

# JEFFERSON AREA BICYCLE AND PEDESTRIAN PLAN

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### STAKEHOLDER ADVISORY GROUP

Liz Palmer, Albemarle County Board of Supervisors  
Emily Kilroy, Albemarle County Community Engagement  
Dan Mahon, Albemarle County Parks and Recreation  
Dan Butch, Albemarle County Transportation  
Kevin McDermott, Albemarle County Transportation  
Caroline Stout, Boys and Girls Club of Central Virginia  
Eboni Bugg, Charlottesville Area Community Foundation  
Sara Sweeney, Charlottesville Area Community Foundation  
Aiyana Marcus, Charlottesville Area Community Foundation  
Frank Deviney, Charlottesville Bicycle and Pedestrian Advisory Committee  
Amanda Poncy, Charlottesville Bicycle and Pedestrian Coordinator  
Kathy Galvin, Charlottesville City Council  
Chris Gensic, Charlottesville Parks & Recreation  
Dave Stackhouse, Charlottesville Area Mountain Bike Club  
Brantley Ussery, Charlottesville Convention and Visitors Bureau  
Karen Firehock, Green Infrastructure Center  
Rush Otis, Habitat for Humanity  
Carleigh Showalter, Jefferson Area Bureau for the Aging  
Peter Krebs, Piedmont Environmental Council  
Rex Linville, Piedmont Environmental Council  
Sunshine Mathon, Piedmont Housing Alliance  
Ridge Schuyler, Piedmont Virginia Community College  
Rip Verkerke, Rivanna Trails Foundation  
Jackie Martin, Sentara / Martha Jefferson Health Systems, Move2Health Co-Chair  
Liz Russell, Thomas Jefferson Foundation  
Rebecca Schmidt, Thomas Jefferson Health District  
Chip Boyles, Thomas Jefferson Planning District Commission  
Billie Campbell, Thomas Jefferson Planning District Commission  
Elise Cruz, University of Virginia Foundation  
Sarah Littlefield, University of Virginia Parking & Transportation  
Bill Palmer, University of Virginia Office of the Architect  
Diane Waley, University of Virginia School of Education, Move2Health Co-Chair  
Shane Sawyer, Virginia Department of Transportation Multimodal Programs  
Peter Ohlms, Virginia Department of Transportation Research Council

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Charlottesville Community Bikes  
Charlottesville Food Justice Network  
Charlottesville Office of Human Rights  
Charlottesville Police Foundation  
Charlottesville Safe Routes to School  
Charlottesville Track Club  
City of Promise  
CypherTank  
Downtown Business Association  
Great Outdoors Provision Company  
High Tor Gear Exchange  
IX Art Park  
International Rescue Committee  
International Neighbors  
Paavo's Apostles  
Peloton Station  
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Safe Routes to School  
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Willowtree

### SPECIAL ASSISTANCE

Chip Boyles, TJPDC Executive Director  
Wood Hudson, TJPDC Transportation Planning Manager  
Jakob zumFelde, TJPDC Planner II  
Kristian Zimmerman, TJPDC Planner II  
Carreen de Cardenas, TJPDC Planning Technician  
Peter Krebs, PEC Community Outreach Coordinator  
Dan Mahon, Albemarle County Parks and Recreation  
Kevin McDermott, Albemarle County Transportation  
Amanda Poncy, Charlottesville Bicycle and Pedestrian Coordinator  
Chris Gensic, Charlottesville Parks and Recreation



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Regions, cities and towns around Virginia are increasingly recognizing that bicycle and pedestrian infrastructure offers multiple quality-of-life benefits in terms of tourism, economic development, environment, sustainability, and transportation choice. VDOT and local governments in the Planning District have recognized that providing multimodal transportation choices is important to ensuring that the transportation system of the future is equitable, safe, and sustainable.

In 2017 the Thomas Jefferson Planning District kicked off the Jefferson Area Bicycle and Pedestrian Planning effort. The need for the plan was informed by Virginia creating a new process for evaluating and funding transportation projects called SMART SCALE. SMART SCALE requires that applicants collect detailed information for project applications. As opposed to the previous process, a locality or region needs more technical data and detailed project descriptions in order to qualify for funding. Additionally, several other Federal and state funding sources require a higher scrutiny of project costs versus benefits. The plan is set up to help the region be prepared to take advantage of funding opportunities available for building bicycle and pedestrian facilities.

The development of the plan included a robust public participatory process. This process was made possible by a partnership between the Planning District and the Piedmont Environmental Council that secured local funding from the Charlottesville Area Community Foundation for an extensive public engagement process. One key output of the plan is for the engagement and advocacy process to continue to make progress on implementing regionally important bicycle and pedestrian infrastructure connections.

The Jefferson Area Bicycle and Pedestrian Plan was adopted by the Charlottesville-Albemarle Metropolitan Planning Organization Policy Board on February 27<sup>th</sup>, 2019 and by the Thomas Jefferson Planning District Commission on March 7<sup>th</sup>, 2019.

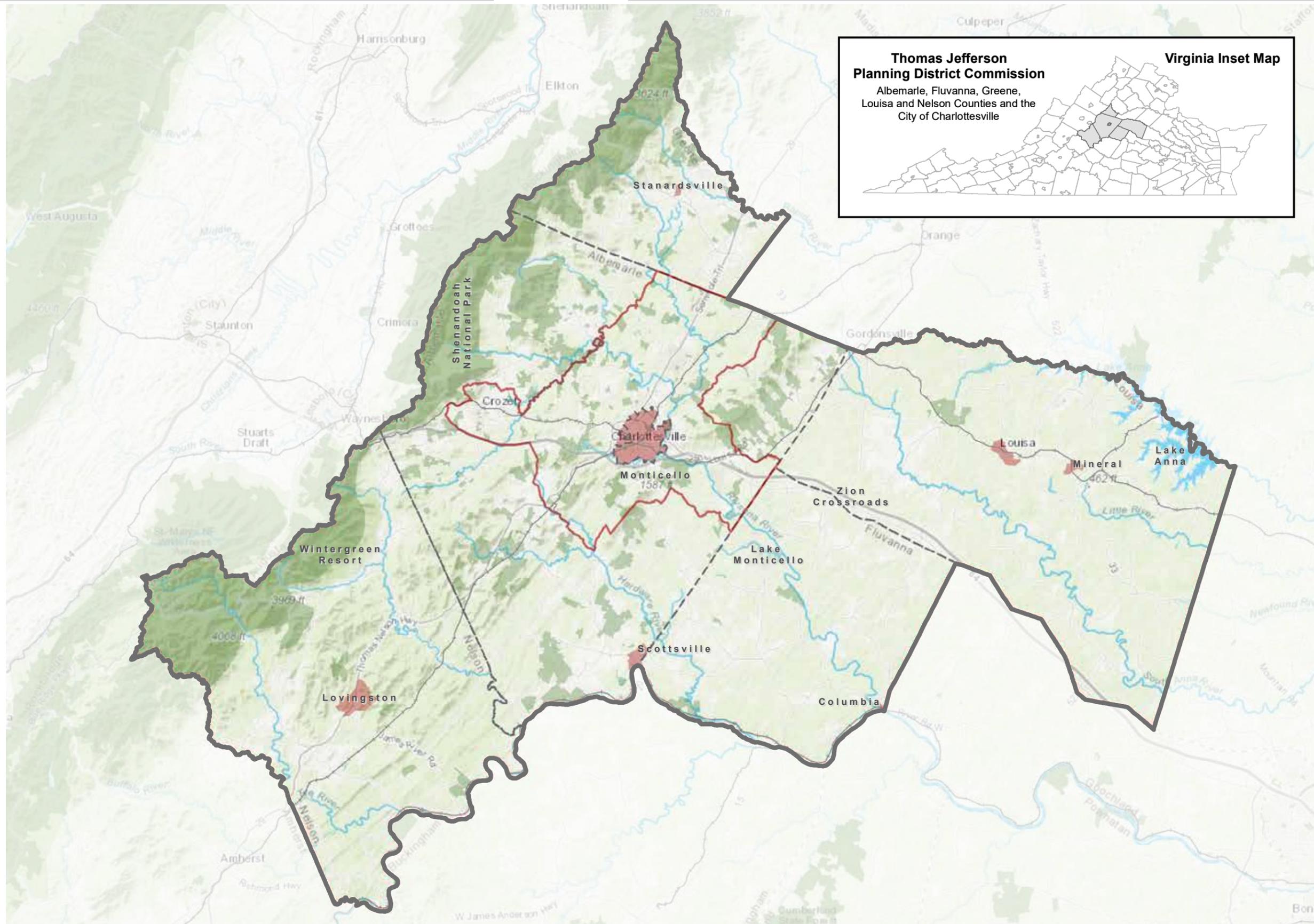
### Map 1.1 Regional Overview

#### FEATURES

-  PDC Boundary
-  MPO Boundary
-  County Boundaries
-  Municipalities
-  Parks and Conservation
-  Lakes and Rivers
-  Railroads

#### ABOUT THIS MAP:

This map provides a contextual reference of the region which includes the counties of Albemarle, Fluvanna, Greene, Louisa and Nelson and the City of Charlottesville of whom are served by the Thomas Jefferson Planning District Commission (TJPDC).



## Plan Area

The Jefferson Area Bicycle and Pedestrian Plan covers the limits of the Thomas Jefferson Planning District Commission. The PDC includes the Counties of Albemarle, Fluvanna, Greene, Louisa, Nelson and the City of Charlottesville, and the towns of Mineral, Louisa, Stanardsville, and Scottsville. The region is located along the eastern slope of the Blue Ridge mountains and extends from the rugged terrain of blue ridge to the rolling hills of Virginia's piedmont region. The region includes world-renowned tourism and recreational sites including the Shenandoah National Park, Blue Ridge Parkway, Thomas Jefferson's Monticello and the University of Virginia. The region also hosts a section of the Appalachian Trail that extends from Georgia to Maine and also hosts a section of the TransAmerica Bike Route 76 that extends from Astoria, Oregon to Jamestown, Virginia.

## Regional Overview

### Albemarle County

Key destinations in Albemarle County include major employment centers located within the urban ring around the City of Charlottesville. Especially, the urbanizing US 29 north corridor, the Village of Crozet and important tourism and recreation sites including the northern terminus of the Blue Ridge Parkway and the southern gateway of Shenandoah National Park, and Thomas Jefferson's Monticello.

### City of Charlottesville

Key destinations in Charlottesville include the downtown pedestrian mall, the University of Virginia and University of Virginia Medical Center and other major live and work hubs. The city also hosts a robust urban park system with numerous walking and recreational trails.

### Fluvanna County

Key destinations in Fluvanna County include the development areas of Lake Monticello, Zion Crossroads, Fork Union and the Village

of Palmyra. Fluvanna is also home to Pleasant Grove park and the Hardware River State Wildlife area.

### Greene County

Key destinations in Greene County include the Town of Stanardsville and the development area of Ruckersville, located at the important crossroads of US 29 and US 33. It also has one of the busiest gateways to Shenandoah National Park located at Swift Run Gap.

### Louisa County

Key destinations in Louisa County include the towns of Mineral and Louisa. The growth areas at Zion Crossroads and recreational opportunities in and around Lake Anna. Louisa County is rich in history and natural landscapes. A unique feature and tourism destination is the Green Springs National Historic Landmark District which offers a continuum of rural architecture and landscapes that predates the Civil War.

### Nelson County

Key destinations in Nelson County include the Village of Lovingston, the four-season resort of Wintergreen and the agritourism corridor of US 151. Nelson County also serves and an important gateway to recreational opportunities in the George Washington And Jefferson National Forests. Nelson is home to Crabtree Falls, one of the tallest sets of waterfalls located east of the Mississippi River.

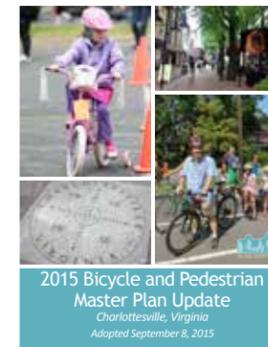
## Existing Programs

Currently, bicycle and pedestrian planning is primarily carried out at the local level with the jurisdictions in the Planning District having varying degrees of program depth and staff resources. Albemarle and Charlottesville maintain their own transportation planning programs that include bicycle and pedestrian programs. The Rural counties (Fluvanna, Greene, Louisa, and Nelson) rely on the Planning district and VDOT for bicycle and pedestrian related planning. VDOT maintains a statewide bicycle and pedestrian

program that helps to coordinate statewide planning activities and provide best practices. The Program also publishes recreational maps and coordinates U.S. Bicycle Routes.

### Charlottesville Bicycle & Pedestrian Programs

The City of Charlottesville has oversight and maintenance responsibilities for its roadway network. To support this requirement, the City's Public Works Department maintains and builds transportation facilities. To complement this, the City has an active bicycle and pedestrian transportation program. The program is located within the City's Neighborhood Development Services Department and is staffed by a full-time transportation planner. The program is also supported by the Parks and Recreation Department, which plans and implements trails within the City's park and easement system. The bicycle and pedestrian planning program is responsible for planning and implementing the [2015 Bicycle and Pedestrian Master Plan Update](#).



The 2015 plan, and associated [Streets That Work Design Guidelines](#) (2016), illustrates the City's commitment to bicycle and pedestrian planning and provided a detailed roadmap for developing a comprehensive bicycle and pedestrian facility network throughout the city. Many of the recommendations from this plan have been included in the Jefferson Area Bicycle and Pedestrian plan. The program also hosts the City's standing Bicycle and Pedestrian Advisory Committee who advises City Council on bicycle and pedestrian priorities.

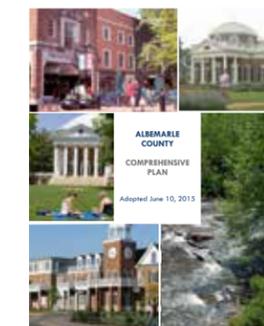
The City's bicycle and pedestrian planning program is complemented by a Safe Routes to School program which is staffed by a full-time coordinator. The Safe Routes to School program aims to create safe, convenient, and fun opportunities for children to bicycle and walk to and from schools.



The goal is to reverse the decline in children walking and bicycling to schools, increase kids' safety and reverse the alarming nationwide trend toward childhood obesity and inactivity.

### Albemarle Bicycle & Pedestrian Programs

Roads in Albemarle County are mostly managed and maintained by VDOT, which is also responsible for implementing portions of the bicycle and pedestrian network. Albemarle County integrates their bicycle and pedestrian program into their overall transportation planning program. Transportation planning for Albemarle is handled by two planners in the Community Development Department. The County does not have a specific bicycle and pedestrian plan but does integrate bicycle and pedestrian concepts into its Comprehensive Plan and area plans. Bicycle and pedestrian planning is also integrated into Albemarle's Parks Department which develops recreational and transportation facilities in county parks and opens spaces.



# SECTION I

**INTRODUCTION**

# CHAPTER 1

## PURPOSE & SUMMARY

### Purpose

The Jefferson Area Bicycle and Pedestrian Plan is regionally-focused and intended to help build and implement bicycle and pedestrian infrastructure. The Plan seeks to encourage implementation by providing a focused list of regionally-significant bicycle and pedestrian projects that enhance connectivity and provide routes to important residential and economic centers. This Plan provides an update to the 2004 Jefferson Area Bicycle, Pedestrian, and Greenways Plan and provides recommendations for inclusion in the Urban and Rural Long-Range Transportation plans. The recommendations contained within this Plan were developed with the cooperation of other current and ongoing planning efforts including the Charlottesville [Bicycle and Pedestrian Master Plan](#) (2015), local comprehensive plans and the University of Virginia's [Parking and Transportation Plan](#).

The [Bike Route 76 Corridor Study](#) (2015) is a technical document that highlights roadway deficiencies that diminish cycling along Route 76 in the Planning District. Recommendations in the study provide strategies to address specific deficiencies and improve cyclist safety and desirability of the route for long distance cyclists. The Route 76 Study was considered when determining recommendations for The Jefferson Area Bicycle and Pedestrian Plan and the Study should be referenced for recommendations specific to Bike Route 76.

This Plan covers both the urban and rural areas of the Planning District. As the process and recommendations differ between the urban and rural areas, the Plan has been divided into an urban section, beginning in Chapter 4 and a rural section, beginning in Chapter 9. The urban area was the focus of greater public engagement and project evaluation due to higher population density and greater opportunities for bicycle and pedestrian connectivity to serve as a significant and meaningful transportation alternative.

For the purpose of this plan, the urban area is considered to be the City of Charlottesville and the areas within Albemarle County where urban bicycle and pedestrian treatments are warranted. All proposed treatments would meet [VDOT standards](#), as appropriate. Urban treatments include:

#### Bike Lane with Sidewalk



Photo Credit: Real Central Virginia

#### Shared Use Path



Photo Credit: The Lane Construction Corporation

#### Shared Roadway



Photo Credit: Tri-State Transportation Campaign

For the purpose of this plan, the rural area is considered to be all areas outside the urban area of Albemarle County. Generally, treatments in the rural areas are focused more on recreational cycling. However, there are recommendations in the rural towns and villages which focus more on the pedestrian and cyclist looking to commute from home to work. Rural treatments include:

**Paved Shoulder**



Photo Credit: Fairfax Alliance for Better Bicycling

**Bike Lane**



Photo Credit: The Lane Construction Corporation

**Shared Roadway**



Photo Credit: Tri-State Transportation Campaign

**Statement of Need**

Many local and regional efforts have included bicycle and pedestrian components or have suggested specific improvements. However, this plethora of recommendations has resulted in a planning paralysis where there are plenty of planned improvements but only limited implementation. *The Jefferson Area Bicycle and Pedestrian Plan* moves the needle by providing prioritized recommendations on projects that meet a regional connectivity need and are part of a holistic, networked approach to transportation planning.

Assessing needs on a regional scale can be a challenge, requiring technical skills and resources. This Plan's recommendations are built around a clearly-constructed set of performance measures aimed at addressing overall regional needs related to bicycle and pedestrian infrastructure. When it comes to implementing regional bicycle and pedestrian projects, there are only limited examples of coordination between localities. This desire for better coordination has been identified by both Albemarle and Charlottesville in previous efforts including facilitated joint City Council and Board of Supervisor sessions and previous regional planning efforts. This Plan addresses coordination by bringing all stakeholders together at one table and providing project recommendations that would bridge the gap between the two urban jurisdictions. Further adding to complexities is that local transportation/planning departments have limited time and resources to conduct bicycle and pedestrian planning, especially at the level that will manage and fund projects. This process will supply some of those resources, supplying localities with the information and guidance they need to get projects built.

**Process Vision**

This Plan brings together multiple planning efforts to provide a guide for implementation on a regional scale.

**Process Goals & Objectives**

Goals and objectives are important for keeping the planning process on task and providing a framework for addressing the plans vision. For the Jefferson Area Bicycle and Pedestrian Plan there are four broad goals:

**Goal 1: Get Projects Implemented**

**Objective 1A:** Identify all existing bicycle and pedestrian recommendations proposed in current approved planning documents.

**Objective 1B:** Identify new bicycle and pedestrian needs, through analysis and public input.

**Objective 1C:** Integrate recommendations in other planning documents, such as local comprehensive plans and the MPO Long-Range Transportation Plan.

**Objective 1D:** Implement a continuing process, with regular follow-up on priority projects.

**Goal 2: Get the Right Projects Built**

**Objective 2A:** Identify all existing bicycle and pedestrian recommendations.

**Objective 2B:** Identify new bicycle and pedestrian needs, through analysis and public input.

**Objective 2C:** Develop and adopt performance measures to prioritize recommendations.

**Goal 3: Provide Localities with Valuable Tools**

**Objective 3A:** Ensure the plan remains focused on implementation.

**Objective 3B:** Implement a continuing process, with regular follow-up on priority projects.

**Objective 3C:** Develop an online, interactive version of the plan recommendations.

**Goal 4: Encourage Public Participation**

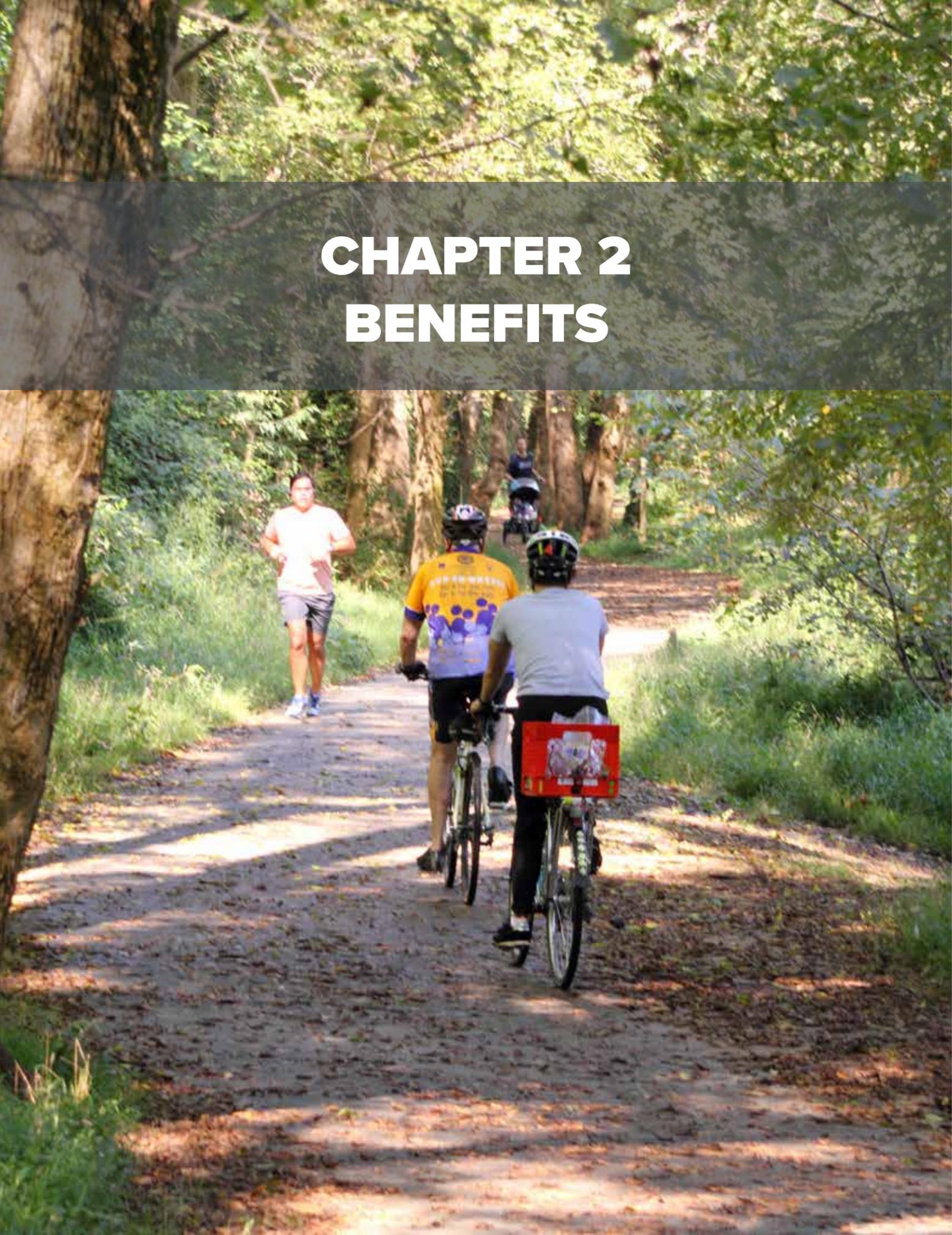
**Objective 4A:** Conduct meaningful public outreach.

**Objective 4B:** Interface with existing community and advocacy groups.

**Objective 4C:** Conduct workshops and engagement sessions within the community.

**Beyond this Plan**

This Plan focuses on the creation of bicycle and pedestrian infrastructure, yet there are many other opportunities to make bicycling and walking safer and more desirable. Of primary importance are local and regional education programs that ensure widespread awareness of the responsibilities of motorists, bicyclists, and pedestrians. Appropriate enforcement of laws and policies will also be important for achieving the bicycle and pedestrian safety targets set by VDOT and the MPO. Installing appropriate lighting along roadways and adequate bicycle parking throughout the region are additional steps that would allow for safe and convenient active transportation. All of these aspects may become increasingly important as bikeshare and scooter programs have the potential to increase the number of people using bicycle and pedestrian infrastructure in the region, as described in Chapter 3.



# CHAPTER 2 BENEFITS

## Health & Quality of Life

Having high quality bicycle and pedestrian infrastructure allows people to make active choices about their transportation mode. Transportation mode choice is an important component of ensuring affordable housing and transportation options in the region. Society benefits from reduced vehicle congestion on roadways, improvements in public health outcomes, equity, and economic vitality. Investments in pedestrian and bicycle infrastructure have been shown to benefit economic development by helping to attract new businesses and providing improved access to existing businesses.

### Trip Choice

An integrated and efficient bicycle and pedestrian infrastructure allows people to make choices about their trips. Having a network that is safe and connected allows people to choose the appropriate mode of travel for each trip. For example, an individual may choose to walk two miles to work, or may choose to bike to school and return home via transit or a ride-hailing service.

### Cost Savings

Bicycling a few days a month can result in real cost savings for individuals and households. According to the Pedestrian and Bicycle Information Center, the average cost of operating a bicycle is approximately \$308 a year. This is significantly less than the average cost of owning and operating a car. The American Automobile Association (AAA) states that the average cost of owning and operating a vehicle was \$706 a month or \$8,469 annually in 2017 (based on 15,000 miles).

### Positive Health Outcomes

Bicycling and walking have been shown to have extensive personal and public health benefits. A selection of the State of Virginia health rankings are listed in the adjacent table. Additional health benefits are shown on page 18.

### Reduced Single Occupancy Vehicle Trips

Bicycling and walking reduces demand for vehicle use by shifting trips from cars. This eases congestion by reducing the number of vehicles traveling on area roadways. This benefits the community by extending the life of existing roadways and reducing need for costly capacity expansions.

## HEALTH RANKINGS



Virginia Ranks  
**19/50** for Core  
Determinants of Health



Virginia Ranks  
**21/50** for Obesity  
with **29%** of the  
Commonwealth categorized  
as such



Virginia Ranks  
**26/50** for Physical  
Inactivity



Virginia Ranks  
**25/50** in Cardiovascular  
Deaths per year with **239**  
deaths per 100,000 persons



Virginia Ranks  
**23/50** for Diabetes with  
**10%** of the Commonwealth  
categorized as such

Source: America's Health Rankings Annual Report.(2017). United Health Foundation and the American Public Health Association.

### Equity

Bicycle and pedestrian infrastructure provides opportunities for more equitable access to jobs, services, housing and recreation. For this to occur, improvements must be made across a region so that different communities are linked together. Increased outreach, engagement, and investment may also be needed to ensure that traditionally-excluded communities can take advantage of bicycle and pedestrian infrastructure.

CURRENT U.S. HEALTH STATISTICS



CARDIOVASCULAR DISEASES are the **#1 CAUSE OF DEATH** in the United States (CDC, 2016)



**1,630** Americans **DIE EVERY DAY FROM CANCER**, mainly that of the lung, breast and colon (American Cancer Society, 2016)



**61%** of American adults 65 years or older **HAVE AT LEAST ONE ACTIVITY-BASED LIMITATION** (CDC, 2015)



**86%** of workers in the United States **DRIVE OR RIDE IN A PRIVATE VEHICLE TO COMMUTE**, sitting on average for 26 minutes each way (U.S. Census Bureau, 2013)



**5.1**, the **AVERAGE STRESS LEVEL OF AMERICANS** adults where 1 is 'little or no stress' and 10 is 'a great deal of stress' (American Psychological Association, 2017)



**ASTHMA IS THE LEADING CHRONIC DISEASE IN CHILDREN** and the number one reason for missed school days (CDC, 2015)



Exposure to **TRAFFIC EMISSIONS** is linked to exacerbation of **ASTHMA, REDUCED LUNG FUNCTION, ADVERSE BIRTH OUTCOMES** and childhood **CANCERS** (CDC, 2009)



**35%** OF ALL VEHICLE TRIPS in the U.S. are **TWO MILES OR LESS** (NHTS, 2017)

HEALTH BENEFITS



**20 MINUTES WALKING OR BIKING** each day is associated with **21%** LOWER RISK OF HEART FAILURE FOR MEN and **29%** LOWER RISK FOR WOMEN (Rahman, 2015)



**MODERATE EXERCISE** for 30-60 minutes a day **REDUCES THE RISK OF LUNG, BREAST AND COLON CANCER** by at least **20%** (Warburton, Nicol and Bredin, 2006)



**PHYSICAL ACTIVITY HELPS PREVENT OR DELAY ARTHRITIS, OSTEOPOROSIS AND DIABETES**, while helping to maintain balance, mental cognition, and independence (National Institute on Aging, 2015)



**PEOPLE WHO BIKE** burn an average of **540 CALORIES PER HOUR** and **PEOPLE WHO WALK** burn an average of **280 CALORIES PER HOUR** (De Geus, 2007 and CDC, 2015)



**BIKE COMMUTERS REPORT LOWER STRESS LEVELS** compared to auto commuters (Bisby, 2016)



A minimum of **20 MINUTES OF PHYSICAL ACTIVITY, 3X WEEK, STRENGTHENS THE LUNGS**, including those of individuals living with asthma (PubMed Health, 2014)



IF **8% MORE CHILDREN LIVING WITHIN 2 MILES OF A SCHOOL WERE TO WALK OR BIKE TO SCHOOL**, the air pollution reduced from not taking a car would be **EQUIVALENT TO REMOVING 60,000 CARS FROM THE ROAD** for one year, nationally (Pedroso, 2008, SRTS)



**BIKING 2 MILES**, rather than driving, **AVOIDS EMITTING 2 lbs OF POLLUTANTS**, which would take 1.5 months for one tree to sequester (EPA, 2018)

# CHAPTER 3 NATIONAL TRENDS



### Trending in the U.S.

Although active transportation has taken a back seat to personal automobiles in the past, bicycling and walking as modes of transportation have been gaining popularity in recent years as people recognize the health, environmental, and economic benefits. According to the US Census, the number of people who commuted to work by bicycle increased by approximately 62% between 2000 and 2014<sup>1</sup>. As new technology is being introduced, the use of active transportation and similar non-vehicle modes will likely continue to increase and become more widespread. Therefore, it is more important than ever to have infrastructure that continues to expand with these trends.

#### Infrastructure

The existence of quality bicycle infrastructure is essential to accommodate bicyclists and make bicycling a safe transportation option. A report from the Urban Land Institute states that “the steady increase in bicycling can be traced to increases in the safety and convenience of bicycle infrastructure”. More advocacy and funds being allocated to bicycle and pedestrian infrastructure has led to a steady increase in infrastructure being built. Between 1992 and 2012, the number of bike projects receiving federal funding jumped from only 50 projects to 2,863 projects; and many more were funded in other ways<sup>1</sup>. According to the organization People for Bikes, protected bike lanes have doubled every 2 years since 2009. Safety concerns are a large impediment to many people bicycling, but as safe infrastructure is becoming more prevalent, bicycling becomes a more viable option.

#### Bikeshare and Scooters

Bikeshare programs are one of the main forms of innovation that are reshaping active transportation in urban areas. As they become more common in cities around the country, they are contributing to the increasing popularity of bicycles. Bikeshare programs and other shared mobility programs attempt to address the demand for quick and affordable transportation in urban areas. Due to increasing ridership of existing systems as well as new systems being built, 35 million bike share trips were taken in 2017, a 25% increase from 2016<sup>2</sup>. The large increase in new systems was partly due to dockless bike share programs being introduced in 2017, causing the number of bikeshare bikes available to more than double. Station-based systems were previously the only available bikeshare option and even though they are currently still the most used system, dockless systems address the limitation of only being able to ride bikes between stations and needing to know the station locations. Dockless bikeshare programs allow riders the flexibility to be able to travel between desired destinations without worrying about dock locations. There are concerns that without stations, the dockless systems could contribute to a cluttering of cities, but companies are attempting to address this by incentivizing specific areas for parking and creating zones that are off-limits. The advancement of technology allows for these programs to be possible and more user friendly. GPS is used to track bikes and smart phones and credit cards make the systems more usable.

Many bikeshare companies are also introducing electric bikes and scooters which contribute to revolutionizing the way people travel in cities.



The electric motors for both bikes and scooters allow riders to travel farther distances and makes them accessible to a wider population, including people who may have physical limitations.

Despite bikeshare and other shared mobility programs aiming to provide affordable mobility options, the cost and dependence on smartphones and credit cards can still make them inaccessible to some segments of the population. In order to ensure that bikes and scooters are accessible to everyone, many programs have introduced discounts or subsidized passes for riders based on income thresholds and have options for text-to-unlock features.

#### Connecting Active Transportation and Transit

The accessibility of active transportation can also largely affect the use of public transit. One of the major problems facing cities when it comes to public transit is ensuring that residents can access transit stops and stations. Access to transit stops and stations is known as the 'first-last mile' issue for trips made using public transit. The 'first-last mile' dilemma is a gap in the transportation network that shared mobility programs can address. Personal bikes or scooters could also be used to address that issue if more infrastructure, such as bike racks and scooter parking, is available. A connected and safe bike infrastructure is needed for both options to create an easier connection between active transportation and public transit.

BIKE SHARE SYSTEMS IN THE U.S.: 2017



Source: nacto.org

#### Programs Available in the Region

As these new technologies and modes of transportation become available in the area, the need for a more connected bicycle and pedestrian network increases. The University of Virginia bikeshare program, U Bike, has been successful since it started in 2015 and the popularity of the program has allowed the program to continue to grow. However, U Bike is a station-based system and it is limited to the University of Virginia grounds. In 2018, the City of Charlottesville approved a temporary Dockless Scooter and Bicycle Policy Pilot Program to evaluate their impacts in Charlottesville. The City has provided permits to Lime and Bird, and the first dockless scooters and bicycles were introduced in December of 2018. A successful pilot program could lead to bikeshare and other mobility programs expanding and becoming a more permanent fixture in the area.

#### Motorized and Other Changes in Transportation

Transportation Planning is entering into a period of rapid change and technological disruption. New services such as bike sharing and transportation network companies, coupled with a move towards autonomous vehicles and connected infrastructure, are reshaping how people and goods move. These new technologies and new modes of transportation have the potential to radically reshape the transportation landscape. With some of the technologies being new, there is very little consensus around how to plan for them and make assumptions for the future. Nonetheless, it is important to note that these changes will have an impact on bicycle and pedestrian planning.