

CHARLES COUNTY

Bicycle & Pedestrian Master Plan



FINAL

April 10, 2012

COUNTY COMMISSIONERS OF CHARLES COUNTY, MARYLAND

RESOLUTION NO. 2012-16

WHEREAS, the Charles County Bicycle and Pedestrian Master Plan was initiated in 2009 to provide a vision for a countywide bicycle and pedestrian network that is safe and convenient for transportation, recreation, and fitness; and

WHEREAS, the Master Plan identifies specific bicycle and pedestrian linkages that should be completed to promote a more complete network; and

WHEREAS, public participation for this plan included a Bryans Road Improvement Committee public meeting on September 30, 2009, and interviews with key stakeholders; and

WHEREAS, the Planning Commission held a public hearing on the draft Master Plan on August 8, 2011 to hear public comment followed by a work session on November 7, 2011 where the plan was recommended for approval by the Charles County Planning Commission with a unanimous vote; and

WHEREAS, a public hearing was held by the Charles County Commissioners on February 7, 2012 to hear public comment and a work session was held on April 10, 2012 at which time the plan was adopted with a unanimous vote.

NOW, THEREFORE, BE IT RESOLVED, this 10th day of April, 2012, by the County Commissioners of Charles County that the document consisting of text, maps, and graphics, entitled *Charles County Bicycle and Pedestrian Master Plan, April 2012*, is hereby adopted by the Charles County Commissioners and will be incorporated by reference into the 2012 Update of the Charles County Comprehensive Plan.

COUNTY COMMISSIONERS OF
CHARLES COUNTY, MARYLAND


Candice Quinn Kelly, President

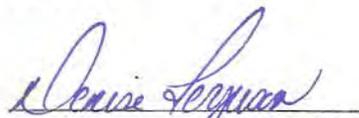

Reuben B. Collins, II, Esq., Vice President


Ken Robinson


Debra M. Davis, Esq.


Bobby Rucci

ATTEST:


Denise Ferguson, Clerk



Mission Statement: The mission of Charles County Government is to provide our citizens the highest quality service possible in a timely, efficient, and courteous manner. To achieve this goal, our government must be operated in an open and accessible atmosphere, be based on comprehensive long- and short-term planning, and have an appropriate managerial organization tempered by fiscal responsibility.

Vision Statement: Charles County is a place where all people thrive and businesses grow and prosper; where the preservation of our heritage and environment is paramount; where government services to its citizens are provided at the highest level of excellence; and where the quality of life is the best in the nation.

Acknowledgements

County Commissioners of Charles County

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Debra M. Davis, Esq.
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Indian Head Rail Trail Advisory Committee

Southern Maryland RC&D

Town of Indian Head, MD

Town of La Plata, MD

Maryland State Highway Administration

Maryland Department of Transportation

Indian Head Division, Naval Surface Warfare Center

Bike Doctor of Waldorf

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Executive Summary

Charles County is located in picturesque Southern Maryland, in close proximity to Washington, D.C., but far enough away to enjoy open space, rural farmlands, scenic views of the Potomac and Patuxent Rivers, and many other natural features. Bicycling and walking in Charles County has become popular, as a means of transportation, recreation, and tourism.

This Charles County Bicycle and Pedestrian Master Plan is the first document produced by the County to begin the process of planning for a county-wide bicycle and pedestrian network with regional and local connections. This is a starting point for future studies, plans, and projects. It is not the intent of this document to plan for all future projects, but rather a guide to move Charles County in a cohesive direction to build this network over time, with public and private funds and partnerships. It is intended to spark discussion on ways to best incorporate bicycle and pedestrian activities into all aspects of transportation planning.

As part of this Plan, Charles County is adopting the following vision:

Charles County will be a place where people have the safe and convenient option of walking and bicycling for transportation, recreation, and health. Our transportation system will be designed to encourage walking and bicycling, and will provide a seamless, balanced and barrier free network for all. On and off-road recreational trails will showcase the County's unique rural areas as well as natural and cultural assets for the benefit and enjoyment of citizens and visitors alike.

This vision will be achieved through the following overarching goals:

- Encourage Alternative Transportation Options.
- Promote Recreation Opportunities.
- Promote Economic Development & Tourism.
- Integrate Walking and Bicycling Planning with Land Use Planning.
- Make Charles County a Healthier Community Overall.

This Master Plan provides background statistics and facts to support the need for an enhanced bicycle and pedestrian network in the County. It provides:

- References to all existing relevant plans and studies within the County.
- Goals, objectives, and policies to achieve the County's vision.
- Examples of facilities and amenities which should be included in future projects.
- Education and safety guidelines for bicyclists, pedestrians, and motorists.
- Potential funding sources for future projects.



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Chapter 1: Introduction

A. Purpose

This document is a Master Plan for an interconnected network of bicycle and pedestrian facilities. The purpose of this Master Plan is to:

- Provide a vision for a county-wide pedestrian and bicycle network with regional and local connections;
- Establish a framework of planned facilities to guide implementation;
- Identify standards that improve safety for bicyclists pedestrians and motorists; and
- Promote an environment in which pedestrians and bicyclists within Charles County, Maryland have the ability to conveniently and safely walk and ride for transportation, recreation, and fitness.

There is a growing demand to provide people with greater opportunities to walk or bike, either more often or to more destinations. There are endless benefits of walking and biking for a community. These benefits are both utilitarian and recreational and can be defined in terms such as improvements to the environment, personal health, enhanced quality of life, and reduced traffic congestion.

Current Charles County planning documents, including the 2006 County Comprehensive Plan, County Land Preservation, Parks and Recreation Plan (2006) and the Bryans Road-Indian Head Sub-Area Plan (2001) each identify and support the County's pursuit of bicycle and pedestrian trail opportunities and enhancements. To progress these goals, the County has prepared this Bicycle and Pedestrian Master Plan.



Benefits of Increased Levels of Walking and Biking

Mobility: Bicycling and walking contribute to the safe and efficient movement of people and goods to their destinations.

Safety: Developing a connected and cohesive system of pedestrian and bicycle facilities on State-owned roadways and increasing educational and enforcement activities can help reduce injuries and fatalities.

Smart Growth: Maryland leads the nation in Smart Growth initiatives which include promoting development that provides citizens with transportation choices. The Plan is an important component of the Smart Growth program because it ensures the availability of opportunities for bicycling and walking.

Health: There is documented evidence that bicycling and walking provide health benefits and are excellent methods to add activity to increasingly sedentary lifestyles.

Environmental Benefits: Each time a person chooses to make a trip by bicycling or walking instead of driving, that person prevents the creation of air and water pollution, consistent with the Chesapeake 2000 Agreement.

Twenty Year Bicycle & Pedestrian Access Master Plan, MD-DOT, October 2002





B. Scope

The scope of this Master Plan includes the following three elements:

- 1) *Create a County-Wide Bicycle and Pedestrian Facility Master Plan with a planned vision for a true pedestrian-bicycle network.*
- 2) *Map inventory of existing facilities for select major collectors and arterial routes to identify existing trail/walkway facilities and “missing links.”*
- 3) *Recommendations for future study needs.*

The 2006 Comprehensive Plan notes that, “With a few exceptions, conditions for pedestrians and bicyclists in Charles County are poor.” Despite several significant efforts over the last few years, most notably the opening of the Indian Head Rail Trail, significant work remains to be done. Pedestrians and bicyclists still face few interconnections from neighborhood walkways, gaps in trail facilities, unsafe road crossings and narrow road shoulder and bridge widths. Improving current County facilities through the development of a county-wide Bicycle and Pedestrian Facility Master Plan is critical to adequately address these challenges.

The following key routes recognized by the County will be incorporated into this Master Plan: the Potomac National Heritage Scenic Trail, the Indian Head Rail Trail, the Mattawoman Trail, the Three-Notch Trail, the Religious Freedom Byway and other designated trail systems. These routes will provide the spine for the proposed county-wide *Bicycle and Pedestrian Facility Master Plan*. ***Between the noted trail routes and other on and off-road facilities, the goal will be to establish a county-wide Master Plan with regional and local connections between residential, employment, recreational, shopping, and transit centers.*** While this plan will provide County-Wide coverage, the bulk of the existing and proposed facilities are located within the County’s Development District.

C. Process

This Master Plan was created through the use of a working group comprised of staff from the Charles County Department of Planning & Growth Management, the Department of Public Works, and the Office of Tourism. Meetings were held with staff and consultants to determine a course of study and desired end product.

In addition, the working group identified key stakeholders within the community, including members of organizations with an interest in health and recreation within the County as well as other governmental agencies, and bicyclists. These key stakeholders were interviewed early in the process to help determine issues of concern, suggestions on the direction of the plan, general recommendations for the plan, and opportunities to close gaps within the existing bicycle and pedestrian network.





April 10, 2012

The process for mapping began with County-supplied GIS data, supplemented by maps and datasets from other sources, including the Maryland State Highway Administration (SHA) and the Maryland Department of Natural Resources (DNR). Aerial mapping was used to identify facilities, such as sidewalks and trails. Areas which could not be identified were verified in the field. County staff reviewed preliminary mapping and addressed facilities currently being installed or planned for installation in the near future. Proposed facilities were based on discussions with County staff and stakeholders, as well as reviews of existing mapping to determine appropriate locations.

D. DOT Policy Statement on Bicycle and Pedestrian Accommodation

Bicycle and pedestrian accommodations has been the subject of national policy shifts over the last few years. In 2010, the United States Department of Transportation's (DOT) adopted a comprehensive policy to incorporate safe and convenient walking and bicycling facilities into all transportation projects. Every transportation agency, including state DOTs, now has the responsibility to improve conditions and opportunities for walking and bicycling and to integrate walking and bicycling into their transportation systems¹. Because of the numerous individual and community benefits that walking and bicycling provide – including health, safety, environmental, transportation, and quality of life – transportation agencies are encouraged to go beyond minimum standards to provide safe and convenient facilities for these modes.

The DOT encourages transportation agencies and local communities to go beyond minimum design standards and requirements to create safe, attractive, sustainable, accessible, and convenient bicycling and walking networks. Several suggested actions include:

- Considering walking and bicycling as equals with other transportation modes.
- Ensuring that there are transportation choices for people of all ages and abilities, especially children.
- Going beyond minimum design standards.
- Integrating bicycle and pedestrian accommodation on new, rehabilitated, and limited access bridges.
- Collecting data on walking and biking trips.
- Setting mode share targets for walking and bicycling and tracking these targets over time.
- Removing snow from sidewalks and shared-use paths.
- Improving non-motorized facilities during maintenance projects.

Charles County supports this policy and will work with federal and state agencies to carry out this policy as appropriate and applicable.

¹ U.S. DOT Policy Statement on Bicycle and Pedestrian Accommodation, Regulations and Recommendations, March 11, 2010.





E. The Importance of Bicycling, Walking, and Pedestrian Facilities

Bicycling and walking have numerous benefits to the users and to the community as a whole. These benefits include an overall improvement to the livability of a community as well as increased mobility and travel options, improved health and fitness, and enhancements to economic development and the environment.

1. Community Livability

Pedestrian and bicycle improvements can help create attractive, safe, and vibrant streets and improve transportation choice. A “Walkable Community,” as defined by Dan Burden, is a *‘community designed for people, to human scale, emphasizing people over cars, promoting safe, secure, balanced, mixed, vibrant, successful, healthful, enjoyable and comfortable walking, bicycling and human association. It is a community that returns rights to people, looks out especially for children, seniors and people with disabilities and takes aggressive action to reduce the negative impacts of sixty-plus years of auto-centric design and uncivil driving practices. It is also a community that emphasizes economic recovery of central neighborhoods, promotes the concepts of recovering and transforming suburban sprawl into meaningful villages, and especially takes ownership and action to protect and preserve open space.’*²

A Walkable Community, like a livable community, smart growth community, or sustainable community, makes a neighborhood, hamlet, village, town, city or metropolis into a place where many people walk, ride bicycles and use transit, and where anyone who drives a car moderates their behavior in a way where they take nothing from the rights of those who wish to stay healthy and active by taking part in activities outside the car.

A Walkable Community is one that is old, historic, well worn, restored sensibly and worthy of protection. A Walkable Community is one that is compact, new, fresh, invigorating and teeming with people enjoying their streets, parks, plazas, buildings, and other physical space.

Streets that are attractive, safe, and suitable for walking are a key factor in community livability. Pedestrian-friendly streets create opportunities for people to meet and interact, helping to create community networks.³

Characteristics of a Walkable Community

- **“Walkability” reflects overall walking conditions in an area.**
- **Walkability takes into account the quality of pedestrian facilities, roadway conditions, land use patterns, community support, security and comfort for walking.**
- **Walkability can be evaluated at various scales. At a site scale, walkability is affected by the quality of pathways, building accessways and related facilities.**
- **At a street or neighborhood level, it is affected by the existence of sidewalks and crosswalks, and roadway conditions (road widths, traffic volumes and speeds).**
- **At the community level, it is also affected by land use accessibility, such as the relative location of common destinations and the quality of connections between them.**²

² Burden, Dan, *How can I find and Help Build a Walkable Community?*, Walkable Communities (www.walkable.org/article1.htm).

³ *TDM Encyclopedia*, Victoria Transport Policy Institute, www.vtpi.org





Chapter 1: Introduction

April 10, 2012

The dependency of automobiles tends to impose a variety of environmental impacts, including air, noise, and water pollution, consumption of non-renewable resources, waste disposal, and hydrologic impacts, such as increased impervious surfaces, habitat loss, road kills, and aesthetic degradation.⁴ A “walkable community” has benefits that include less reliance on cars leading to less traffic congestion, air, and noise pollution; less crime – “eyes on the street,” a better sense of community; increased property value; and more independence for youth, seniors, people with disabilities and the poor. All of these benefits lead to an improved overall quality of life.



The urban planning community is learning that encouraging walking and transit use for the purpose of reducing reliance on automobiles is not as simple as building pedestrian friendly neighborhoods. Analyzing just policies related to pedestrian, bicycle and transit alone may be short sighted. Policy makers, planners and designers must recognize household lifestyles determine where people decide to live and work, what they consider pedestrian-friendly and how they spend their time on a daily basis.

According to studies on household lifestyles, residents select locations based upon their desires for certain behaviors such as walking, bicycling or using transit. Therefore, people who are likely to walk choose to live in walkable communities. However, studies also suggest that lifestyles are not a rigid set of patterns. Over time, individuals will adapt to change and conditions. Therefore, policies aimed to increase neighborhood walkability and accessibility give residents access to a range of choices with respect to travel modes. These choices result in the likelihood that over time more people will shop closer to home, walk to work, walk to school and drive fewer miles. To some degree community design can affect human behavior.⁵

⁴ Mark Delucchi, “Environmental Externalities of Motor-Vehicle Use in the US,” *Journal of Transportation Economics and Policy*, Vol. 34, No. 2, May 2000, pp. 135-168.

⁵ Kevin J. Krizek, “Household Lifestyles and Their Relationship to Land-Use and Transportation Planning, University of Minnesota, Fall 2005.





Walkability Checklist

The Walkability Checklist is developed by the Pedestrian and Bicycle Information Center and endorsed by the U.S. Department of Transportation, the U.S. Environmental Protection Agency, and Partnership for a Walkable America. It is a tool to help gauge the walkability of a community or how easy it is to walk. It contains questions that allow users to evaluate their neighborhood regarding the conditions of the walking environment. It also provides some answers and solutions to the neighborhood issues identified with the use of the checklist. The Walkability Checklist is available on the website at www.walkinginfo.org.



2. Bicycling and Walking: Fundamental Means of Transportation

Walking and bicycling are considered forms of active transportation. Walking is the most fundamental human activity that provides connections between activities and other transportation modes.⁶ Walking serves as the most basic means for human functionality. However, until recently, walking and bicycling had a much more invisible role in modern transportation planning. Traffic engineering has historically focused primarily on motorized transportation modes.

Motorized travel has made it possible for development patterns to spread out over a larger area. We are now able to cover longer distances that allow us to live far from work and daily activities. As a result, we have diminished the need to be near schools, recreation areas, shopping centers, and even our neighbors, making walking a less practical means of transportation. The very fabric of a traditional community has changed due to our ability to travel great distances. Such dependence on the vehicle has created many unintended consequences including:

Facts about Walking

- Walking does not require any special equipment.
- Walking does not produce polluting waste.
- Walking is free to everyone.
- Walking-friendly places are people-friendly places.
- Walking promotes personal health and fitness.
- Nearly all journeys involve walking to connect to other modes of transportation.
- Safe Routes to Schools and school travel plans help encourage walking to school.
- Improvements to both walking facilities and public transit provide environmental benefits.
- Access to public open space promotes walking.
- Although a fundamental means of transportation with numerous benefits, walking is on the decline.

- Residential developments located far from work and school which makes for long commutes and high energy consumption;
- A decreased interaction within the community and neighborhood which weakens our sense of place and belonging; and

⁶ Litman, Todd, "Quantifying the Benefits of Nonmotorized Transportation for Achieving Mobility Management Objectives," Victoria Transport Policy Institute, November 2004, www.vtpi.org.





- A lack of nearby destinations and accessible pedestrian facilities which results in walking less and generally leads to a more sedentary lifestyle.

As a result of these development patterns, users of non-motorized travel such as walking and bicycling are often overlooked. Traffic engineering and design standards of past generations often treated pedestrians and bicyclists as impediments to an *efficient* roadway design. *Efficiency* was measured by how fast vehicles could move through a corridor in terms of capacity or the number of vehicles that the roadway can accommodate during a given time. *Travel cost* is measured by the value of the time spent traveling in a motor vehicle. Pedestrians and bicyclists tended to “slow down” the traffic and hence led to the *deterioration* of the performance of a roadway or a *poor* level of service. Pedestrians and bicyclists have often been sidelined in favor of constructing facilities that benefited only motorized vehicular travel. The traffic flow, or the moving speed of vehicles, was and has been the principal concern until recently.

Since the late 1980s, there has been tremendous progress in recognizing the importance of non-motorized travel. Research has been able to identify the values of walking and bicycling in terms of physical activities and their associated health benefits, as travel options, creating a more *livable* environment. Recent national polls found that 55% of Americans would like to walk more instead of driving and 52% would like to bicycle more. Therefore, communities are looking for ways to reshape neighborhoods to make it easier to walk and bicycle. Studies suggest solutions that promote walking and bicycling include: ***improving facilities for walking and biking, installing traffic calming measures to slow driver speeds, creating Safe Routes to School programs to encourage kids to walk and bike to school, focusing development around transit stops, retrofitting sprawling neighborhoods, providing connections between neighborhoods and revitalizing older neighborhoods that are already walkable.***⁷ ***Addressing issues of walkability is essential for both personal health and long-term health of our communities.***

⁷Smart Growth America, “Measuring the Health Effects of Sprawl (www.smartgrowthamerica.org/healthreports.html)





3. Health Benefits

A moderate level of physical activity that includes walking and bicycling has numerous health benefits. Walking is an ideal form of aerobic exercise that can be incorporated into daily activities such as foot trips to work, the store, church and school. Numerous studies have demonstrated that lack of exercise is a major factor contributing to obesity and major illnesses.



Considered one of the biggest public health challenges of our time, obesity has been declared an epidemic by the Centers for Disease Control (CDC). It is the nation’s fastest rising public health problem, especially in children. One in seven children (5 million) is obese, and the majority of American adults (61%) are overweight or obese. Rates of obesity are highest among African-American, Latino, and low-income households. Inactivity and obesity are contributing factors to rising rates of many chronic diseases. Inadequate physical activity is a major contributor to cardiovascular disease, diabetes, hypertension, obesity, osteoporosis and some cancers.⁸ Research also indicates that moderate physical exercise increases average longevity by 1.3 to 3.7 years in typical middle-age Americans.⁹ A sedentary lifestyle ranks second only to smoking as a lifestyle risk for disease and premature death, contributing to more than 10% of all deaths in the United States, representing direct economic costs of \$150 billion annually. ¹⁰ Diabetes is obesity’s accompanied epidemic, with rates increased 50% over the past decade. Type II diabetes, once called the adult-onset diabetes, is becoming increasingly common in children.

The Association for the Advancement of Retired Persons (AARP) promotes the importance of physical activities for mature adults in the country by identifying the following health benefits of walking. Walking contributes to health in many ways, including weight management, improved blood pressure, decreased risk of heart attack and stroke, and improved cholesterol levels.

Bicycling has similar health benefits to walking, but also provides increased mobility options for longer trips. When used as a replacement for a motor vehicle, bicycle use also reduces carbon emissions providing for a healthier environment for everyone, not just the rider.

⁸ Richard E. Killingsworth and Jean Lamming (2001), “Development and Public Health; Could Our Development Patterns be Affecting Our Personal Health?” *Urban Land*, Urban Land Institute (www.uli.org).

⁴Oscar H. Franco, et al. (2005), “Effects of Physical Activity on Life Expectancy With Cardiovascular Disease,” *Archives of Internal Medicine*, Vol. 165 No. 20 (<http://archinte.ama-assn.org/cgi/content/abstract/165/20/2355>), Nov. 2005, pp. 2355-2360.

⁵Surgeon General (1999), *Physical Activity and Health*, Center for Disease Control and Prevention (www.cdc.gov/nccdphp/sgr/sgr.htm). This document establishes recommended levels of physical activity.





4. Transportation Benefits

Pedestrian and bicycle facilities are necessary to form important connections between activity centers, population centers, shopping areas, parks and tourist attractions in Charles County and across the State. Since all trips have a pedestrian component, creating a pedestrian-friendly environment will help improve mobility for everyone. Moreover, increased walking and bicycling will help reduce traffic congestion, air and noise pollution, wear and tear on roads, consumption of fuel, crashes and property damage, and the need for additional roads, travel lanes, and parking.

In Decoding Transportation Policy & Practice #4 by the Surface Transportation Policy Partnership, it is noted that the Journey-to-Work data indicates commuters take, on average, 25.5 minutes to get to work, which is an increase of two minutes from 1990. It also shows that, as more Americans moved to sprawling areas with fewer transportation choices, a greater share of commuters drove alone to work, up from 73.2 percent to 75.7 percent. Working at home or telecommuting made the largest gains, growing from 3.0 to 3.3 percent. Transit share of commute trips declined by 11 percent over the last decade, from 5.3 percent to 4.7 percent. Walking to work and carpooling also posted declines, with walking decreasing from 3.9 percent of work trips to 2.9 percent, and carpooling's share of work trips declining from 13.4 percent to 12.2 percent.

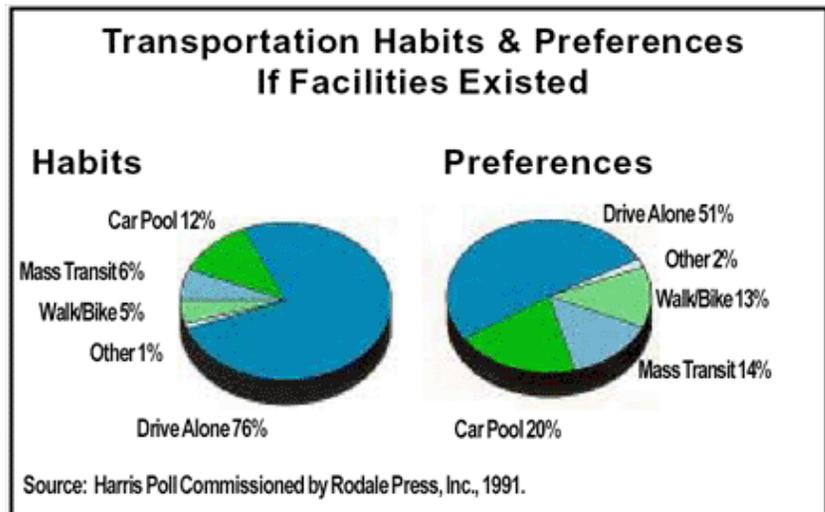


Figure 1-1: Transportation Habits & Preferences

Improved non-motorized transportation conditions increase travel choice and mobility, which particularly benefits non-drivers. Walking tends to be one of the most affordable transportation modes. People who are transportation disadvantaged often rely heavily on non-motorized transportation for trips made entirely by walking, and to access transit. Pedestrian transportation provides basic mobility.¹¹

¹¹ TDM Encyclopedia, Victoria Transport Policy Institute, www.vtpi.org





5. Environmental Benefits

“If the average American biked or walked to work or shopping once every two weeks instead of driving, we could prevent the pollution of close to one billion gallons of gasoline from entering the atmosphere every year.”¹²

Motor vehicle pollution is a significant contributor to air quality. Therefore decreased dependence on motor vehicles, by means of walking, bicycling, or other alternative modes of transportation, will lead to improved air quality.

The U.S. Environmental Protection Agency (EPA) estimates that an average car produces 20.4 pounds of carbon dioxide per gallon of fuel used, with a total of over 300 million metric tons emitted annually by all cars and trucks in the United States. A four-mile round trip on foot or bicycle prevents about 15 pounds of air pollutants. Motor vehicle emissions represent 31% of the total carbon dioxide, 81% of carbon monoxide, and 49% of the nitrogen oxide released in the United States.¹³

Increased walking and bicycling, as alternatives to motor vehicle usage, can positively impact the environment in many ways, including:

- Decreased pollution, smog, and greenhouse gases.
- Decreased noise pollution from motor vehicle traffic.
- Decreased need for new streets, roads, and highways, which results in reduced usage of fossil fuels necessary for pavement.

Air Pollutants

Ozone: This lung irritant forms when sunlight interacts with nitrogen oxide (NOx) and volatile organic compounds (VOC), both emitted by automobiles. Ozone is closely associated with vehicle travel.

Carbon Monoxide: A colorless, odorless, poisonous gas that results from incomplete burning of carbon in fuels, including those used in motor vehicles.

Greenhouse Gases: Gases that help trap heat in the atmosphere, contributing to global warming and climate change. The primary greenhouse gas is carbon dioxide (CO₂); others are methane (CH₄), chlorofluorocarbons (CFCs) and nitrous oxides (N₂O).

* Source: *New Data for a New Era*, SMARTRAQ.

¹² Harvard University, 2010

¹³ Clean Air Council, 2010





6. Economic Benefits

Walking and bicycling have significant direct and indirect economic benefits to a community and its residents and businesses. Direct benefits include a reduction in the cost of fuel, decreased vehicle maintenance, and decreased costs associated with traffic accidents. Indirect benefits include a reduced need for new roads, reduced costs attributed to pollution, and increased tourism. The American Automobile Association has estimated the annual cost to operate an average sedan in the United States is \$7,834, compared to \$120 for a bicycle, and no cost to walk.

The Rails-to-Trails Conservancy¹⁴ offers many examples of economic benefits from the creation of trails. The following are a few examples of success from communities across the United States:

- Property values along Mountain Bay Trail in Brown County, Wisconsin have sold for an average price 9% higher than properties not located next to the trail.
- The National Association of Realtors conducted a survey in 2002 which ranked trails as the second most important community amenity.
- Leadville, Colorado reported an increase of 19% in sales tax revenues following the opening of the Mineral Belt Trail.

According to the League of American Bicyclists,¹⁵ the bicycling industry contributes an estimated \$133 billion a year to the U.S. economy. The industry supports over one million jobs and generates \$17.7 billion in federal, state, and local taxes. Billions are spent on meals, transportation, lodging, and entertainment during bicycle trips and tours throughout the United States.



¹⁴ www.railstotrails.org

¹⁵ *The Economic Benefits of Investing in Bicycle Facilities*, www.bikeleague.org





F. Relationship to Existing Plans

Several existing pedestrian and bicycle plans address facilities within Charles County, Southern Maryland, the Washington Metropolitan Area, and the State of Maryland. The intent of this Bicycle and Pedestrian Master Plan is not to recreate these other plans, but to include them and reference them where relevant. The following is a brief abstract of each of these plans. As new plans are developed, they too should be added into this document for reference.

Summary of Existing Plans			
#	Plan Name:	Plan Created by/for:	Date:
1	Charles County Comprehensive Plan	Charles County	2006
2	Feasibility Study for Hiker/Biker Trails in Charles County/Maryland	Charles County	1998
3	Mattawoman Hiker/Biker Trail	Charles County	2000
4	Religious Freedom Byway Management Plan	Charles & St. Mary's Counties Maryland Office of Tourism Development Maryland State Highway Administration	2008
5	Town of LaPlata Transportation Plan	Town of La Plata	2009
6	Bicycle and Pedestrian Plan for the National Capital Region	National Capital Region Transportation Planning Board	2006
7	Southern Maryland Regional Trail and Bikeway System Study	Tri-County Council for Southern Maryland	2001
8	Twenty-year Bicycle & Pedestrian Access Master Plan	Maryland Department of Transportation	2002
9	Downtown Waldorf Vision Plan and Design Guidelines	Charles County	2009

Table 1-1: Summary of Existing Plans

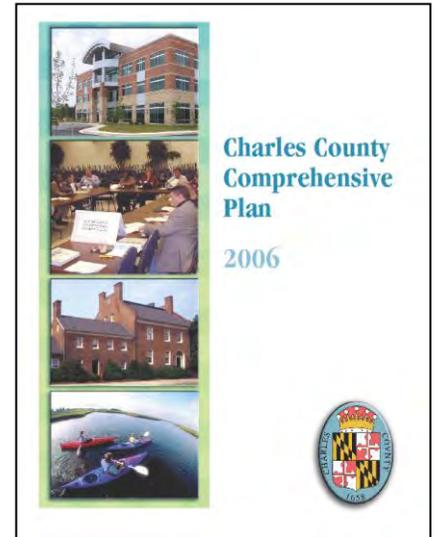




1. 2006 Charles County Comprehensive Plan, 2006

The 2006 Charles County Comprehensive Plan recognizes that bicycle and pedestrian facilities can be an important element of the transportation network. With a few exceptions, conditions for pedestrians and bicyclists in Charles County are poor. St. Charles has a well-developed system of sidewalks and trails although safe crossings of major roads need improvement. Some of Waldorf’s older residential neighborhoods, such as Pinefield and White Oak Village and an increasing number of new ones, also have sidewalks. However, they tend to serve only the individual neighborhoods, and do not interconnect to form a true network.

Charles County’s rural roads are attractive to bicyclists and recreational bicycling is popular. Rural roads with shoulders and/or low traffic volumes are the most attractive but many have hazards such as narrow horizontal sections, lack of paved shoulders, narrow bridges, poor shoulder maintenance (with debris collecting in the shoulders) and, on occasion, hostility from motorists.



RECOMMENDATIONS

This plan recommends the creation of a countywide pedestrian and bicycle system with the following elements:

- Routes along major roads serving key destinations, especially mixed-use centers in the urban core.
- Connections between the east and west sides of US 301.
- Connections to Bryans Road, Indian Head, and La Plata.
- Scenic routes connecting villages on low automobile-volume roads.

According to the plan, the main barriers to creating a useful, functional pedestrian-bicycle transportation network are distance and separation of uses, lack of pedestrian-bicycle facilities in commercial and employment areas, and the difficulty of safely crossing main roads. A pedestrian/bicycle transportation network should provide continuous connections between residential, employment, recreational, shopping, and transit centers. These facilities must be designed to ensure the safety of the pedestrians and cyclists including adequate access across highways and bridges.

In 2002, bicycle lanes and a pedestrian trail were incorporated into the upgrade for Middletown Road, the first County road to be built with these facilities. The Cross County Connector is to include a hiker/biker trail. A considerable amount of pedestrian and bicycle facility planning has been undertaken since the 1997 Comprehensive Plan:

- Bryans Road – Indian Head Sub-Area Plan pedestrian-bicycle element.
- Waldorf Sub-Area Plan pedestrian-bicycle element.
- Southern Maryland Trails and Bikeways Study (SMRTABS), a regional on- and off-road trails study.
- Feasibility Study for four trail alignments: Mattawoman Trail, US Navy Railroad Trail (NSWC trail), Pope’s Creek Railroad Trail, and Gilbert Run Trail.





April 10, 2012

The combined results of this planning are shown on the figure below, which shows three major trails and other major recommended pedestrian and bicycle routes. The Plan indicated that funding for pedestrian-bicycle facilities needs to come from a range of sources. The State has bicycle and sidewalk retrofit programs.

The three major trails are:

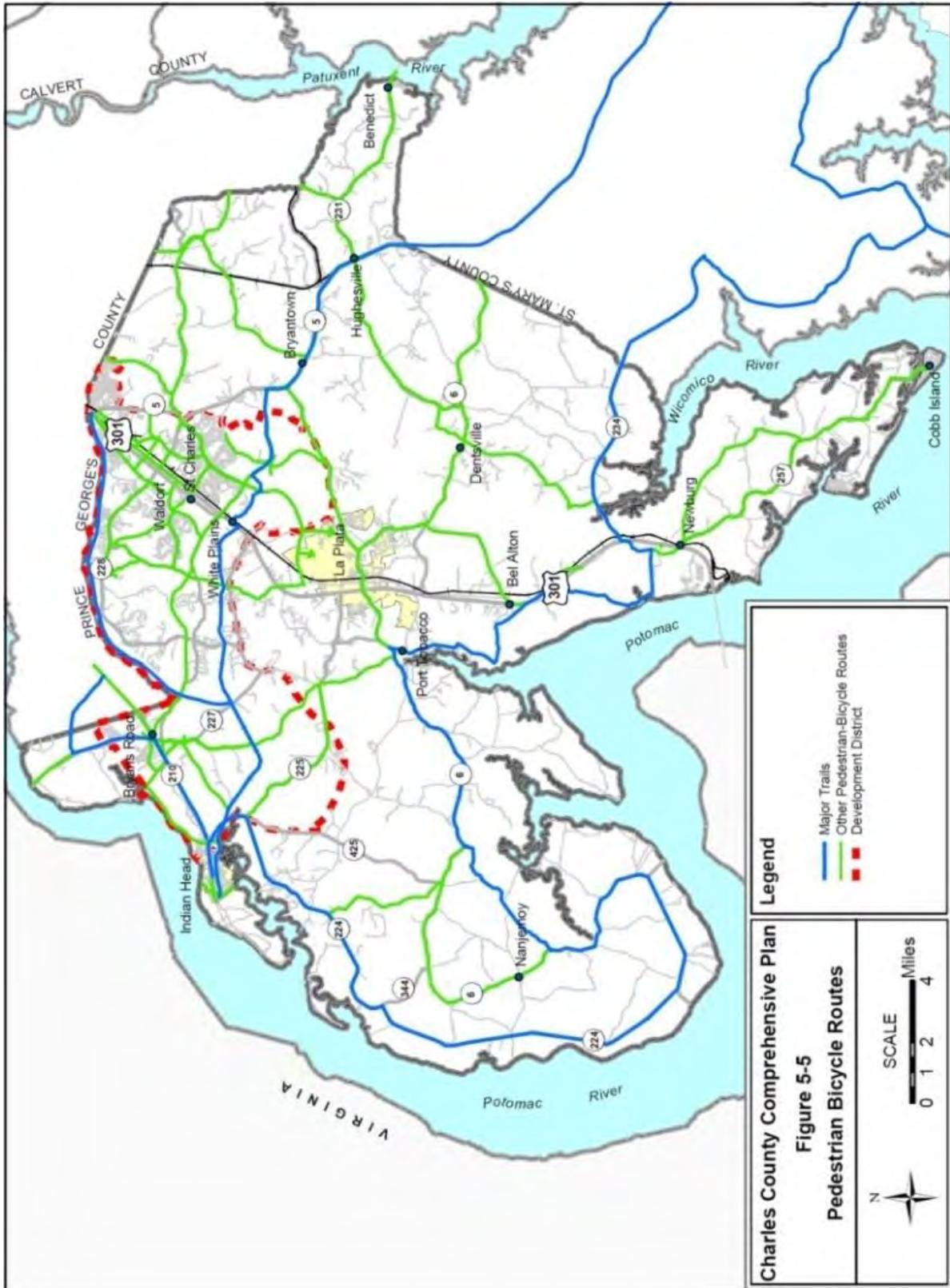
1. **Potomac National Heritage Scenic Trail** – This on-road, regional route enters the County near Bryans Road and runs roughly parallel to the Potomac River around the western and southern sides of the County and on into St. Mary’s County.
2. **Indian Head (NSWC) to Hughesville Trail (Indian Head Rail Trail)** – This partly on-road, partly off-road trail follows the U.S. Government Railroad from Indian Head to White Plains following Old Woman’s Run, connects to White Plains Regional Park, and follows MD 5 to Hughesville. From Hughesville the route heads towards Lexington Park via the Three Notch Trail (the former Southern MD Railroad right-of-way).
3. **Mattawoman Trail** – This off-road trail branches off from the NSWC trail and follows Mattawoman Creek up to Waldorf.

The major pedestrian and bicycle routes on Figure 5-5 complete a countywide spinal system. Key elements of the system are as follows:

1. Routes along major roads serving key destinations, especially mixed-use centers in the urban core.
2. Connections between the east and west sides of US 301.
3. Connections to Bryans Road, Indian Head, and La Plata.
4. Scenic routes connecting villages on low automobile-volume roads.

Neighborhood and community sidewalks and pathways are not shown on Figure 5-5 below but, as stated in this report, are “important locally and should connect where possible to the countywide system.”







2. Feasibility Study for Hiker/Biker Trails in Charles County, Maryland, February 1998

The purpose of this report was to determine the feasibility of four alignments located in various parts of Charles County for hiker/biker trails. The following is a list of the four study sites:

- **Mattawoman Sewer Interceptor Right-of-Way**

The Mattawoman Trail would be aligned along the Mattawoman Sewer Interceptor right-a-way, approximately parallel to the Mattawoman Swamp. This trail would begin in Waldorf and run southwest to Indian Head, approximately 9.0 miles. The approximate cost (in 1998 dollars) was \$1,172,015, or \$24.66 per linear foot.

- **U.S. Navy Railroad (now referred to as the "Indian Head Rail Trail")**

This trail would begin in White Plains, just south of Waldorf, and run west to Indian Head, approximately 12.5 miles. This trail would cross Mattawoman just north of Indian Head. The approximate cost (in 1998 dollars) was \$1,158,115, or \$17.5 per linear foot. This trail was completed in 2009.

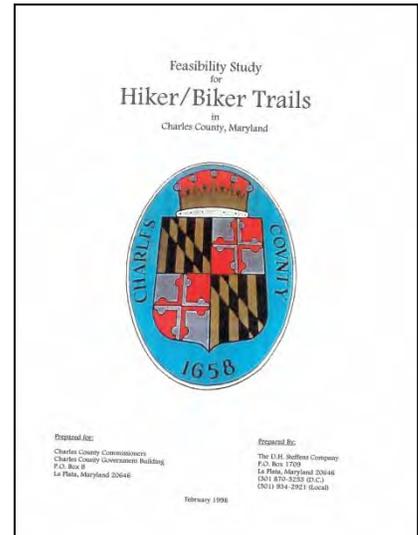
- **Popes Creek Railroad Line**

This trail would begin at Pope's Creek Road and extend north to U.S. Route 301, approximately 2.3 miles. The approximate cost (in 1998 dollars) was \$260,331, or \$21.43 per linear foot.

- **Gilbert Run Watershed Association Right-of-Ways**

This trail would begin at the Gilbert Run Park and extend south to Gilbert Run, then along Gilbert Run to Maryland Route 234, approximately 5.5 miles. The approximate cost (in 1998 dollars) was \$498,335, or \$17.16 per linear foot.

The U.S. Navy Trail / Indian Head Rail Trail is now in place from Indian Head to White Plains. The remaining three trails have been in consideration for many years. As this plan is now twelve years old, the County should decide whether the remaining three trails should remain as considerations or be replaced by other potential facilities.



KEY RECOMMENDATIONS

The report prioritizes four trail projects:

- Popes Creek Trail
- U.S. Navy Trail
- Gilbert Run Trail
- Mattawoman Trail

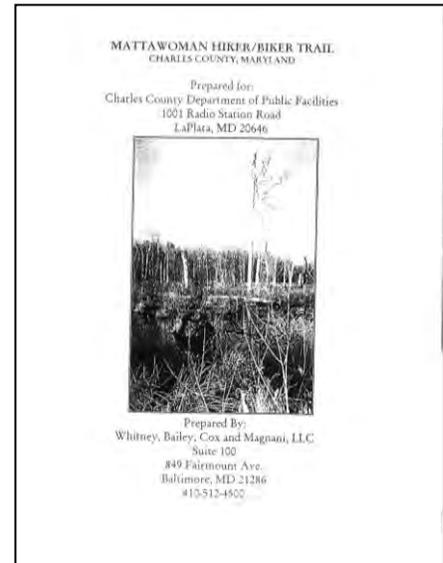




3. Mattawoman Hiker/Biker Trail, Charles County, Maryland, July 2000

The purpose of this report was to investigate Phase 1 of the proposed Mattawoman Hiker/Biker Trail. This phase is 4.6 miles from Waldorf, at the stream crossing under Route 301, to County owned property at the end of Briarwood Lane. The specific scope of the report was to:

- Establish a preliminary alignment.
- Determine the ownership of properties needed for trail construction.
- Determine what permits would be required for construction.
- Determine the best location for trail construction.
- Provide an estimated cost/linear foot for possible types of trail construction.
- Provide an estimated cost for Phase 1 construction.
- Conduct public hearings as required.



The trail was proposed to begin at the Chaney Business Center parking lot and follow the edge of the woods adjacent to an existing youth ball field. This route was recommended due to the existence of heavily wooded and swampy areas along the sewer interceptor right-of-way.

Areas along this trail would require an elevated wooden boardwalk approximately one mile long and six feet in width, with occasional pull-offs for passing. The proposed trail is summarized in this report as having the potential to “provide a very interesting experience.” However, the report also points out that “this experience will not come easily as the trail will require extensive land acquisition and construction costs.”

The estimated cost for this project was \$2,115,733 (in 2000 dollars). The high cost of this trail is attributed, in part, to the necessity for a long elevated wooden boardwalk. In conclusion, the report indicates that “the development of the Mattawoman Trail will be very problematic in terms of time and cost.” The conclusion goes on to state, “It is quite possible that another location with similar amenities would provide the citizens and visitors to Charles County with a more cost-effective solution.”

KEY RECOMMENDATION

This report recommends that this contemplated project could be “very problematic in terms of time and cost” and another location may be a more effective solution.

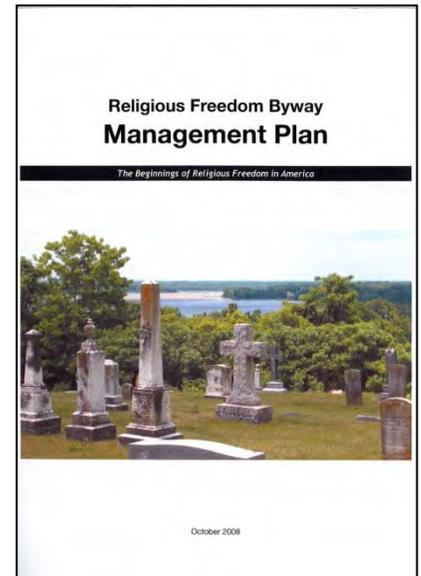




4. Religious Freedom Byway Management Plan, October 2008

This report summarized the Religious Freedom Byway as:

“The Religious Freedoms Bylaw route winds through Southern Maryland on scenic, primarily two-lane roads that extend from western Charles County to the southern tip of St. Mary’s County. Several loops and branches reach out to the Potomac River. The main spine of the Byway follows Hawthorne Road/MD Route 225 and then Rose Hill Road to Port Tobacco. South of Port Tobacco, the Byway follows Chapel Point Road, and after a 3.5 mile stretch along US Route 301, turns onto Popes Creek Road. From Popes Creek Road, the Byway crosses US Route 301 via Edge Hill Road and continues into St. Mary’s County on MD Route 234 to Leonardtown where it picks up MD Route 5 to Point Lookout State park at the southern tip of the County.”



The plan offers core Byway management strategies including:

1. Preserve, maintain, and enhance the Byway’s character defining qualities.
2. Link the various heritage tourism sites to form a coherent travel experience.
3. Establish the Byway as a primary touring route in the Southern Maryland Heritage Area.
4. Utilize Context Sensitive Solutions to design byway projects.
5. Make it easier to find and follow the Byway.

KEY RECOMMENDATION

The Religious Freedom Byway is a scenic route appropriate for bicyclists, although sections require bicyclists to share the roadway with motor vehicles.

The plan recommends identifying more compelling ways to draw more visitors to the area to tell the story of the rich historical and cultural legacy that exists in Southern Maryland.





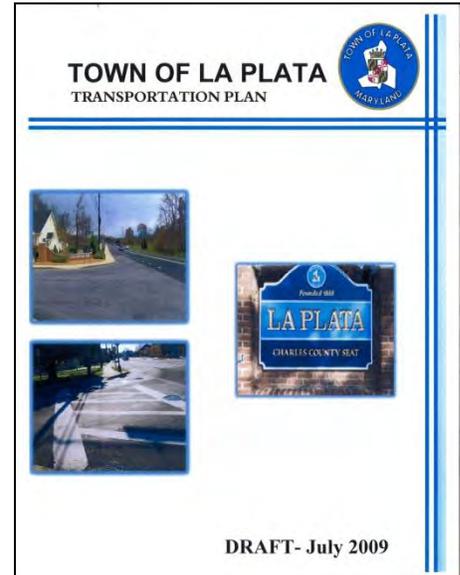
5. Town of La Plata Transportation Plan, July 2009 (Draft)

This document is a comprehensive transportation study for the Town of La Plata, Maryland, the County Seat of Charles County. The purpose of the study was to collect and analyze data on the Town’s street network and to evaluate the current bicycle and pedestrian facilities to make recommendations for improving safety and access to users.

Chapter 3 of the plan addresses the Town’s pedestrian and bicycle system in two steps:

1. An analysis of the priority corridors at a higher level of evaluation including cross sections, a photo survey, crosswalk evaluation, general conditions analysis such as deterioration, generalized ADA impediments, and drainage problems.
2. An inventory of all major roadway corridors excluding interior circulation within neighborhoods.

The Plan identified primary corridors to focus bicycle and pedestrian facility planning to include Washington Avenue, St. Mary’s Avenue, and Charles Street (MD Route 6).



RECOMMENDATIONS

This report recommends overcoming several challenges in implementing pedestrian and bicycle facilities in La Plata, including:

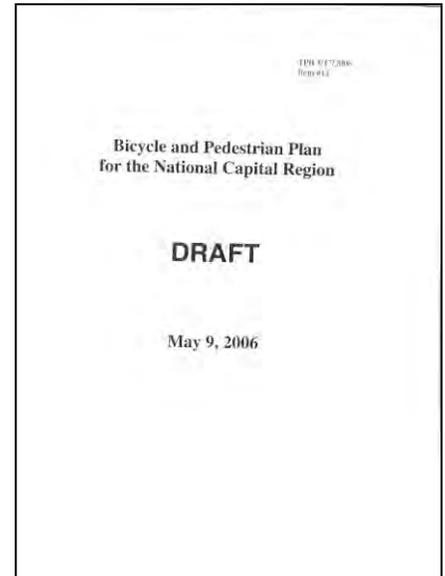
- Unavailability of right-of-ways.
- Pedestrian impedances, such as utility poles.
- Lack of ADA compliant ramps.
- Obstacles, such as fire hydrants.





6. Bicycle and Pedestrian Plan for the National Capital Region, May 2006

This plan was developed with the purpose of “identifying the capital improvements, studies, actions, and strategies that the region proposes to carry out by 2030 for the major bicycle and pedestrian facilities.” This plan was developed by the National Capital Region Transportation Planning Board (TPB) which is made up of governments and agencies from around metropolitan Washington, D.C.



KEY RECOMMENDATIONS

“Convenient and safe bicycle and pedestrian access is a key goal of the National Capital Region Transportation Planning Board.”

The plan recommends:

- Convenient, safe bicycle and pedestrian access.
- Walkability in regional activity centers and the urban core.
- Reduced reliance on the automobile.
- Increased walking and bicycling overall.
- Inclusion of bicycle and pedestrian facilities in new transportation projects and improvements.
- The implementation of a regional bicycle and pedestrian plan.

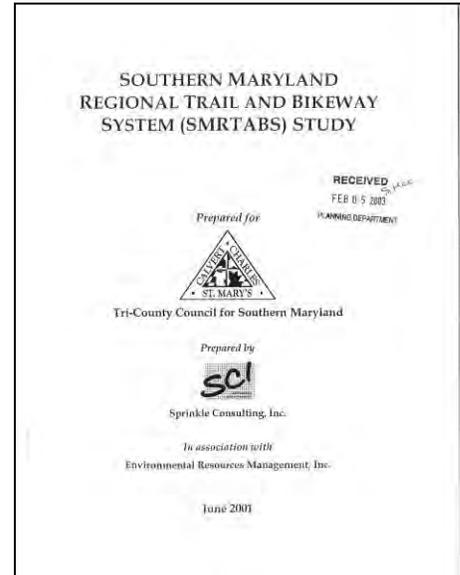




7. Southern Maryland Regional Trail and Bikeway System Study (SMRTABS), June 2001

This plan was developed for the Tri-County Council for Southern Maryland, which includes representation from the counties of Calvert, Charles, and St. Mary’s. The purpose of the plan was to “provide a cohesive and coordinated regional approach to trail and bikeway development in Southern Maryland” and to make the Southern Maryland region “a place where bicycling and walking is a viable mode of travel for both recreation and alternative transportation purposes.” The study offers ten key recommendations:

1. Begin immediate implementation of several key trails in Southern Maryland.
2. Implement a Demonstration Project in each county that illustrates how quick, low cost improvements can enhance bicycle and pedestrian access.
3. Commence a funding campaign for trails and bikeways.
4. Conduct Bike Touring Demonstration projects and implement a bicycle tourism strategy.
5. Conduct an analysis to develop alternatives for crossing the Patuxent River, either via a new structure or by retrofitting an existing bridge in Benedict.
6. Build support for the regional bikeways network among elected officials, citizens, agency staff and local business leaders; encourage inter-county cooperation on implementation projects.
7. Coordinate regional planning activities with federal, state, and local trail and bikeway planning efforts.
8. Establish policies and services at the local level to support bicycle transportation and bicycle tourism.
9. Coordinate regional trails and bikeways projects with other on-going planning and improvement efforts, such as Hughesville Bypass, Waldorf Sub-area Plan, Prince Frederick Loop Road, US 301 Implementation, the Cross County Connector, Chapman’s Landing, and the Lexington Park Transportation Plan. Pursuant to number 8 above, bicycle and pedestrian access should be incorporated into these specific projects.
10. Educational efforts should be aimed at teaching residents of all ages how to use the existing roadway infrastructure in a safe and competent manner. There should be targeted enforcement of existing vehicle laws based on review of crash and injury data where violations of vehicle laws are shown to cause bicyclist crashes and injury.





This plan identifies five major reasons why bicycling and walking are important to Southern Maryland, including Charles County:

1. Providing places to bicycle and walk is a necessary part of preserving the character and quality of life for the residents and visitors of the Southern Maryland Region.
2. Bicycling and walking are a necessary part of the transportation system in Southern Maryland.
3. Developing a trails and bikeways network makes good economic sense for Southern Maryland.
4. Increased bicycling and walking in Southern Maryland for transportation can help to improve air quality and reduce traffic congestion.
5. Bicycling and walking can play a vital role in improving the health of Southern Marylanders.

KEY VISION RECOMMENDATION

The Southern Maryland Trail and Bikeway System Study recommends “providing a cohesive and coordinated regional approach to trail and bikeway development in Southern Maryland” and to make the Southern Maryland region “a place where bicycling and walking are viable modes of travel for both recreation and alternative transportation purposes.”

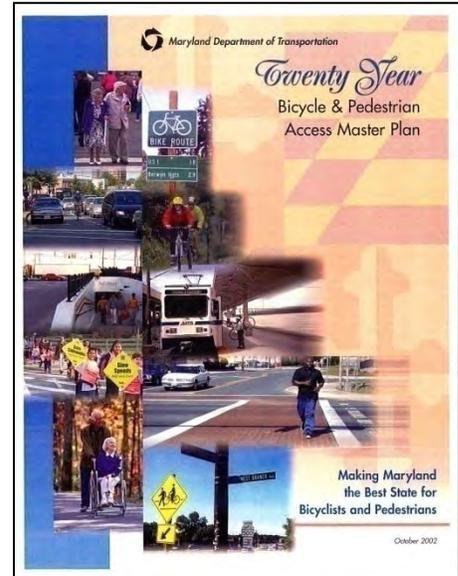




8. Twenty-Year Bicycle & Pedestrian Access Master Plan, Maryland Department of Transportation, October 2002

The United States Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) and the Transportation Equity Act for the 21st Century (TEA-21) encourage states to develop bicycle and pedestrian plans to guide investments and encourage statewide approaches to these documents. ISTEA and TEA-21 were reinforced in Maryland by *the Bicycle and Pedestrian Access Act of 2001*, which was created by the Maryland General Assembly during their 2000 legislative session. This Act mandated the development of this *Twenty-Year Bicycle & Pedestrian Access Master Plan* which is designed to “systematically direct resources to bicycle and pedestrian projects using both new and existing programs.”

The Twenty-Year Bicycle & Pedestrian Access Master Plan promotes the following vision and key recommendations:



“Maryland will be a place where people have the safe and convenient option of walking and bicycling for transportation, recreation, and health. Our transportation system will be designed to encourage walking and bicycling, and will provide a seamless, balanced, and barrier-free network for all.”

KEY RECOMMENDATIONS

The Twenty-Year Bicycle & Pedestrian Access Master Plan establishes the following goals:

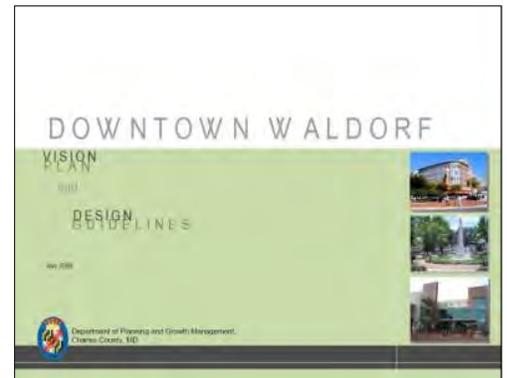
- Integrate and expand the State’s bicycle and pedestrian facilities, creating a connected network of on-road, off-road, and transit-related accommodations that will encourage and facilitate increased levels of bicycling and walking and improve access for individuals with disabilities.
- Preserve, protect, and maintain the State’s existing bicycle and pedestrian facilities and rights-of-way including bike lanes, roadway shoulders, sidewalks, crosswalks, trails, and side paths.
- Provide Safe and convenient bicycle and pedestrian accommodations for every type of trip, and for all levels of ability.
- Develop education and promotional programs that will increase bicycling and walking and foster a pro-bicycle and pro-pedestrian awareness in individuals, private sector organizations, and all levels of government.
- Work with local communities to increase their understanding of how land use, transportation, and other policies and planning processes need to be modified to achieve increased levels of bicycling and walking, especially in Priority Funding Areas.





9. Downtown Waldorf Vision Plan and Design Guidelines, Charles County Department of Planning and Growth Management, 2010

“This Vision Plan for Downtown Waldorf is intended to establish an urban-scaled community and identifiable sense of place in the traditional heart of Waldorf. By its geographical location, available infrastructure, rail access and existing transit systems, the area covered by this plan has a promising future as a regional, transit-oriented development node that will sustain the economic viability and growth of Charles County. Downtown Waldorf has the potential to provide a vibrant downtown center for the broader Waldorf area and Charles County.”



This plan recommends the creation of two “Activity Centers” in Waldorf:

- **The Waldorf Central Zone.** This zone proposes a gradual evolution from older, single-family residential and commercial uses to a mixed-use, high-quality, medium-density district with townhouses, apartments, lofts, condominiums, retail stores, services, offices, and civic or institutional uses.
- **The Acton Urban Center Zone.** This zone is planned to serve as a “future regional transit oriented, mixed use development” to be located within a 5-10 minute walk from a transportation hub. Transit, walkways, streetscapes, and buildings would need to be integrated.



As part of this project, a Transportation Center is recommended within Downtown Waldorf where connections between private vehicular, taxi, car share, pedestrian, bicycle, local bus, and commuter bus modes are served.





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The plan recommends establishing pleasant and convenient pedestrian travel provided by means of sidewalk and streetscape amenities to be located along roadways and recommended trails within the greenways. The following facilities are recommended to implement an interconnected bicycle network and bicyclist amenities:

- Bicycle depot at the Transportation Center with bicycle valet, bicycle lockers, and bicycle rental;
- Bicycle racks at all major public parking facilities;
- Floating Lane (Class II) bicycle facility on Acton Lane and Old Washington Road (curbside bicycle lane during peak hours and adjacent to parking lane during off-peak hours);
- Share-the-road facilities (Class III) on Holly Lane, Holly Tree Avenue, Central Avenue, Terrace Drive and all Waldorf Urban Local Roads; and
- Exclusive shared-use path right-of-way (Class I) along the Rail-Trail greenway.

The bicycle facility classes used above refer to the classifications of bicycle facilities from AASHTO (Guide for the Development of Bicycle Facilities, 3rd edition). All bicycle floating lanes and share-the road facilities must be clearly marked and signed to provide clear guidance and maximum safety for bicyclists and motorists.

The Design Guidelines complement the vision plan with specific design components for development within the designated Activity Centers. With respect to pedestrian circulation, the Guidelines propose that pedestrian linkages will support growth and facilitate transit-oriented development through mandatory and recommended standards:

Mandatory standards:

- Provide adequate and safe sidewalks and pedestrian circulation systems.
- Distinguish pedestrian circulation from vehicle use areas by using colored pavement, brick, alternative pavements and/or landscaping.

Recommended standards:

- To the extent feasible, each site being developed should contribute to an integrated system of through building passages, garage connections, pedestrian concourses and covered walkways to complete the circulation system.
- Use consistent graphics and lighting to identify sidewalks within development.

The Design Guidelines also propose that trails and pathways be provided through “naturalized greenways, public spaces, and common areas, forming a continuous circulation system connected to the traditional public sidewalks.”





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Bicycle Parking standards are recommended for the Activity Centers as well. Bicycle racks should be provided throughout Downtown Waldorf, especially in surface parking lots and along Urban Major Collector and Urban Minor Collector streets. In residential areas, they should be sited to minimize their appearance from the public streetscape. The color should complement the proposed streetscape improvements.

Recommended standards:

- One bicycle parking space for every 20 motor vehicle parking spaces or a rack(s) that will hold 10 bicycles (permanently anchored) should be provided. The bicycle rack(s) must be visually and physically accessible from the public sidewalk and street. In addition, the zoning standards for the two new Waldorf zones include bicycle parking requirements for these zones. The requirements are contained in §297-96(k)(10) of the Charles County Zoning Ordinance.



LEED Recommendations:

- Bike racks should have a high percentage of recycled content.
- Powder-coating finish should not contain any heavy metals, should be HAPS-free and should have negligible VOCs.

KEY RECOMMENDATIONS

The Waldorf Urban Design Study and Vision Plan recommends the creation of two activity centers in Waldorf. Each of these activity centers will include mixed uses in proximity to a Transportation Center. The plan calls for improvements to pedestrian and bicycle facilities.





G. Existing Conditions

This section of the plan identified various existing conditions including major barriers to pedestrian and bicycle usage, County recreational trails, access to residential development, access to commercial development and access to public transportation. This information is augmented by input received from the key stakeholder interview process with respect to issues and concerns about existing conditions for pedestrians and bicyclists.

1. Major Barriers

Major barriers to pedestrian and bicycle usage currently exist in Charles County. These barriers include:

- **US 301:** This major roadway divides the east and west sides of Charles County providing difficulty for pedestrians and bikers to cross at most points along the road. Travel along U.S. 301 is also difficult for pedestrians and bikers due to high speeds, intersections that are difficult to traverse, and turning lanes which create obstacles for bikers attempting to “share the roadway.”
- **Lack of shoulders:** Many of the back roads through the County are most-used by recreational pedestrians and bikers due to their scenic beauty and decreased traffic. However, many of these roads are narrow with few shoulders, thus requiring pedestrians and bikers to share the vehicle travel lanes.
- **Lack of Crosswalks:** Pedestrians are unable to cross major roadways without crosswalks.
- **Intersection Configuration:** The configuration of several intersections, especially along U.S. 301, makes it difficult for bicyclists to maneuver through or to make turns without crossing in front of motor vehicle traffic.
- **Railroad tracks:** Railroad tracks create barriers for pedestrians and bikers to cross from one side to the other.

2. County Recreational Trails

For bicyclists, Charles County currently has several recreational routes and trails, including the recently opened Indian Head Rail Trail, the Religious Freedom Byway, and the Potomac Heritage Scenic Trail.

- **Indian Head Rail Trail (IHRT):** Although the IHRT has only been open since 2009, the facility has been a huge success in the community. The County has had over 50,000 trail visitors and they anticipate those numbers to more than double over the next few years. The IHRT is Charles County’s first true bicycle trail facility. Its wide paved surface allows for a wide range of multi-use recreation activities. The most popular activities include cycling, running, hiking, in-line skating, and wildlife viewing. The 13-mile, 100’ wide property has been preserved in perpetuity. The IHRT meanders through a unique undeveloped portion of the Mattawoman flood plain, protecting an important wildlife corridor and its scenic views. The IHRT provides an excellent venue for education, bird watching, and promoting a greater appreciation of the County’s natural resources.

The IHRT has created a safe and traffic-free route for numerous residents to bike to work. Several businesses in Indian Head and the Navy base now have regular bicycle commuters.





There are also several bicyclists who commute to work at the White Plains Business Park. These numbers will expand as future connections can be made along the trail.

As the trail becomes more popular, Charles County will experience greater economic impact. In addition to the typical daily user impacts (gas, food, etc.), other impacts have already been realized and are continuing to develop. For example, a bicycle rental and repair shop has opened in Indian Head, a deli/sandwich store in Indian Head has become a frequent stop for trail cyclists, the Bike Doctor of Waldorf and other large sport stores have seen significant increases in sales and repairs as a result of the IHRT. Motels are also starting to see reservations from bicyclists attending bicycling events. The IHRT is becoming a regional draw, with a considerable number of visitors traveling up to two hours to enjoy the trail on a regular basis. The trail is well on its way to becoming a true tourism venue.

- **Religious Freedom Byway:** This scenic route is comprised of nearly 200 miles with several branches that reach towards the Potomac River in southern Maryland. The byway incorporates many of the country’s oldest churches. Within Charles County, this route serves as an on-road scenic bicycling route.
- **Potomac Heritage Scenic Trail:** A network of trails between the mouth of the Potomac River and the Allegheny Highlands. The Trail is comprised of 830 miles of existing and planned trails throughout the region, including portions of the Southern Maryland Potomac Heritage Trail Bicycling Route in Charles County.
- **Other On-Road Touring Routes:** These bicycle routes are great opportunities for bicyclists comfortable with on-road bicycle travel. Pedestrians and bikers seeking a more protected route of travel are limited in their ability to access or enjoy these routes. As a long-term consideration, trails along side of these routes, as well as links to other existing trails, may benefit a larger group of potential users.

3. County Transportation Trails

Charles County has been working to create and enhance pedestrian and bicycle facilities throughout the County. The following is a listing of projects completed through the Capital Improvement Program (CIP) since 2006:

- Rosewick Road Phase 1,2, & 3 2.05 miles
- Western Parkway Phases 1A, & 1B 1.35 miles
- St. Charles Parkway 2.10 miles
- Middletown Rd. Phases 1, 1B1, 1B2, 2 2.70 miles
- Cross County Connector 4 0.27 miles

The County expects to construct another 11.80 miles of pedestrian and bicycle trails with projects that are currently under design. These projects include:

- Western Parkway Phase 2 0.75 miles
- Western Parkway Phase 3 0.80 miles
- Cross County Connector 5,6, & 7 9.10 miles
- Radio Station Road 1.15 miles





4. Access to Residential Development

Access within Charles County residential developments is acceptable for pedestrians and bikers limiting their travels to within a specific neighborhood. Many neighborhoods have traditional sidewalks which are appropriate for pedestrian travel. Streets in these neighborhoods are acceptable for bikers with some level of experience and comfort, due to the relatively low speed limits. As seen in the accompanying inventory, there are a few neighborhoods with existing trail and path access within and between neighborhoods which are appropriate for bikers and pedestrians.

Access from residential neighborhoods to nearby neighborhoods and non-residential uses, such as schools, commercial areas, and recreational areas, is poor in most cases. Access in rural areas of Charles County is poor for pedestrians and inexperienced bikers, due in part to a lack of sidewalks and wide street shoulders. Experienced bikers who are comfortable riding within motor vehicle travel lanes are able to travel between desired destinations.

5. Access to Commercial Development

Commercial access by bikers and pedestrians is poor in most parts of Charles County, especially urban areas such as Waldorf. The network of sidewalks and trails has been created without a master plan. In most cases, existing sidewalks and trails were installed as new development occurred, thus resulting in a hodgepodge of facilities with missing links and varying designs. Consistency between facilities is not common.

6. Access to Public Transportation

Pedestrian facilities and public transit go hand-in-hand. Transit users are typically pedestrians first. Connections to transit in urban and suburban communities are an important step to providing alternative modes to vehicular travel. In many instances, multimodal travel may not be a viable choice of transportation in communities with a sprawling development pattern supported by auto dependency. Transportation planners and highway engineers have a difficult balancing act developing a transportation infrastructure that meets the design and operational requirements of motor vehicles while providing safe access for walking and bicycling. Many times there is a lack of amenities necessary to foster pedestrian and bicycle travel which therefore reduces the choice to utilize public transit. This lack of continuous and interconnected pedestrian facilities is especially challenging for the disabled who are too often forced to travel in the roadway to reach the bus stop or other destination. This in turn furthers the dependence on automobiles for those with and without a disability; a cycle that continues to be difficult to break.

As part of the Waldorf Urban Design Study Area, a Transportation Center is recommended where connections between private vehicular, taxi, car share, pedestrian, bicycle, local bus, and commuter bus modes are served.





7. Stakeholder Input

A series of interviews were held with stakeholders from the community. These stakeholders included representatives from state government, local government and the school district, local bicycle clubs, non-profit organizations, and the National Park Service. Feedback from these meetings included:

Areas of the County which should be considered for future improvements:

- Zekiah Swamp crossings at Route 5 and Route 6. Road bridges are not adequate for bike lanes as there is no shoulder area.
- Only major roads cross railroads; bikers can't cross via smaller roads and this is an issue.
- Potential tunnels under railroad tracks for bikers and handicapped accessible.
- Route 301/Smallwood Drive is a dangerous intersection.
- At US 301/Turkey Hill Road/Washington Avenue there are problems for bicyclist crossing.
- Mitchell Road at US 301 has only a quarter mile of pedestrian access.
- Thomas Stone is approximately 11 miles from Smallwood State Park.
- Rose Hill Road is not conducive to bike use – no shoulders and windy road.
- Bikers use routes that have the least amount of traffic, even if this means that there aren't safe bike facilities. Also connections to other routes are important to cyclists.
- Bicyclists riding within the roadway are often viewed as an inconvenience to motorists.
- Statistics show that accidents decrease when more bikers are on the road and motorists learn to anticipate their presence.
- Connect Thomas Stone to La Plata and Port Tobacco and Bumpy Oak Road.
- Possible bridges over US 301 to connect the two sides of Waldorf and La Plata.
- Possible connection from Woodrow Wilson Bridge trail to Indian Head Rail Trail in the future.
- Extend Three Notch into Hughesville and connect to Indian Head Rail Trail.

Elements that should be encouraged:

- Outdoor classrooms.
- Fitness trails.
- Public art.
- Gathering places.
- Community kiosks.
- Dog clean-up facilities.
- Benches.
- Educational opportunities.
- Parking.
- Bike racks.
- "Trek Stop" or other similar bicycle parts/repair/air vending station.
- Smooth asphalt on roads (as opposed to chip and tar).
- Shoulders for roads.
- Signage, for bikers and motorists (wayfinding, traffic, educational, etc.).
- Trash receptacles (must be accessible for maintenance and animal proof).
- Security.
- Links to public spaces, schools, town amenities, and bus stops.





Trails/routes which are well used:

- Indian Head Rail Trail
- Nanjemoy route
- Chapel Point Rd. – St. Ignatius allows the public to use restrooms
- Chapel Point Rd
- Doncaster State Forest
- Smallwood State Park
- Purse State Park
- Laurel Springs County Park
- St. Charles Pkwy and Rosewick Rd.
- Three Notch Trail
- Cedarville State Forest

In September of 2009, the Bryans Road Improvement Committee met and provided feedback on this plan as well. Their comments included:

Key Issues:

- Topography should be considered when engineering trails where steep slopes occur.
- The Bryans Road Sub-Area Plan has the proposed hiker-biker trail going through South Hampton neighborhood. It is recommended that the trail go around the neighborhood, not through it.
- Consider using asphalt, not mulch.
- Connect proposed County trails to Potomac Heritage Trail in the future.
- Emphasize scenic areas and water views.
- Include connection to Smallwood Park.
- Include connections to Bryans Road Shopping Center, library, and waterfront.
- Include connection to regional trail networks.
- Consider connecting Piscataway Park and Marshall Hall.

Encouraged elements/features:

- Parking.
- Surfacing – context sensitive/natural environment.
- Design which discourages motorized vehicles (ATVs).
- Fines for motorized vehicles that are illegally used on trails.

Improvements to encourage use:

- Access.
- Consider creating a countywide trail map with access points.
- Discourage hunting near trails/buffer zone for this purpose.
- Consider trails that are separate from road, rather than widening the road.
- Consider protocol/enforcement of rules along trails.





Natural or historic features that should be linked:

- Trail parallel to Chapmans Landing Road in lieu of Potomac Trail located on the proposed BR Sub-Area hiker-biker trail (there are steep hills in the area near the river).
- Concern about a trail near the river due to disturbing wildlife (eagles and other endangered species).
- Concern about homes that are very close to road off of Chapman's Landing Road.
- Consider a trail option through the Chapman's state park.





Chapter 2: Existing Conditions, Data and Analysis

The purpose of this chapter is to identify existing conditions and data, to provide results of analysis, and to provide potential alternatives for future enhancements to Charles County’s pedestrian and bicycle facilities. National statistics as well as data from other communities is included in this section, where appropriate, to provide a broader look at specific issues and to provide solutions which have been proven in other communities.

A. General Statistics

In order to understand how and why bicycle and pedestrian facilities are used, a review of general statistics is necessary. Planning for new projects should take into account this information in order to maximize the use and success of each facility.

1. General Bicycle Statistics

In August of 2008, the U.S. Department of Transportation, National Highway Safety Administration (NHTSA)¹⁶ published the National Survey of Bicyclist and Pedestrian Attitudes and Behaviors based upon an extensive survey conducted across the United States. This survey was conducted among a representative sample of 9,616 U.S. residents age 16 and older during the summer of 2002. The following information pertains to the bicycling component of this survey.

Nearly half of all adults, ages 21 and older, have bicycles available for their use on a regular basis. Younger persons, under age 21, have greater access than older persons, over age 65. Access to bicycles increases based on household income with 65% of persons with a household income over \$75,000 having access to a bicycle and only 29% of persons with a household income of less than \$15,000 having access to a bicycle.

During summer months, only 19% of persons in this national study indicated that they use their bicycle once a week or more, while 57% indicated that they never ride a bicycle. Over 82% of those persons who do not ride a bicycle during summer months do not have

Bicycle Statistics

- 47% of Americans would like more bicycle facilities in their communities.
- Most trips made are “short”, with 49% less than 3 miles, 39% less than 2 miles, and 24% less than 1 mile.
- Three hours of bicycling per week can reduce the risk of heart disease and stroke by 50%.
- Adolescents who bicycle are 48% less likely to be overweight as adults.
- In 2008, the bicycle industry in the United States sold close to \$6.0 billion in equipment and accessories.
- Each year twice as many bicycles are sold in the United States than cars.
- Numerous studies have shown that property values are higher near bike paths.
- Bicyclists could save more than \$10 per day by bicycling rather than using a motor vehicle.

Source: www.bikesbelong.org

¹⁶ National Highway Traffic Safety Administration, *National Survey of Bicyclist Attitudes and Behaviors*, 2008





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access to a bicycle. Of those persons who did ride a bicycle during summer months, the average number of days was 5.0 days in a 30 day period. Nearly 30% of persons reported they did not use a bicycle as they did not have access to one. Other reasons for reduced use of bicycles such as no need to bicycle, physical difficulties and weather conditions are shown in Figure 3-1.

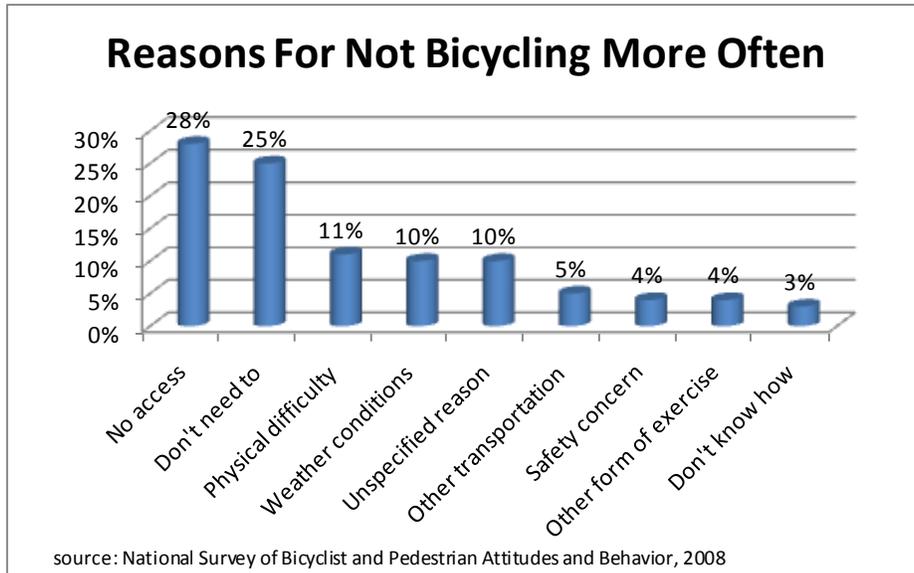


Figure 2-1: Reasons for Not Bicycling More

Nearly 90% of all bicycle trips begin at a residence, either the bicyclist's or someone else. Seven percent (7%) of trips began at a leisure or recreational site, including parks. The purpose of bicycling trips such as recreation, leisure, exercise, personal errands and commuting are shown in the Figure 3-2.

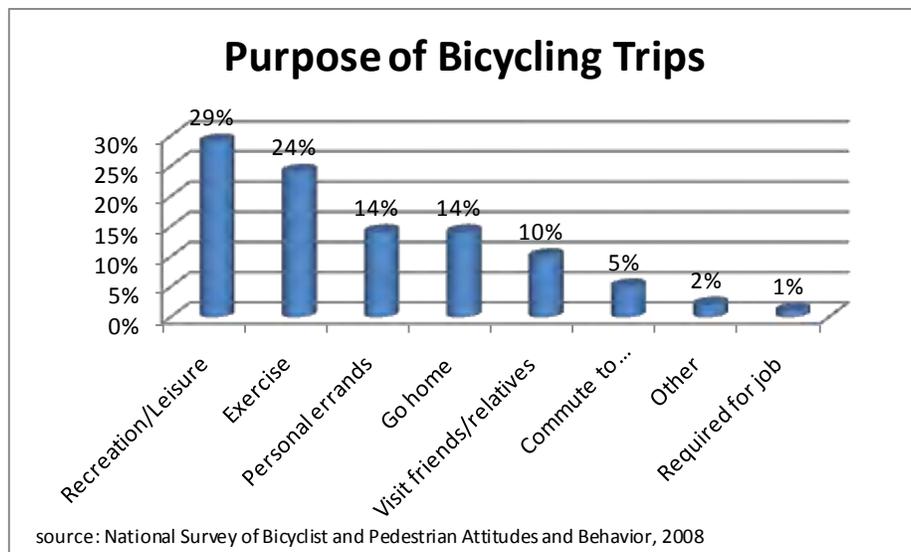


Figure 2-2: Purpose of Bicycling Trips





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Nearly 39% of bicycle trips were reported to be less than one mile; 19% were reported to be more than five miles; and 7% were over ten miles. Bicycle trips varied with respect to facility used, with nearly half of the trips being on paved roads and another 15% on paved shoulders. The breakdown of facility types is shown in Figure 3-3.

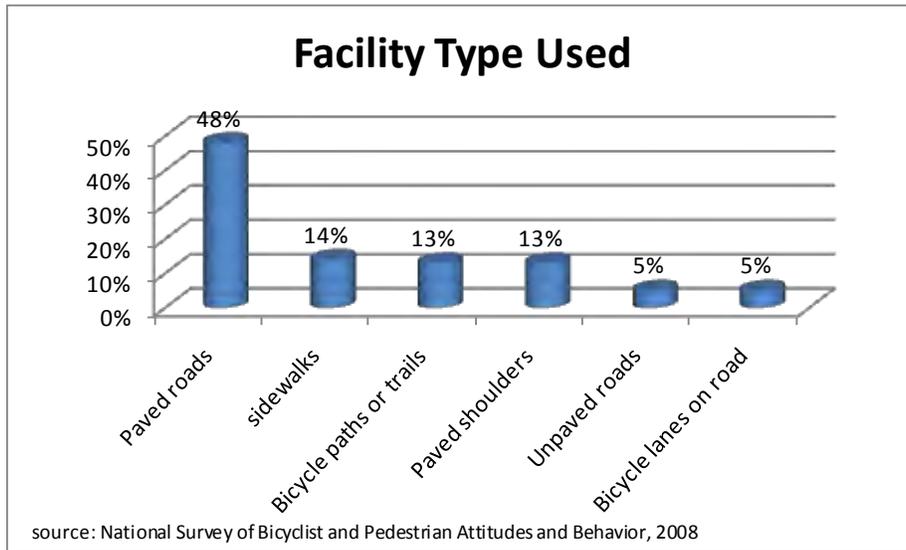


Figure 2-3: Facility Type Used

Over half of bicyclists reported not using bicycle paths or bicycle lanes as they were either not convenient or available or did not go to the desired destination. The breakdown of reasons is shown in Figure 3-4.

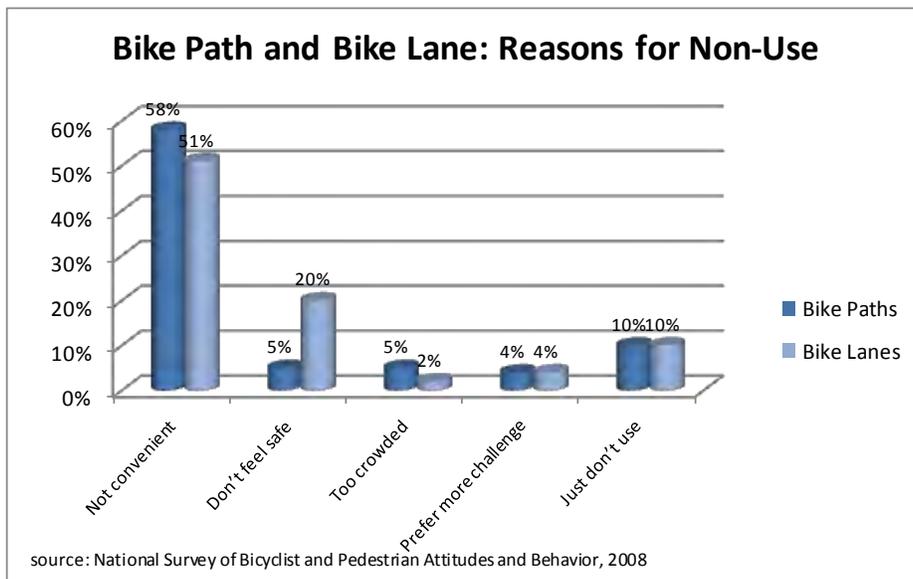


Figure 2-4: Bike Path and Bike Lane: Reasons for Non-Use





2. General Pedestrian Statistics

The information in this section pertains to pedestrian behavior as reported in the National Survey of Bicyclist and Pedestrian Attitudes and Behaviors¹⁷. The survey and study determined that the largest percentage of pedestrians walked to conduct personal errands, with exercise as the second leading purpose. Only 5% of the respondents indicated that commuting to work or school was their primary purpose of walking, although the study did not include persons less than 16 years of age.

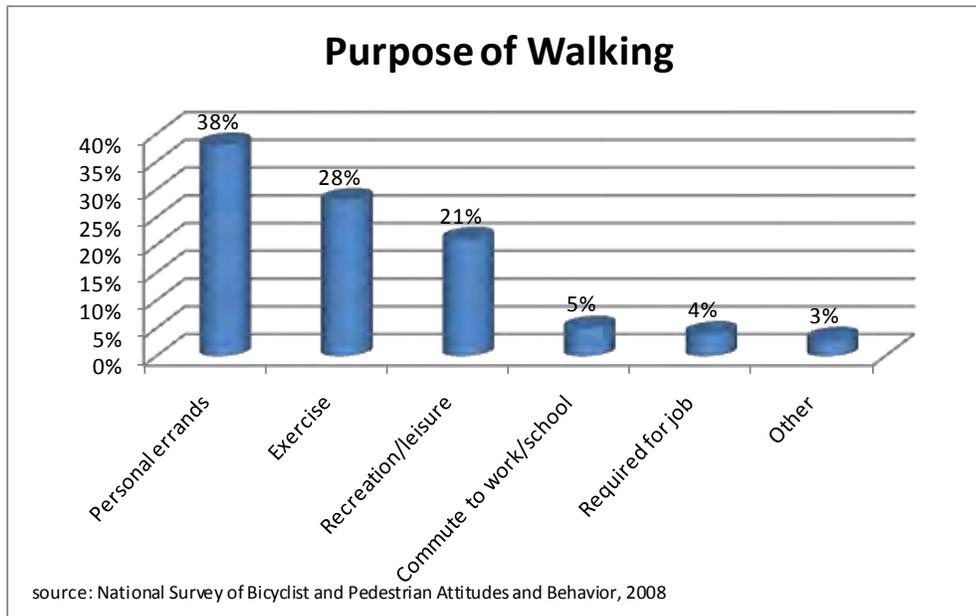


Figure 2-5: Purpose of Walking

The average pedestrian trip, during summer months, was reported to be just over one mile in length. Approximately 50% of the trips were less than one mile and 7% of trips were over five miles. Similar to statistics related to bicycle trips, an overwhelming majority of pedestrian trips began from a residence, either belonging to the pedestrian or someone else. Other origins included leisure and recreational areas, work, and transportation sites. This study focused primarily on pedestrian behaviors during summer months as the study assumes that pedestrian activities are reduced during other seasons of the year.

¹⁷ National Highway Traffic Safety Administration, *National Survey of Bicyclist Attitudes and Behaviors*, 2008



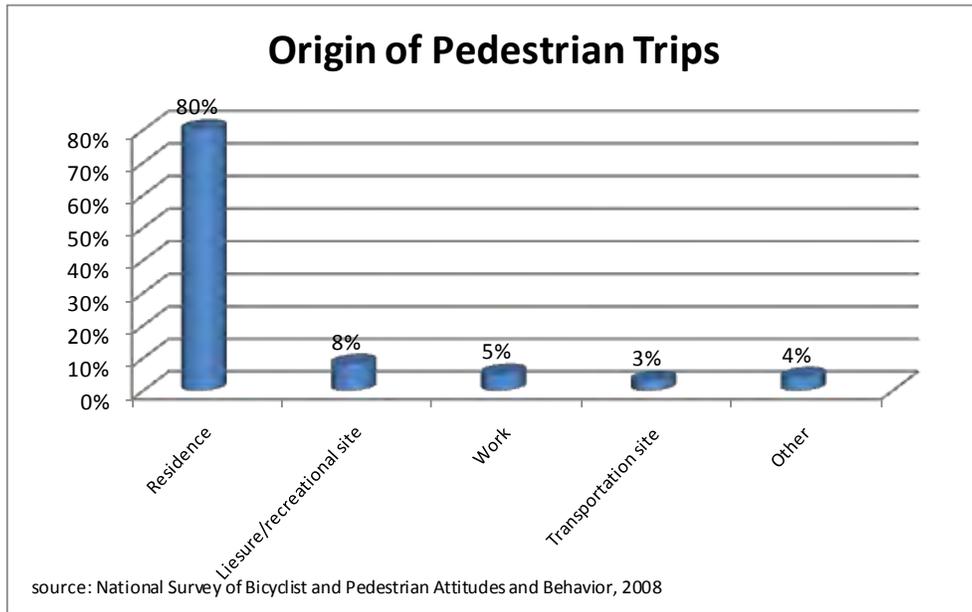


Figure 2-6: Origin of Pedestrian Trips

Many potential pedestrians cited security as a reason for decreased or no pedestrian activity. Surprisingly, concern about motorists accounted for the majority of security fears in suburban, urban, and rural environments. Only 50% of respondents in suburban areas were concerned about potential of crime, and in urban and rural areas, fear of potential crime was only reported by 28% and 33% respective.

In rural areas, respondents expressed greater concern about all potential threats as compared to suburban and urban areas.

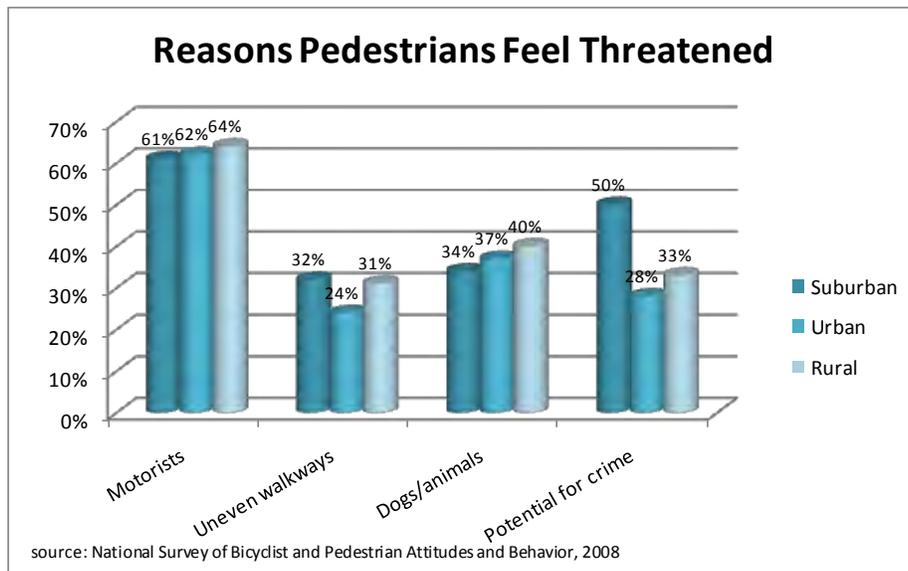


Figure 2-7: Reasons Pedestrians Feel Threatened





B. Charles County Pedestrian and Bicycle Demographics

Studies have indicated that persons residing in households with lower incomes have decreased access to bicycles. Access to a bicycle rises with household income. According to a government survey of nearly 10,000 Americans¹⁸:

- 29% of those with household incomes less than \$15,000 had regular access to a bicycle.
- 47% with incomes \$30,000-\$49,000 had access.
- 65% with incomes \$75,000 or more had access.

In Charles County, the median income in 2008 was \$86,586. 5.9% of households had an income below \$15,000. This group most likely has the least transportation options and also has the least access to bicycles.

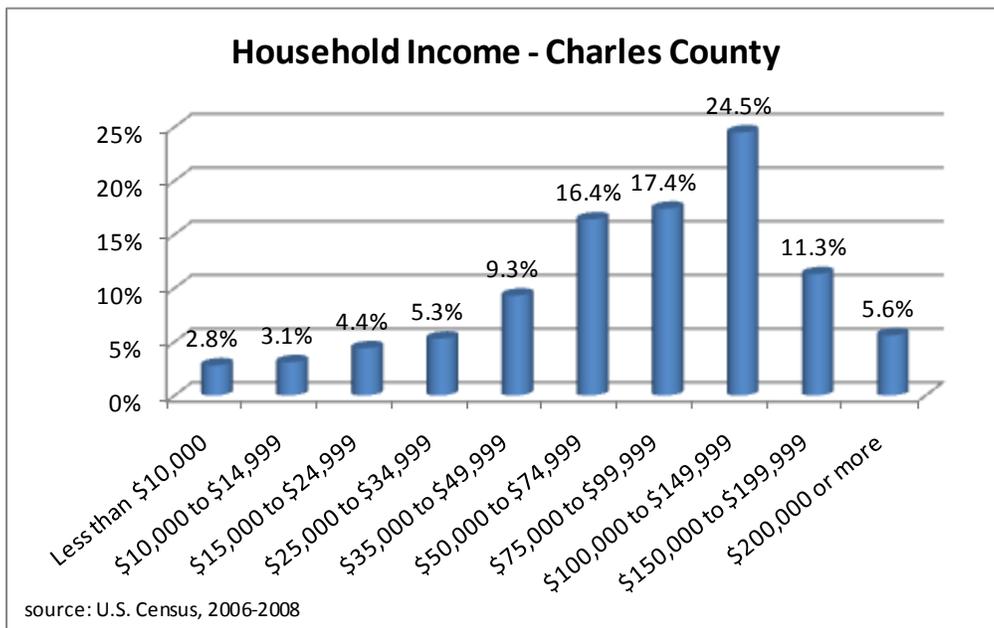


Figure 2-8 Household Income – Charles County

¹⁸ www.bikesbelong.org / D. Royal and D. Miller-Steiger, 2008





The 2000 U.S. Census reported that 5% of Charles County residents do not have a vehicle available to them. These individuals are most likely reliant upon public transportation, walking, or bicycling to travel to their destinations.

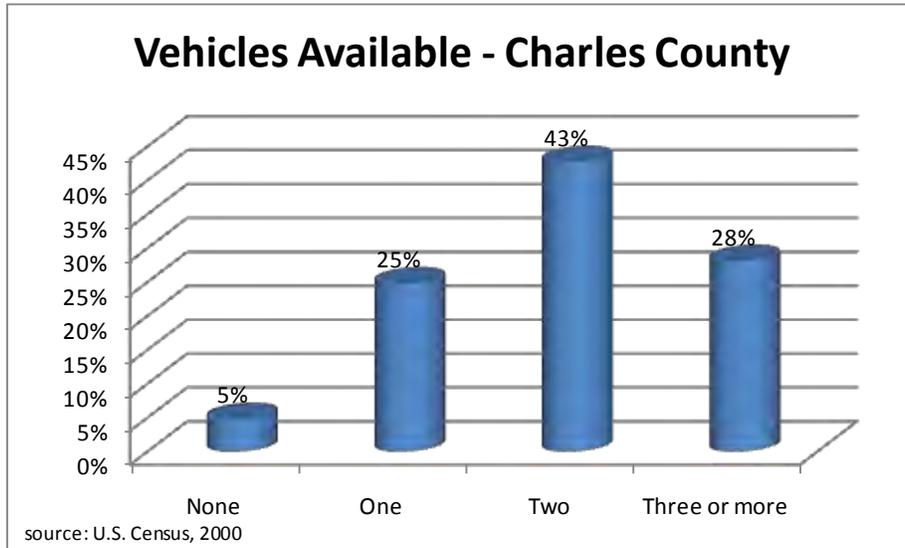


Figure 2-9: Vehicles Available – Charles County

In the 2000 U.S. Census, only 1% of Charles County residents reported walking to work another 1% reported using “other means” to commute, which would include bicycles.

The average North American bicycle commuter is a 39-year-old male professional with a household income in excess of \$45,000 who rides 10.6 months per year¹⁹.

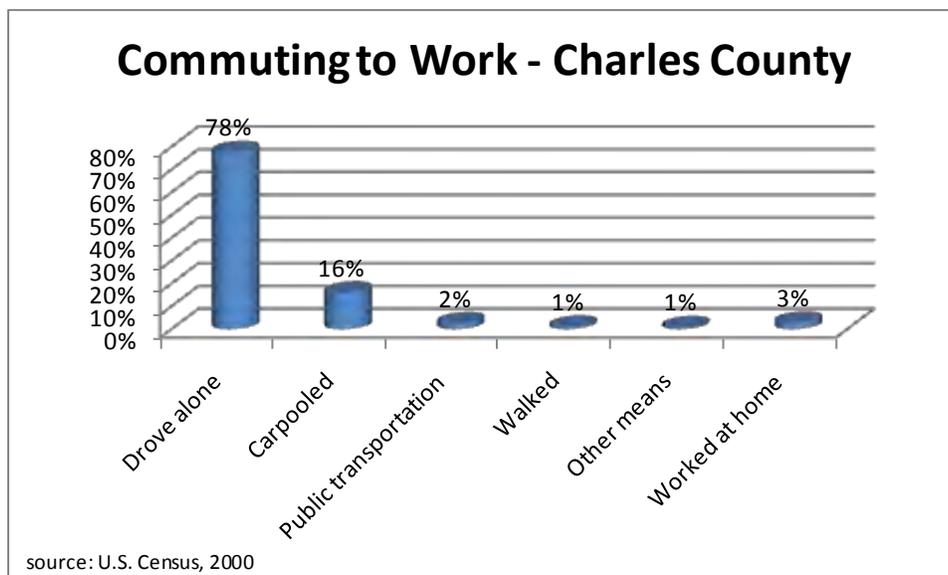


Figure 2-10: Commuting to Work – Charles County

¹⁹ Survey of North American Bicycle Commuters, Journal of the Transportation Research Board, 1997





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Of the 36,187 workers age 16 and older who commute to work, 18 (0.04%) reported using a bicycle and 282 (0.77%) reported walking. This data does not identify the number of commuters who use bicycles or walking as a secondary mode of travel to access their primary mode of travel (i.e. using a bicycle to ride to the bus stop or to meet a carpool).

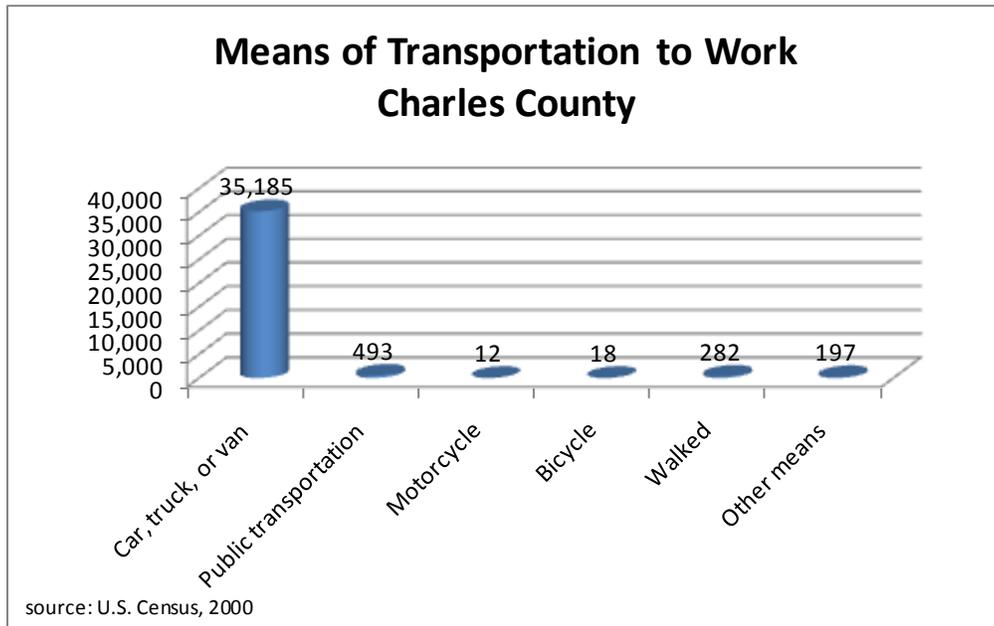


Figure 2-11: Means of Transportation to Work – Charles County

In Charles County, 16.8% of commuters have a relatively short commute, less than 15 minutes. This suggests that commuting by bicycle or walking is a potential alternative some of the County's commuters.

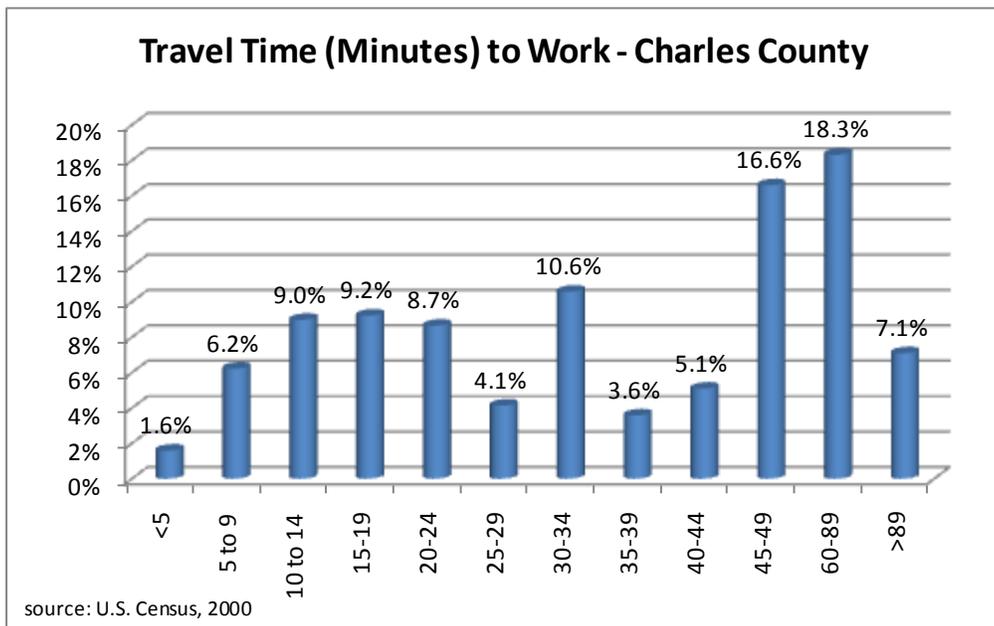


Figure 2-12: Travel Time to Work – Charles County





C. Charles County Pedestrian and Bicycle Facilities

Within Charles County, numerous facilities such as sidewalks, trails, paths, bike/pedestrian routes and golf course cart paths currently exist and are measured in miles, as shown in the following table:

Existing Facility Type	Miles
Sidewalks	245.03
Trails (non-macadam/non-concrete)	5.70
Path (macadam or concrete)	45.27
Bike/Pedestrian Routes (SHA)	50.94
Golf Course Cart Path	4.76

Table 2-1: Existing Facilities - Charles County

Additional planned facilities are measured in miles, as shown in the following table:

Planned Facility Type	Miles
Future Connections	15.14
Sidewalks (by County)	2.64
Sidewalks (by Developers)	.88
Path (by County)	1.74
Path (by Developer)	1.79

Table 2-2: Planned Facilities – Charles County





D. *Choosing Where Facilities Will Go*

This plan seeks to provide guidance on where to locate new facilities and where to make improvements to existing facilities.

One model that had proved useful in encouraging bicycle friendly road improvements is the State of Maryland Bicycle Level of Comfort (BLOC) model. The BLOC is a scientifically-calibrated model based on research documents in the Transportation Research Record 1578 published by the Transportation Research Board of the National Academy of Sciences. BLOC is used by government agencies throughout North America to evaluate bicyclists' perceived safety with respect to motor vehicle traffic. The model reflects the average bicyclists' perception of compatibility due to factors such as roadway width, bike lane widths and striping combinations, traffic volume, pavement surface conditions, motor vehicle speed and type, and presence or absence of on-street parking.

Additional information regarding the BLOC model can be found in Appendix 1 of this document.

E. *Analysis*

Since funding is limited, an analysis should be performed for all potential bicycle and pedestrian projects to determine how funding will best be used. The 1998 *Feasibility Study for Hiker/Biker Trails in Charles County* suggested weighted score analysis for potential trail projects. Objectives were identified and prioritized based on the following rank of importance (with 1 as the highest importance):

1. Low construction cost
2. Topographical suitability
3. Little wetland impacts
4. Trail accessibility to the public
5. High public use potential
6. Positive drainage already in place
7. Available parking at both ends
8. Aesthetics of trail
9. Low potential adjacent landowner conflict
10. Increased economic development
11. Environmental education
12. Historical education

A Bicycle and Pedestrian Advisory Work Group should be established with representatives from various public, private, and non-profit organizations which can review this prioritization and adjust as may be appropriate based on the types of projects being reviewed. For example, projects consisting of bike lanes or bike routes may have a different set of priorities than an off-street shared use trail. A potential prioritization for proposed side-paths might include (with 1 as the highest importance):





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1. High public use potential
2. Creates links to and from existing bicycle/pedestrian facilities
3. Low construction cost
4. Right-of-ways are in place or easily obtainable
5. Increased economic development
6. Topographical suitability





f. User Classifications

When planning for new facilities or changes to existing facilities, it should be determined who the end users will be. Facilities designed for advanced bicyclists who commute to work may not be appropriate for pedestrians walking for leisure. Signs and symbols should be designed and included on various signs and maps to quickly illustrate the types of users that each facility might accommodate. The following are suggested user classifications and sample symbols:

- a. Commuter Pedestrian:** Persons who walk as a primary mode of transportation. These pedestrians are very aware of routes and pathways which they frequently use. They are comfortable with the paths they frequently use although they often desire more direct routes and safer routes.



- b. Commuter Biker:** Persons who ride bicycles as a primary mode of transportation. These bikers are very aware of routes and pathways which they frequently use. They often travel at higher speeds than the average biker, and are more comfortable riding within vehicle travel lanes. Commuter Bikers are less concerned about amenities such as benches and fountains, and more concerned about safety, signage, and public awareness of bikers “sharing the road.”



- c. Fitness Pedestrian:** Persons who walk primarily for fitness. These pedestrians may have particular routes that they enjoy using on a frequent basis or may enjoy trying new routes. Fitness Pedestrians often enjoy amenities, such as benches, water fountains, and restroom facilities. Fitness Pedestrians may use many different types of paths, trails, or sidewalks and are often not as concerned about direct routes to a particular destination.



- d. Fitness Biker:** Persons who ride a bicycle primarily for fitness. These bikers may have particular routes that they enjoy using on a frequent basis or may enjoy trying new routes. Fitness Bikers often enjoy amenities, such as benches, water fountains, and restroom facilities. Fitness Bikers may use many different types of paths, trails, or sidewalks and are often not as concerned about direct routes to a particular destination.





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e. **Leisure Pedestrian:** Persons who walk primarily for leisure. These pedestrians may have particular routes that they enjoy using on a frequent basis or may enjoy trying new routes. Leisure Pedestrians often enjoy amenities, such as benches, water fountains, and restroom facilities. Leisure Pedestrians usually seek routes that are better suited than Commuter Pedestrians.



f. **Leisure Biker:** Persons ride a bicycle primarily for leisure. These bikers may have particular routes that they enjoy using on a frequent basis or may enjoy trying new routes. Leisure Bikers often enjoy amenities, such as benches, water fountains, and restroom facilities. Leisure Bikers usually seek routes that are better suited for bicycling than Commuter Bikers. Leisure Bikers may be comfortable riding within vehicle travel lanes, depending on their level of experience.



The following is an illustration of a possible facility sign which indicates which users the trail is suitable for:





G. *Design and Amenities*

The design of bicycle and pedestrian facilities must create safe and accessible routes for users, while fitting with the environment in which they are placed. Amenities increase user comfort and aesthetics. Together, design and amenities help create facilities which are well used.

1. **Design Guidelines and Regulations**

a. **Design Regulations and Design Guidelines**

Improvements should be designed in accordance with the following documents:

- *Maryland SHA Accessibility Policy & Guidelines for Pedestrian Facilities along State Highways* (most recent version). All projects, regardless of who is administering the contract, shall accommodate and provide accessibility for persons with disabilities where it is reasonable, feasible and appropriate to do so as described herein. Providing accommodations is especially important where the existing and/or proposed land use supports pedestrians. Examples provided within this document are not intended to be inclusive of all possible situations, but are representative of typical situations.
<http://www.marylandroads.com/Index.aspx?PageId=80>
- *Maryland Manual on Uniform traffic Control Devices (MUTCD)*, Chapter 9: Traffic Controls for Bicycle Facilities, Maryland State Highway Administration. The MUTCD addresses signs, markings, and signals for bicycle and pedestrian facilities, for both on-road and shared-use paths.
<http://sha.md.gov/businesswithsha/bizStdsSpecs/desManualStdPub/publicationsonline/oots/mmutcd/pdfs/sections/part9.pdf>
- *Maryland SHA Bicycle and Pedestrian Design Guidelines*. The Design Guidelines provides guidelines for preferred accommodations to benefit bicycling and walking in Maryland. It provides a uniform set of design guidelines for bicycle and pedestrian facilities in order to “achieve a consistent statewide approach to bicycle and pedestrian issues.”
www.sha.maryland.gov
- *Guide for the Planning, Design, and Operation of Pedestrian Facilities, 2004 (AASHTO Pedestrian Guide)*, The American Association of State Highway and Transportation Officials. The *AASHTO Pedestrian Guide* is recommended as minimum guidelines for the construction and design of sidewalks and street crossings, and may be appropriate for pedestrian trails serving a transportation purpose.
<https://bookstore.transportation.org/>





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- *Guide for the Development of Bicycle Facilities, 1999 (AASHTO Bike Guide)*, The American Association of State Highway and Transportation Officials. The *AASHTO Bike Guide* is recommended as minimum guidelines for bicycle transportation facilities and shared use paths, but not for bicycle trails intended for rough terrain mountain bike use.
<https://bookstore.transportation.org/>

b. Complete Streets

Pedestrians, bicyclists, motorists and riders of all ages and abilities must be able to safely move along and across a **“complete street.”** Creating complete streets means moving from streets primarily designed and maintained for automobiles to planning, designing, building and maintaining streets for all modes of transportation. Instituting a policy with an emphasis on complete streets requires providing an improved right-of-way designed to enable safe access and operation for all users. This policy requires necessary steps to ensure that streets and roads work for drivers, transit users, pedestrians and bicyclists, as well as for older people, children and people with disabilities. The benefits of this policy includes improved safety, health benefits associated with walking and bicycling, increased transportation options and improved air quality.

A well-planned pedestrian network is a basic component to an integrated transportation system that allows for connections to various modes of travel.

Complete streets provide for all modes of transportation to meet travel needs unique to various landscapes such as urban, suburban and rural. A complete street has several common elements as described in the following table for each landscape:





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Urban Landscapes <i>(highest volume of pedestrian activity)</i>	Suburban Landscapes <i>(medium volume of pedestrian activity)</i>	Rural Landscapes <i>(lowest volume of pedestrian activity)</i>
<ul style="list-style-type: none"> • Bicycle Lanes or Share the Road Signage • Sidewalks with Accessible Pedestrian Access Route and Compliant Curb Ramps • Crosswalks • Pedestrian Refuge Islands • Medians • Bus Pull-off Areas • Special Bus Lanes • Accessible Bus Stops • Accessible Bus Shelters as warranted • Accessible Pedestrian Signals and Count Down Clocks • Streetscape Amenities Such as Seating and Shaded Areas 	<ul style="list-style-type: none"> • Bicycle Lanes or Accessible Shoulders • Share the Road Signage • Sidewalks with Accessible Pedestrian Access Route and Compliant Curb Ramps • Crosswalks as needed • Pedestrian Refuge Islands • Bus Pull-off Areas • Accessible Bus Stops • Accessible Bus Shelters as warranted • Accessible Shared Use Pedestrian/Bicycle Paths or Trails 	<ul style="list-style-type: none"> • Accessible Shoulders or Bicycle Lanes • Share the Road Signage
<p>The diagram illustrates an urban streetscape cross-section. From left to right, it shows a 'curb zone' containing a 'buffer' and 'planter/furniture/utilities/signs'. This leads to an 'accessible pedestrian route' where a person in a wheelchair, a person with a cane, and a person with a shopping bag are walking. To the right is a 'frontage zone' with a storefront labeled 'Chez What?'. A 'pedestrian circulation path' label spans the buffer, route, and frontage zone.</p>	<p>The diagram shows a suburban streetscape cross-section. From left to right, it features an 'accessible shared use path' with a person walking, a 'drainage / buffer / utility / planter' area with a tree, a 'shoulder/ bike lane' with a person on a bicycle, two 'travel lane's with cars, another 'shoulder/ bike lane' with a person on a bicycle, another 'drainage / buffer / utility / planter' area with a tree, and a final 'accessible shared use path' with a person walking.</p>	<p>The diagram depicts a rural streetscape cross-section. From left to right, it shows an 'accessible shoulder/ bike lane' with a person on a bicycle, a 'travel lane' with a car, another 'travel lane' with a car, and a final 'accessible shoulder/ bike lane' with a person on a bicycle.</p>





2. Facility Types

a. Bicycle Facilities:

The following bicycle facilities are recommended in this plan:

- i. **Shared Lanes:** This type of facility is simply the travel lane itself. Bicyclists share the roadway with vehicles.



- ii. **Signed Route:** Usually an on-street shared roadway that is specially signed as a designated bicycle route by the State of Maryland or other governmental agency. These roads are designated based on their route, construction, and design. Signed routes are not relegated to only on-road facilities and may include off-road trails as well.



- iii. **Bicycle Lane:** a portion of a roadway that has been designated by signs and pavement markings for a preferential or exclusive use by bicyclists. Bicycle lanes may be supplemented with signage.





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- iv. **On-Street Shoulder:** This type of facility is simply the shoulder to the right side of a cartway, commonly referred to as the shoulder. There is not a clearly delineated path for bicycles. Shoulders often vary in width and in construction – from narrow stone surfaces to wide paved surfaces.



- v. **Cycle Tracks:** A bicycle exclusive facility that provides physical separation from motorized vehicle traffic within the right-of-way. This facility combines a separated path with on-street infrastructure of a bike lane.



- vi. **Wide Outside Lane:** A shared travel lane where motor vehicles can pass bicyclists without changing lanes. The lane is the furthest right traveled lane and its minimum width is fourteen-feet exclusive of the gutter.





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- vii. **Sidepaths:** Facility located along side of a vehicle cartway, but usually separated by landscaping. These paths are primarily for pedestrians and leisure and fitness bicyclists.



- viii. **Shared-Use Path:** a bikeway outside the traveled way and physically separated from motorized vehicular traffic by an open space or barrier and either within the highway right-of-way or within an independent alignment. Shared-use paths are also used by pedestrians (including skaters, users of manual and motorized wheelchairs, and joggers) and other authorized motorized and non-motorized users.



- ix. **Off-street Shared Use Trails:** Facility located away from vehicle cartways, often within parks and recreation areas. These trails are designed for a mix of pedestrians and bicyclists, as well as horses.

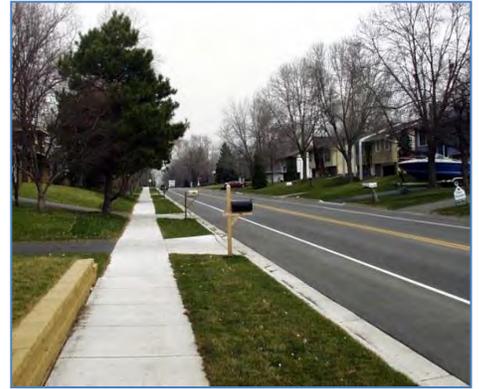




b. Pedestrian Improvements

Many of the potential bicycle improvements are also suitable for pedestrians. In addition, the following pedestrian facilities are recommended in this plan and may benefit some bicycle users as well:

- i. **Sidewalks:** This facility is usually along the side of a roadway, within the street right-of-way. Sidewalks are primarily for pedestrians, although often used by leisure bicyclists.



- ii. **Intersection Improvements:** Street intersections are a major barrier for pedestrians in portions of Charles County, especially within more urban areas. The lack of pedestrian safety at intersections discourages walking. Potential improvements include high visibility crosswalks, ADA accessible ramps, and median refuge areas along arterial roads.



- iii. **Traffic Calming:** Traffic calming is a form of transportation engineering which uses a variety of roadway design techniques to slow traffic. Potential improvements include narrowed traffic lanes, changes in street surface, curb extensions, traffic circles, and speed tables.





3. Features

a. Boardwalk

Wood surface trails, or boardwalks, are often required when constructing trails through wetlands or other wet areas.

Wood surface trails must be designed with 42" to 54" rails for surface heights over 30". For surface heights below 30" a rail is still a good idea to protect bicyclists and pedestrians.

Surface decking should be constructed of wood or alternative recycled products and should have a thickness of at least 2". The foundation is typically constructed using wooden posts or piers of other moisture resistant material.



b. Railings and Fences

Railings and fences provide protection to bicyclists and pedestrians in hazardous or potentially hazardous areas, such as wetlands, parking areas, changes in adjacent elevation, and adjoining rail lines.

The design of a specific rail or fence is dependent on the type of hazard being protected from. Railings and fences are typically 42" to 54" in height and are often split-rail design.





c. Trail Bridge

Bridges are often necessary to provide access over waterways along trails. The type and design of bridges is dependent on the type of waterway and the required span length.

Bridges can be constructed on site or prefabricated and can be constructed of many different materials. Design and material will be dependent on the project budget as well as long term maintenance goals.



d. Trail Overpass

Trail overpasses provide access over larger features, often highways, railroads, and other large obstructions. Overpasses are usually extremely expensive and should only be considered when all other options have been determined to be unfeasible.

Overpasses must be designed by an engineer and each design will be dependent on the specifics of the particular project.





e. Trail Underpass

Underpasses are a method of crossing larger features, often arterial roads, railroads, and other large obstructions when other options are not feasible. As with overpasses, underpasses need to be designed by an engineer. Existing structures, such as rail tunnels, may also be considered when deemed safe by an engineer.

Underpasses require considerable planning with respect to lighting, drainage, and safety. Longer underpasses are often areas of safety concern for bicyclists and pedestrians.



f. Transportation Center

Transportation Centers serve as multi-modal hubs. Connections can be made between private vehicles, taxi cabs, car shares, local buses, commuter buses, bicycles, and pedestrians.





4. Amenities

a. Trail Heads

Trail heads are usually established near transportation routes and commercial areas and often serve as a starting point, ending point, or rest stop for a trail. Trail heads can include parking areas, trash receptacles, information kiosks, and trail maps. Larger trail heads may also include restrooms, water fountains, bicycle racks, and sometimes small bicycle or pedestrian related retail shops.

Cost can range significantly based on the size, provided amenities, and design.



b. Benches

Benches are a nice amenity along paths and trails as well as all other bicycle and pedestrian facilities. Benches can be provided by themselves or in combination with covered shelters, picnic areas, rest areas, or other amenities.





c. Trash Receptacles

Trash receptacles are one amenity that is often controversial with respect to bicycle and pedestrian facilities. Many trails have a “carry in, carry out” policy where trash receptacles are not provided and users are required or encouraged to take all trash with them when they leave the facility. This policy decreases required maintenance and encourages a more environmentally friendly environment. However, without trash receptacles, some users will discard trash wherever they see fit. Projects should be reviewed individually to determine whether receptacles should be provided based on the anticipated use of the facility.

If trash receptacles are provided, consideration should be given to ensure the design and construction are appropriate for the environment. Recycling options should also be provided with trash receptacles.



d. Lighting

Lighting should be considered for trails or facilities which are open to the public from dusk to dawn. As lighting requires additional upfront project cost as well as ongoing maintenance, consideration should be given during the planning stage of a project to determine hours of operation. As it is often difficult to prevent access to trails during after-hours, lighting may be necessary in certain portions of a facility based on anticipated usage.

Lighting in off-road areas away from development is usually not appropriate as it takes away from the natural environment. Consideration should be given to environmentally friendly alternatives, such as solar-powered lighting, and LED or other low usage lighting where appropriate.

Proposed lighting should also be reviewed with respect to potential disturbances to neighboring properties and natural wildlife.





e. Bike Sharing

Bike sharing is an amenity which is growing in popularity, especially in major urban areas. European cities such as Copenhagen, Stockholm, Helsinki, Paris and others have much experience with this concept. American cities such as Washington, D.C. and Denver have also implemented such systems.

The basic concept of bike sharing is to make bicycles available for shared use by those who do not own, or have other access to, bicycles. Bike sharing programs can be run by local community groups or non-profit organizations, as well as municipalities and public-private partnerships. Bike sharing can be simple operations with bicycles available at a park office, or can be very sophisticated with automated vending machines in various locations throughout a city or community.



f. Bicycle Access – Public Transportation

Providing a means for users of public transportation to take their bicycle along with them is vital to encouraging the use of bicycles and public transportation. Users can ride to the public transportation site, then ride a bus or train, then complete their trip on their bicycle.

Most public transportation providers now provide bicyclists the ability to take their bicycle with them, usually with front mounted bicycle racks on buses.

Public transportation should be monitored to ensure their programs allow for the transport of bicycles in a safe and convenient manner.





g. Bicycle Parking (Racks and Lockers)

Bicycle parking can be as simple as providing bicycle racks in appropriate locations or can be as sophisticated as having attended bike parking facilities with security and personal amenities.

Simple bicycle parking should be planned with respect to design and location so racks are provided in a convenient and safe location. The design of the racks should be carefully considered to ensure a user's ability to safely and securely attach their bicycle to the rack. In general, a simple inverted "U" rack is the most preferred design by bicyclists as it provides secure attachment points for the frame and front tire. Traditional "comb" racks with vertical slots for a front tire are not encouraged as they do not provide support for the bicycle and do not provide secure attachment points for the bicycle frame. A sample bicycle parking guideline is provided in the appendix of this plan.

While bicycle racks are appropriate for short term parking, secure parking may be required for longer term parking such as bus or train stations where a bicycle may remain unattended on a consistent basis for several hours or more. In such cases, bicycle lockers, such as the one shown in the above photo, may be appropriate.

In larger urban areas, as well as some parks and recreation areas, attended facilities may be appropriate, where bicycles can be safely stored. These facilities often include other amenities such as lockers and showers for bicyclists.





h. Bicycle Stations

Bicycle stations are amenities which can provide supplies for bicyclists, such as air, bicycle tubes, and patch kits. Bike stations can be as simple as a booth at a facility or as sophisticated as the “Trek Stop” shown in the photos to the right. Trek is a bicycle company which is test marketing their new concept in several cities throughout the country.

Bicycle stations are also seen as temporary amenities at community events and bicycle rides and are often run by local organizations, bike clubs, or bike shops.



i. Fitness Trails

Fitness trails can be provided along paths and trails, or within recreational areas such as parks. They provide users of the facility an additional opportunity to incorporate fitness into their activity, whether their activity is primarily transportation based, recreational, or leisure. Fitness trails can also be a destination to encourage bicycling and walking to the facility.





j. Public Art

Art along trails, paths, and other facilities can provide many advantages to the community, including:

- 1) Aesthetic enhancement to the facility.
- 2) A place for local artists to display their work.
- 3) An encouragement for bicyclists and pedestrians to use a facility.
- 4) Functionality with some is doubling as places to sit or play.



k. Community Kiosks

Community kiosks are an important amenity on trails and paths and throughout the community. Kiosks can provide specific facility information, such as maps, regulations, and nearby attractions or businesses which may be of interest to the users. Kiosks can also provide community information such as upcoming events, other bicycle and pedestrian facilities in the area, and emergency or maintenance contact information.

Kiosks must be maintained so that the information provided is accurate and up to date. Future consideration should be given to high tech solutions, such as LCD monitors connected wirelessly to a central location, so that information can be updated to all kiosks electronically from one central location.





l. Dog Clean Up Facilities

If pets are permitted on paths, trails, or other facilities, clean up facilities should be provided, such as dog waste baggies and disposal receptacles. Consideration should be given as to the appropriateness of this amenity based on the particular facility, ability to maintain the amenity, and the potential need based on the usage of the facility.

This amenity is especially necessary in more urban areas where pet waste can be a nuisance and other disposal options are limited.



m. Outdoor Classrooms

Outdoor classrooms provide opportunities for students and adults to learn about nature and the environment hands-on and in-person. Classrooms can be formal areas with benches along trails and within recreation areas, or can be informal gathering areas.





n. Restrooms

Restroom facilities can be portable toilet or permanent structures. Consideration should be given to the potential usage of the facilities, the upfront costs, long-term maintenance, accessibility, and security. Simple portable toilet systems can cost several thousand dollars, plus ongoing pump charges. More expensive composting systems, which can cost several hundred thousand dollars, are also available for park and recreation areas where public sewer or on-lot septic systems are not practical.



o. Water Fountains

Water fountains are a nice amenity in areas where access to beverages is not convenient, especially along trails or within recreation areas. Water fountains can range from simple traditional fountains to very artistic and modern designs, as shown to the right. Consideration must be given to the need for water lines, winterization, and maintenance.



In locations which are near existing sources of food or beverage, wayfinding signs can be placed along trails or paths to lead bicyclists and pedestrians to existing facilities.





p. Parking Areas

Parking areas are an amenity which may be appropriate in certain locations where bicycle or pedestrian facilities are destination oriented; where one would need to drive to a facility in order to make use of it. Not all bicycle and pedestrian facilities need parking. As bicycle and pedestrian activities are promoted as a way to enhance quality of life and to create a health community, the promotion of driving to a facility and the creation of impervious parking areas are often counter-productive.

New facilities should be analyzed with respect to the user types, existing links to the facility, availability of nearby parking, potential parking partnerships (shopping center, schools, etc...), and availability of public transportation to the facility.





h. Funding Sources

Bicycle and pedestrian facility funding sources are available at all levels of governments as well as the private sector. Since the 1992 passage of ISTEA (Intermodal Surface Transportation Efficiency Act), several hundred million dollars of new funding have been made available. The information provided in this Master Plan is based on most recent funding information. From time to time, and from one fiscal budget to the next, funding sources and amounts change. This information and the accompanying matrix should be reviewed and updated as frequently as possible.

Pedestrian and Bicycle Implementation Funding Resources		
State Resources	Description	Website
Maryland Highway Safety Office: Safe Routes to School	Congress passed an extension to the current SAFETEA-LU transportation bill, which allows transportation funds to continue to flow until September 2010. This new program will enable and encourage primary and secondary school children to walk and bicycle to school. Both infrastructure-related and behavioral projects will be geared toward providing a safe, appealing environment for walking and biking that will improve the quality of children’s lives and support national health objectives by reducing traffic, fuel consumption, and air pollution in the vicinity of schools.	http://safety.fhwa.dot.gov/saferoutes/ State contact: Maryland Highway Safety Office (MHSO), State Highway Administration, 7491 Connelley Drive, Hanover, MD 21076, Contact: Joseph Pelaia, Phone: (410) 787-7620
The Neighborhood Conservation/ Urban Reconstruction Program	In Maryland, funding opportunities for bicycle and pedestrian facilities and programs exist including: where the improvements will promote economic revitalization and neighborhood conservation and where these improvements will contribute to other revitalization activities. Eligible components include roadway signing, lighting and traffic controls; conventional sidewalks; bus shelters and transit station access improvements; and streetscaping.	http://www.marylandroads.com/Home.aspx Maryland State Highway Administration





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<p>Maryland GreenPrint Program</p>	<p>Maryland’s GreenPrint Program - is a new land preservation initiative to acquire ecologically sensitive lands. A network of green infrastructure has been identified by the Department of Natural Resources. Counties. Apply to DNR with eligible land acquisition, greenway, trail, and bicycle projects. Program is currently inactive.</p>	<p>http://www.greenprint.maryland.gov</p>
<p>Sidewalk Retrofit Program</p>	<p>Sidewalk Retrofit Program, established in 1995, provides funding for the construction of new and the reconstruction of existing sidewalks and pathways. Counties can spend the funding directly or distribute them to local municipalities.</p> <p>Proposals are accepted on an ongoing basis by the Chief Engineer’s Office</p>	<p>http://www.marylandroads.com/Home.aspx</p> <p>Contact: SHA Program Coordinator (410) 545-5652</p>
<p>Bicycle Retrofit Program</p>	<p>Bicycle Retrofit Program was initiated by the State Highway Administration (SHA) in 2000 for the purpose of funding on-road improvements on state highways that benefit bicycling. Applicants submit project requests to SHA’s Bicycle and Pedestrian Coordinator on an on-going basis.</p>	<p>http://www.marylandroads.com/Home.aspx</p> <p>Contact: Maryland Bicycle and Pedestrian Coordinator (410) 545-5656</p>





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Program Open Space	Program Open Space grants is a nationally recognized program with two components, a local grant component often called Localside POS and a component that funds acquisitions by the State. The first component provides financial and technical assistance to local subdivisions for the planning, acquisition, and/or development of recreation land or open space areas, including dedicated funds for Maryland's state and local parks and conservation areas.	http://www.dnr.state.md.us/land/po/index.asp Contact: James W. (Chip) Price; Program Open Space; Phone: 410-260-8426
Rural Legacy Program	The Rural Legacy Program provides the focus and funding necessary to protect large, contiguous tracts of land and other strategic areas from sprawl development and to enhance natural resource, agricultural, forestry and environmental protection through cooperative efforts among state and local governments and land trusts.	http://www.dnr.state.md.us/land/rurallegacy/index.asp Stacy Schaefer, Associate Director Land Conservation sschaefer@dnr.state.md.us 410-260-8431
Community Legacy Program	Community Legacy Program provides funding for local economic development activities that stimulate reinvestment and strengthen neighborhoods throughout Maryland. Funding, in the form of grants and loans, is available for projects located in Priority Funding Areas and is meant to compliment and supplement other State funding programs . Communities are required to have and/or develop a comprehensive revitalization plan that specifically identifies projects meant to revitalize blighted areas.	http://www.neighborhoodrevitalization.org/programs/cl/cl.aspx 2009 applicants for grants, awarded in FY 2010, submitted an application in June 2009. Contact: Valerie Carpenter, Assistant Director, (410)209-5829





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<p>The Conservation Fund</p>	<p>The Fund funds projects to which community leaders collaborate and plan for strategic conservation, building a network of connected greenways for people and wildlife. Funds include bridge financing from a revolving fund as a critical tool that allows recipients to act quickly on conservation opportunities.</p>	<p>http://www.conservationfund.org/</p> <p>Contact: Leigh Anne McDonald, American Greenways Coordinator, The Conservation Fund, 1800 North Kent Street, Ste. 1120, Arlington, VA, 22209 Phone: 703-525-6300</p>
<p>Community Development Block Grant Program</p>	<p>CDBG funds help strengthen Maryland’s communities by expanding affordable housing opportunities, creating jobs, stabilizing neighborhoods and improving overall quality of life. must serve low-income persons in urban and rural areas throughout the State who have incomes at or below 125% of the Office of Management and Budget's poverty income guidelines are eligible to receive services from local eligible entities. Community Action Agencies reach out to those in greatest need, providing them with a variety of programs and services. In most cases, the agencies try to provide services under a one-stop-shop service delivery system. Services and activities may include:</p> <p>Housing, transportation programs i.e. sidewalks and curbing. Charles County eligible applicants: Indian Head, La Plata, Port Tobacco (other areas may be eligible).</p>	<p>http://mdhousing.org/Website/Default.aspx</p> <p>Contact: Michelle W. Bass, Project Manager, Phone: 410-514-7233, 1-800-756-0119</p>





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Federal Resources	Description	Website
National Highway System	National Highway System funds may be used to construct bicycle transportation facilities and pedestrian walkways on land adjacent to any highway on the National Highway System, including Interstate highways. Funds are subject to the overall Federal-aid obligation limitation.	http://www.fhwa.dot.gov/safetealu
Surface Transportation Program	The Surface Transportation Program (STP) (23 U.S.C. 133) provides the greatest flexibility in the use of funds. STP funds may be used for either the construction of bicycle transportation facilities and pedestrian walkways, or nonconstruction projects (such as maps, brochures, and public service announcements) related to safe bicycle use and walking.	http://www.fta.dot.gov/funding/grants
Congestion Mitigation and Air Quality Improvement Program	Congestion Mitigation and Air Quality Improvement Program has the objective of improving the Nation’s air quality and managing traffic congestion. CMAQ projects and programs are often innovative solutions to common mobility problems and are driven by Clean Air Act mandates to attain national ambient air quality standards. Congestion Mitigation and Air Quality Improvement Program funds may be used for pedestrian and bicycle facilities and promotional activities that encourage bicycle commuting.	http://www.fta.dot.gov/funding/grants





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<p>Recreational Trails Program</p>	<p>Recreational Trails Program funds may be used for all kinds of walking and or bicycle trail projects. The objective is to develop and maintain recreational trails and trail-related facilities for both non-motorized and motorized recreational trail uses. Of the funds apportioned to a State, 30 percent must be used for motorized trail uses, 30 percent for non-motorized trail uses, and 40 percent for diverse trail uses.</p> <p>Partnerships: The Blue Ribbon Coalition (BRC) and the Coalition for Recreational Trails (CRT).</p>	<p>tmaxwell@sha.state.md.us</p> <p>Office of Environmental Design Maryland State Highway Administration Terry Maxwell, Recreational Trails Coordinator Phone 410-545-8637</p>
<p>Federal Highway Program</p>	<p>Federal Highway Program. Provisions for pedestrians and bicyclists are eligible under the various categories of the Federal Lands Highway Program in conjunction with roads, highways, and parkways. Priority for funding projects is determined by the appropriate Federal Land Agency or Tribal government. Funds are available till September 2010.</p>	<p>http://flh.fhwa.dot.gov/</p>
<p>National Scenic Byways Program</p>	<p>National Scenic Byways Program funds may be used for construction along a scenic byway of a facility for pedestrians and bicyclists. These Federal funds administered by the State Highway Administration (SHA) are available for up to 80% of the project cost, matched by at least 20% funding from the project sponsor. With exception to Statewide projects, sponsors may request no more than \$100,000. Byways can be sponsored by a county or municipal government, a private non-profit agency, or a community group.</p>	<p>http://www.bywaysonline.org/grants</p>





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<p>Job Access and Reverse Commute Grants</p>	<p>Job Access and Reverse Commute Grants for transportation coordination projects such as creating Transportation Management Associations with coordinated efforts to assist low-income commuters and improving pedestrian access to, bicycle-related services to, and safety at, transit stops are also recommended projects that directly affect transportation services. Funds come from TEA-21.</p>	<p>www.fta.dot.gov/funding/grants/grants</p>
<p>High Priority Projects and Designated Transportation Enhancement Activities</p>	<p>High Priority Projects and Designated Transportation Enhancement Activities identified by Section 1602 of TEA-21 include numerous bicycle, pedestrian, trails, and traffic calming projects in communities throughout the country.</p>	<p>http://www.fhwa.dot.gov/safetealu</p>





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<p>Federal Transit Program</p>	<p>Federal Transit Program allows the Urbanized Area Formula Grants, Capital Investment Grants and Loans, and Formula Program for Other than Urbanized Area transit funds to be used for improving bicycle and pedestrian access to transit facilities and vehicles. Eligible activities include investments in "pedestrian and bicycle access to a mass transportation facility" that establishes or enhances coordination between mass transportation and other transportation. TEA-21 also created a similar Transit Enhancement Activity program with a one percent set-aside of Urbanized Area Formula Grant funds designated for, among other things, pedestrian access and walkways, and "bicycle access, including bicycle storage facilities and installing equipment for transporting bicycles on mass transportation vehicles". Funds are managed by regional MPO (Title 49 U.S.C. (as amended by TEA-21).</p>	<p>http://www.fhwa.dot.gov/environment/bicycle_pedestrian/</p>
<p>Highway Safety Programs</p>	<p>Highway Safety Programs. Pedestrian and bicyclist safety remain priority areas for State and Community Highway Safety Grants funded by the Section 402 formula grant program. A State is eligible for these grants by submitting a Performance plan (establishing goals and performance measures for improving highway safety) and a Highway Safety Plan (describing activities to achieve those goals).</p>	<p>http://safety.fhwa.dot.gov/</p>





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<p>Highway Safety Research and Development (Section 403) program</p>	<p>Funds assist with research, development, demonstrations and training to improve highway safety (including bicycle and pedestrian safety) and are carried out under the Highway Safety Research and Development (Section 403) program. <i>Relies upon TEA-21 programs for implementation projects.</i></p>	<p>http://safety.fhwa.dot.gov/</p>
<p>Public Lands Highway Discretionary</p>	<p>The Public Lands Highway Discretionary program is to improve access to and within the Federal lands of the nation. The program has been continued with each highway or transportation act since then, and the Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU, Public Law 109-59) continues the program through FY 2009. Other eligible projects include transportation planning for tourism and recreational travel, adjacent vehicular parking areas, interpretive signage.</p> <p>Acquisition of necessary scenic easements and scenic or historic sites, and provision for pedestrians and bicycles.</p>	<p>http://www.fhwa.dot.gov/discretionary/plhcurrsola3.cfm</p> <p>Larry Beidel, Highway Engineer, Office of Program Administration Phone: (202) 366-4653</p>





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<p>Transportation and Community and System Preservation Program</p>	<p>TCSP includes transportation projects that integrate transportation, community, and system preservation plans and practices that: Improve the efficiency of the transportation system of the United States, reduce environmental impacts of transportation, reduce the need for costly future public infrastructure investments, ensure efficient access to jobs, services, and centers of trade, examine community development patterns and identify strategies to encourage private sector development patterns and investments that support these goals. (funded through SAFETEA-LU, Public Law 109-203)</p>	<p>http://www.fhwa.dot.gov/tcsp/</p> <p>Gary Jensen, Office of Planning, Environment, and Realty.</p> <p>Phone: (202) 366-2048</p>
<p>Clean Air Transportation Communities: Innovative Projects to Improve Air Quality and Reduce Greenhouse Gases</p>	<p>The program strives for climate change and improve transportation/air quality issues and promotes pilot projects that have a high potential to spur innovations in the reduction of transportation-related emissions and vehicle miles traveled (VMT), at the local level and throughout the United States. EPA is particularly interested in projects that incorporate at least one of the following: smart growth efforts that reduce transportation-related emissions, commuter choice, and cleaner vehicles/green fleets. Available financial assistance ranging from \$50,000 up to \$300,000 to each recipient, in the form of cooperative agreements. Projects must utilize “<i>Moves 2010</i>” program model.</p>	<p>http://www.epa.gov/fedrgstr/EPA-AIR/</p>





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<p>Clean Communities on the Move (technical assistance)</p>	<p>A partnership driven approach to clean air and smart transportation. Program initiatives provide a broad range of innovative programs ranging from promoting smart parking meters and car sharing to cutting individual car use, promoting bicycle usage, alternative fuel technologies, and providing electric hook ups at truck stops to cut diesel engine idling. The program supported community-based marketing efforts to raise awareness about public transit and alternative fuel technologies and helped local planners model the air impacts of smart growth development patterns.</p>	<p>http://www.resourcesaver.com/file/toolmanager/CustomO93C337F65837.pdf</p>
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Other Resources	Description	Website
The Conservation Fund	The Fund funds projects to which community leaders collaborate and plan for strategic conservation, building a network of connected greenways for people and wildlife. Funds include bridge financing from a revolving fund as a critical tool that allows recipients to act quickly on conservation opportunities.	http://www.conservationfund.org/ Contact: Leigh Anne McDonald, American Greenways Coordinator, The Conservation Fund, 1800 North Kent Street, Ste. 1120, Arlington, VA, 22209 Phone: 703-525-6300
Bikes Belong Grant Program	The Bikes Belong Grant Program strives to put more people on bicycles more often by funding important and influential projects that leverage federal funding and build momentum for bicycling in communities across the U.S. These projects include bike paths and rail trails, as well as mountain bike trails, bike parks, BMX facilities, and large-scale bicycle advocacy initiatives.	http://www.bikesbelong.org Contact: Boulder CO, applications by email only: grants@bikesbelong.org .
REI grant program	Grants to non-profit organizations for outdoor recreation and conservation.	http://www.rei.com/about-rei/grants02.html
Kodak Greenways	Kodak awards small grants up to \$2,500 to stimulate planning and design of American greenways.	http://www.conservationfund.org/kodak_awards





F. Education and Safety

Education and safety of drivers, pedestrians, and bicycle riders is paramount in making a bicycle-pedestrian plan work in a community. Education should start at an early age, continue through school programs and driver education programs, as well as continue through adult education programs. Drivers, pedestrians, and bicycle riders must understand their rights and responsibilities for the use of transportation facilities so that everyone can travel safely together.

1. General Bicycle and Pedestrian Safety

Bicycle and Pedestrian Facts

- MD experienced 3,110 pedestrian and 1,067 bicycle crashes in 2000
- MD averages 110 pedestrian fatalities per year—Pedestrians make up 16% of all traffic fatalities
- Over 25% of pedestrian crashes in MD involve children aged 5-15 (this group makes up 15% of the population)
- Over 45% of bicycle crashes in the US involve children under 15 (this group makes up 22% of the population)
- Children are judged responsible for more than half of these crashes
- Universal bike helmet use by ages 4-15 would prevent 57,000 to 100,000 head and face injuries each year

Source: Maryland Pedestrian and Bicycle Safety Education Program, 2003

The lack of appropriate facilities and safety are the primary concerns for pedestrians and cyclists. Twenty-five percent of walking trips take place on roads without sidewalks or shoulders, whereas bicycle lanes are available for only about 5% of the bicycle trips.²⁰ There are also many barriers to walking and bicycling such as the lack of street and sidewalk connectivity, street design, site location and design, traffic volume and speed, the lack of travel choice, social norm, time, and perception of crime. Walking and bicycling are healthy, inexpensive, environmentally benign modes of traveling, yet many do not choose this mode of travel due to a variety of safety concerns. The information that follows describes safety concerns with respect to pedestrians and bicyclists.

²⁰ Mobility Friendly Design Standards Summit 2 Summary Report, Institute for Public Administration, University of Delaware, September 2005.





a. Pedestrian Safety

According to the *Traffic Safety Facts 2005* and *Traffic Safety Facts 2001: Pedestrians* prepared by the National Highway Traffic Safety Administration (NHTSA), a pedestrian was killed in a traffic crash every on average every 108 minutes.

Pedestrian Fatalities by Related Factors and Year

NHTSA also reports that approximately 30 percent of the pedestrian fatalities were related to improper crossing of the roadway or intersection. Over one-fourth of the fatalities were related to walking, playing, working, or conducting other activities in the roadway. About 15 percent of the pedestrian fatalities were related to failure to yield right-of-way as a factor in the crash followed by about 14 percent of the fatalities related to darting or running on the road.

Related Factors	2001	2002	2003	2004	2005
Improper crossing of roadway or intersection	1,297	1,488	1,351	1,148	1,024
Walking, playing, working, etc., in roadway	1,114	1,181	1,181	1,119	1,021
Failure to yield right of way	647	658	659	727	586
Darting or running into road	521	581	575	500	551
Not visible	423	564	535	521	512
Inattentive (talking, eating, inc.)	139	112	119	122	119
Failure to obey traffic signal, signals, or officer	82	86	70	78	58
Other factors	215	116	139	156	160
None reported	1,283	1,265	1,295	1,416	1,962
Unknown	100	129	134	141	87
Total	4,461	4,808	4,749	4,641	4,881

Table 2-3: Pedestrian Fatalities 2001-2005, Source NCSA, NHTSA, FARS

Four of the major factors in the crash when a pedestrian was killed were actions relating only to the pedestrian. These factors were:

- Improper crossing of roadway or intersection, 29 percent;
- Walking, playing, working, or other activities in roadway, 25 percent;
- Failure to yield right-of-way, 14 percent; and
- Darting or running into road, 12 percent.





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Driver and Pedestrian Behavior

The Anytown Pedestrian Safety Coalition, recognized by the U.S. Department of Transportation, Federal Highway Administration, is currently conducting a campaign to remind drivers to look for pedestrians and to encourage pedestrians to use crosswalks and follow pedestrian crossing signals. The Coalition has identified the following issues with respect to driver and pedestrian behavior resulting in unsafe conditions for pedestrians.

- Drivers failing to yield for pedestrians in crosswalks.
- Drivers only looking for cars not pedestrians and bicyclists.
- Drivers not paying attention to signs alerting them of pedestrian activity.
- Pedestrians crossing mid-block.
- Pedestrians unaware of pedestrian signal symbols.
- Pedestrians do not look for turning vehicles at crosswalks.
- Pedestrian intoxication.
- Pedestrians misjudging vehicle speeds and false sense of security in crosswalks.

Pedestrian Safety is a Planning Issue

- *More crashes occur in urban areas than rural areas. As the urban portions of Charles County continue to grow, it will be important to ensure new developments are built with pedestrian safety in mind.*
- *Crashes frequently occur because drivers fail to yield the right-of-way to pedestrians. Improving crosswalks and other pedestrian facilities can improve drivers' awareness of pedestrian traffic.*
- *Many pedestrian crashes occur where there are no signals. Proper planning can identify how to deal with such crashes and improve crossing conditions.*

All of these behaviors are critical components of driving and walking. These unsafe behaviors need to be explained in combination with examples given of responsible behavior as part of an annual statewide public service educational campaign to improve pedestrian and bicycle safety. Education and safety are key components to effective bicycle and pedestrian planning. While the above facts concentrate on the safety of children, Charles County must be concerned about persons of all age involved in these activities.

The State of Maryland has created the Maryland Pedestrian and Bicycle Safety Education Program, including an Administrator's Guide, Teacher's Guide, and Lesson Handbook for elementary school grades K-5. This program should be encouraged and promoted throughout public and private schools in Charles County.





b. Bicycle Safety

NHTSA's 2005 Traffic Safety Facts for bicyclists and other cyclists (including riders of two-wheel non-motorized vehicles, tricycles, and unicycles powered solely by pedals, also called bicyclists), provides important statistical information on crashes over the years.²¹

In 2005, 784 bicyclists were killed and an additional 45,000 were injured in traffic crashes. The deaths accounted for 2 percent of all traffic fatalities, and bicyclists made up 2 percent of all the people injured in traffic crashes during the year. The number of fatalities in 2005 was 6 percent lower than the 833 fatalities reported in 1995. Bicyclists accounted for 13 percent of all non motorist traffic fatalities in 2005.

The fatalities occurred more frequently in urban areas (69%), at non-intersection locations (70%), between the hours of 5 p.m. and 9 p.m. (31%), and during the months of June, July, and August (31%). Nearly one-fifth (17%) of the bicyclists killed in traffic crashes in 2005 were between 5 and 15 years old. The fatality rate for this age group was 3.0 per million persons which is about 14 percent higher than the rate for all bicyclists (2.64 per million persons). Bicyclists 25 years of age and older have made up an increasing proportion of all fatalities since 1995. The proportion of bicyclist fatalities age 25 to 64 was 1.3 times higher in 2005 as in 1995 (59% and 46% respectively).

Alcohol involvement, either for the driver or the bicyclist, was reported in more than one-third of the traffic crashes that resulted in fatalities in 2005. In 30 percent of the crashes, either the driver or the cyclists was reported to have a blood alcohol concentration (BAC) of .08 grams per deciliter (g/dL) or higher. Over one-fourth (27%) of the bicyclists killed had a BAC of .01 g/dL or higher, and over one-fifth (23%) had a BAC of .08 g/dL or higher.

²¹ "Traffic Safety Facts 2005 Data: Bicyclists and Other Cyclists," National Center for Statistics and Analysis, NHTSA.





2. Existing Maryland State Safety and Education Resources

Maryland offers the following safety and educational resources for pedestrians and bicyclists:

1. Comprehensive Traffic Safety Program

The Maryland Highway Safety Office has designated Community Traffic Safety Program Coordinators to all of Maryland's counties help ensure that traffic safety issues unique to a local area are better addressed. The coordinators work closely with local Task Forces to identify traffic safety issues and problems; develop appropriate strategies; and implement or advocate the solutions. The coordinators are the main point of communication among local government agencies and the private sector. In Charles County, a member of the Charles County Sherriff's Office serves in this capacity.

2. Motor Vehicle Administration of Maryland (MVA)

The Motor Vehicle Administration is responsible for driver's license examinations and the Driver's Manual. Both the driver's manual and examination contain few references to bicyclist and pedestrian safety and regulations.

3. Safe Routes to School Program

In Maryland, the state Safe Routes to School (SRTS) program is administered by the Maryland Highway Safety Office (MHSO). Safe Routes to School (SRTS) programs are sustained efforts by parents, schools, community leaders and local, state, and federal governments to improve the health and well-being of children by enabling and encouraging them to walk and bicycle to school. SRTS programs examine conditions around schools and conduct projects and activities that work to improve safety and reduce traffic and air pollution in the vicinity of schools. As a result, these programs help make bicycling and walking to school safer and more appealing transportation choices thus encouraging a healthy and active lifestyle from an early age.



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Chapter 3: Recommendations and Conclusions

A. *Recommendations and Conclusions*

By undertaking this Bicycle and Pedestrian Master Plan project, Charles County has established its interest and eagerness to make the County more bicycle and pedestrian-friendly. The County seeks to include bicycle and pedestrian projects in the short-term and long-term planning processes to help create connectivity. The first three chapters of this document identify a need for improvements to bicycle and pedestrian facilities in Charles County, including new facilities, upgrades to existing facilities, and links between existing facilities.

This project has identified current conditions, plans, reports, studies, ordinances, and guidelines currently in use by the County and Region. Chapter 2 of this plan identifies specific goals, objectives, and priorities for moving Charles County forward with a consistent and orchestrated plan to make Charles County more bicycle and pedestrian-friendly.

The following sections of this plan identify specific implementation actions and future study needs. This Plan is intended to be a working document which is continuously monitored and updated to create an environment in which pedestrians and bicyclists within Charles County, Maryland have the ability to conveniently and safely walk and ride for transportation, recreation, and fitness.

B. **Goals, Objectives, and Policies**

1. **Goal: Encourage Alternative Transportation Options**

Charles County will create alternative transportation options to allow persons who currently use traditional methods of transportation (cars, trucks, buses, etc...) to make use of walking and bicycling as an effective and sustainable mode of transportation.

1. **Objective 1:** Improve the safety, accessibility and mobility of bicyclists and pedestrians through regulations and capital improvements.
 - a. **Policy 1A:** Incorporate “Complete Streets” policies, where possible, into planning and design requirements for new development projects as well as strategies for retrofitting existing roadways.
 - c. **Policy 1B:** Provide appropriate walking and bicycling amenities, such as bicycle lockers, at suitable transit and commuter locations. Include funding for such in capital improvement plans.





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- c. **Policy 1C:** Examine appropriate existing ordinances to ensure that developers are required to construct missing bicycle and pedestrian links in the Development District, and potentially in designated villages, as part of the development review process, or provide a possible fee in lieu of construction for small projects.
 - d. **Policy 1D:** Examine appropriate existing ordinances to ensure that maintenance of bicycle and pedestrian facilities is addressed.
 - e. **Policy 1E:** Establish an Awareness, Education and Encouragement Program (AEEP). The AEEP should utilize social marketing tools and techniques consisting of a wide array of informational, promotional, media and marketing mechanisms (*traditional and non-traditional*) to reach target groups, users and the general public focused on educating residents, motorists, and businesses reliant upon transportation about bicycle and pedestrian safety and applicable regulations.
2. **Objective 2:** Provide incentives for bicycling and walking as an alternative mode of transportation.
- a. **Policy 2A:** Encourage the use of bicycles where feasible by all County employees by offering incentives and by improving bicycle amenities at or within the work environment.
 - b. **Policy 2B:** Provide appropriate facilities for bicycles at government centers, businesses and other employment centers.
3. **Objective 3:** Provide connections to current and future transportation hubs (i.e. future transit stops and park and ride lots).
- a. **Policy 3A:** Create bicycle and pedestrian links to current and future transportation hubs.
 - b. **Policy 3B:** Provide bicycle and pedestrian amenities (i.e. bicycle racks/storage and changing areas) at transportation hubs.
 - c. **Policy 3C:** Encourage inclusion of bicycle racks on mass transportation vehicles (buses, trains, etc.) using transportation hubs.
4. **Objective 4:** Promote bicycling and walking as a sustainable means of recreation and tourism.





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- a. **Policy 4A:** Create a transportation system that is conducive to walking and bicycling designed for accessibility, mobility and safety with connections to all modes of transportation, recreation facilities and tourist attractions.

- b. **Policy 4B:** Establish an Awareness, Education and Encouragement Program (AEEP). The AEEP should utilize social marketing tools and techniques consisting of a wide array of informational, promotional, media and marketing mechanisms (*traditional and non-traditional*) to reach target groups, users and the general public by promoting the County's assets and recreation/tourism destination places and walking/bicycling travel corridors.

2. Goal: Promote Recreation Opportunities

Charles County will enhance and increase recreational opportunities within the County and region with an emphasis on walking and bicycling.

- 1. **Objective 1:** Document and promote existing bicycling and pedestrian recreational opportunities within Charles County.
 - a. **Policy 1A:** Establish inventories, maps, and localized listings of bicycle and pedestrian facilities, places, and events to readily distribute to recreational agencies and organizations, schools, and parks and recreation planners.

 - b. **Policy 1B:** Prepare an assessment focused specifically on increasing recreational opportunities that highlight, enhance and expand upon recreational assets.

 - c. **Policy 1C:** Establish an Awareness, Education and Encouragement Program (AEEP). The AEEP should utilize social marketing tools and techniques consisting of a wide array of informational, promotional, media and marketing mechanisms (*traditional and non-traditional*) to reach target groups, users and the general public focused on capitalizing on existing recreational opportunities, activities and events in Charles County.

- 2. **Objective 2:** Develop new bicycling and pedestrian recreational opportunities within Charles County.





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- a. **Policy 2A:** Prioritize and support local and/or regional recreational programs, planning efforts and projects that provide the County with tangible and cost-effective results.
- b. **Policy 2B:** Support projects that incorporate new bicycle and pedestrian recreation facilities that provide resolutions and options to improve accessibility, mobility and safety and incorporate appropriate amenities.
- c. **Policy 2C:** Continue to plan and build pedestrian and bicycle facilities throughout the County.

3. Goal: Promote Economic Development & Tourism

Charles County will encourage walking and bicycling opportunities within the County to promote economic development and tourism.

- 1. **Objective 1:** Establish Charles County as a bicycle-friendly destination.
 - a. **Policy 1A:** Identify key historic places, attractions, and destinations of Charles County that can be marketed to biking groups, organizations and visitors.
 - b. **Policy 1B:** The AEEP should utilize social marketing tools and techniques consisting of a wide array of informational, promotional, media and marketing mechanisms (*traditional and non-traditional*) to reach target groups, users and the general public to promote bicycle and pedestrian routes, bicycle and pedestrian friendly destinations, amenities, bicycle shops and services, and bicycle parking.
 - c. **Policy 1C:** Arrange events and activities that encourage increased visitor length of stay and repeat business.
- 2. **Objective 2:** Engage local businesses to encourage and promote bicycling and pedestrian activities as part of their marketing campaigns.
 - a. **Policy 2A:** Promote available bicycle parking within advertisements for local businesses and attractions.
 - b. **Policy 2B:** Coordinate with appropriate organizations that propose bicycling tours in the County with affiliated businesses including bicycle retailers, on-the-trail restaurants, hotels, and food and beverage companies.





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4. Goal: Integrate Walking and Bicycling Planning with Land Use Planning

Charles County will coordinate land use, transportation and recreation planning initiatives with walking and bicycling plans and activities.

1. **Objective 1:** Utilize zoning criteria such as: traditional neighborhood planning, mixed-use neighborhoods, and linkages to connect residential neighborhoods to employment.
 - a. **Policy 1A:** Analyze land use patterns for “pedestrian and bicycle friendly” uses along primary critical origin/destination travel corridors.
 - b. **Policy 1B:** Introduce “Complete Streets” principles to local municipalities and communities to be proactive in addressing pedestrian and bicycling issues and providing “pedestrian and bicycle friendly” environments.
 - c. **Policy 1C:** Provide bicycle/pedestrian connections to Waldorf Urban Design Study area, future transit stops, park & ride lots, and major civic/community uses and large shopping areas.
2. **Objective 2:** Update County, Towns and other local ordinances to include design standards supportive of “Complete Streets” principles.
 - a. **Policy 2A:** Develop design standards.
 - b. **Policy 2B:** Create a project review checklist for all projects that focuses on pedestrian and bicycle issues in regards to design, improvements and amenities.

5. Goal: Make Charles County a Healthier Community

Charles County will encourage a healthier community where persons have many opportunities to choose healthy alternatives.

1. **Objective 1:** Increase bicycling and walking opportunities as an effective method of exercise and healthy living.
 - a. **Policy 1A:** Provide education to Charles County residents about the health benefits of bicycling and walking.





C. Implementation

The following implementation matrix provides specific strategies designed to bring the goals of this Master Plan to fruition. Strategies are classified as Immediate, Short-Term Future, Long-Term Future, and Ongoing. For purposes of this plan, these classifications are defined as:

- **Immediate:** Strategies identified as “Immediate” should be implemented as soon as possible, within one year of the adoption of this Master Plan. These strategies are considered imperative to the success of bicycle-pedestrian planning in Charles County.
- **Short-Term Future:** Strategies identified as “Short-Term Future” are those which are very important to the success of bicycle-pedestrian planning in Charles County and have relatively low implementation costs and/or staff time commitment. These strategies should be implemented within the next 1-3 years as time and funding are available.
- **Long-Term Future:** Strategies identified as “Long-Term Future” are those which are very important to the success of bicycle-pedestrian planning in Charles County but relatively high implementation costs and/or staff time commitment. These strategies should be implemented within the next 3-5 years as time and funding are available.
- **Ongoing:** Strategies identified as “Ongoing” are those which should begin as soon as time and funding are available and continue indefinitely. These strategies may require constant monitoring or review to ensure that the goals of this Master Plan are being carried out effectively.





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Charles County Bicycle and Pedestrian Master Plan Implementation Matrix

Goal 1: Encourage Alternative Transportation Options

Charles County will create alternative transportation options to allow persons who currently use traditional methods of transportation (Cars, trucks, buses and other means) to make use of walking and bicycling as an effective and sustainable mode of transportation.

Objective 1: Improve the safety, accessibility and mobility of bicyclists and pedestrians through regulations and capital improvements.

Policies/Strategies		Action Items	Implementation Partners	Priority			
				Immediate	Short-Term Future	Long-Term Future	On-going
Policy 1A	Incorporate “Complete Streets” policies, where possible, into planning and design requirements for new development projects as well as strategies for retrofitting existing roadways.	<ol style="list-style-type: none"> ❶ Establish engineering standards for new roadways and upgrades to existing roadways. ❷ Incorporate these standards into the Subdivision Regulations by reference. 	<ul style="list-style-type: none"> • Public Works • Planning & Growth Management • MDOT / SHA 		■		
Policy 1B	Provide appropriate walking and bicycling amenities, such as bicycle lockers, at suitable transit and commuter locations. Include funding for such in capital improvement plans.	<ol style="list-style-type: none"> ❶ Determine specific need for amenities. ❷ Include costs in CIP. ❸ Seek funding sources. 	<ul style="list-style-type: none"> • Public Works • Planning & Growth Management • MTA • Local bus providers 		■		
Policy 1C	Examine appropriate existing ordinances to ensure that developers are required to construct missing bicycle and pedestrian links in the Development District, and potentially in designated villages, as part of the development review process, or provide a possible fee in lieu of construction for small projects.	<ol style="list-style-type: none"> ❶ Examine existing ordinances. ❷ Draft amendments to address any gaps in existing ordinances. ❸ Educate developers about requirements. 	<ul style="list-style-type: none"> • Public Works • Planning & Growth Management 		■		





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<p>Policy 1D</p>	<p>Examine appropriate existing ordinances to ensure that long-term maintenance of new bicycle and pedestrian facilities is addressed.</p>	<p>① Examine existing ordinances. ② Draft amendments to existing ordinances to include provisions for maintenance. ③ Educate developers about requirements.</p>	<ul style="list-style-type: none"> • Public Works • Planning / Growth Management 		<p>■</p>		
<p>Policy 1E</p>	<p>Establish an Awareness, Education and Encouragement Program (AEEP). The AEEP should utilize social marketing tools and techniques consisting of a wide array of informational, promotional, media and marketing mechanisms (traditional and non-traditional) to reach target groups, users and the general public focused on educating residents, motorists, and businesses reliant upon transportation about bicycle and pedestrian safety and applicable regulations.</p>	<p>① Establish AEEP.</p>	<ul style="list-style-type: none"> • Planning & Growth Management • Public Works • Sheriff's Department • Local Police • Schools • Local Bicycle Shops 		<p>■</p>		<p>■</p>





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Charles County Bicycle and Pedestrian Master Plan Implementation Matrix

Goal 1: Encourage Alternative Transportation Options

Charles County will create alternative transportation options to allow persons who currently use traditional methods of transportation (Cars, trucks, buses and other means) to make use of walking and bicycling as an effective and sustainable mode of transportation.

Objective 2: Provide incentives for bicycling and walking as an alternative mode of transportation.

Policy/Strategies	Action Items	Implementation Partners	Priority			
			Immediate	Short-Term Future	Long-Term Future	On-going
Policy 2A Encourage the use of bicycles where feasible by all County employees by offering incentives and by improving bicycle amenities at or within the work environment.	<ul style="list-style-type: none"> ❶ Establish a committee of employees to determine appropriate incentives and amenities. 	<ul style="list-style-type: none"> • Planning & Growth Management • Human Resources 	■			
Policy 2B Provide appropriate facilities for bicycles at government centers, businesses and other employment centers.	<ul style="list-style-type: none"> ❶ Install sufficient bicycle racks at all county facilities. ❷ Add bicycle rack requirements to zoning ordinance. 	<ul style="list-style-type: none"> • Planning & Growth Management • Public Works 	■			
Objective 3: Provide connections to current and future transportation hubs (i.e. future transit stops and park and ride lots).						
Policy 3A Create bicycle and pedestrian links to current and future transportation hubs.	<ul style="list-style-type: none"> ❶ Insure bicycle and pedestrian links are existing or in the CIP for all existing and proposed transportation hubs. 	<ul style="list-style-type: none"> • Planning & Growth Management • Public Works 		■		
Policy 3B Provide bicycle and pedestrian amenities (i.e. bicycle racks/storage and changing areas) at transportation hubs.	<ul style="list-style-type: none"> ❶ Determine specific need for amenities. ❷ Include costs in CIP. ❸ Seek funding sources. 	<ul style="list-style-type: none"> • Public Works • Planning & Growth Management 		■		





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<p>Policy 3C</p>	<p>Encourage inclusion of bicycle racks on mass transportation vehicles (buses, trains, etc.) using transportation hubs.</p>	<p>① Meet with public transportation providers to discuss. ② Seek funding as necessary</p>	<ul style="list-style-type: none"> • Planning & Growth Management • MTA • Local bus providers 		■		■
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Charles County Bicycle and Pedestrian Master Plan Implementation Matrix

Goal 1: Encourage Alternative Transportation Options

Charles County will create alternative transportation options to allow persons who currently use traditional methods of transportation (Cars, trucks, buses and other means) to make use of walking and bicycling as an effective and sustainable mode of transportation.

Objective 4: Promote bicycling and walking as a sustainable means of recreation and tourism.

Policy/Strategies	Action Items	Implementation Partners	Priority				
			Immediate	Short-Term Future	Long-Term Future	On-going	
Policy 4A	<p>Create a transportation system that is conducive to walking and bicycling designed for accessibility, mobility and safety with connections to all modes of transportation, recreation facilities and tourist attractions.</p>	<ul style="list-style-type: none"> ① Continuously update Master Plan as new developments and/or road projects are planned. ② Review existing County and utility easements to determine ability to create future trails. ③ Incorporate all physical improvements on the Physical Improvements Implementation Matrix into the CIP as appropriate. ④ Prioritize “buffalo paths” for formal incorporation into the transportation network. ⑤ Create a Bicycle and Pedestrian Advisory Work Group. 	<ul style="list-style-type: none"> • Public Works • Planning & Growth Management 				■





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<p>Policy 4B</p>	<p>The AEEP should utilize social marketing tools and techniques consisting of a wide array of informational, promotional, media and marketing mechanisms (traditional and non-traditional) to reach target groups, users and the general public by promoting the County's assets and recreation/tourism destination places and walking/bicycling travel corridors.</p>	<p>① Promote Charles County as a pedestrian and bicycle destination.</p>	<ul style="list-style-type: none"> • Planning & Growth Management • Office of Tourism • Local Bicycle Shops 		■		■
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Charles County Bicycle and Pedestrian Master Plan Implementation Matrix

Goal 2: Promote Recreation Opportunities

Charles County will enhance and increase recreational opportunities within the County and region with an emphasis on walking and bicycling.

Objective 1: Document and promote existing bicycling and pedestrian recreational opportunities within Charles County.

Policy/Strategies	Action Items	Implementation Partners	Priority				
			Immediate	Short-Term Future	Long-Term Future	On-going	
Policy 1A	Establish inventories, maps, and localized listings of bicycle and pedestrian facilities, places and events to readily distribute to recreational agencies and organizations, schools, and parks and recreation planners.	<ul style="list-style-type: none"> ❶ Create inventories, maps, and listings. ❷ Distribute documents to agencies and organizations. 	<ul style="list-style-type: none"> • Public Works • Planning & Growth Management • Parks & Recreation • Local bicycle shops 		■		■
Policy 1B	Prepare an assessment focused specifically on increasing recreational opportunities that highlight, enhance and expand upon recreational assets.	<ul style="list-style-type: none"> ❶ Prepare assessment and use to market recreational opportunities. 	<ul style="list-style-type: none"> • Public Works • Planning & Growth Management • Parks & Recreation 		■		
Policy 1C	The AEEP should utilize social marketing tools and techniques consisting of a wide array of informational, promotional, media and marketing mechanisms (traditional and non-traditional) to reach target groups, users and general public focused on capitalizing on existing recreational opportunities, activities and events in Charles County.	<ul style="list-style-type: none"> ❶ Promote Charles County as a pedestrian and bicycle destination. 	<ul style="list-style-type: none"> • Planning & Growth Management • Office of Tourism • Parks & Recreation • Local Bicycle Shops 		■		■





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Charles County Bicycle and Pedestrian Master Plan Implementation Matrix

Goal 2: Promote Recreation Opportunities

Charles County will enhance and increase recreational opportunities within the County and region with an emphasis on walking and bicycling.

Objective 2: Develop new bicycling and pedestrian recreational opportunities within Charles County.

Policy/Strategies	Action Items	Implementation Partners	Priority			
			Immediate	Short-Term Future	Long-Term Future	On-going
Policy 2A Prioritize and support local and/or regional recreational programs, planning efforts and projects that provide the County with tangible and cost-effective results.	① Create prioritization criteria for new programs and projects.	<ul style="list-style-type: none"> Public Works Planning & Growth Management Parks & Recreation 		■		
Policy 2B Support projects that incorporate new bicycle and pedestrian recreation facilities that provide resolutions and options to improve accessibility, mobility and safety and incorporate appropriate amenities.	① Use prioritization criteria to evaluate projects.	<ul style="list-style-type: none"> Public Works Planning & Growth Management Parks & Recreation 		■		
Policy 2C Continue to plan and build pedestrian and bicycle facilities throughout the County.	<ul style="list-style-type: none"> ① Review all new development projects for potential facilities and/or links to existing facilities. ② Monitor parking requirements for existing trails and plan for future parking as needed. 	<ul style="list-style-type: none"> Public Works Planning & Growth Management Parks & Recreation 		■	■	■





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Charles County Bicycle and Pedestrian Master Plan Implementation Matrix

Goal 3: Promote Economic Development & Tourism

Charles County will encourage walking and bicycling opportunities within the County to promote economic development and tourism.

Objective 1: Establish Charles County as a bicycle-friendly destination.

Policy/Strategies	Action Items	Implementation Partners	Priority			
			Immediate	Short-Term Future	Long-Term Future	On-going
Policy 1A Identify key historic places, attractions, and destinations of Charles County that can be marketed to biking groups, organizations and visitors.	① Create listing of destinations.	<ul style="list-style-type: none"> • Planning & Growth Management • Economic Development • Office of Tourism 		■		
Policy 1B The AEEP should utilize social marketing tools and techniques consisting of a wide array of informational, promotional, media and marketing mechanisms (traditional and non-traditional) to reach target groups, users and the general public to promote bicycle and pedestrian routes, bicycle and pedestrian friendly destinations, amenities, bicycle shops and services, and bicycle parking.	① Promote Charles County as a pedestrian and bicycle destination.	<ul style="list-style-type: none"> • Planning & Growth Management • Office of Tourism • Economic Development • Parks & Recreation • Local Bicycle Shops 		■		■
Policy 1C Arrange events and activities that encourage increased visitor length of stay and repeat business.	① Meet with local tourist dependent entities. ② Create plan for events and activities.	<ul style="list-style-type: none"> • Planning &/ Growth Management • Economic Development • Office of Tourism • Parks & Recreation 		■		





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Charles County Bicycle and Pedestrian Master Plan Implementation Matrix

Goal 3: Promote Economic Development & Tourism

Charles County will encourage walking and bicycling opportunities within the County to promote economic development and tourism.

Objective 2: Engage local businesses to encourage and promote bicycling and pedestrian activities as part of their marketing campaigns.

Policy/Strategies		Action Items	Implementation Partners	Priority			
				Immediate	Short-Term Future	Long-Term Future	On-going
Policy 2A	Promote available bicycle parking within advertisements for local businesses and attractions.	<ol style="list-style-type: none"> ➊ Identify bicycle parking opportunities. ➋ Encourage businesses to include bicycle parking information in their advertising. 	<ul style="list-style-type: none"> • Planning & Growth Management • Local Businesses • Chamber of Commerce • Local bicycle shops 		■		
Policy 2B	Coordinate with appropriate organizations that propose bicycling tours in the County with affiliated businesses including bicycle retailers, on-the-trail restaurants, hotels, and food and beverage companies.	<ol style="list-style-type: none"> ➊ Meet with partners to create strategies to market local businesses to tour organizers. 	<ul style="list-style-type: none"> • Planning & Growth Management • Economic Development • Office of Tourism • Chamber of Commerce • Local bicycle shops 		■		





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Charles County Bicycle and Pedestrian Master Plan Implementation Matrix

Goal 4: Integrate Walking and Bicycling Planning with Land Use Planning

Charles County will coordinate land use, transportation and recreation planning initiatives with walking and bicycling plans and activities.

Objective 1: Utilize zoning criteria such as: traditional neighborhood planning, mixed-use neighborhoods, and linkages to connect residential neighborhoods to employment.

Policy/Strategies	Action Items	Implementation Partners	Priority			
			Immediate	Short-Term Future	Long-Term Future	On-going
Policy 1A	Analyze land use patterns for “pedestrian and bicycle friendly” uses along primary critical origin/destination travel corridors.	<ul style="list-style-type: none"> Consider pedestrian and bicycle activities during Comprehensive Plan update process. 	<ul style="list-style-type: none"> Planning & Growth Management 	■		
Policy 1B	Introduce “Complete Streets” principles to local municipalities and communities to be proactive in addressing pedestrian and bicycling issues and providing “pedestrian and bicycle friendly” environments.	<ul style="list-style-type: none"> Meet with Indian Head and LaPlata officials to discuss introduction of “complete streets” into local planning initiatives. 	<ul style="list-style-type: none"> Public Works Planning & Growth Management Indian Head officials LaPlata officials 	■		
Policy 1C	Provide bicycle/pedestrian connections to Waldorf Urban Design Study area, future transit stops, park and ride lots, and major civic/community uses and large shopping area.	<ul style="list-style-type: none"> Create plan to provide connections. Include plan within project budgets and CIP. 	<ul style="list-style-type: none"> Public Works Planning & Growth Management 			





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Charles County Bicycle and Pedestrian Master Plan Implementation Matrix

Goal 4: Integrate Walking and Bicycling Planning with Land Use Planning

Charles County will coordinate land use, transportation and recreation planning initiatives with walking and bicycling plans and activities.

Objective 2: Update County, Towns and other local ordinances to include design standards supportive of “Complete Streets” principles.

Policy/Strategies	Action Items	Implementation Partners	Priority			
			Immediate	Short-Term Future	Long-Term Future	On-going
Policy 2A	Develop design standards.	<ul style="list-style-type: none"> Public Works Planning & Growth Management 		■		
Policy 2B	Create a project review checklist for all projects that focuses on pedestrian and bicycle issues in regards to design, improvements and amenities.	<ul style="list-style-type: none"> Public Works Planning & Growth Management 		■		





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Charles County Bicycle and Pedestrian Master Plan Implementation Matrix

Goal 5: Make Charles County a Healthier Community

Charles County will encourage a healthier community where persons have many opportunities to choose healthier alternatives.

Objective 1: Increase bicycling and walking opportunities as an effective method of exercise and healthy living.

Policy/Strategies	Action Items	Implementation Partners	Priority			
			Immediate	Short-Term Future	Long-Term Future	On-going
Policy 1A Provide education to Charles County residents about the health benefits of bicycling and walking.	<ol style="list-style-type: none"> ❶ Create educational marketing campaign. ❷ Include bicycling and walking education on County web sites. 	<ul style="list-style-type: none"> • Health Department 		■		■
Policy 1B Incorporate bicycling and walking into as many County activities and events as possible.	<ol style="list-style-type: none"> ❶ Identify County activities and events. ❷ Develop plans to incorporate bicycling and walking into activities and events. ❸ Include bicycling and walking opportunities in all activity/event marketing. 	<ul style="list-style-type: none"> • Planning & Growth Management • Parks & Recreation 		■		■
Policy 1C Include public recreation facilities with bicycling and walking improvements.	<ol style="list-style-type: none"> ❶ Inventory recreation facilities. ❷ Identify necessary improvements. ❸ Prioritize improvements and include in CIP as appropriate. 	<ul style="list-style-type: none"> • Public Works • Planning & Growth Management • Parks & Recreation 		■		■





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Objective 2: Promote bicycling and walking as methods contributing to a healthier environment through the reduction of greenhouse gas emissions, improving air and water quality, reducing non-renewable energy consumption.						
Policy 2A	Improve walking and bicycling accessibility, mobility and safety conditions through planning, design and construction.	<ul style="list-style-type: none"> ① Create accessibility, mobility, and safety checklist for use during all planning, design, and construction processes. 	<ul style="list-style-type: none"> • Department of Public Works • Planning & Growth Management • MDOT • MD SHA 		■	
Policy 2B	Establish engineering standards for new facilities and the retrofitting of existing roadways with multi-use paths, bike lanes and functional greenway systems.	<ul style="list-style-type: none"> ① Create facility specifications ② Incorporate standards into Subdivision Regulations. 	<ul style="list-style-type: none"> • Public Works • Planning & Growth Management 		■	





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Charles County Bicycle and Pedestrian Master Plan Implementation Matrix

Goal 5: Make Charles County a Healthier Community

Charles County will encourage a healthier community where persons have many opportunities to choose healthier alternatives.

Objective 3: Work with the Board of Education to promote bike-to-school and walk-to-school programs.

Policy/Strategies	Action Items	Implementation Partners	Priority			
			Immediate	Short-Term Future	Long-Term Future	On-going
Policy 3A The AEEP should utilize social marketing consisting of a wide array of informational, promotional, media and marketing mechanisms (traditional and non-traditional) to reach target groups, users and the general public focusing on educating parents and students about the health benefits for children of walking and biking to school.	<ul style="list-style-type: none"> ❶ Promote pedestrian and bicycle activities as a healthy activity. 	<ul style="list-style-type: none"> • Planning & Growth Management • Parks & Recreation • Health Department 		■		■
Policy 3B Create and enhance walking and bicycling safety partnerships with teachers, police departments, elected officials, organizations, parents, transportation departments, local businesses, neighborhood associations and health organizations to teach bicycle safety to all students and ways to improve child safety to school.	<ul style="list-style-type: none"> ❶ Create an educational safety program for all children and students. Incorporate existing MD educational program. ❷ Increase signage for motorists (i.e. "Share the Road"). ❸ Incorporate "Share the Road" and similar messages in County marketing efforts. 	<ul style="list-style-type: none"> • Planning / Growth Management • Charles County Schools • Private Schools • Health Department • Sherriff's Department • Neighborhood Associations • Local Businesses 		■		





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<p>Policy 3C</p>	<p>Institute a “walking school bus” initiative that promotes safety, fun and the walk to school. A “walking school bus” is simply a group of children walking, or riding bicycles, to and from school with one or more adults in lieu of riding a school bus.</p>	<p>① Meet with partners to review school busing policies. ② Prepare goals and strategies for the implementation of “walking school bus” program.</p>	<ul style="list-style-type: none"> • Planning & Growth Management • Charles County Schools • Private Schools • PTA 		<p>■</p>		
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D. Future Links

The following table identifies specific projects which are recommended in order to create bicycle and pedestrian links in areas where continuous routes are not available. The number in the first column identifies the order of priority and the project information sheet for each project. Project information sheets for each project are located in Appendix 2 of this document.

Charles County Bicycle and Pedestrian Master Plan: Future Links				
#	Location	Description	Type*	Timeframe
1	Berry Road and Western Pkwy	0.5-mile connection along Western Parkway and Berry Road	SP, II	Short
2	Western Parkway Path Connection	0.25-mile section from Millbrook Court to Bridgeport Place	SP	Short
3	St. Paul's Drive / St. Charles Parkway Path Connection	0.70-mile section from Alward Drive to St. Charles Parkway and along St. Charles Parkway from St. Paul's Drive to Dartmouth Road	SP	Short
4	St. Patrick's Drive Path Connection	0.11-mile section along St. Patrick's Drive from Route 301 to Western Pkwy.	SP	Short
5	St. Patrick's Drive / Billingsley Road Path Connection	2.25-mile section along Billingsley Road from Middletown Road to US 301 and along St. Patrick's Drive from Billingsley Road to power ROW	SP	Short
6	St. Charles Parkway Path Connection	1.5-mile section along St. Charles Parkway from commercial center to MD 5 (Leonardtwn Rd)	SP	Short
7	Smallwood Drive Path Connection	0.34-mile section from US 301 to St. Nicholas Drive	SP	Short
8	Intersection of Route 301 and Smallwood Drive	Install crosswalks	II	Short
9	Radio Station Road Path Connection	1.6-mile path along Radio Station Road from Rosewick Road south to MD 488 La Plata Road	SP, II	Short
10	Smallwood Drive / Middletown Road Path Connection	0.1-mile section from Thoroughbred Court to Middletown Road	SP	Short
11	Cat Pond Road / Middletown Road Path Connection	1.0-mile section from Indian Head Rail Trail to Billingsley Road; shoulder improvements	SP or OS	Short
12	Route 301 in Waldorf	Commercial area along US 301 near Waldorf	SP, II	Mid
13	Route 301 in La Plata	Commercial area along US 301 in La Plata	SP, II	Mid
14	Intersection of Route 301 and Mitchell Road	2.5 miles north of La Plata	OS, II	Mid

Link Type:

- OS: On-street Improvements
- SP: Sidewalk or off-street path
- II: Intersection Improvements

Timeframe:

- Short: Short term, 0-5 years
- Mid: Mid term, 5-10 years
- Long: Long term, 10-15 years





Charles County Bicycle and Pedestrian Master Plan				
Future Links				
#	Location	Description	Type*	Timeframe
15	Route 6 (Charles Street) over Zekiah Swamp	4.4 miles southwest of La Plata - bicycle and pedestrian access across bridge, shoulder improvements	OS	Mid
16	Route 5 (Leonardtown Road) over Zekiah Swamp	6 miles southwest of Waldorf – bicycle and pedestrian access across bridge, shoulder improvements	OS	Mid
17	McDaniel Road Path Connection	1.0-mile section linking large residential area to Middletown Road	SP	Mid
18	Indian Head Highway path Connection	0.8-mile section from Swann Memorial Park to commercial center at Bryans Road	SP or OS	Mid
19	Hamilton Road Path Connection	1.1-mile connection between Western Parkway and Acton Lane	SP, II	Mid
20	Rail Trail Connector	1.1-mile connector from Billingsley Road, just east of Route 301, to the Indian Head Rail Trail trailhead at Theodore Green Boulevard	SP	Mid
21	Piney Church Road Path Connection	1.0-mile trail connecting Billingsley Road and power line right-of-way along Piney Church Road	SP	Mid
22	Indian Head Highway & Potomac River Path Connection	1.2 miles from MD 210 to the bank of the Potomac River	SP	Mid
23	Washington Avenue Path Connection	0.7-mile connection along Washington Avenue in La Plata from Pender Drive south to parking lots near Church Street	SP	Long
24	Billingsley Road East	0.7-mile trail from Sweet Corn Place to MD5 (Leonardtown Road)	SP	Long
25	Bensville Road (MD229) Path Connection	0.3-mile trail connection along Bensville Road from Indian Head Rail Trail to recreation complex	SP	Short
26	Governor Nice Bridge – US 301	Bike access over the Potomac River	OS	Long
27	Rose Hill Road from MD 225 to MD 6	2.6-mile section from MD 225 (Hawthorne Road) to MD 6 (Port Tobacco Road) Improvements to be consistent with the Scenic Road objectives	SP or OS	Long

Link Type:

- OS: On-street Improvements
- SP: Sidewalk or off-street path
- II: Intersection Improvements

Timeframe:

- Short: Short term, 0-5 years
- Mid: Mid term, 5-10 years
- Long: Long term, 10-15 years





E. Future Study Needs

Charles County Bicycle and Pedestrian Master Plan Future Study Needs	
#	Description
1	Create a marketing plan for bicycle and pedestrian facilities in Charles County. 1. Signage for bicycles indicating routes, types of users, amenities, destinations 2. Maps of bicycle and pedestrian facilities 3. Web site information for bicycle and pedestrian facilities
2	Through the Energy Efficiency and Conservation Block Grant, which was funded in 2010, review potential Zoning and Subdivision/Land Development Ordinance revisions: 1. Requirements and incentives for bicycle parking 2. Inclusion of bicycle and pedestrian facilities for all new developments 3. Requirements for “complete streets” within new developments
3	Create detailed studies, cost estimates, and prioritization of each of the recommended improvements / links. Create long range capital improvements plan.
4	Create an educational safety program for all children, students, and adults. 1. Include existing Maryland educational programs for schools 2. Signage and marketing for motorists (i.e. “Share the Road”)
5	Create a conceptual design specification manual for new streets and for retrofit solutions for existing streets. Include “complete streets” concepts.
6	Prepare a BLOC study for all non-state roads, starting in the development district.
7	Analyze routes for which school students can travel to work by walking and biking.
8	Study potential incentive plans to encourage County employees to walk or ride a bicycle in lieu of a motor vehicle.
9	Prepare an inventory and assessment of existing recreational opportunities in Charles County and pedestrian and bicycle activities are currently integrated or could become integrated.
10	Review existing County and utility easements to determine ability to create future trails.
11	Review the Mattawoman Trail Study to determine if this project is still a viable project.





Appendix 1: The Maryland Bicycle Level of Comfort (BLOC) Model

The BLOC model grades roadway segments based on a grade of A-F, with Level A reflecting the best conditions and Level F, representing the worst conditions. BLOC grades are based on numeric values based on an equation which takes into account shoulder width, annual average daily traffic, pavement condition, and percentage of heavy vehicles using the roadway.

The Technical Appendix to the Maryland Twenty Year Bicycle and Pedestrian Access Master Plan provides the following photographs as examples of each grade:



BLOC "A"



BLOC "B"



BLOC "C"



BLOC "D"





BLOC "E"



BLOC "F"

Based on the BLOC grading, the State of Maryland has created a needs inventory with two tiers of need for bicycle and pedestrian improvements. These tiers are explained as follows:

Tier 1 routes meet all three of the following criteria:

1. The road segment is recommended for improvement by the local government in a local/regional bicycle and/or pedestrian plan.
2. The road segment is within a Priority Funding Area.
3. The road segment has a BLOC grade of "E" or "F."

Tier 2 routes meet on of the following two criteria:

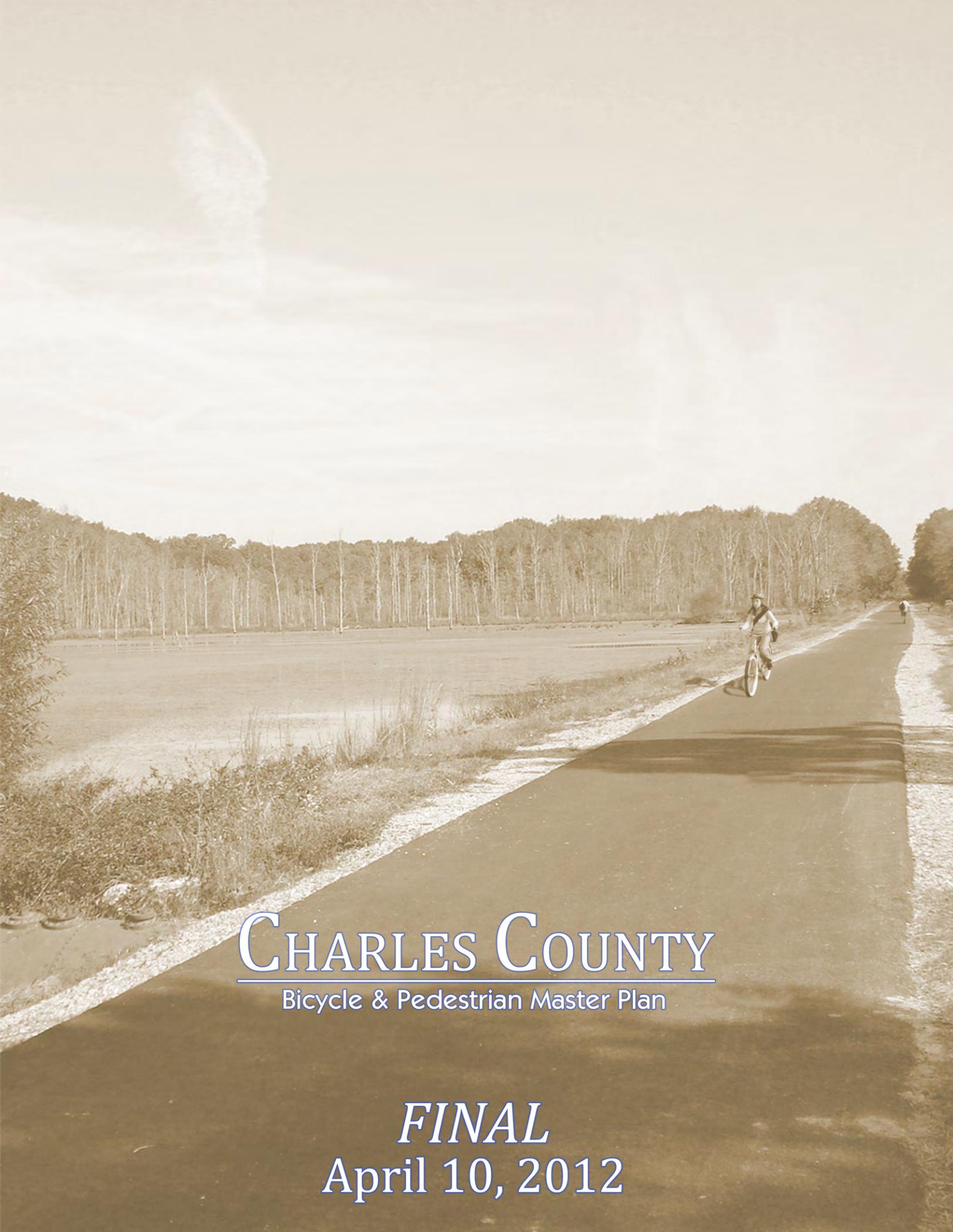
1. The road segment is recommended for improvement by the local government in a local/regional bicycle and/or pedestrian plan.
2. The road segment has a BLOC grade of "E" or "F."

The MDOT report does not prescribe the specific type of improvements needed for each road segment. The types of improvements and their designs will be identified during the project planning phase based on the goal of providing the highest possible level of bicycle and pedestrian comfort offered for each project. Types of improvements could include such things as shoulders, bike lanes, shared use paths, sidewalks, and crossing improvements.

Local jurisdictions had the opportunity to report pedestrian facility needs for inclusion in this MDOT report. No pedestrian facilities were reported by Charles County. Shared-use paths, sidewalks, and crossing improvements do not impact the Bicycle Level of Comfort (BLOC) scores.

For Charles County, the report identifies 2.69 miles as Tier 1 locations and 168.98 miles of Tier 2 locations. A map of Charles County BLOC data, as well as detailed listings of Tier 1 and Tier 2 locations may be obtained online at www.sha.md.us.





CHARLES COUNTY
Bicycle & Pedestrian Master Plan

FINAL
April 10, 2012