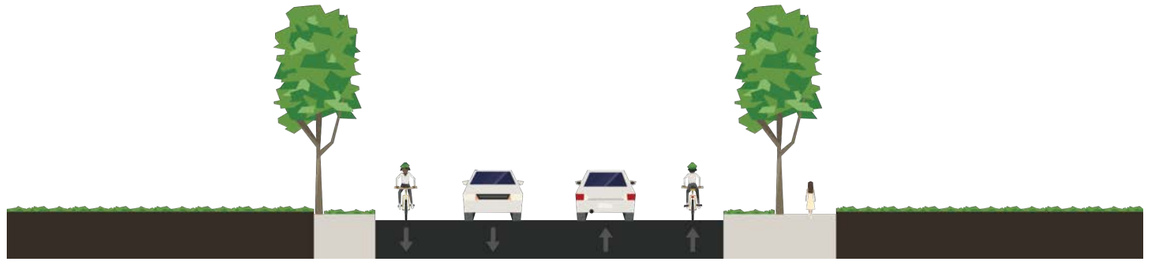


Photo Simulation

South Main Street

Catawba Avenue to Highland Street

Description

This bike lane would create an important bicycle connection to NC-273 from Downtown that is currently missing. Though it is a short segment, it is a critical link in the bicycle system.

Length (Miles)

0.45

Facility Type

Bike Lane

Loop

South

Out and Back

South

Facility Cost Estimate

$1,265,000

Constraints and Other Costs

Potential ROW acquisition

Bike Mount Holly Goals

(Goals that are met with this project are shown in full color)

Nature *People* *Opportunity* *Local Places* *Region*

Illustrative Street Cross-Section

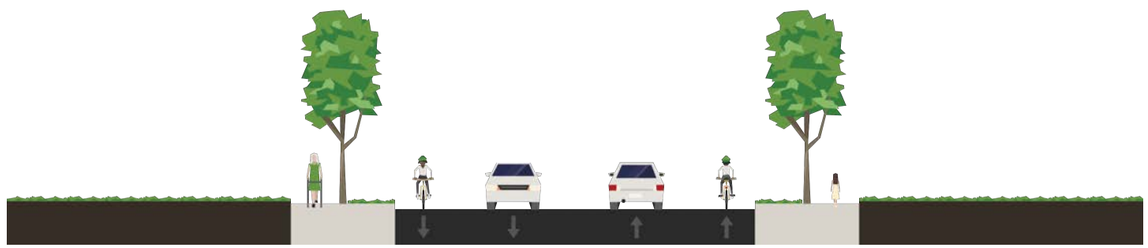


Photo Simulation

West Catawba Avenue

South Main Street to South Hawthorne Street

Description

Though short, this segment provides a simple but critical link along Catawba from Downtown to Hawthorne. This intersection is centered around two schools and the local library, all extremely important locations within the community.

Length (Miles)

0.32

Facility Type

Sharrow

Loop

West

Out and Back

West

Facility Cost Estimate

$20,000

Constraints and Other Costs

Additional signage necessary

Bike Mount Holly Goals

(Goals that are met with this project are shown in full color)

Nature *People* *Opportunity* *Local Places* *Region*

Illustrative Street Cross-Section

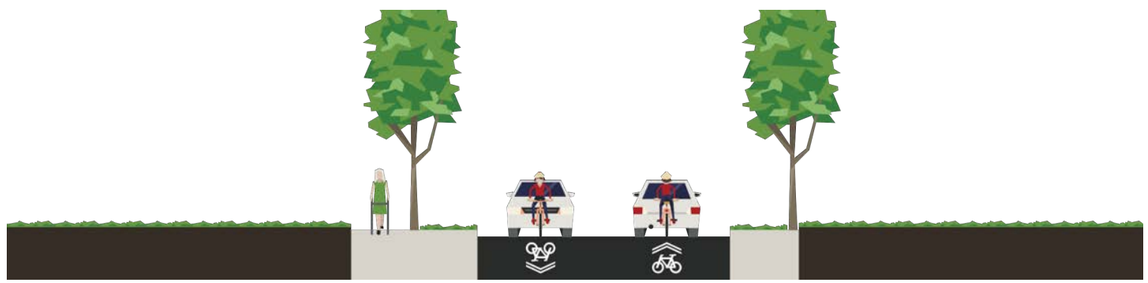


Photo Simulation

Bike/Pedestrian Catawba River Crossing

Catawba River

Description

As a significant capital investment, a bicycle and pedestrian bridge crossing the Catawba River would create a connection between Gaston and Mecklenburg Counties. Furthermore, people in Mount Holly and Gaston County would have direct access to the US National White Water Center and vice versa.

Length (Miles)

0.17

Facility Type

Multi-Use Path Bridge

Loop

None

Out and Back

None

Facility Cost Estimate

*$XX million to $XX million+**

Constraints and Other Costs

Environmental concerns along the riverfront, compliance with floodplain development regulations, timing to be coordinated with Charlotte Water new plant project and Mount Holly Water Treatment Plant decommissioning, significant approach length on eastern side in environmentally sensitive areas including an additional bridge crossing over Long Creek, will likely require multiple funding sources and partners

Bike Mount Holly Goals

(Goals that are met with this project are shown in full color)

Nature *People* *Opportunity* *Local Places* *Region*

*Feasibility study ongoing

Dutchman's Creek Greenway (East)

River Street Park to East Charlotte Avenue

Description

This greenway segment directly connects the riverfront and Dutchman's Creek to Downtown. It is vital to getting bikers safely from Downtown to other connection points to the north and east.

Length (Miles)

0.65

Facility Type

Multi-Use Path

Loop

North

Out and Back

North

Facility Cost Estimate

*$390,000**

Constraints and Other Costs

Environmental concerns along creek, potential land acquisition, roadway crossings

Bike Mount Holly Goals

(Goals that are met with this project are shown in full color)

Nature *People* *Opportunity* *Local Places* *Region*

*According to recent feasibility study

Fites Creek Greenway

Riverfront Greenway to NCDOT Railroad

Description

Fites Creek Greenway would run along Fites Creek, connecting Tuckaseege Park and the future South Riverfront Greenway to neighborhoods to the east. Furthermore, it would link with a future planned facility that extends further into Gaston County.

Length (Miles)

1.59

Facility Type

Multi-Use Path

Loop

South

Out and Back

None

Facility Cost Estimate

$4,010,000

Constraints and Other Costs

Environmental concerns along creek, multiple roadway crossings

Bike Mount Holly Goals

(Goals that are met with this project are shown in full color)

Nature *People* *Opportunity* *Local Places* *Region*

North Riverfront Greenway

Mountain Island Park to River Street Park

Description

This riverfront greenway would provide a key connection between the urban core and developing areas to the north of the City. Most of the greenway can be along the riverfront, allowing the City and the community to take advantage of and enjoy a unique natural resource.

Length (Miles)

2.31

Facility Type

Multi-Use Path

Loop

North

Out and Back

North

Facility Cost Estimate

$4,545,000

Constraints and Other Costs

Environmental concerns along riverfront, potential land acquisition

Bike Mount Holly Goals

(Goals that are met with this project are shown in full color)

Nature *People* *Opportunity* *Local Places* *Region*

Project Prioritization

Prioritization

In addition to foundational analysis (existing conditions, engagement) that helped to develop the facility recommendations, a quantitative process was created to help prioritize the identified bicycle projects. This prioritization process was developed in conjunction with the Bike Mount Holly Steering Committee and the City of Mount Holly. The goal of the prioritization is to provide the City with a guide and timeline for implementation of bicycle projects and allocation of resources. A detailed scoring process was created that assessed each project on a wide variety of criteria.

Methodology

Using a quantitative methodology, projects were sorted into three prioritization tiers (short-term, mid-term, and long-term). In general, short-term projects are intended to be completed (or initiated) prior to mid-term and long-term projects. However, prioritization should be flexible to changes in available time, resources, and the City's interests.

The prioritization process consisted of assessing each project by four major categories that were developed based on feedback from the Steering Committee and the Bike Mount Holly goals. Each category was applied a score and then weighted based on feedback from the public and the Steering Committee to yield an overall weighted score for each project. The four categories are highlighted below:

Priority Zones

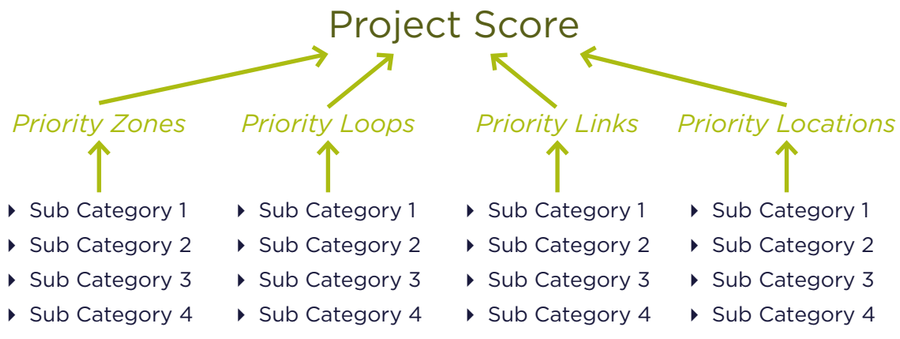
Priority Links

Priority Loops

Priority Locations

Each category was then broken down into different sub categories that were assessed individually for each project. These sub categories are outlined in more detail on the adjacent page.

Each score for the sub categories and four main categories was weighted to provide a more appropriate score for the project. A flow chart showing how each project score was created is included below.



Priority Zones

Priority zones were areas identified as important to the future vision for Mount Holly. These aren't specific or exact locations as much as they represent the critical areas of the community that are important to support with bicycle infrastructure. Projects were assessed for whether or not they connected to or passed through one of the following zones:

Sub categories

Downtown

Along the River

Developing Areas

Priority Links

Priority links represent regional links that were identified as important during the engagement and Steering Committee processes. Projects were assessed for whether or not they provided connection to one of these four regional areas:

Sub categories

City of Belmont

Mecklenburg County/US National White Water Center

Gaston County

Stanley County

Priority Locations

Priority locations were identified as primary destinations for biking within Mount Holly. Some of these locations are specific, while others include several different locations. Projects were assessed for whether or not they provided connection to one of these key locations:

Sub categories

Parks

Activity Nodes

Schools

Neighborhoods

Stowe Family YMCA

Mount Holly Branch Library

Priority Loops

Highlighted in a previous chapter, the priority loops represent the six loops/out and backs that are recommended as designated bike routes. Projects were assessed for whether or not they were a portion of a loop or out and back:

Sub categories

North Loop

North Out and Back

West Loop

West Out and Back

South Loop

South Out and Back

Project Prioritization

Prioritization Table

The table below highlights the prioritization process for the recommended projects of Bike Mount Holly. Based on public input from the previous open house and the online survey and in conjunction with the City and the Steering Committee, a quantitative analysis of the recommended projects was conducted, yielding an overall weighted score for prioritization. Projects are listed alphabetically. The top five highest scores have been bolded.

Facility Name	Extents	Loop	Out & Back	Length (Miles)	Facility Types	Priority Zone Weighted Score	Priority Loop Weighted Score	Priority Link Weighted Score	Priority Location Weighted Score	Final Weighted Score
Beatty Drive	Tuckaseege Road to Caldwell Drive	South	South	1.14	Bike Lane	2	3.5	1.75	5.25	3.01
Belmont Mt Holly Loop	North Main Street to I-85	West		6.00	Multi-Use Path	2	1.5	5.5	3	2.76
Belmont Mt Holly Road	South Main Street to Woodlawn Street			1.48	Bike Lane	0	0	3.5	6.5	1.94
Caldwell Drive	South Gateway to Wimmer Circle (Belmont Abbey)			0.87	Multi-Use Path	5	2	3.5	3.75	3.57
Bike/Pedestrian Catawba River Crossing	Catawba River			0.17	Multi-Use Path Bridge	2	0	3.5	3	1.90
East Catawba Avenue	South Main Street to South Alexander Street	South		0.40	Sharrow	4	2	0	7.5	3.24
East Charlotte Avenue	**North Main Street to Catawba River**	**North**	**North**	**0.65**	**Bike Lane**	**8**	**2**	**3.5**	**7.75**	**5.24**
Dutchman's Creek Greenway (East)	**River Street Park to East Charlotte Avenue**	**North**	**North**	**0.65**	**Multi-Use Path**	**8**	**4**	**0**	**7.5**	**5.07**
Fites Creek Greenway	Riverfront Greenway to NCDOT Railroad	South		1.59	Multi-Use Path	3	0	1	6.25	2.31
Hawthorne Extension	Woodlawn Avenue to North Main Street			0.73	Multi-Use Path	2	0	0	4	1.37
Henry Street	Beatty Drive to Ida Street			0.50	Sharrow	0	0	0	6.5	1.22
Highland Street	South Main Street to North Main Street			1.15	Bike Lane	4	0	0	8.25	2.79
Horseshoe Bend Beach Road	Mountain Island Lake Park Gway to Horseshoe Drive		North	2.23	Wide Shoulder	2	2	2.75	5	2.72
Mountain Island Lake Park Greenway	Greenway Connector to Nivens Cove		North	2.88	Multi-Use Path	1	2	2.75	6.25	2.64
Mountain Island Park Greenway Connector	**Mountain Island Park Gway to North Riverfront Gway**	**North**	**North**	**0.51**	**Multi-Use Path**	**5**	**4**	**0**	**6.25**	**3.91**
Mountain Island Road	NC-273 to Mountain Island Lake Park	North		0.15	Wide Shoulder	0	0	0	5.75	1.08
Mountain Island Road Extension	Lucia Riverbend Road to NC-16			0.53	Wide Shoulder	2	0	2	2.25	1.45
North Main Street	Mountain Island Road to Woodlawn Avenue	North, West		2.72	Bike Lane	3	3.5	1	6.25	3.35
NC-273	Mountain Island Road to Lucia Riverbend Highway			2.04	Wide Shoulder	2	0	0	6.25	1.79
Noles Drive/Westland Farm Road	Woodlawn Avenue to Rachel Street/Comm. Club Drive			1.50	Wide Shoulder	2	0	2	5	1.97
North Mount Holly Loop	Mountain Island Road to Mountain Island Road			2.28	Multi-Use Path	2	0	2	4.75	1.92
North Riverfront Greenway	**Mountain Island Park to River Street Park**	**North**	**North**	**2.31**	**Multi-Use Path**	**4**	**4**	**1**	**8.25**	**4.18**
Rankin Avenue	South Main Street to West Catawba Avenue			0.65	Sharrow	1	0	1	2.5	0.99
Rankin Avenue Extension	West Catawba Avenue to West Charlotte Avenue	West	West	0.87	Multi-Use Path	1	2.5	1	2.5	1.73
South Hawthorne Street	West Catawba Avenue to Woodlawn Avenue			0.78	Sharrow	2	2.5	0	8.25	2.91
South Main Street	East Central Avenue to East Catawba Avenue	West	South	0.15	Sharrow	4	3.5	0	8.5	2.83
South Main Street	**Catawba Avenue to Highland Street**	**South**	**South**	**0.45**	**Bike Lane**	**4**	**0**	**0**	**8.5**	**3.87**
South Main Street	Highland Street to Tuckaseege Road	South	South	1.09	Bike Lane	2	3.5	0	5.5	2.69
South Gateway	Tuckaseege to I-85			1.18	Multi-Use Path	2	0	3.5	4.5	2.19
South Riverfront Greenway	East Catawba Avenue to Fites Creek Greenway	South		1.51	Multi-Use Path	4	2	3.5	6.25	3.73
Taylors Creek Greenway	Woodlawn Avenue to Westland Farms	West	West	2.18	Multi-Use Path	2	2.5	2	5.75	2.85
Tuckaseege Road	Broome Street to Beatty Drive	South	South	1.01	Sharrow	0	2	1.75	6.25	2.13
West Catawba Avenue	South Main Street to South Hawthorne Street	West	West	0.32	Sharrow	4	2.5	0	7.75	3.44
West Catawba Avenue	South Hawthorne Street to Rankin Avenue	West	West	0.42	Sharrow	3	2.5	0	4.75	2.56
Dutchman's Creek Greenway (West)	Dutchman's Creek Greenway (East) to City Boundary			1.76	Multi-Use Path	5	0	2	8.5	3.56
Woodlawn Avenue/North Main Street	Noles Drive to East Charlotte Avenue	North, West		0.98	Bike Lane	2	3.5	0	8.5	3.26

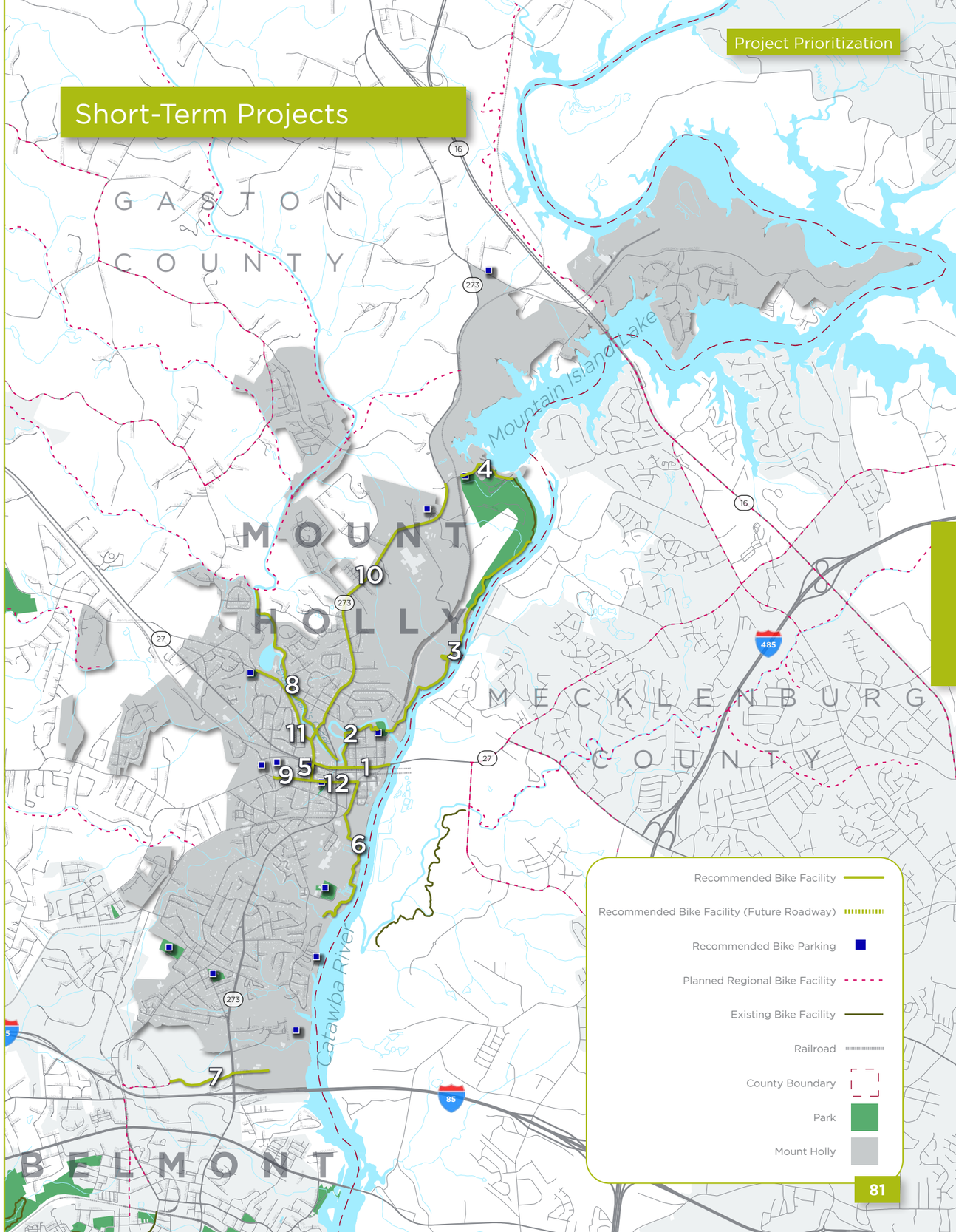
Prioritization Tiers

Based on the weighted scores from the prioritization process, the projects were sorted into three tiers for prioritization:

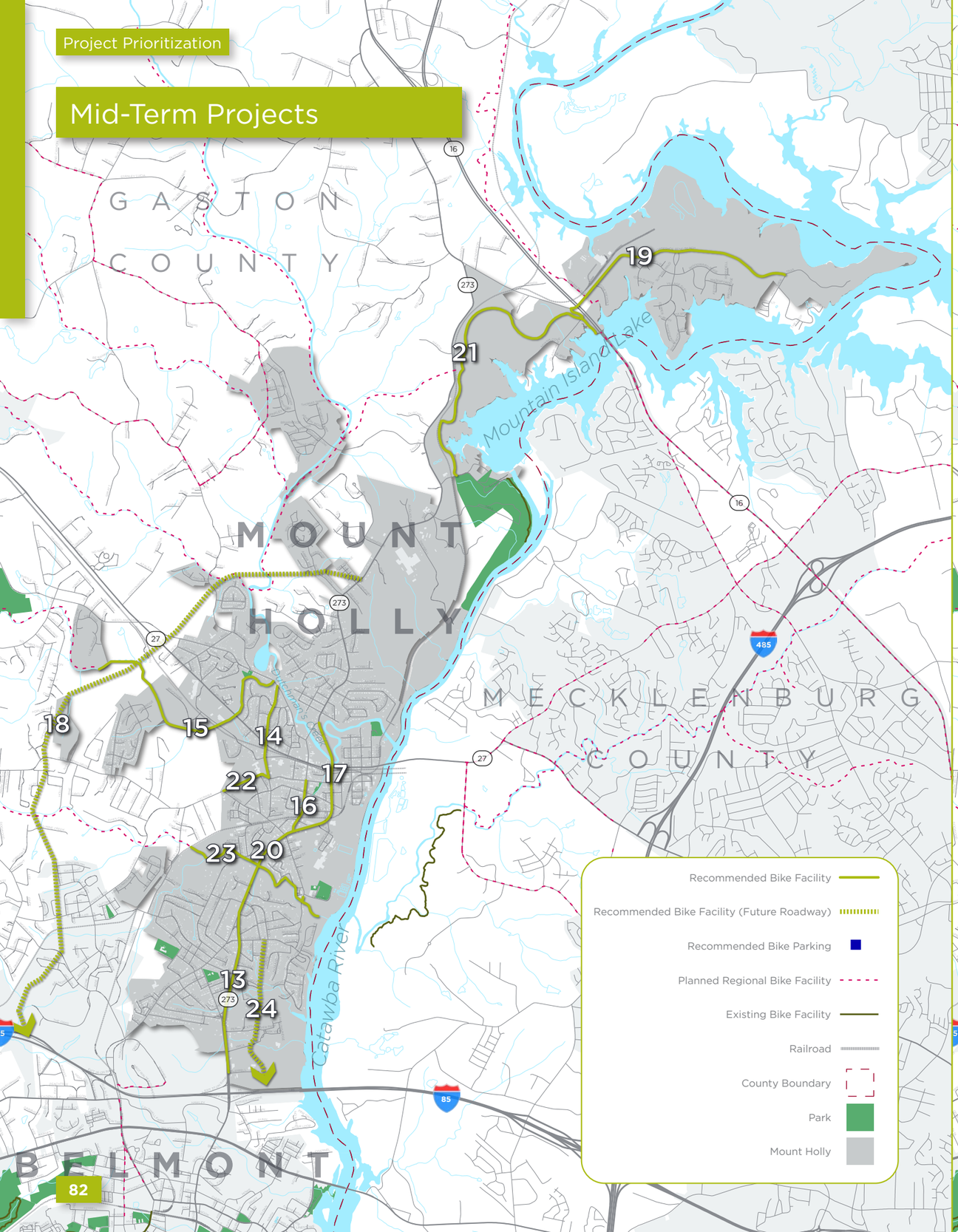
Short-term	*Mid-term*	*Long-term*
<5 Years	*5 - 10 Years*	*10+ Years*

	Facility Name	Extents	Length (Miles)	Facility Type
1	**East Charlotte Avenue**	**North Main Street to Catawba River**	**0.65**	**Bike Lane**
2	**Dutchman's Creek Greenway (East)**	**River Street Park to East Charlotte Avenue**	**0.65**	**Multi-Use Path**
3	**North Riverfront Greenway**	**Mountain Island Park to River Street Park**	**2.31**	**Multi-Use Path**
4	**Mountain Island Park Greenway Connector**	**Mountain Island Park Gway to North Riverfront Gway**	**0.51**	**Multi-Use Path**
5	**South Main Street**	**East Central Avenue to East Catawba Avenue**	**0.15**	**Sharrow**
6	South Riverfront Greenway	East Catawba Avenue to Fites Creek Greenway	1.51	Multi-Use Path
7	Caldwell Drive	South Gateway to Wimmer Circle (Belmont Abbey)	0.87	Multi-Use Path
8	Dutchman's Creek Greenway (West)	Dutchman's Creek Greenway (East) to City Boundary	1.76	Multi-Use Path
9	West Catawba Avenue	South Main Street to South Hawthorne Street	0.32	Sharrow
10	North Main Street	Mountain Island Road to Woodlawn Avenue	2.72	Bike Lane
11	Woodlawn Avenue/North Main Street	Noles Drive to East Charlotte Avenue	0.98	Bike Lane
12	East Catawba Avenue	South Main Street to South Alexander Street	0.40	Sharrow
13	Beatty Drive	Tuckaseege Road to Caldwell Drive	1.14	Bike Lane
14	South Hawthorne Street	West Catawba Avenue to Woodlawn Avenue	0.78	Sharrow
15	Taylors Creek Greenway	Woodlawn Avenue to Westland Farms	2.18	Multi-Use Path
16	South Main Street	Catawba Avenue to Highland Street	0.45	Bike Lane
17	Highland Street	South Main Street to North Main Street	1.15	Bike Lane
18	Belmont Mt Holly Loop	North Main Street to I-85	6.00	Multi-Use Path
19	Horseshoe Bend Beach Road	Mountain Island Lake Park Gway to Horseshoe Drive	2.23	Wide Shoulder
20	South Main Street	Highland Street to Tuckaseege Road	1.09	Bike Lane
21	Mountain Island Lake Park Greenway	Greenway Connector to Nivens Cove	2.88	Multi-Use Path
22	West Catawba Avenue	South Hawthorne Street to Rankin Avenue	0.42	Sharrow
23	Fites Creek Greenway	Riverfront Greenway to NCDOT Railroad	1.59	Multi-Use Path
24	South Gateway	Tuckaseege to I-85	1.18	Multi-Use Path
25	Tuckaseege Road	Broome Street to Beatty Drive	1.01	Sharrow
26	Noles Drive/Westland Farm Road	Woodlawn Avenue to Rachel Street/Community Club Drive	1.50	Wide Shoulder
27	Belmont Mt Holly Road	South Main Street to Woodlawn Street	1.48	Bike Lane
28	North Mount Holly Loop	Mountain Island Road to Mountain Island Road	2.28	Multi-Use Path
29	Bike/Pedestrian Catawba River Crossing	Catawba River	0.17	Bike/Ped Bridge
30	NC-273	Mountain Island Road to Lucia Riverbend Highway	2.04	Wide Shoulder
31	Rankin Avenue Extension	West Catawba Avenue to West Charlotte Avenue	0.87	Multi-Use Path
32	Mountain Island Road Extension	Lucia Riverbend Road to NC-16	0.53	Wide Shoulder
33	Hawthorne Extension	Woodlawn Avenue to North Main Street	0.73	Multi-Use Path
34	Henry Street	Beatty Drive to Ida Street	0.50	Sharrow
35	Mountain Island Road	NC-273 to Mountain Island Lake Park	0.15	Wide Shoulder
36	Rankin Avenue	South Main Street to West Catawba Avenue	0.65	Sharrow

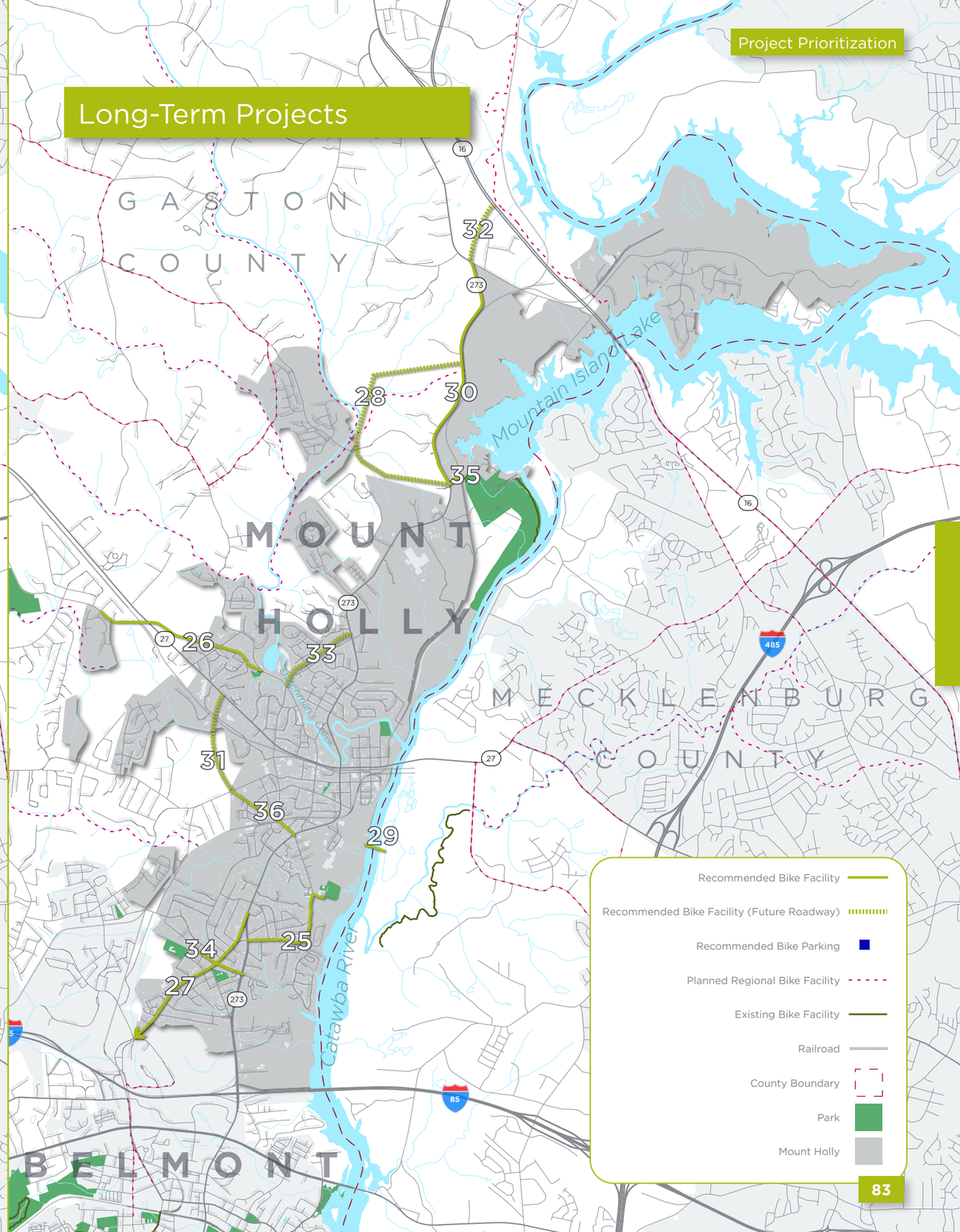
Short-Term Projects



Mid-Term Projects



Long-Term Projects



Policies and Programs

Methodology

Bike Mount Holly includes a variety of on- and off-street recommendations. Beyond those facilities, the City and its local and regional partners can undertake programmatic efforts to improve bicycling conditions and enhance the bike culture. These efforts include creating programs or organizing events to promote and encourage bicycling; educating motorists, pedestrians, and bicyclists about how to safely and legally navigate the City together; and creating policies that ensure bicycling is recognized as a valid mode of transportation and a contributor to the City's economic engine.

The following features shape the policies and program recommendations:

Categories

The Steering Committee evaluated a series of categorical policies and programs at its February 2019 meeting. Based on their input, the categories have been simplified and more detailed policies and programs have been developed.

Local Events

Promotion and Awareness

Project Integration

Monitoring and Assessment

Design Guidelines

Tiers

Individual actions have been assigned an implementation tier that reflects ease of implementation and likely impact on the forward momentum of biking in Mount Holly. In general, Tier 1 actions are intended to be completed (or initiated) prior to Tier 2 actions. However, the tiers should be flexible to changes in available time, resources, and the City's interests

Characteristics

Different actions require various levels of resources. Likewise, some actions will have a greater impact on bicycling in Mount Holly than others. Three characteristics are presented for each policy or program and are presented on a relative scale of 1 to 5. These characteristics include:

COST

How much will it cost to get this policy or program up and running?

TIME

How much time and attention will be required from those tasked with executing the policy or program?

IMPACT

How likely is the policy or program to make Mount Holly a more bikeable community?

Vision and Goals

The vision for Bike Mount Holly was established through a collaborative process that blended the interests of residents, stakeholders, staff, and elected officials. The recommendations should advance this vision, particularly the five Bike Mount Holly goals. Each policy is scored based on how it addresses each goal:

Good | Better | Best

The vision and goals are explained more in depth at the beginning of the document and are shown below:

"Mount Holly's bicycle network will provide safe, convenient, and comfortable travel options for riders of all ages, abilities, and backgrounds whether traveling for transportation or recreation."

Connecting community and nature

Connecting people to each other

Connecting people to opportunity

Connecting people to local places

Connecting Mount Holly to the region

Recommendations

The tables in this section highlight the policy and program recommendations, along with the methodology for assessment described previously in this chapter.

Local Events

Local events, such as festivals, street races, and open streets events, will help build and nurture Mount Holly's active transportation culture. Just as importantly, these events will bring visitors to the city in general and Downtown in particular. Events also can be incorporated into school activities to enhance awareness for bicyclists of all ages.

Tier	Policy	Cost	Time	Impact
1	Create events to promote National Bike Month and Bike to Work Day	2	4	3
2	Plan and execute Open Streets events	3	5	5
2	Include bicycling safety curriculum and activities at schools	1	3	4

Project Integration

Bicycling and walking are fundamental ways to travel and are critical pieces of the City's future transportation system. A strategic approach to project integration will ensure bicycling and walking accommodations are woven into the decision-making process for improvements to the City's transportation network, whether those improvements are publicly or privately financed. Projects also should be integrated across jurisdictional boundaries.

Tier	Policy	Cost	Time	Impact
1	Ensure future roadway improvements include suitable bicycle and pedestrian facilities	1	2	5
1	Blend bicycle and pedestrian considerations into the Traffic Impact Assessment process	1	2	4
1	Schedule coordination meetings between the Planning & Development and other City departments	1	2	4
2	Encourage planned routes from other municipalities to reflect the established connections of this plan	1	1	3

Design Guidelines

Streets account for an overwhelming majority of the public space in Mount Holly, but like most cities, they often struggle to provide a space where people can safely walk, bike, and drive. The lack of bicycle facilities and sidewalks also makes a street less inviting to people and investment, particularly within and near the Downtown core. Design guidelines can provide predictability to street design and consistency across jurisdictional boundaries.

Tier	Policy	Cost	Time	Impact
1	Coordinate street design beyond the City's boundary	1	2	3
1	Establish guidelines for the installation of sharrows on appropriate streets	1	1	3
2	Update street design guidelines and other policies to accommodate a safe and convenient bicycle system	1	4	5

Promotion and Awareness

Bike Mount Holly is envisioned to be more than a "moment in time" plan. It also is structured to establish a culture that recognizes the physical, social, and economic benefits of a multimodal transportation system. Once the on- and off-street facilities are in place, bicyclists of all ages and abilities must be made aware of new connections and be advised of the rules of the road. A coordinated approach to promotion and awareness is critical.

Tier	Policy	Cost	Time	Impact
1	Publicize, promote, and present the Comprehensive Bicycle Plan	1	1	4
1	Maintain BikeMountHolly.com as a community resource for bicycle information	1	2	5
1	Seek opportunities to market Mount Holly as a bicycle-friendly community (e.g., Watch for Me NC, League of American Bicyclists, bicycle-friendly business program)	2	3	4
1	Establish guidelines that ensure Share the Road signs are installed in appropriate locations	1	1	2

Monitoring and Assessment

It's important for residents, stakeholders, and elected officials to see how investing time and money into the bicycle network positively contributes to broader community initiatives. The following suite of policies and programs establish a framework to make the City more competitive for limited funds in the future.

Tier	Policy	Cost	Time	Impact
1	Use performance metrics, such as bicycle counts and bicycle parking utilization, to monitor the use of the system over time	2	4	4
1	Develop an action plan to create and maintain a list of opportunities to locate, design (incorporating local artists where possible), and fund bicycle parking	1	3	4
1	Continue to monitor changes in project prioritization at the regional and state levels	1	1	3

Promoting and encouraging multimodal travel continues to be a priority for the City of Mount Holly and for communities across the region, state, and country. Bike Mount Holly is an initial step in creating a vibrant community where bicycling thrives, in turn benefiting the community's mobility, safety, health, economy, environment, and livability. This plan, when supported by City administration, City staff, local businesses, and residents, serves as an impactful advocacy tool to make bicycling a safe and convenient way for residents and visitors to travel for transportation and recreation regardless of age, ability, or background.

Conclusion