Town of Elkton
Bicycle Master Plan

January 2011

Envision a Bicycle Friendly Community

Prepared in Partnership By:

WILMAPCO

TOWN OF ELKTON
BICYCLE MASTER PLAN

Town of Elkton
100 Railroad Avenue
Elkton, MD 21921

Prepared in Partnership By:

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January 2011

Adopted by the Elkton Mayor and Commissioners on December 15, 2010
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What I like best about Elkton is its quaint, small town feel.

-Elkton Resident

Introduction

While Elkton, Maryland's major roadways are primarily used by automobiles, there is an opportunity and need to encourage more bicycle travel. The Elkton Bicycle Plan serves to improve quality of life for residents and visitors by expanding transportation choice and opportunities by providing a safe and convenient choices for bicycle commuting and recreation.

The Town's vision is to become a community that supports bicycling as a healthy form of transportation and recreation for residents and visitors of all ages. The Town will increase bicycle usage and safety by providing a safe bicycle network with links to other modes of transportation, and developing education programs, and encouragement activities.

This plan seeks to guide the enhancement of bicycle transportation in Elkton by:
- Identifying best practices for bicycle transportation and their possible use in Elkton.
- Evaluating existing bicycle conditions and identifying gaps in the network.
- Identifying potential bike routes that include links to other modes of transportation.
- Proposing programs, policies and projects for achieving the goals and objectives.
- Developing an implementation plan, including funding sources and partnerships.

This Plan is guided by state, local and regional policies and was developed under the direction of an advisory committee, comprised of state and local transportation departments and residents. It presents broad issues in bicycle planning and applies these concepts to the Town of Elkton's physical environment. It also provides information, guidance and recommendations for improvements.

Existing Conditions

Elkton currently lacks a bicycle-friendly community presence. Many residents expressed they do not bicycle frequently because they are not comfortable with heavy car traffic and lack of bicycle facilities. To evaluate existing conditions, data collected included traffic volumes, travel speeds, presence of on-street parking, shoulder widths, and a review of relevant state and local documents. Several corridors and intersections were identified as having challenges for bicyclists including MD 213, MD 268, US 40, and MD 213 at US 40. Today, few bicycle parking spots are available and bicycle safety information is not known. Also, bicycling is not encouraged on a consistent basis, which creates a need for emphasis on improvements such as bicycle safety education and encouragement.

Bicycle Network Identification

Four key considerations helped determine the proposed bicycle routes: corridors with low conflict, directness, accessibility, and cost and implementation. Currently used and desired bicycle travel corridors were identified using input primarily from the advisory committee and cyclists in and around Elkton. These proposed bicycle routes were then evaluated through site visits and roadway inventory data. Some were removed from consideration due to on-the-ground constraints, such as major right-of-way issues. Evaluating each segment of the proposed network, in roughly one mile increments, revealed that Elkton's proposed bicycle network should be mostly shared lanes and shoulder facilities. Most of the segments included have adequate shoulder width to create separate spaces for bicyclists, while others have wide lanes and slow speeds that would be more ideal for shared lanes. The network connects into existing regional bicycle routes such as the East Coast Greenway.

Additional System Improvements

Aside from physical improvements to the proposed bicycle network, this plan looks at other strategies needed to increase bicycle use and safety in Elkton. Due to lack of bicycle parking, close to 30 locations for new racks are recommended. Locations include government buildings, schools, the library, Elk Landing, and outside shops along the US 40 corridor. Linking bicycling with existing and future transit services in Town is essential, particularly as the redevelopment of the Elkton Train Station nears. Strengthened law enforcement will require continued participation from the Elkton Police Department. While officers receive basic bicycle safety training, more comprehensive courses are needed, especially with the Town's police bicycle patrol. Targeting unsafe behaviors is needed to create a safe and friendly atmosphere for both motorists and bicyclists. Education and encouragement actions (targeting both adults and children) have also been outlined to enhance safety and increase bicycle usage, such as hosting bicycle skills courses, promoting biking and walking to school, working with employers to incentivize bicycle commuting, and encouraging bicycling to Main Street events and bike tourism.

Implementation

Implementing Elkton's Bicycle Plan will require both infrastructure and non-infrastructure improvements. Infrastructure improvements include pavement markings, restriping, and signage. Implementation will also require key public-private partnerships to help the Town leverage limited funding and resources, including but not limited to, the Elkton Alliance, Union Hospital, Cecil College, and Bike Maryland. There are several federal and state sources accessible, but they are strained and competitive. Considering dedicated funding and formalizing the Elkton Bicycle Plan Advisory Committee will be key. While challenges remain, Elkton realizes that multimodal transportation options are vital to the Town's vibrancy and economic health.

SECTION 1: INTRODUCTION

My vision for Elkton is to become a place that is more bikeable.

-Elkton Resident

Background

Making the Case

Many state and local governments have found it more practical in today's difficult economy to make the case for investments in bicycling as a cost effective way to help solve growing concerns for sustainable land use, economic growth, and transportation challenges such as congestion mitigation and air quality.

National health trends have remained an impetus for efforts to promote livable communities that cultivate active lifestyles. The Center for Disease Control reported the 2009 obesity rates for Maryland were 26.2%, closely matching the national average of 26.7%. A contributing factor to this weight epidemic is inactivity. A healthy community has a transportation system that gives people choices to walk along sidewalks and greenways, and bicycle along safe bike routes that are interconnected—behaviors that prevent inactivity and related negative outcomes such as risk for diseases. In Maryland, the Department of Health and Mental Hygiene is spearheading the Healthiest Maryland initiative, which seeks to promote better nutrition and increased physical activity. This initiative encourages both residents and businesses to focus on wellness and create environments where the healthiest alternatives are the easiest to chose. Healthiest Maryland provides tools and guidance needed to adopt healthy lifestyles. Regular physical activity, including bicycling is a practical way to help achieve this statewide vision for improved health and quality of life.

Generating economic activity is another key reason investments in bicycling have become more attractive. Municipalities that have invested in bicycling have reported positive impacts on their economies, particularly from the bicycle industry and bicycle tourism (Flusche 2009). A case study of Williamsport, Maryland shows that local governments agree that bicycle facilities are good for business. To help become known as a bicycle-friendly destination, the town installed a pair of half-mile-long bike lanes as an approach to bolster the economy by attracting more users from the nearby Chesapeake and Ohio (C&O) Canal towpath (Keels 2010). Local businesses have installed bicycle racks to accommodate bicycle tourists activities in town.

Overall, a livable community, which offers a variety of transportation and housing options, access to employment, education, services, and cultural amenities, has become increasingly important. A survey of real estate buyer preferences revealed that young professionals and retirees (the bulk of national and local buyers) desire to settle in places that foster social interaction and active lifestyles, and provide more transportation choices (Dilts 2009). These

desired places are typically mixed-use neighborhoods that support walking and bicycling trips.

Below is additional supporting evidence:

- Trips made by bicycle reduce the use of fuel and greenhouse gas emissions, which slows the effects of climate change and improves air quality.
- Automobile ownership and maintenance is on average the second highest household expense for Americans. Bicycling instead of driving yields a significant cost savings.
- Investments in bicycle infrastructure enhance shopping districts and communities, generate tourism and support business (Flusche 2009).
- Bicycle facilities improve housing values and benefit people across all income levels.

National and State Direction

Nationally, the goals for bicycling and walking are to increase the mode share and improve safety of non-motorists. In March 2010, the U.S. Department of Transportation issued a policy statement reinforcing actions that support these goals, including considering non-motorized modes in all transportation planning activities and projects. Maryland's efforts have followed national policy for increased planning and implementation for bicycle and pedestrian facilities. Maryland's Public Policy reads in part, "it is in the public interest for the State to include enhanced transportation facilities for pedestrian and bicycle riders as an essential part of the transportation system…" (Section 2-602 of the Transportation Volume of the Annotated Code of Maryland). The state has taken many strides to advance bicycling as an attractive and safe mode of travel, including actions to implement the Maryland Department of Transportation (MDOT) 20-Year Bicycle and Pedestrian Access Master Plan and the Maryland Trails: A Greener Way To Go Plan. Both documents outline the State's vision and implementation plan to expand bikeways, address missing trail links, and strengthen funding and partnerships.

Making the Case for Elkton

Elkton, Maryland is the County Seat for Cecil County and has a population of 14,371, which is estimated to double by 2030 (Maryland Department of Planning, 2010). The Town is the eastern gateway to scenic Cecil County and Maryland's upper Eastern Shore from the more urbanized Delaware Valley. The alignment for the East Coast Greenway passes through Elkton, which is an urban trail network connecting Maine to Florida. Elkton's location in proximity to these regional attractors are advantageous in becoming a bicycle tourism destination. Bicycle tourism is an increasing industry and could spur economic development for the growing Town. Elkton's small size and mix of medium density makes bicycling and walking between various uses ideal. The Town is recognized by Maryland's Main Streets program and continues work to revitalize its Main Street to propel economic development. This corridor is a major destination in Town and could benefit from improved bicycle access.

Elkton is also one of many communities experiencing notable changes due to the Base

Realignment and Closure (BRAC) at Aberdeen Proving Ground, roughly forty-five minutes away. BRAC is a process of the U.S. Department of Defense to reorganize its installation infrastructure to more efficiently support its military forces. As of September, 18% of BRAC relocators have moved into Cecil County, with portions dispersed into municipalities (CSSC, 2010). There are advantages of a growing population and the Town realizes that multimodal transportation options is a factor that makes a community more desirable.

Map 1:
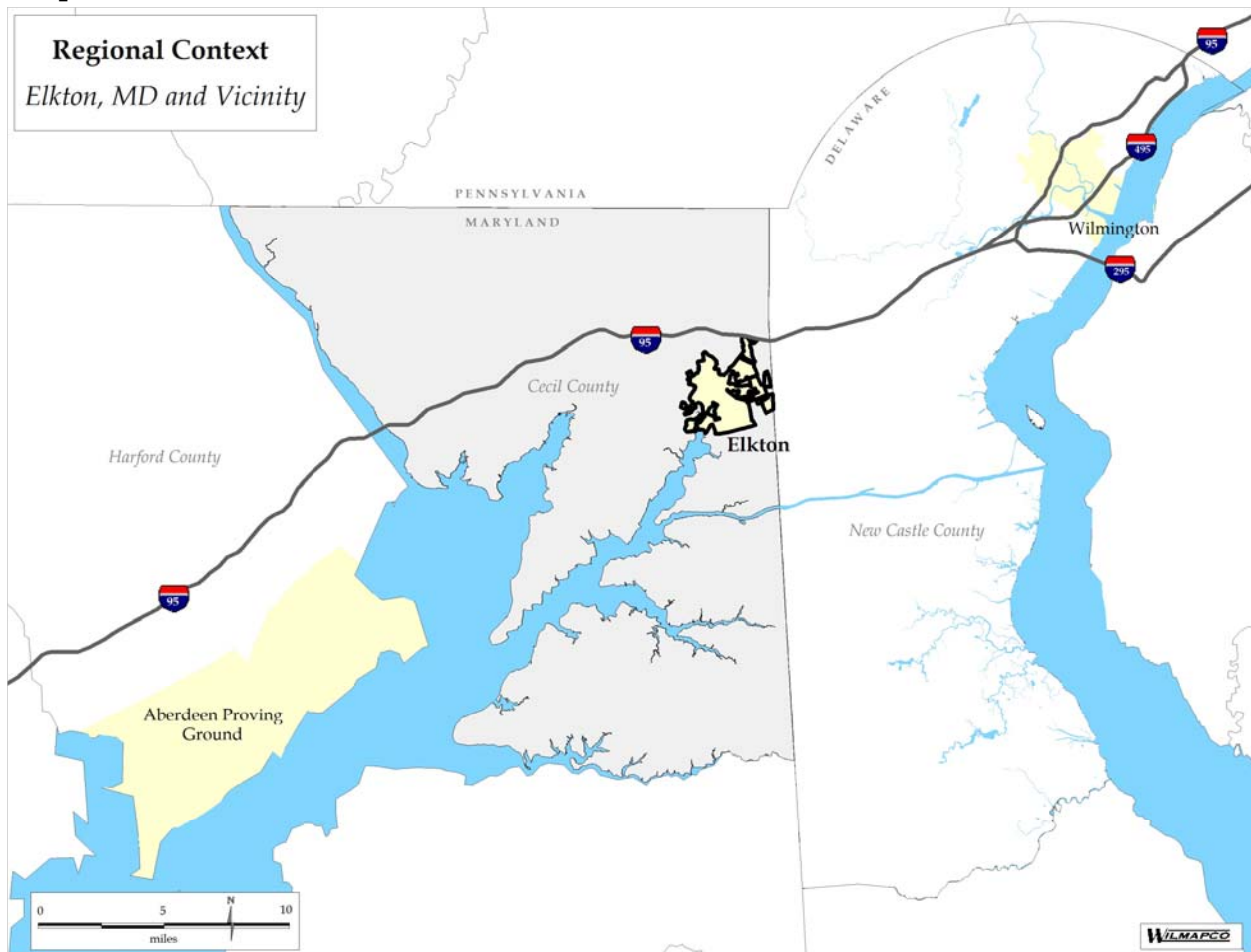
Purpose of the Plan

The Elkton Bicycle Plan seeks to encourage bicycle travel options for both commuting and recreational trips. This plan aims to create a bicycle network that will connect residents to community resources, along with supporting policies and programs. Designed for use by Town staff, public policy decision-makers, residents, and other interested stakeholders, this present study is a guide for future bicycle network improvements. It presents broad issues in bicycle planning and applies these concepts to the Town of Elton's physical environment. It also provides information, guidance and recommendations for improvements, including infrastructure and non-infrastructure strategies.

The Planning Process

The Elkton Bicycle Plan was created through a comprehensive and cooperative planning process, which included public workshops (in-person and online) and participatory mapping. In addition, the plan was created under the direction of an advisory committee, which met five times, and consisted of a broad spectrum of stakeholders including town officials and staff, county and state representatives, and members of the public. This committee also served as the primary vehicle for public input.

The following agencies participated:

- The Town of Elkton
- Elkton Alliance
- Elkton Parks and Recreation
- Elkton Police Department
- Maryland Department of Transportation (MDOT)
- Maryland State Highway Administration (SHA)
- Cecil County Department of Planning
- Wilmington Area Planning Council (WILMAPCO)

The Policy Framework

In shaping a vision for attractive, safe, and convenient bicycle transportation in Elkton, existing policies across various levels of government that impact the Town were considered. For example, the Cecil County and Elkton Comprehensive Plans (2010), Maryland Department of Transportation 20-Year Bicycle and Pedestrian Access Master Plan (2002) and Strategic Plan (2009), and the WILMAPCO 2030 Regional Transportation Plan (2007), were referenced. A common thread found among these state, regional, and local policies is the support of bicycling as a means of recreation *and* transportation, and as an important element in the multimodal system. These policies recognize bicycling as a building block to achieving sustainability and improving quality of life, and have provided direction for how to proceed towards a multimodal transportation network in Elkton that will meet the needs of residents.
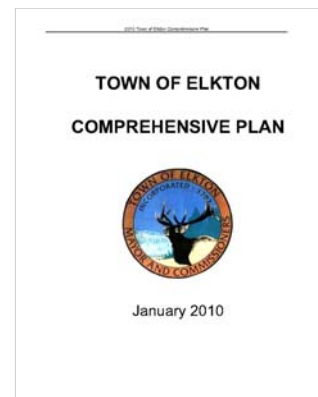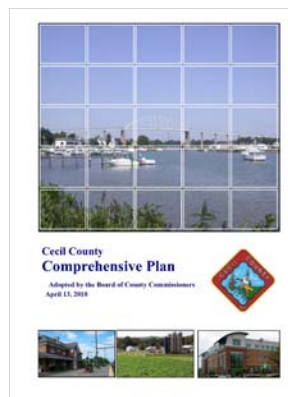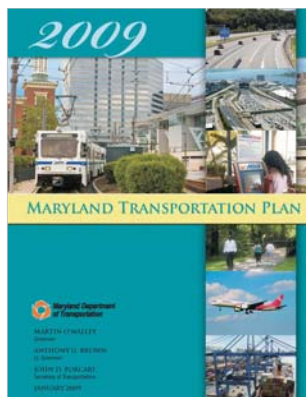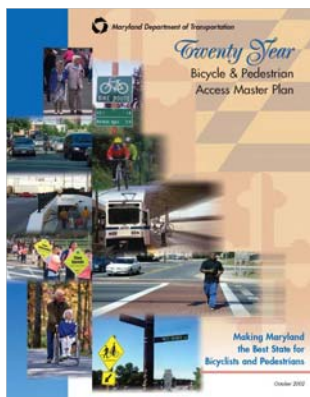
Community Involvement

Community participation and input is key to the planning and implementation of Elkton's bicycle system. Participation was sought from elected officials, Town staff, state and county representatives, residents, bicycle advocates, community groups, and businesses. Outreach strategies included a direct mailing, providing information through newsletters and websites, and seeking input through workshops and the advisory committee. This plan considered both past and present improvements identified by residents and stakeholders.

A recent transportation survey identified the greatest priorities for the downtown using a sample of Elkton residents. Many embraced having commuter rail service and more pleasant and safe places to walk and bicycle, as shown below in Figure 1. Other priorities included maintaining the Town's colonial character and adding more shopping. These results helped shape the bicycle plan's vision.

During the development of the plan, two public workshops were held, including 30-day virtual-workshops for residents and stakeholders who could not attend in person. Much of the outreach involved full presentations on the Plan's desired outcomes and progress, while others had display boards and large maps for participants to mark up. Several comment forms and emails were submitted by residents to share their concerns and aspirations for biking in Elkton. Throughout the public outreach process, many positive and supportive comments were made in regard to developing a bicycle network in Elkton.

Figure 1: Elkton Transportation Planning Survey
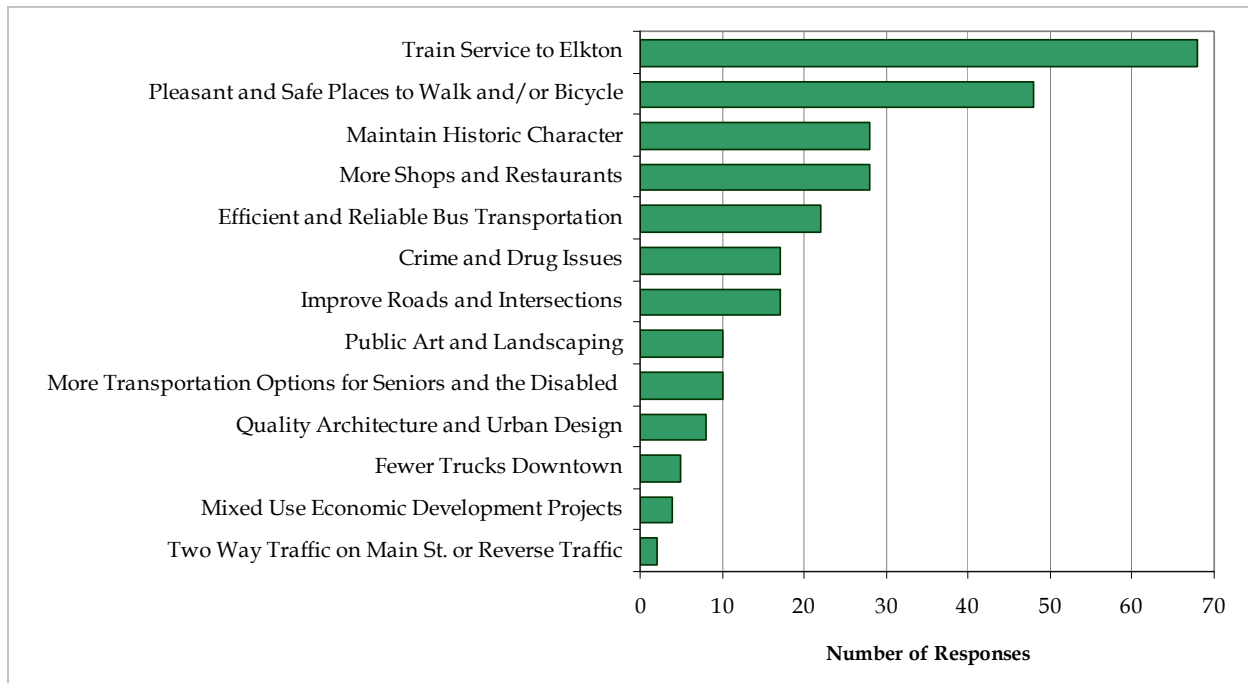
Source: Elkton Fall Fest Public Survey Board, September 2009

Additional public outreach included:

- Plan webpages: wilmapco.org/bikeelkton and elkton.org/news/elkton_bicycle_plan
- WILMAPCO Non-Motorized Transportation Subcommittee (February 2, 2010)
- WILMAPCO Non-Motorized Transportation Subcommittee (June 1, 2010)
- Elkton Mayor and Commissioners (June 16, 2010)
- Public Workshop (June 16, 2010)
- WILMAPCO Technical Advisory Committee (June 17, 2010)
- WILMAPCO Council (July 15, 2010)
- WILMAPCO Public Advisory Committee (August 30, 2010)
- Elkton Fall Festival (September 18, 2010)
- Elkton Alliance (November 1, 2010)
- WILMAPCO Technical Advisory Committee (November 18, 2010)
- Public Workshop (December 1, 2010)
- WILMAPCO Non-Motorized Transportation Subcommittee (December 7, 2010)
- Elkton Mayor and Commissioners (December 15, 2010)
- WILMAPCO Council (January 13, 2011)

Display boards at the 2010 Elkton Fall Fest featured information and maps
for Elkton's Bicycle Plan and attracted interested residents.

Vision, Goals, and Strategies

The Town of Elkton envisions itself as a livable community where adults and children, including both residents and visitors, can ride their bicycles safely and with ease to destinations such as to a friend's house, a nearby park, a workplace, the local farmer's market, historic landmarks, or the library. The Town wants to encourage bicycle-oriented lifestyles and businesses by providing a seamless bicycle network that is free of mobility obstacles and enhances safety. Elkton envisions bicycling as part of its community fabric and character, as well as a component of its multimodal transportation network.

Elkton's vision is to become a town that supports bicycling as a healthy form of transportation and recreation for residents and visitors of all ages. The Town will increase bicycle usage and safety by providing a safe bicycle network with links to other modes of transportation, and developing education and encouragement activities.

A scene of a bicycle and pedestrian friendly street.

To support the vision, the goals below outline broad desired outcomes that the Town wants to achieve through this Plan.

Goal 1: Planning/Engineering - Develop a coordinated bicycle network that is safe, accessible, convenient, and provides intermodal connections.
Strategies
1.1 Provide safely designed, well-marked, and maintained on- and off-street bicycle routes.
1.2 Provide connectivity to county, regional, and national bicycle routes.
1.3 Integrate bicycling with public transit facilities and services.
1.4 Provide adequate and secure bicycle parking at all major trip destinations.
1.5 Incorporate bicycle elements into planning activities and development.
1.6 Develop an implementation plan.

Goal 2: Education - Teach children and adults safe bicycling techniques and motor vehicle operations.
Strategies
2.1 Provide activities and educational programs with emphasis on bicycle safety and laws.

Goal 3: Encouragement - Increase bicycle usage by establishing a positive image of bicycling in the community that will foster bicycle-oriented lifestyles and businesses.
Strategies
3.1 Promote bicycling as a legitimate means of transportation, recreation, fitness, and tourism.
3.2 Involve the community in the planning and implementation of the bicycle plan.

Goal 4: Enforcement - Provide enforcement of traffic laws related to bicycling.
Strategies
4.1 Effectively enforce laws that impact bicycle safety to reduce crashes and violations against a bicyclist.

Goal 5: Evaluation - Periodically examine and quantify the plan's implementation progress and make adjustments where necessary.
Strategies
5.1 Establish systems to support and evaluate the implementation of the plan goals.

SECTION 2: ASSESSMENT

Improving the way we get around town by bicycle will do wonders for the environment.

-Elkton Resident

Data Collection and Analysis

In 2002, the Maryland Department of Transportation (MDOT) conducted a comprehensive evaluation of all state maintained roadways where bicycles are permitted to ride to assess bicycling conditions, as part of the development of their 20-Year Bicycle and Pedestrian Access Master Plan. Using the Bicycle Level of Comfort (BLOC) methodology, each roadway segment was given a grade relative to its bicycle riding conditions and comfort level (A for best biking conditions, F for worst biking conditions). While these network evaluation scores are outdated, resources were not available to conduct an updated BLOC analysis in Elkton. Furthermore, little to no improvements have been made to Elkton's state maintained road network that would significantly change the 2002 bicycle conditions and comfort scores for comparison. Until significant improvements are made, the on-road bicycle comfort scores will remain relevant. As a proxy measuring rod of on-road bicycling conditions, annual average daily traffic, travel speeds, lane widths, and presence of on-street parking were evaluated, which are key inputs into the bicycle level of comfort scoring equation. Emphasis was placed on local road improvements to supplement MDOT's previous focus of state roads. Using 2008 roadway data from the Maryland State Highway Administration (SHA) and Geographic Information System (GIS) software, roadway attributes were examined. This data was also used in a selection methodology to identify the most appropriate bicycle facility types, detailed in Section 3.

In addition, a review of relevant state and local documents was conducted. Some plans and reports include Elkton's Comprehensive Plan (2010) and Downtown Master Plan (2003); Cecil County's Comprehensive Plan (2010) and Land Preservation, Parks, and Recreation Plan (2005); Maryland's 20-Year Bicycle and Pedestrian Access Master Plan (2002) and Model Ordinances for the Enhancement of Bicycle and Pedestrian Access to Transportation Facilities (2002). Data were also collected through several site visits and a photo essay.

Existing Conditions

Elkton is not currently a bicycle-friendly community. Fortunately, its close proximity of land uses creates the potential to become more bicycle-friendly. The Town has a variety of roadways with varying degrees of comfort for bicyclists. As identified by MDOT's BLOC analysis, many corridors through the Town have road conditions that are suitable for bicycling, such as MD 279 (Newark Avenue), in particular east of Appleton Road, and MD 213 (Bridge Street), north of MD 279. Other roads, however, are more challenging such as US 40 (Pulaski Highway), in particular, west of MD 213, and MD 213 south of MD 7 (Main Street). In addition,

Maryland SHA has designated two bike routes through Elkton (MD 213 and US 40). While bike lanes are not present along these routes, both have shoulders and share the road signage.

Main Street Corridor

MD 213 Southbound

Currently, bicycle safety information is not widely publicized in Elkton and bicycling is not encouraged on a consistent basis. There are also insufficient numbers of bicycle racks throughout Town and narrow shoulders in places that on-road restriping can solve. Improving the bicycle infrastructure, increasing public awareness of appropriate bicycling techniques for all ages and developing encouragement campaigns should improve current bicycling conditions in Elkton.

While there is a lack of annual bicycle commuting data, many Elkton residents expressed they do not bicycle frequently because they are not comfortable to ride due to traffic and lack of dedicated bicycle facilities. A summary of several corridors and intersections that were identified as having challenges with moving bicyclists along and across follows. Refer to Map 2 located on page 15.

Appleton Road

While this two-lane minor arterial road is outside of the Town's municipal boundary, it is included in the evaluation because it is part of the interim East Coast Greenway alignment that continues in the northeast direction and connects into Delaware. The road has inconsistent shoulder widths and its uninterrupted sight line encourages speeding. The bridge along Appleton Road is also challenging because it lacks shoulders to carry cyclists, but the bridge is a very short distance to navigate.

MD 268

MD 268 (North Street) is a minor arterial with moderate speeds and traffic, including undesired truck traffic. It's attractive to both motorists and cyclists because it provides the most direct access to the downtown from points north, including MD 279. It is also a primary route for cyclists due to its connection to Main

Street for shops and services, and is part of the East Coast Greenway alignment. The North St. overpass over Amtrak's Northeast Corridor presents a challenge for some cyclists.

MD 213

MD 213 (Bridge Street) is a principal arterial and the most direct, major north-south connector through Town and to points beyond. It carries high traffic volumes, including trucks, and is identified as a minor and moderate freight bottleneck from Elkton Boulevard to Frenchtown Road. Portions of MD 213 have also been identified as a congested corridor with significant congestion between MD 281 and US 40 (2009). This corridor has several share-the-road signs posted and is a primary route for bicycles because it crosses the northeast corridor as a main route between Elkton and the county. Further, the MD 213 bridge over the northeast corridor presents both challenges and opportunities. Conditions north of MD 279 are more favorable for cyclists due to wide, more consistent shoulders.

MD 545

MD 545 (Blue Ball Road) is a minor arterial and main route between Elkton and Cecil County. The corridor has moderate traffic and travel speeds, and provides access to one of Elkton's major employers (Terumo Medical). More importantly, the very tight turning radius where MD 545 and Elkton Boulevard meet lacks shoulders and creates a hazardous pressure point for cyclists. Although wide shoulders are along various portions, the shoulders are inconsistent and have poor pavement quality.

US 40

US 40 (Pulaski Highway) is a regionally significant business corridor for both Elkton and Cecil County, and is a major east-west route connecting Maryland and Delaware. Most of the roadway frontage along US 40 is auto-oriented strip development with very limited connections between parcels. This makes using shopping area entrances challenging for bicyclists. While US 40 has wide shoulders to accommodate bicyclists, its multiple access points, traffic and speeds deter greater bicycle usage. Some portions of shoulders need repair. Also, moving cyclists south of the US 40 corridor is challenging. The Cecil County Comprehensive Plan identifies intersection upgrades and safety improvements along the US 40 corridor as a top transportation priority, including a major reconstruction of MD 213 and US 40 intersection.

MD 213 and MD 279

Both MD 213 and MD 279 (Newark Avenue) carry large amounts
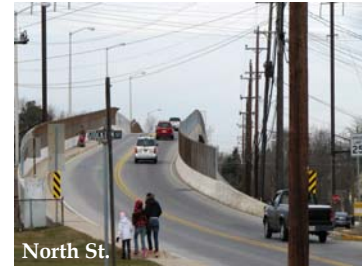
North St.

MD 213 near Elkton Blvd.

MD 213 at Howard St.

MD 545

US 40 at Whitehall Rd.

of traffic that meet at this intersection, which can intimidate bicyclists. The various turning movements do not account for cyclists, which could create potential hazards. This intersection also presents challenges for pedestrians due to incomplete sidewalks and missing crosswalks. Opportunities are available to improve conditions for bicyclists and pedestrians with access for physically disabled persons.

MD 213 corner, near MD 279

MD 213 and US 40

This intersection is known for heavy vehicular congestion with various retail uses on all four corners. Due to high traffic volumes, pavement in this area is in fair to poor condition and shoulders are not continuous. This intersection is not inviting to non-motorists and presents safety concerns. Signal timing at this intersection does not account for bicycles. In the short-term, bicycle shortcuts to adjacent shopping are needed for residents or novice bicyclists to avoid this intersection until these issues are thoroughly resolved. Ultimately, engineering enhancements are needed to improve the safety, accessibility and comfort of bicyclists using this intersection.

MD 279 at MD 213

MD 781

MD 781 (Delancy Road) is a collector road that provides north-south movements along the eastern end of Town and connects MD 281 (Red Hill Rd) to US 40. MD 781 experiences roadway level of service D, with traffic volumes that have more than doubled over the last decade. Its narrow lanes and lack of shoulders has also contributed to bicycle level of comfort D. Nevertheless, the corridor provides access to residential and commercial sites, which makes it an ideal bicycle connector route. To balance bicycle traffic with increasing vehicular traffic, signage, shared lane markings, and other treatments are needed throughout for safety.

MD 213 and US 40

Muddy Lane

Muddy Lane is a county-owned collector road that provides indirect access to US 40 and direct access to three residential developments. It is also a cut-through for trucks utilizing a rest stop area on MD 279, nearby I-95. Travel speeds, narrow lane widths, and lack of shoulders, limit the use of this corridor to experienced cyclists only. Designating this corridor as a shared lane with sharrows and signage is a potential short-term solution, but engineering improvements would be needed to enhance safety in the long-term. Signage and a tunnel warning flasher would be useful where the road winds beneath Amtrak's mainline rail, to alert motorists of bicyclists. This, and other county roads, must be closely examined by Cecil County for bicycle improvements.

MD 781

Muddy Lane at NEC

Map 2:

Regional and State Bicycle Networks — Elkton, MD

Legend:
- Maryland SHA Signed Bike Routes (Existing and Future)
- Cecil County Greenway *
- East Coast Greenway (interim route)*

* Cecil County and East Coast Greenway networks have not developed in Elkton.
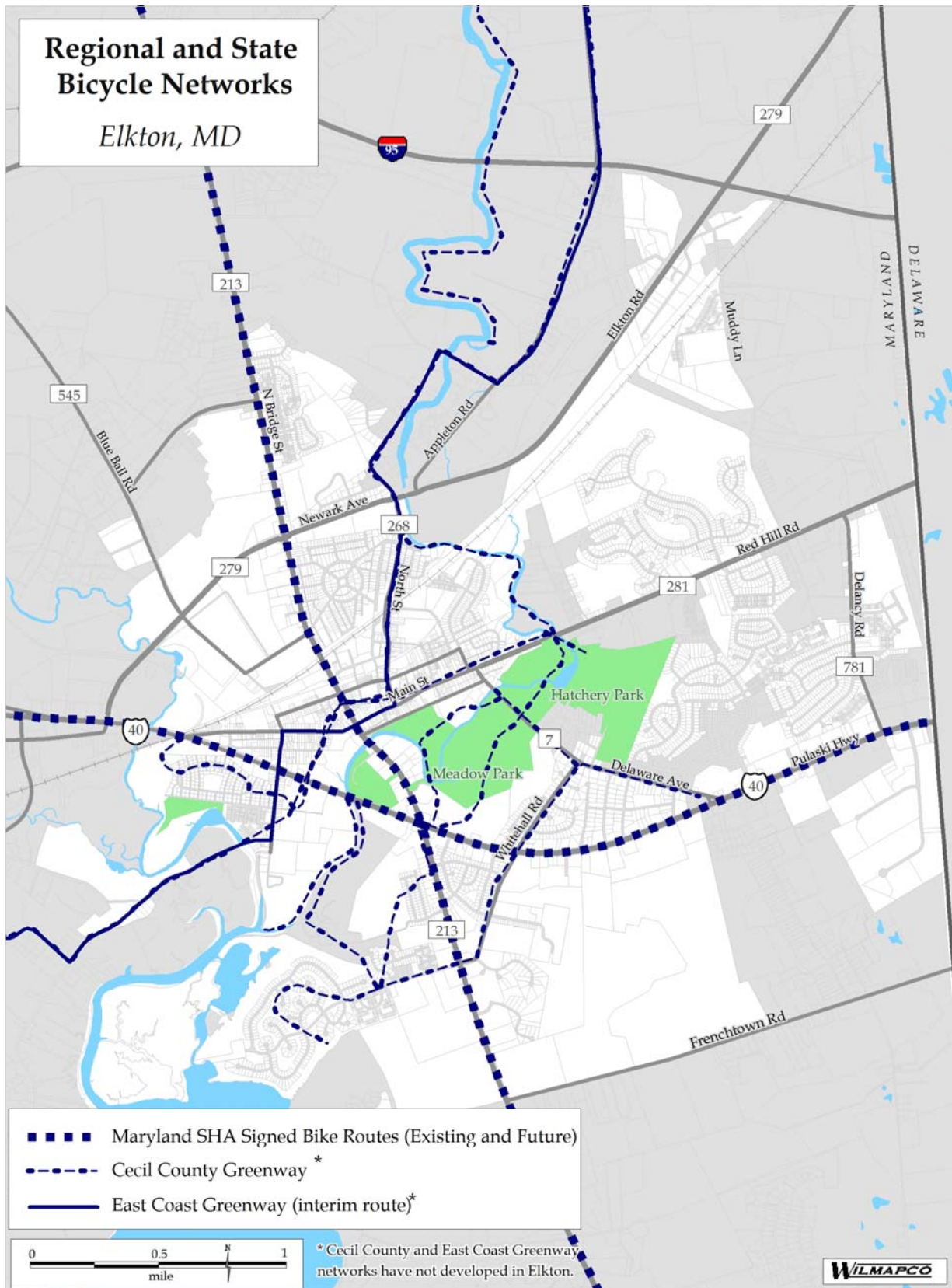
Furthermore, the Town is surrounded by trails and state parks that should be easily accessible by bicycle from Town. Connectivity to these regional networks through Town is achieved through the proposed bicycle network. There are two national trail systems that travel through portions of Elkton: the Mason-Dixon Trail and the East Coast Greenway. Two local trail systems near Elkton include the proposed Elk Creek Greenway positioned between Fair Hill Natural Resource Management Area and Elkton's Meadow Park, and the Chesapeake and Delaware (C&D) Canal Greenway to the south. Part of Maryland's state park system includes the Fairhill Natural Resource Management Area (a destination along the Mason-Dixon Trail), located 7 miles north of Elkton.

Cyclists enjoy the nearby Fairhill Natural Area

Summary of Needs

Together the assessment and public input revealed several areas for bicycle improvements:

1) Enhance safety of cyclist on-road, especially along heavily traveled corridors.
2) Provide safe crossing over the Northeast corridor at MD 213 and MD 268.
3) Need bicycle friendly routes between Elkton and the surrounding rural county on roads that are currently not designed to accommodate bikes.
4) Provide connections to commercial and retail developments, including safe access along the US 40 corridor.
5) Offer alternatives to heavily traveled corridors by providing bicycle short-cuts through neighborhood subdivisions and large commercial developments.
6) Provide routes for cyclists traveling into Elkton.
7) Provide more bike route signage to guide bike travel in Elkton and surrounding points.
8) Provide bike parking at key locations in town.
    - Better define locations for bike parking along Main Street and other business and retail destinations.
    - Need to provide long-term bike parking for commuters, and short-term for recreational riders and for those who desire to bike to complete daily errands.

9) Ensure bike routes are accessible to Elkton's Environmental Justice (EJ) and Transportation Justice (TJ) areas.

10) Connect with future off-road bicycle routes.

11) Connect to Elkton's recreational, historic, and cultural resources.

12) Connect with municipal parks and those that are outside of Elkton, such as Fairhill Natural Area.

13) Seamlessly connect local bike routes with Cecil County bicycle routes.

14) Remove obstacles in roadway shoulders such as lateral storm grates, debris, etc.

15) Add more emphasis to bicycle and pedestrian travel choices in demand management strategies.

16) Better educate motorists and bicyclists regarding traffic laws related to sharing the road.

17) Provide comprehensive training to local law enforcement officers, especially officers patrolling via bicycle.

18) Promote children's bicycle safety, particularly by teaching safe bicycling techniques to their parents.

19) Programs to encouragement residents to bicycle for short-distance trips and commuting.

These identified needs were considered and helped guide the development of recommendations.

SECTION 3: BICYCLE NETWORK

I don't ride my bike often because of the lack of bikeways and bicycle parking.

-Elkton Resident

Bicycle Network Identification

Except for two SHA designated bicycle corridors, the Town of Elkton lacks a defined system of travel routes for bicyclists. Consequently, the Town's goal is to develop a complete bicycle network of safe and practical on– and off-road facilities. Four main considerations helped determine the selected routes:

Low Conflict. To enhance safety and encourage use in Elkton, bicycle routes should present few conflicts between motorists and cyclists. Traffic mitigation along major corridors in Town is needed to reduce exiting and future conflicts.

Directness. Directness can be used as a measure of convenience. The more direct a route is, the more attractive it is to cyclists and the more likely it will get used.

Accessibility. Residents should have adequate access to the network, which should provide ease of access to key destinations, including a mix of uses found in Elkton's downtown.

Cost and Implementation. Roadways that can facilitate improvements fairly easily and for a reasonable cost, usually get implemented first. Low cost improvements with striping were sought out in Elkton.

With these considerations in mind, these next steps were taken:

- Currently used and desired bicycle travel corridors were identified using input primarily from the advisory committee and current cyclists in and around Elkton. These routes were posted online in Google Maps for the public to interactively view and comment.
- These alternative bicycle routes were then evaluated through site visits and roadway inventory data, such as annual average daily traffic (AADT), speed limits, and lane configurations. Most alternative bike routes were selected, while others were removed from consideration, due to on-the-ground constraints, such as major right-of-way issues.
- Using GIS software, the selected bike routes were superimposed with regional planned routes through Elkton and mapped.
- Using the initial public workshop, these routes were vetted and further refined to achieve a final bicycle network proposal, shown on Map 3.

Bicycle Facility Types

After identifying the proposed network, a two-step approach developed by the Federal Highway Administration (FHWA) was used to decide which on-road bicycle facilities are most appropriate in Elkton. This qualitative approach considers both the bicycle network users and various evaluation criteria. There are three standard groups of bicyclists that have various skill levels and needs, which should be considered in the roadway design treatment.

Bicycle Network Users

- Group A are defines as experienced cyclists able to ride under most traffic conditions. The best way to serve group A is to create all roads that accommodate shared use, and within rural areas best served by shoulders.

- Group B are defined as the basic or casual cyclists that prefer to ride at a slower pace within a designated facility, with lower speeds and less traffic.

- Group C* are defined as children that typically ride along residential streets, need well-defined separation from vehicular traffic, and are usually monitored by parents.

Group C was not considered in the on-road facility selection as they are better served by other facilities. It is also important to remember that with education and repetitive riding, Group B and C cyclists can move up in classification to A and B level riders.

The evaluation criteria included street classification, lane and shoulder widths, traffic volume, speed, the presence of parking, and sight distance. Evaluating the proposed network (in roughly 1 mile increments) revealed that Elkton's proposed bicycle network should be mostly shared lanes and shoulder facilities. Most of the segments included have adequate shoulder widths (4 ft. minimum) to create separate spaces for bicyclists, while others have wide lanes and slow speeds that would be more ideal for shared lanes. Shared lanes are alternatives to separated bicycle facilities and should be marked by sharrows — pavement markings (shown below, right) that alert drivers to the presence of cyclists. All county roads included in the proposed network must be further examined by Cecil County for future bicycle accommodations.

A shoulder with pavement markings
to accommodate bicyclists.

A shared lane for both
motorists and bicyclists to use.

Map 3:

Proposed Bicycle Facility Network
Elkton, MD

Proposed Bicycle Facility Type*
— Shared Lane
····· Shoulder
▪▪▪▪▪ Off-road

* County-owned roads included must be further evaluted by Cecil County for future bicycle improvements.
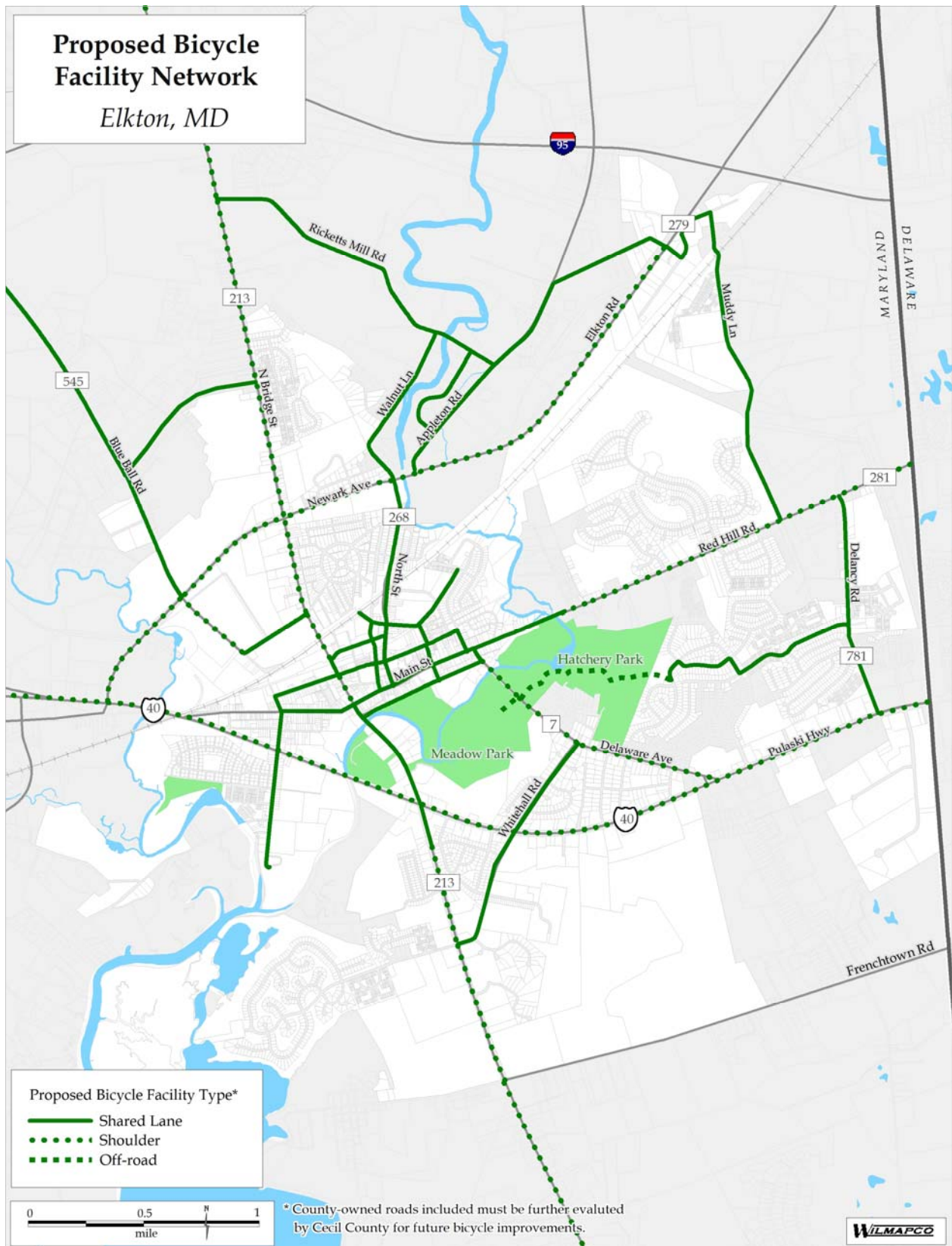
Map 4:
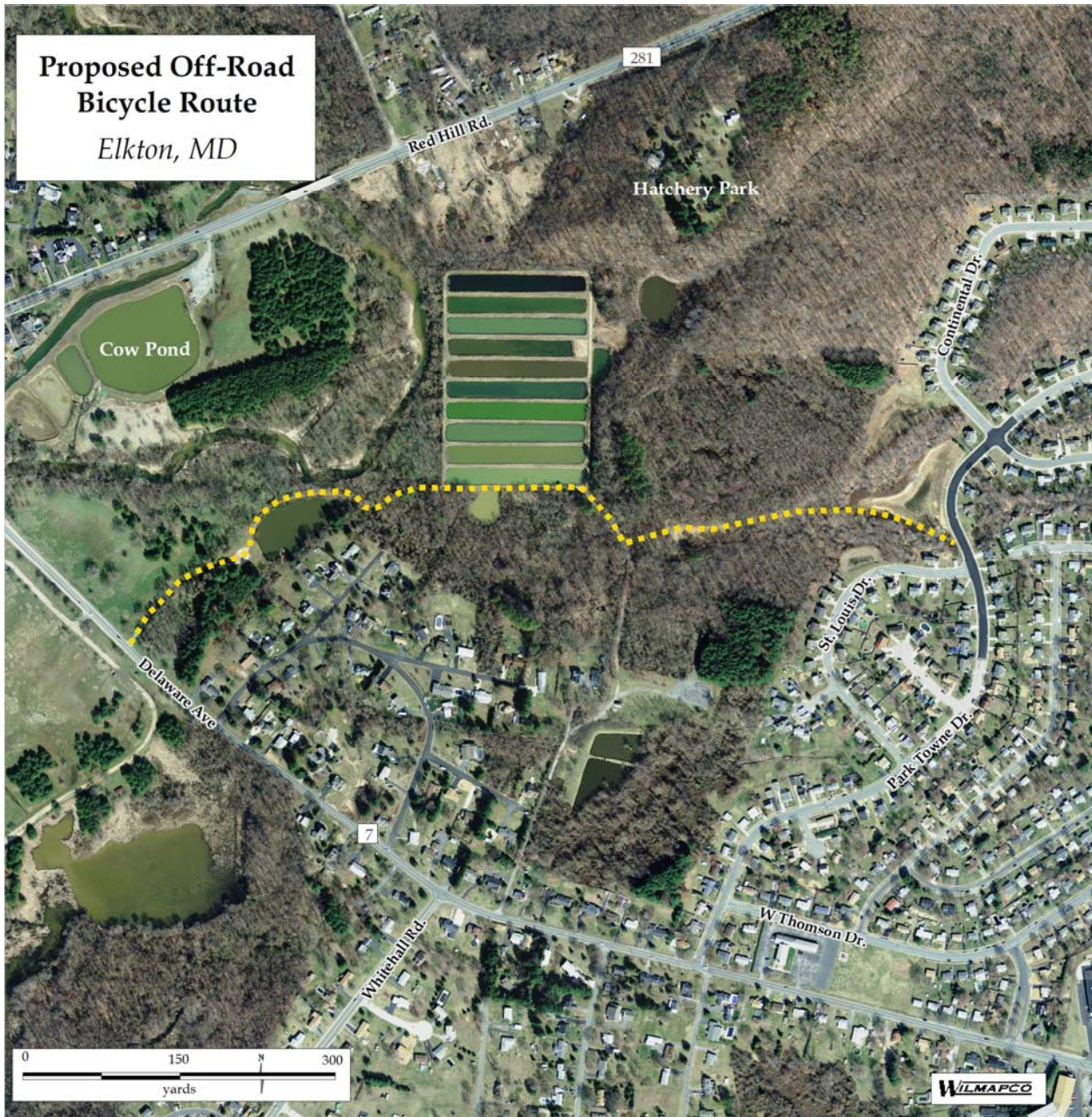
There are many benefits to off-road bicycle and pedestrian trails. For instance, connectivity, added safety, direct and indirect economic benefits, and recreational opportunities, make trails an attractive community feature. Elkton's proposed bike network includes an off-road segment that is roughly one mile long. Using access from Delaware Avenue, the trail would begin in Hatchery Park, pass by the Hatchery ponds, and end at Park Towne Drive near St. Louis Drive. This portion closely follows a portion of the Mason-Dixon Trail. The map above shows where the proposed route may travel.

Proposed Cecil County greenway routes would travel through other parkland in Elkton, in which this proposed segment presents an opportunity to incorporate another significant off-road connection in Town. Although the access point from Delaware Avenue is privately owned, other than right-of-way negotiations and moderate clearing, this segment would be feasible for the Town to consider. While a portion of the Town's 100-year flood plain is immediately to the west, the route does not pass through any environmentally sensitive areas. The proposed trail should incorporate ADA-friendly porous materials to reduce impacts association with impervious surfacing. When the proposed Cecil County greenway routes are re-examined, the Town should work with the County to seek the addition of this segment to connect into the larger greenway network proposed in Town. Also, Elkton is interested in an adopt-a-trail program to address maintenance and should explore the possibility in-depth in the future.

Accessibility and Connectivity

Since the Town is such a compact community, the network provides adequate bicycle access to all residents. A well-defined bicycle system is not only safe and tailored to meet the needs of different types of users; it also connects to desirable destinations. The proposed bicycle network provides access to desirable destinations, which include:

- Downtown Elkton/Main Street
  - Arts and Entertainment District
- Employment hubs
- US 40 Corridor
- Schools
- Historic and cultural sites
- Cecil County/ New Castle County, DE
- Municipal parks
- Elkton Rail Station (future)

Assessing Elkton's proposed bicycle network also included examining areas with distinct populations that may be adversely impacted by transportation investments, across all modes. Both Environmental Justice (EJ) populations, which are low-income and minorities, and Transportation Justice (TJ) populations, which encompass disabled, elderly, and zero-car households, are known to have distinct mobility challenges. In Elkton, an EJ area stretches across the entire Town in a band between, MD 279 and MD 281. TJ areas are distributed in two areas: south of US 40 and east of MD 213, and concentrated in and around the Town's core. The proposed bicycle network provides access to Elkton's identified EJ and TJ populations and would adequately serve those that may reply mostly on non-motorized travel options.

Maintenance

Regular maintenance will ensure that bicycle facilities are safe and inviting to use. Elkton Public Works should maintain a schedule for routine maintenance of bicycle facilities, including roadway shoulders. The Town should also repair and pave shoulders when larger road improvements are made.

Planning and Design Review

While this plan has identified some infrastructure changes, institutional changes are necessary to facilitate and support the physical changes. Achieving a more bikeable Elkton will call for future changes to the existing zoning ordinance, subdivision regulations, and site and design review processes. For example, communities that adopt regulatory language to require development proposals to provide pedestrian and bicycle facilities as part of their design, are more likely to create an environment that supports walking and biking. Elkton should refer to the Transportation Volume of the Annotated Code of Maryland for bicycle related definitions.

Some Examples from Elkton's Zoning Ordinance:

Article II Basic Definitions and Interpretations
　　Section 1. Definitions of Basic Terms {INCLUDE BICYCLEWAY, AND BICYCLE AND PEDESTRIAN
　　　AMENITIES.}

Article XVII Parking (see section 4: Bicycle parking)

Article XI Planned Developments
　　Section 1.4 Administrative Procedures
　　　4b.Preliminary Site Plans
　　　　6. The preliminary site plan shall also include a management statement governing
　　　　　the construction, operation, and maintenance of: c. Parks, parkways, cycleways,
　　　　　playgrounds, open spaces, fences, walls, screen planting, and landscaping and
　　　　　signs. {REFERENCE BICYCLE ACCESS PLAN TO ENSURE DEVELOPMENT IS CONSISTENT
　　　　　WITH TOWN PLAN FOR BICYCLE ACCESS}

　　　Section 2.5 General Regulations for Planned Business Park District
　　　c. Shape of Planned Business Park Districts. The shape of the district shall be suitable
　　　for the type of development proposed and shall facilitate safe and convenient ingress
　　　and egress as well as vehicular and pedestrian {AND BICYCLE} circulation within the district.

Some Examples from Elkton's Subdivision Regulations:

Article I. General Provisions {INCLUDE A STATEMENT THAT ALL SUBDIVISIONS SHALL MAKE ADEQUATE PROVISIONS FOR BICYCLE AND PEDESTRIAN ACCESS}

Article V. General Design Requirements {REQUIRE SUBDIVISION SITE PLAN AND MAP TO SHOW BICYCLE AND PEDESTRIAN ACCESS ELEMENTS. INCLUDE STANDARDS FOR BICYCLE AND PEDESTRIAN FACILITIES AND AMENITIES}

Consequently, Elkton is slated to work with WILMAPCO to review and update its zoning ordinance and subdivision regulations to create consistency with Elkton's Comprehensive Plan, which includes supporting transit-oriented development and non-motorized transportation.

SECTION 4: BICYCLE PARKING

I would like to see bike racks in all of the major shopping centers.

-Elkton Resident

Providing bicycle parking is essential to develop and sustain a bicycle system. Parking should be placed at major trip destinations such as shopping and business centers, parks, schools, the library, and perhaps historic sites. Bicycle racks should be conveniently located, easy to use, and secure. Existing bicycle parking in Town is very limited and includes the Cecil County Library, Elkton's Municipal Building, and Cecil College. The Cecil County Library rack is not functional and should be upgraded to an acceptable design. To link between bicycling and transit in Elkton, the two nearby park and pool locations and the future commuter rail station should have bicycle parking. Map 5 shows locations where bicycle parking should be provided throughout the Town, which will serve government, retail, schools, and other facilities. Bike racks on Main Street would also help residents to patronize businesses by bicycle.

Additionally, bike parking in Town should meet the needs of various trip durations, including close proximity parking for short-term and covered facilities, including bike lockers, and indoor sites such as bicycle storage rooms, for long-term use. Bicycle storage rooms are typically located within the vehicle parking areas of commercial and institutional buildings and offer enhanced security. If necessary, signage should be used to clearly direct cyclists to designated bike parking locations. To deter theft, parking facilities should be strategically located for "eyes on the street" surveillance or near security cameras, and have adequate lighting. Replica security cameras could also provide enhanced security, while minimizing costs.
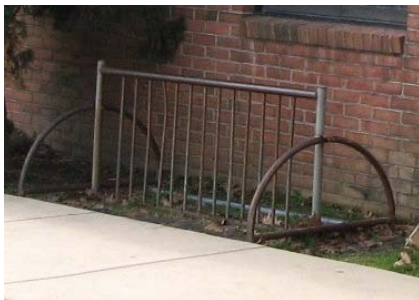
The bicycle rack at the Cecil County Library is not functional.

Bicycle lockers are ideal for long-term storage.

Bicycle storage rooms offer enhanced security.

Large employers are major parking demand generators and could benefit from bicycle parking. The Town should work with employers to adopt outdoor and indoor bike parking policies to support bicycle commuting. Providing bike parking at these facilities would help reduce congestion.

Map 5:

Existing and Proposed Bicycle Parking Locations
Elkton, MD

279

MARYLAND
DELAWARE

213

545

N Bridge St

Elkton Rd

281

Red Hill Rd

268

40

7

Delaware Ave

40

213

Frenchtown Rd

Parking Locations
⊙ Existing
● Proposed*

0   0.5   N   1
mile

*Proposed locations serve government, historical,
school, library, retail, and recreational facilities.

WILMAPCO
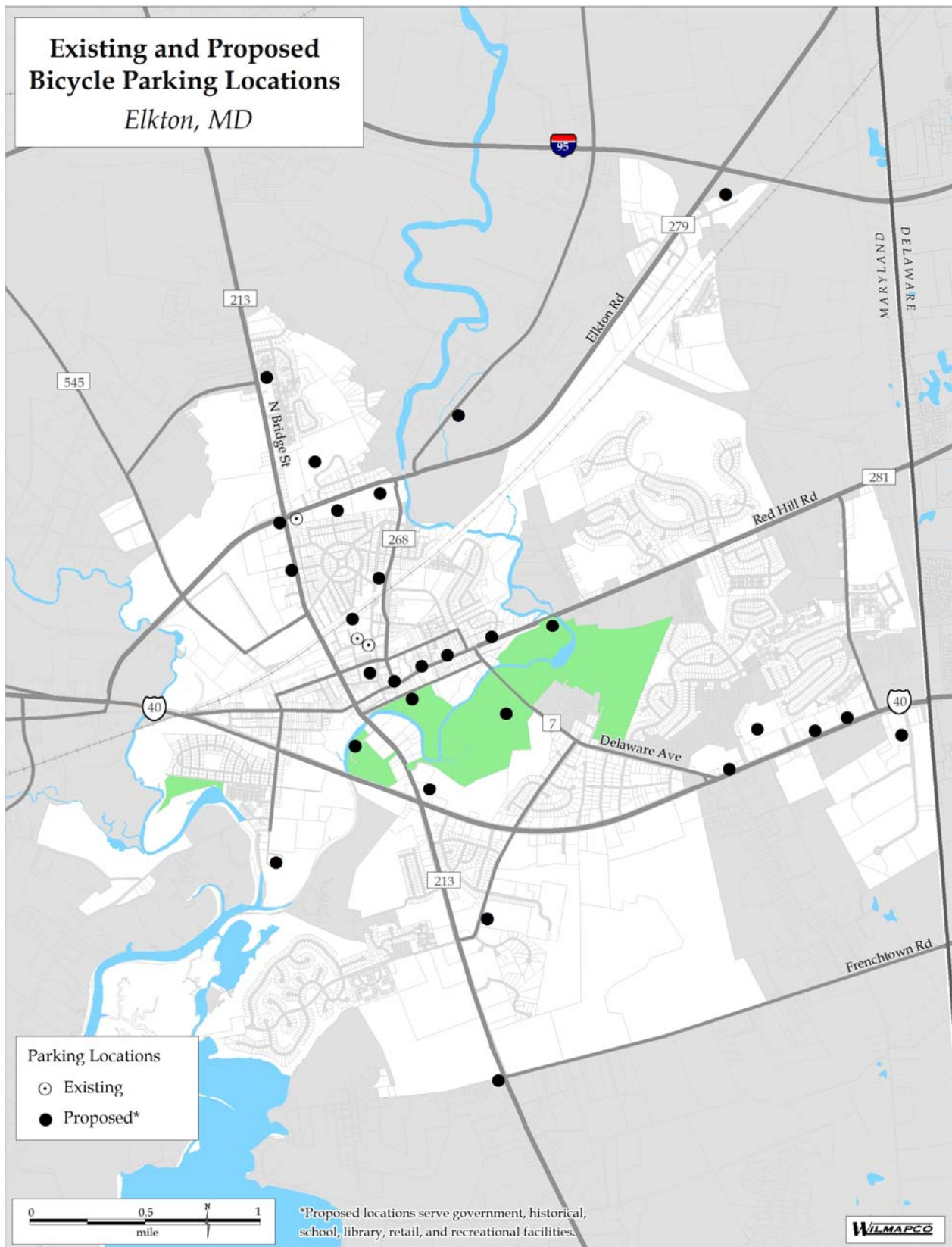
Further, the number of parking spaces should match different buildings and land uses. Table 1 shows suggested quantities of bike parking based on land use type or location. As Elkton's bicycle usage expands, increases in bike parking capacity may be necessary. As usage increases, the Town is encouraged to provide parking in the form of a bike corral or similar, where applicable. Bike corrals are intended to accommodate up to 8 bicycles at once and is typically the width of a car parking space. Bike corrals could be useful at a major shopping center in Town that may generate high demand and turn over rates for bicycle parking in the future.

Table 1: Example Guidelines for Bicycle Parking Locations and Quantities

Location or Land Use	Bicycle Capacity
Parks and Schools	8 bicycles per acre/per students
Public Facilities (town hall, library, community center)	8 bicycles per location
Transit Stations	1 bicycle per 30 parking spaces
Shopping Centers over 10,000 gross sq. ft.	8 bicycles per 10,000 gross sq. ft.
Commercial, retail and industrial developments over 10,000 sq. ft.	1 bike per 15 employees or 8 bicycles per 10,000 gross sq. ft.
Arts, Entertainment, and Commercial Districts	2 bicycles every 200 ft.

Source: Adapted from City and County of Durham, NC, 2005

Changing zoning requirements can facilitate increased non-motorized travel. Elkton's current zoning ordinance does not incorporate bicycle parking and should be amended. Below is an example of the zoning ordinance with proposed language that Elkton could add.

Article XVII Parking

Section 1. {ADD BIKE PARKING IN DEFINITIONS}

Section 2.1. All developments in all zoning districts shall provide a sufficient number of parking spaces to accommodate the number of vehicles {"INCLUDING BICYCLES"} that ordinarily are likely to be attracted to the development in question.

Section 2.5. Table of minimum parking requirements. {ADD BICYCLE PARKING REQUIREMENTS, INCLUDING QUANTITY AND LOCATION}

Section 4. Parking Space Dimensions. {ADD BIKE PARKING DIMENSIONS AND PLACEMENT}

Elkton should adopt a bicycle parking ordinance which includes bicycle rack design and placement guidelines. Among a variety of provisions, the ordinance could require new businesses and businesses that expand their parking lots to provide bicycle parking.

Bicycle Rack Design and Placement

Some key considerations for bicycle rack design and placement for outdoor installations include:

1) The rack should support the bicycle frame on at least two separate sections of the frame. It should allow a U-shaped lock to secure both wheels and the frame to the bicycle rack.

2) The rack should accommodate a wide range of bicycle frame types.

3) Bicycle racks should provide easy access, therefore rack elements should not be placed too closely together.

4) The rack should be securely anchored to avoid vandalism or theft.

5) The rack area should be close or closer than the nearest car parking space and should be clearly visible from the entrance it serves.

6) Multiple buildings should not be served with a combined, distant rack. Instead place smaller racks in more convenient locations.

7) Adequate space should be given to allow a cyclist to dismount, store their bike and walk.

8) If possible, the rack area should be protected from the elements.

9) An empty rack should not impede pedestrian traffic nor create a tripping hazard for visually impaired persons.

Figure 2: Recommended Bicycle Parking Facilities
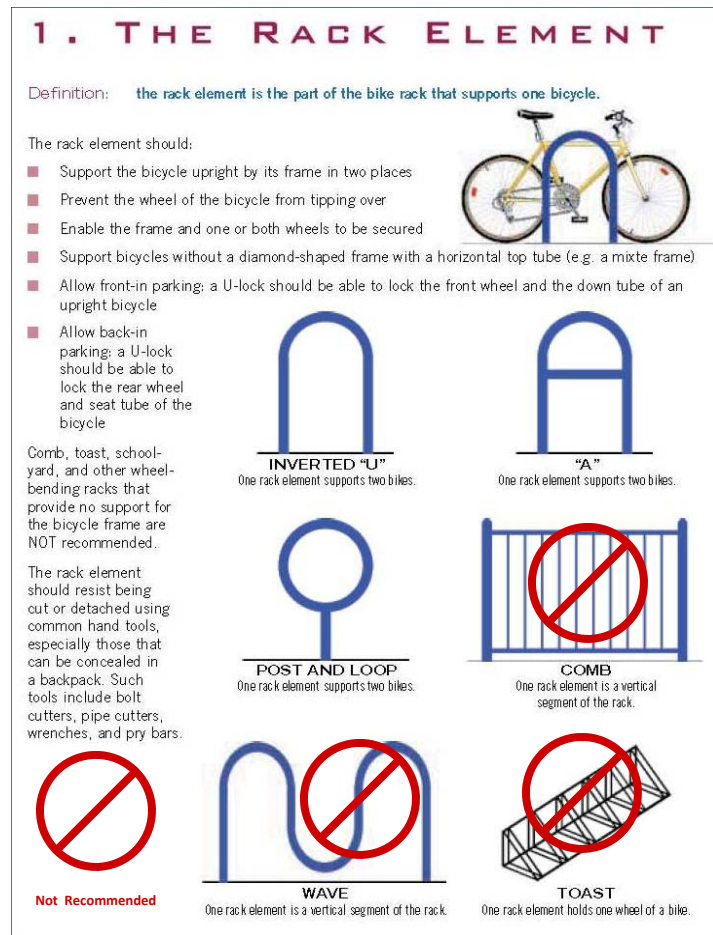
Source: APBP Bicycle Parking Guidelines, 2002

Inappropriate placement of bike racks limits actual capacity and/or invites misuse.

Creative Rack Design

Innovative bicycle rack designs create interest that gives positive visibility to bicycling. They balance artistic features with functionality and can play a role in placemaking. The Town of Elkton received its first sample of a custom bicycle rack crafted by a resident (pictured below). This one-of-a-kind piece is located in front of the municipal building and features the Town's emblem. While this early design should undergo some structural changes such as a reduced height to deter vandalism and enhance the ease of use, it has already attracted usage.

| Elkton, MD | Vienna, VA | Roanoke, VA |

Bike Rack Program

Elkton is urged to implement a cost share bicycle rack program that divides the equipment and installation cost between the Town and private entities requesting a public use bike rack. Many cities such as New York, Minneapolis, and Seattle have successfully implemented this type of program with various cost sharing structures and eligibility requirements.

According to the Pedestrian and Bicycle Information Center (www.bicyclinginfo.org), the following list indicates what bicycle parking may cost*:

- Purchase and install bike racks: $150 to $300 each (two bikes)
- Purchase and install bike lockers: $1,000 to $4,000 each (two bikes)
- Provide bike corral using car parking space: $2,200 surface lot; $12,500 garage (eight bikes)

*Cost will vary based on vendor, contractor, and other considerations.

SECTION 5: TRANSIT

My greatest concerns for downtown Elkton are the lack of train service and bicycle-friendly streets.

-Elkton Resident

There is a strong link between bicycling and transit use, because people will bicycle three to four times farther by bicycle than walking to reach a transit stop or station. Consequently, transit ridership can potentially increase with links and accommodations made for bicycles. Links between these two modes can also help reduce travel by single-occupancy vehicles.

Currently, public transit service in Elkton is limited to only three bus routes. Delaware Transit Corporation (DTC) operates DART Route 65, which is an inter-county route that travels to downtown Newark, Delaware, including both the Newark Train Station and Transit Hub, travels along Elkton Road/MD 279, and then into the heart of Elkton, including Union Hospital. While the Route 65 bus has seen dramatic increases in ridership dating back to 2001, when sized up against other fixed-route services, it has historically produced marginal ridership. Due to recent funding subsidy shortfalls, service was scaled back to operation during weekday peak hours only. The Route 65 provides a critical regional mobility link for Elkton residents because one could use the Route 65 to reach the Newark Train Station, and then travel to Wilmington, Philadelphia, and beyond. Using a bicycle in conjunction with bus and rail services would extend the travel shed even farther.

"The Bus", which is operated by Cecil County Transit, provides two additional fixed-bus routes to Elkton along US 40. The Glasgow route travel between Elkton and People's Plaza in Glasgow, Delaware, whereas the Perryville route connects travels between Elkton, North East, and Perryville. While Cecil County Transit and Maryland Transit Administration (MTA) are working to expand the number of bus stops throughout the county and within municipalities, more than half of Elkton is within an adequate distance of one-quarter of a mile to a transit route, as shown on Map 6.

Since both transit service providers have buses equipped with bicycle racks, Elkton should request that both transit agencies keep records of bicycle rack usage on buses to evaluate trends. To strengthen the link between bicycling and transit, many proposed bicycle parking locations (Section 4, Map 5) overlap with existing transit stops in Elkton, including stops along the US 40 and Main Street corridors. Two park and pool locations in Elkton and the future commuter rail station should also have bicycle access and bicycle parking.

The 2010 Cecil County Transit Development Plan (TDP) calls for additional bus service throughout the county and through the cores of larger towns such as Elkton, North East and

Map 6:
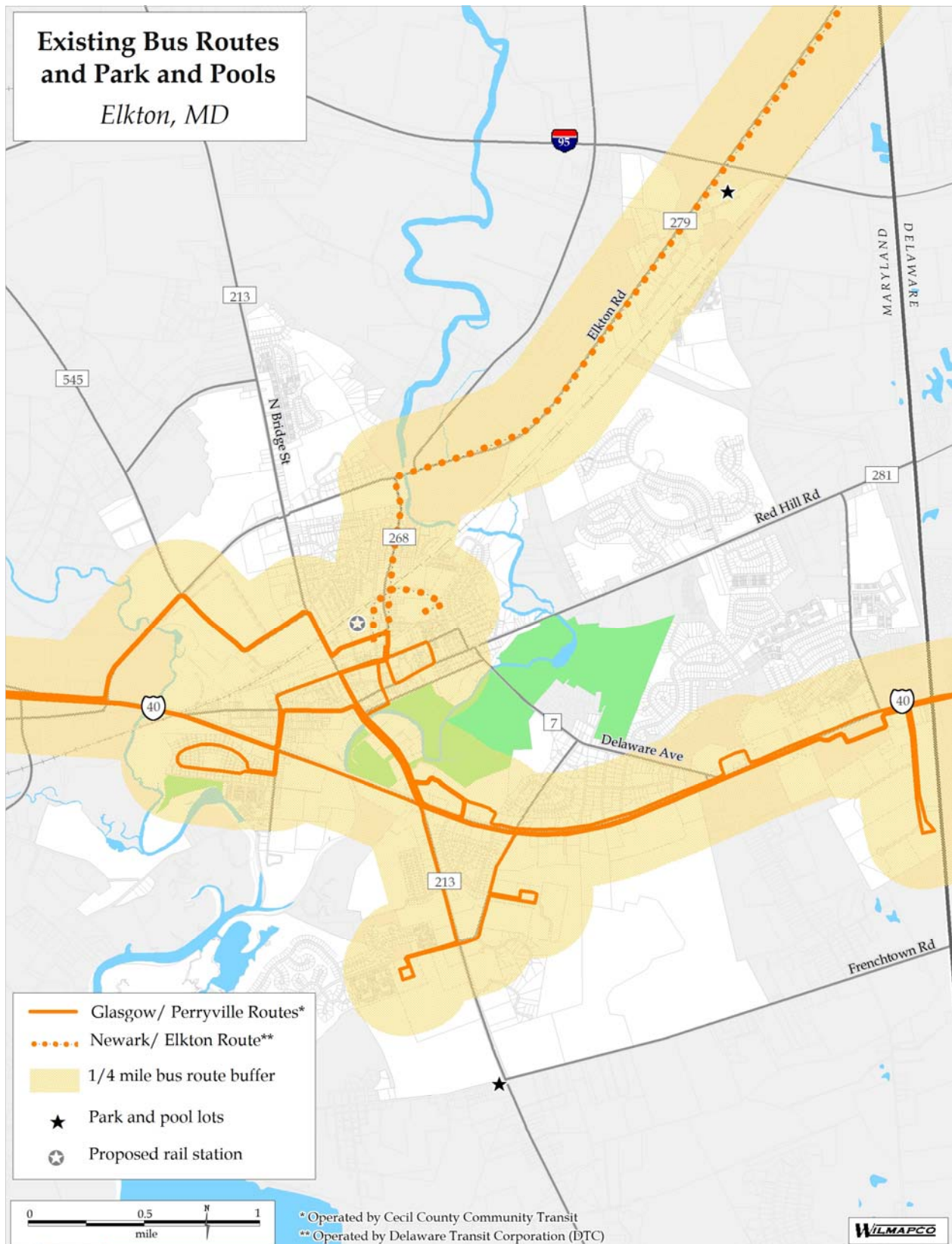
Perryville. The plan aims to increase transit usage and service to residents, who made approximately one percent of their work commute trips by transit in 2009 (U.S. Census Bureau, American Community Survey). Impacting Elkton, the Cecil County TDP proposes two changes in the future: expand the DART Route 65 and add a circulator route in Town. The Town is projected to grow significantly over the next twenty years, making additional pubic transit service and bicycle connectivity essential with increased demand.

Overlapping the development of this document, Elkton is also developing a Transit-Oriented Development (TOD) Plan, in which both plans aim to connect bicyclists with transit. The proposed Elkton TOD would center a transit station on the town's already compact, walkable downtown to reduce the need for driving, foster livability, and align with statewide goals for smart growth. This transit station would serve as a hub for existing (all within a few blocks of the station site) and future bus service and support commuter rail service to Elkton that has been unavailable for more than 25 years. As an intermodal transportation center, it should be accessible by all modes. The redeveloped Elkton Train Station should provide safe bicycle access and bicycle parking; proposed bicycle routes and parking are included in the site.

The Elkton TOD proposes a "Train to Main" route for pedestrians and bicyclists that would connect the train station and shops and services along Main Street. The route would stretch along a proposed re-aligned Bow Street from the station, traveling south into Main Street. Also proposed is a bicycle loop that would link to existing recreational areas, the new train station, and track crossover. The track crossover would provide a safe crossing of Amtrak's Northeast Corridor for non-motorists, without using MD 213 or MD 268 overpasses. The TOD plan is supportive of the proposed shared lanes with sharrow markings in the downtown area. Bicycle stations are typically located at transit hubs, and is also recommended for Elkton's future rail station.

A bicycle station at Long Beach, CA draws cyclists daily.

Both photos: M. Jackson

While Amtrak's mainline travels through Elkton, currently, there is a twenty-mile commuter rail gap between Perryville, Maryland and Newark, Delaware. The Town of Elkton, MTA and other stakeholders are working to resume commuter rail service along this corridor. In response, MTA proposed the extension of commuter rail service in Cecil County by 2020, outlined in the Maryland Rail Commuter service (MARC) Growth and Investment Plan. Current policy only allows folding bicycles on MARC trains because there are no designated storage areas inside the train car. Unfortunately, this policy can discourage bicyclists from combining their trips with rail service. As the redevelopment of Elkton Train Station nears, the Town could work with other stakeholders, such as Bike Maryland, to petition MTA to consider a policy that will allow a minimum number of trips with full size bikes on the MARC line.

SECTION 6: ENFORCEMENT

Bicycle improvements will improve the quality of life for our community.

-Elkton Resident

Enforcement creates a bridge between police and the bicycling community. Experience in Maryland and other places has shown that inadequate law enforcement training in bicycle law and safety has resulted in some unfortunate circumstances, such as misquoting the law or wrongfully ordering bicyclists off roads they are entitled to use. Experience has also shown that most police officers receive basic bicycle safety as part of their training, but usually further training is needed. The Elkton Police Department should assess the existing knowledge of its officers regarding bicycle traffic laws and safety.

All of Elkton's patrolling police officers should receive a detailed training course, with a refresher course every few years. Existing resources and training opportunities for officers include "Enhancing Bicycle Safety: Law Enforcement's Role", a video provided by the National Highway Traffic Safety Administration. MDOT recently received a grant to produce a Maryland interactive version of this comprehensive training course for officers, and aims for participation from municipal law enforcement. Elkton Police should utilize this resource when it becomes available.

While there are often several reasons why bicycle and motor vehicle crashes take place, many can be proactively avoided. One measure to take is getting local law enforcement involved to target unsafe roadway behaviors that may put users of the system at risk. The Elkton Police Department has a seasonal bicycle police patrol, which is more efficient to pull over and address bicyclists who violate the law, such as persons who ride against the flow of traffic.

The following lists are several potentially hazardous behaviors that should be discouraged through enforcement for motorists and bicyclists:

Motorist:

- Driving while impaired by drugs or alcohol
- Passing a bicycle too closely (less than 3 feet)
- Opening a vehicle door into a cyclist
- Running a stop sign or red light
- Failing to yield the right-of-way
- Speeding, particularly in neighborhoods, near schools or other areas of high pedestrian and bicycle activity
- Overtaking bicycles in areas where it cannot be done safely
- Violating regulations of a permit or provisional drivers license

- Driving while using a hand held cellular phone or texting

Bicyclist:

- Driving at night without lights or required reflectors
- Riding the wrong way in the road
- Running a stop sign or red light
- Failing to yield the right-of-way
- Failing to signal in traffic

While targeting all users of the roadway is necessary, targeting young drivers ages 16-21 is particularly important as well. According to the Maryland Highway Safety Office, police reports cite the leading causes of crashes for young drivers is driving too fast, not paying attention, failing to yield, and following too closely. Unfortunately, these driving behaviors put all users of the roadway at risk including cyclists who are vulnerable users. Maryland has a number of driver safety education programs, including the Rookie Driver Program (for all ages who have never had a license) that has a graduated licensing system and targets safe driving behaviors in young drivers. Elkton can reinforce this statewide safety education strategy through the use of Share the Road and No Speeding campaigns and public service announcements, using local police to enforce the laws embedded in the messages.

In 2006, the Maryland SHA Office of Traffic and Safety reported pedestrian and bicycle crashes at five locations in Elkton — four along US 40 and one nearby MD 268. While a more recent and detailed summary of crash statistics is unavailable for Elkton, it is known that statewide and county bicycle crashes have steadily dropped since 2000. Cecil County experienced a total of 16 bicycle crashes in 2000, which dipped to 10 in 2009. The Elkton Police Department could work with the Town to maintain a municipal record of bicycle-related crashes that are more detailed. This is particularly important when targeting enforcement along bicycle routes and corridors with high rates of bicycle crashes.

A motor scooter, which is a type of bicycle assisted by a small motor, was identified by the community as creating potential hazards on the road. Under state law, motor scooters are not permitted to ride on bicycle and pedestrian paths, but are permitted to use bicycle lanes and shoulders. Town police should address motor scooters that exhibit unsafe operating behaviors, especially as the number of bicyclists increase.

Targeting unsafe cycling behaviors helps reduce common crashes and related injuries.

SECTION 7: EDUCATION

Along with bicycle infrastructure, residents need more safety education.

-Elkton Resident

The Maryland SHA Office of Traffic and Safety reported that in 2008, 86% of the fatal and 52% of the total bicycle-involved crashes, the bicyclists was determined to be at fault. Parallel to enforcement efforts, public education programs are needed to promote safety by motivating change in specific behaviors of cyclist and motorist. Safe behaviors can reduce the chances of cyclist injury or fatality often as a result of common causes, such as riding against traffic, failing to stop at a stop sign, obeying traffic control devices, making unsafe lane changes, and riding at night without lights and reflective gear. Elkton should develop a comprehensive public education program that targets audiences of all ages and skill levels. An effective education program must include active learning which is an education delivery strategy that engages the user with a hands-on learning experience.

In 2008, bicyclists ages 10 to 15 comprised 21% of statewide bicycle-related crashes —the highest percentage of all age groups ranging from under 5 to over 80 years (SHA). A good program to launch for children would be a bicycle rodeo. This on-bicycle skills course gives riding practice to avoid typical crashes and develops skills that boost riding confidence. Some rodeos are designed as large municipal events with skills activities, exhibits and games, while others are on a smaller scale. Bicycle rodeos also work well when facilitated at schools and is a common element of the Safe Routes to School Program (SRTS), which promotes walking and biking to and from school. To date, no schools in Elkton have participated in the program.

www.pedbikeimages.org / Mike Cynecki

Bicycle rodeos teach children bicycle safety skills and develops riding confidence.

The Town should encourage elementary and middle schools to participate in the federal SRTS Program and provide a Town staff member to serve on the school's steering committee.

While funding is available for small infrastructure projects, the program also requires some funding be spent on education, encouragement, and enforcement. The program often integrates education awareness into classroom activities that teach walking and biking safety. While high schools are not eligible for this funding, Elkton High School administrators could encourage students to bicycle to and from school and provide bike parking. MDOT and SHA has developed a bicycle safety curriculum for elementary school students that should be utilized

Bicycle skills courses for youth and adults are also on-bike skills training and traffic concept sessions, often taught by a certified instructor. Other program components for Elkton can include bicycle safety checkpoints, which are facilitated by bike advocates, transportation staff, police officers, and volunteers, who stop cyclists along the road to check tires and brakes, and to provide safety brochures, helmets and reflective gear available, and solicit sponsorship from other local organizations and bike clubs to make the event more visible. Further, Elkton should also be precise with the timing of such safety courses and training activities, because statewide crash trends show that bicycle-related crashes increase during warm weather months, across all age groups (SHA, 2008).

In addition, brochures and safety videos offer important information and should be part of a larger education framework. Elkton should use available statewide public education materials and create local versions, where applicable. The Maryland Department of Transportation offers a free DVD, "Confidence and Competence: A Bicycling Guide for Adults", that the Town can make available to residents. Elkton should use multiple outlets to disseminate educational materials, including a permanent webpage on the Town's website that provides bike maps, cycling tips, links to skill courses, and other resources. Various social media should be used.

Maryland provides brochures that support bicycle safety education.

Elkton is the only municipality in Cecil County with its own recreation department, which offers a variety of recreational opportunities to residents. Elkton's Parks and Recreation Department should be involved in efforts to increase bicycling and safety, and participate in developing and maintaining a bicycle safety education program. Elkton's Parks and Recreation Department, the Elkton Police Department, the Elkton Bicycle Advisory Committee, state and county health departments, Bike Maryland, White Clay Bike Club, League of American Bicyclists' League Certified Instructors (LCI's), Cecil College, and other related organizations, should all work together on this initiative. The program should include periodic safety skills courses, bicycle commuting courses, and bicycle rodeos. Community bike rides can also be organized, having safety information and reflective gear as giveaways. In addition to educating people about how to behave on the roadway, education should encompass the healthy, economical and environmental benefits of bicycling.

SECTION 8: ENCOURAGEMENT

Elkton should have more safe and pleasant places to walk and bike.

-Elkton Resident

Encouragement involves spreading messages about benefits and opportunities to bicycle that result in changed behaviors, such as increased bicycling. Through various promotional programs bicycling receives positive visibility as a viable means of transportation within a community. Elkton should participate in National Bike Month during May and adopt Bike to Work Week to increase the amount of commuting by bicycle. Once established, Elkton's Bicycle Advisory Committee should invite a local bike club to host a Bicycle Ambassador Program in Town. The program pairs experienced cyclists with novice riders to help with the rules of the road and riding confidence.

Ciclovia (also known as Sunday Streets, Open Streets, Car free Streets, or similar titles) is an event that has gained momentum in the Americas and has been implemented or piloted in many U.S. cities. While Ciclovia is a long-term consideration for Elkton, it would certainly provide a variety of benefits to residents including space for recreational activities, an opportunity for social interaction among residents, and a way to reclaim streets that are typically dominated by automobiles. Successful local examples are not hard to find. In December 2009, Baltimore, Maryland City Council passed a resolution to implement a Sunday Streets Ciclovia Program, which has been coined locally as "Bmore Streets for People". For a few hours on Sundays, selected streets are closed to allow people to walk, bike, and socialize. During the program's pilot phase, over 1,000 people participated using the dedicated space for various activities, including bicycling.

Another effective way to increase bicycle use is to provide a bicycle map showing designated bicycle routes based on needed skill level and cycling conditions. The map should be kept up-to-date and show items such as roadways that should be avoided, bicycle parking, transit stops and station locations, and safety tips. Way-finding signage should be installed to complement the bicycle map. Providing bicycling information in new residents packets would be another way to encourage greater bike usage in Town as an effort to promote sustainability.

To encourage greater bicycle usage, Elkton could promote existing state and national health and bicycle programs that engage corporations and businesses. The Maryland Department of Health and Mental Hygiene is spearheading the Healthiest Maryland initiative, which seeks to promote wellness and create environments where the healthiest choices are the easiest to chose. Part of this initiative is a program called Healthiest Maryland Businesses, which targets large employers to develop workplace environments that support healthy employees, while reducing health care costs and absenteeism.

Union Hospital, located in Elkton, is a participating company, yet over a dozen other large employers in Town could benefit from this program. Regular physical activity, including bicycling is a practical way to help achieve this statewide vision for improved health and quality of life.

The League of American Bicyclists (LAB) is a nationally-recognized organization that promotes bicycling for recreation, fitness, and commuting and provides national sponsorship for Bike Month and Week. The LAB has several programs, including Bicycle Friendly State, Community, Business, and University, which encourages bicycling activities. As plan implementation progresses, Elkton should seek designation as a Bicycle Friendly Community, as well as use the program's target areas to help guide future improvements. Complimenting the community program is the Bicycle Friendly Business program, which recognizes employers providing a more bike-friendly environment for employees and customers. With the creation of a Bike Rack Program, Elkton would provide a tool to help local businesses become more bike friendly. Working with the Elkton Alliance and other businesses would be key. The Town could also encourage and support Cecil College Elkton Station to become a bicycle-friendly campus. The college could also be approached to request offering a bicycle commuting class as part of their Workforce Development program, similar to a course offered at Montgomery College in Montgomery County, Maryland.

In addition to residents, Elkton's bicycle promotion efforts should target visitors. Investments in bicycle infrastructure can bolster the local economy by attracting visitors who may spend their dollars in town (Flusche 2009). The Town should work with the Cecil County Tourism Office to highlight its rich history through bicycle tours. For example, Davis, California established a bicycle tour that features over twenty historic buildings and landmarks including stops at a library, a church, and a converted bank. Similarly, Elkton could designate and advertise a self-guided historic bicycle tour to highlight the Town's history and stop at points such as Elk Landing, the Elkton Armory, Hollingsworth Tavern, the municipal building, which stores various artifacts, and several others. In addition, a tour would be attractive to bicyclists traveling long distance via the East Coast Greenway. Another way to provide increased attractions for tourists, as well as residents, is to enhance events held in

Top left: Baltimore Bicycle Way finding Sign
Bottom right: Berkeley, CA Bicycle banner

the downtown and promote bicycling to these events. The Town should work to explore best practices in bicycle tourism and identify other local opportunities. This effort should include partnerships with businesses to implement strategies that welcome cyclists. While this is another long-term consideration for Elkton, bicycle tourism provides economic benefits and promotes the town's attractiveness to new businesses, residents, and visitors.

Elk Landing Tavern   *Elkton Armory*
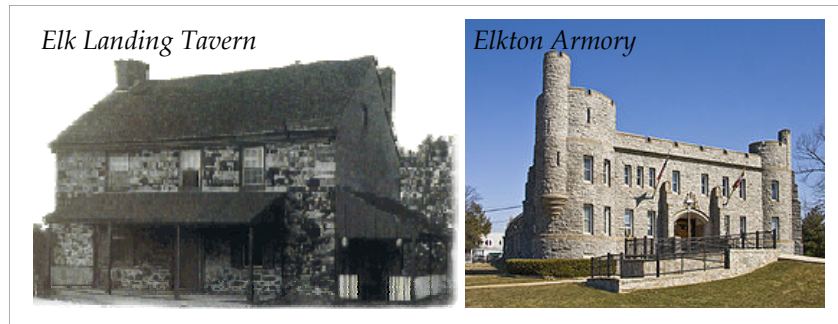
Historic landmarks in Elkton would attract bicycle tourists

Overall, partnerships and sponsorships, particularly with law enforcement and health professionals, will help successfully foster education awareness and encourage new users of the bicycle system.

Bicycle Oriented Development

Bike Oriented Development (BOD) a fairly new concept that is being actively promoted by a few U.S. cities, but is much more prevalent in foreign cities. The idea is that shopping and dining districts can embrace bicyclists as preferred consumers and make improvements to attract bike riders as patrons and residents. This concept is flexible and has seen different programs created to suit various needs. One concept is to provide abundant bicycle parking; by substituting a bike corral in place of one auto space, up to twenty bikes can be accommodated in a premium on-street location. By providing easy access to highly visible bike parking in a walkable district, businesses show consumers that cyclists are welcome. A more intensive idea is to attract bike-oriented businesses and residents to corridors that see higher bicycle usage. This idea can be used to create new, bike-friendly districts that will attract local cyclists and support bike tourism. This concept can be an advantage for economic development.

The City of Madison, WI (Madison Mayor's Platinum Bicycling Committee Adopted Report, April 8, 2008) cited a 2002 National Association of Realtors (NAR) and National Association of Home Builders (NAHB) survey of 2000 homebuyers [which] ranked a bikeway as "the second most important neighborhood amenity for homebuyers." Researchers at the National Park Services report that "property values are higher adjacent to paths or trails, that homeowners and real estate agents believe that trails have either positive or no adverse effects on property values, and that parks and greenbelts may increase property tax."

The City of Portland, Oregon has seen bicycle-friendly streets attract attention from developers. Redevelopment projects that are specifically-geared towards cyclists, with cafes, brew pubs, repair shops and bike-related artisans have been completed along several corridors in Portland. One developer was able to bring the United Bicycle Institute, a state-licensed vocational school, to share a facility with other bike-centric businesses. Another new project, The Ecoflats Apartment Complex, will have 21 units and has been designed with the biking community in mind. The complex, which is currently under construction, will have bike lockers on each floor and an on-site bike maintenance room for resident use. The Portland Office of Transportation has been supportive of this policy:

> *"Indeed, businesses in areas of town where bicycle use is high are thriving…..bicycles and transit are contributing in two important ways toward the success of businesses…..First is that on average the people living the closest to these business districts have more money to spend locally because they don't spend as much on their cars. Second, because these people rely more on bicycling, walking and transit than on driving, they tend to focus more of their commerce on locally-owned neighborhood businesses that are convenient for them to reach." (Portland Office of Transportation, January 2008)*

The Town of Elkton has the opportunity to utilize its bicycle plan to create new economic development benefits for the downtown area. The downtown is at a walkable scale with low traffic volumes that will support bicycle use. Residential growth can be supported by fostering an environment in which residents can leave their cars and walk or bike to dining and entertainment destinations. Creating successful BOD would certainly bring the town new attention, and would help to support bike tourism that will follow the implementation of the East Coast Greenway segment that is to be established in Cecil County. It will also help Elkton to create a transit supportive residential base for the proposed Elkton Train Station, and a green, sustainable community within the downtown area.

A Portland café façade creates visual interest and attracts bicyclists.

SECTION 9: IMPLEMENTATION

Elkton has the potential to more bikeable, we just have to develop it.

-Elkton Resident

While many states and large cities have appointed a non-motorized coordinator to lead the charge for implementation of non-motorized plans, this action will not be feasible for a town of Elkton's size. Instead, Elkton will need to distribute a sufficient amount of existing staff time to devote to working with bicycle improvements in Town. This charge can be spilt among staff from the planning, public works, and parks and recreation departments, and an advisory committee. Moreover, dedicated staff resources is just one of the other keys to successful implementation:

- A commitment by key agencies to implement the recommended actions.
- Significant and sustained funding for bicycle programs and projects.
- Adequate staff resources devoted to plan implementation.
- Strong partnerships with the bicycling community and supporting organizations.
- Continued political support.

The ad hoc Elkton Bicycle Plan Advisory Committee, formed to assist with the development of this plan should be formalized, with representation from residents. The Elkton Bicycle Advisory Committee should meet regularly to raise public awareness on bicycling issues and refine and advocate the implementation of bicycle improvements identified in this plan. This committee should help develop projects and work with the State and Town staff to submit these projects for funding.

The implementation of Elkton's bicycle plan calls for both infrastructure and non-infrastructure improvements. Most of the infrastructure improvements to complete the proposed network includes pavement markings, restriping, and signage. These recommendations are within the Town's ability to carry out in partnership with the county and state, as well as strategic public-private partnerships for alternative funding sources. The following pages summarize the necessary actions for Elkton to undertake, needed to achieve the plans' goals.

Summary of Recommendations

Goals, Strategies, Actions	2011- 2014	2014-2016	2016+
Goal 1: Planning/Engineering - Develop a coordinated bicycle network that is safe, accessible, convenient, and provides intermodal connections.			
Strategy 1.1 Provide safely designed, well-marked, and maintained on- and off-street bicycle routes			
Actions:			
1. Sign all on- and off-road bicycle routes. Re-stripe pavement markings to provide a minimum shoulder width of 4 ft., where necessary, along the proposed network.	X	X	X
2. Work with MDOT, SHA, Cecil County, and Elkton Public Works to remove physical barriers to access and improve bicycle level of comfort along the proposed network through state maintenance and complete street policies.	X		
3. Work with SHA and Elkton Public Works to install pavement markings along the bicycle network, including symbols and retroreflective words.	X		
4. Work with Elkton Public Works and SHA to ensure signal timing accounts for cyclists on state and local roads.	X		
Strategy 1.2 Provide connectivity to county, regional, and national bicycle routes			
Actions:			
1. Work with MDOT and Cecil County as the East Coast Greenway and Cecil County Greenways are developed and signed through Elkton.	X	X	X
2. Work with Cecil County during the development and implementation of a countywide bicycle plan to provide connectivity between the Town and county.	X	X	X
Strategy 1.3 Integrate bicycling with public transit facilities and services			
Actions:			
1. Work with MDOT, SHA, and Elkton Public Works to provide safe passage to key transit access points in Town via state and local roads.	X		
2. Work with the Cecil County Transit, and DART where applicable, to examine and incorporate bicycle access during the decision making process when improvements to existing and new bus stops are planned.	X		
3. Request DART and Cecil County Transit to keep records of bicycle rack usage on buses to evaluate trends.	X		
4. Require new and redevelopment plans to include bicycle and pedestrian elements, including the future redevelopment of Elkton's train station.	X		
5. Work with other stakeholders to petition MTA to consider policy that would create designated areas on all MARC train cars for bicycles and keep aisles unobstructed.	X	X	
Strategy 1.4 Provide adequate and secure bicycle parking at all major trip destinations.			
Actions:			
1. Provide bicycle racks at the designated locations on the proposed bicycle parking map, including at the Elkton Train Station when passenger service resumes. Expand bike parking further when demand increases.	X		
2. Work with Cecil County Transit and SHA to provide bicycle racks on all buses and at key bus stops such as shopping centers and downtown locations.	X		
3. Add bicycle and pedestrian supportive language to existing zoning ordinance and other bicycle-friendly actions to encourage and facilitate non-motorized travel.	X		
4. Adopt a bicycle parking ordinance including bicycle rack design guidelines that incorporate key considerations for design and placement.	X		
5. Initiate a Bicycle Rack Program which allows the Town to share the cost to purchase and install racks with local businesses.	X		

Goals, Strategies, Actions	2011- 2014	2014-2016	2016+
Strategy 1.5 Incorporate bicycle elements into planning activities and development.			
Actions:			
1. Incorporate the Bicycle Plan into the Transportation Element of the Town's next Comprehensive Plan.		X	
2. Update zoning ordinance and subdivision regulations with language that requires bicycle accommodations when feasible and connects to Elkton's bicycle network (when feasible require these accommodations to connect with existing and planned transit service).		X	
3. Follow the Complete Streets policy that requires the consideration of non-motorized facilities into all planning, design, construction, and maintenance of Town owned and maintained roads.	X		
4. Consider bicycle and pedestrian facilities in design review procedures.	X		
Strategy 1.6 Develop an implementation plan.			
Actions:			
1. Devote adequate staff resources to implementing the bicycle plan, including representation on Elkton's permanent Bicycle Advisory Committee.	X		
2. Establish a dedicated funding stream using a portion of the Public Works and Parks and Recreation Departments' capital budget for the implementation of bicycle improvements on municipal owned roads.	X		
3. Create an annual budget for bicycle improvements.	X		
4. Apply for private and federal grants to receive technical assistance and/ or funding for implementation.	X		
5. Establish a Bicycle Advisory Committee through municipal resolution to assist with the implementation of the bike plan, address matters relating to bicycling and to raise public awareness on bicycling issues.	X		
6. Establish partnerships with a variety of organizations to aid in the development, maintenance, and usage of Elkton's bicycle network and to promote Elkton as a bicycle-friendly community.	X	X	

	2011- 2014	2014-2016	2016+
Goal 2: Education - Teach children and adults safe bicycling techniques and motor vehicle operations			
Strategy 2.1 Provide activities and educational programs with emphasis on bicycle safety and laws			
Actions:			
1. Disseminate literature promoting appropriate bicycle laws, safety tips, bike commuting, etc., to the public.	X		
2. Promote the Safe Routes to School Program in Elkton's elementary and middle schools to integrate bicycle and walking education awareness into class activities.		X	
3. Provide bicycle rodeos, bicycle skills courses, bicycle commuting courses, etc. for all ages and riding skill level.		X	
4. Establish bicycle safety checkpoints facilitated by bike advocates, transportation staff, police officers, and volunteers. Seek sponsorship from local organizations and bike clubs to make the event more visible.		X	
5. Work with local bike clubs, law enforcement, and other agencies and utilize Town events and festivals to promote bicycle safety.		X	
6. Support the Elkton Parks and Recreation Department to spearhead a bicycle education program that encompasses riding behaviors, as well as the benefits of bicycling.		X	X

Goal 3: Encouragement - Increase bicycle usage by establishing a positive image of bicycling in the community that will foster bicycle-oriented lifestyles and businesses.

Strategy 3.1 Promote bicycling as a legitimate means of transportation, recreation, fitness, and tourism.

Goals, Strategies, Actions	2011- 2014	2014-2016	2016+
Actions:			
1. Encourage employers in Elkton to join the Healthiest Maryland Businesses initiative that aims to educate and encourage employee wellness, including promoting regular physical activity such as bicycling.		X	
2. Encourage employers in Elkton to take key steps and seek national recognition as a Bicycle Friendly Business through the League of American Bicyclists.		X	
3. Formally support bicycling by adopting May Bike Month and Bike to Work Week through a municipal resolution. Promote Bike to Work Month and Week through various local media. Partner with major employers to provide incentives for bicycling to work.	X		
4. Work with the Cecil County Department of Tourism to promote bicycle tourism in Town and identify economic development opportunities.	X	X	X
5. Consider implementing a ciclovia program in Elkton.	X	X	X
6. Support bicycle activities at annual festivals held in Town.	X		
Strategy 3.2 Involve the community in the planning and implementation of the bicycle plan.			
Actions:			
1. Invite residents to participate on the Elkton Bicycle Advisory Committee.	X		
2. Utilize online participatory mapping for residents to document their bicycling concerns and use to help guide maintenance spot treatments.	X	X	
3. Increase public awareness of existing and new bicycle accommodations as they become available by providing a permanent bicycle page on Elkton's website with information and printed and online interactive maps.	X	X	X
4. Provide ads and public service announcements about the benefits of cycling and bicycle accommodations available in Town.	X	X	

Goal 4: Enforcement - Provide enforcement of traffic laws related to bicycling			
Strategy 4.1 Effectively enforce laws that impact bicycle safety to reduce crashes and violations against bicyclist.			
Actions:			
1. Work with the Elkton Police Department to begin local documentation of bicycle crashes to establish a baseline and help guide future safety improvements.	X		
2. Work with the Elkton Police Department to strengthen the enforcement for the rules of the road and target both cyclists and motorists.	X		
3. Work with the Elkton Police Department to reinforce statewide safety education strategies that target all users.	X		
4. Support the Elkton Police Department's use of resources and training courses regarding bike laws and safety available through MDOT, the National Highway Traffic Safety Administration, and others.	X		

Goal 5: Evaluation - Periodically examine and quantify the plan's implementation progress and make adjustments where necessary			
Strategy 5.1 Establish systems to support and evaluate the implementation of the plan goals			
Actions:			
1. Develop list of performance measures based on the plan's goals.	X		
2. Monitor performance measures annually and update the bicycle master plan every six years.	X		
3. Adopt a prioritization process to quantitatively evaluate projects that gives adequate weight to non-motorized improvements.	X		

Funding and Partnerships

There is no budget at this time for physical improvements resulting from this plan. While there are several federal and state funding programs available, Elkton should seek a variety of funding sources for implementation. For example, getting local businesses to leverage funds for small improvements such as bicycle racks to serve their customers, will make the plan's goals more achievable.

Federal Funding Sources*

- Congestion Mitigation and Air Quality (CMAQ) Program
- Transportation Enhancements (TE) Program
- Safe Routes to School (SRTS) Program
- Recreational Trails Program

State Funding Sources

- Maryland Consolidated Transportation Program
    - Bicycle Retrofit Program
    - Streetscapes and Minor Reconstruction Program
    - Community Enhancement and Safety Program
    -Primary/Secondary Program

Maryland's Bicycle Retrofit Program is an ideal funding source to pursue for improvements along state highways, especially since bike projects are competing against other projects of the same scale and mode. One million annually is administered by Maryland SHA and allocated to local jurisdictions for small-scale bicycle improvements. Project submissions are accepted on an on-going basis, nevertheless, this funding is competitive.

Aside from sources similar to statewide bicycle retrofit programs, bicycle improvements traditionally have not received significant portions of federal and state funds. To address disproportionate funding by transportation mode, many local communities have established their own dedicated source of funding specifically for bike and pedestrian improvements. Some common approaches to generating additional revenues include dedicating portions of local sales taxes or a voter-approved sales tax increase, use of the annual capital improvement budgets of Public Works and/or Parks and Recreation agencies, and special bond issues (Baltimore 2001). While these approaches are often hampered by political climates, the proposed advisory committee should work with the Town to implement the best options for Elkton. It is recommended that Elkton seriously consider dedicating a portion of the Public Works and Parks and Recreation departments capital budget for the implementation of bicycle improvements on municipal owned roads. This and other dedicated funding efforts for bicycle improvements will require strong leadership and public support.

*Administered by the Maryland State Highway Administration

Further, partnerships with a variety of organizations are needed to aid in the development, maintenance, and promotion of Elkton's bicycle network. The Town and each partner should identify common goals as it relates to bicycling (health, economic, environmental, etc.) and a course of action that achieves the goals. Joint programs and projects should start off small, and then expand to more complex initiatives.

Partnerships may include:

- Bike Delaware
- Bike Maryland
- Cecil College
- Cecil County Chamber of Commerce
- Cecil County Health Department
- Cecil County Bicycle Club (under development)
- East Coast Greenway Alliance
- Elkton Alliance, Inc. (local businesses)
- Major employers (i.e. Union Hospital)
- Maryland Department of Health and Mental Hygiene
- White Clay Bicycle Club

SECTION 10: EVALUATION

Bicycle facilities would be welcomed.

-Elkton Resident

Performance measures are ways to evaluate success and progress towards achieving identified goals, and should be monitored in Elkton. These measures track the effectiveness of actions that are taken to improve Elkton's bicycle network, and are summarized below. Overall, the performance measures target trends in bicycle usage and safety, and each will require baseline measurements. While monitoring will fall under purview of the Bicycle Advisory Committee, assistance should be sought from the Maryland SHA, WILMAPCO, and other agencies. Adjustments should be made over time to ensure the goals are being achieved in a cost-effective and adequate time frame. These performance measures should be collected annually, whereas the Elkton Bicycle Plan should be reviewed and updated every six years.

Goal 1—Planning/Engineering
- Total mileage of bicycle facility network completed
- Total of public use bicycle racks installed
- Bicycle counts on bus racks and at transit station
- Total plans that include bicycle accommodations
- Total bicycle infrastructure projects implemented (racks, signage, striping)

Goal 2—Education
- Total bike safety education and skills courses taught
- Total public education campaigns launched
- Total bicycle safety information and bicycling maps distributed

Goal 3—Encouragement
- Bicycle count totals
- Number of bike programs formed and participants
- Number of partnerships formed
- Increase in bicycle mode spilt

Goal 4—Enforcement
- Percentage of officers receiving bicycle law and safety training
- Number of reported bicycle crashes per total number of bicyclists counted and annual traffic volumes

Goal 5—Evaluation
- Percentage of bicycle plan that has been implemented
- Number of bicycle project grant applications applied for and obtained for bicycle improvements

Path Forward

While there are financial challenges to overcome in order to achieve implementation, Elkton realizes that multimodal transportation options are vital to the town's vibrancy and economic health. By creating this bicycle plan, Elkton has become part of a larger movement for creating more livable, environmentally and socially sustainable communities, while gaining a competitive advantage for potential federal grants in the future. Implementing the Elkton Bicycle Plan will not happen as quickly as most desire, but it is a viable and long-term solution to address congestion mitigation, health, air pollution, and energy independence.

Further, Elkton, along with other communities, will need to work closely with Cecil County in the future as they work to establish bicycle related policies that all municipalities can implement.

WORKS CITED

"Baltimore Regional Bicycle, Pedestrian and Greenways Transportation Plan." Baltimore Metropolitan Council (BMC). July 2001.

"Cecil County Crash Profile." Maryland State Highway Administration (SHA) Highway Safety Office. 2009.

"Dilts, Lisa. "Real Estate Trends - Buyers and Preferences." Robert Charles Lessor and Company (RCLCO). June 2009.

Flusche, Darren. "The Economic Benefits of Bicycle Infrastructure Investments." League of American Bicyclists, Policy Research Report. June 2009.

Keels, Heather. "Bike Lanes Lauded as Economic Booster in Williamsport." Herald-Mail 15 June 2010 .

Lindsay et.al., "Property Values, Recreation Values, and Urban Greenways." Journal of Park and Recreation Administration, V22(3) pp.69-90.

"Maryland Traffic Safety Facts: Pedalcyclists." Maryland State Highway Administration (SHA) Highway Safety Office. 2006.

"Obesity Trends by State 1985-2009." Center for Disease Control and Prevention 1 September 2010. <http://www.cdc.gov/obesity/data/trends.html#State>

"Selecting Roadway Design Treatments to Accommodate Bicyclists." Federal Highway Administration (FHWA). January 1994.